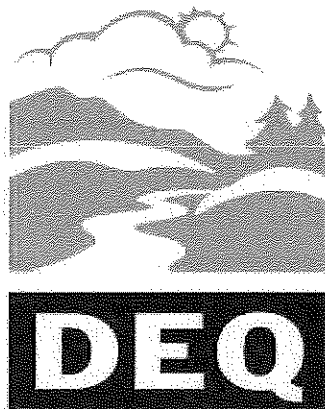


Part 2 of 2
OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS 07/21/1989

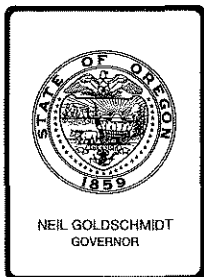


State of Oregon
Department of
Environmental
Quality

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**Blank Sheet Have Been Removed, which is the reason
for any discrepancies in the page numbers**



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

Meeting Date: July 21, 1989
Agenda Item: J
Division: Water Quality
Section: Industrial Waste

SUBJECT: *Proposed Rules Requiring Control of Storm Water Discharges from New Development in the Tualatin River Subbasin*

Proposed Rules Requiring Control of Storm Water Discharges from New Development in the Tualatin River Subbasin.

PURPOSE:

The proposed rules are intended to assure that new development in the Tualatin River and Oswego Lake Subbasins is provided with facilities to control and reduce the level of pollutants discharged due to erosion during construction. These rules would be effective until local jurisdictions develop and implement their own program plans for controlling pollutants from new development. The proposed rules do not contain requirements for installation of permanent control facilities or an in-lieu of facility fee at this time as had been considered in the original proposal which went to public hearing.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Program Strategy
 - Proposed Policy
 - Potential Rules
 - Other: (specify)

- Authorize Rulemaking Hearing

Proposed Rules (Draft)	Attachment <input type="checkbox"/>
Rulemaking Statements	Attachment <input type="checkbox"/>
Fiscal and Economic Impact Statement	Attachment <input type="checkbox"/>
Draft Public Notice	Attachment <input type="checkbox"/>

- Adopt Rules

Proposed Rules (Final Recommendation)	Attachment <u>A</u>
Rulemaking Statements	Attachment <u>B</u>
Fiscal and Economic Impact Statement	Attachment <u>C</u>
Public Notice	Attachment <u>D</u>

Meeting Date: July 21, 1989
Agenda Item: Storm Water Rules
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Issue Contested Case Decision/Order
Proposed Order Attachment

Other: (specify)

DESCRIPTION OF REQUESTED ACTION:

The Department is proposing rules for the treatment and control of urban storm water runoff in the Tualatin River Subbasin. The proposed rules will require that erosion control plans be implemented during construction activities in order to control sediment runoff.

AUTHORITY/NEED FOR ACTION:

Required by Statute: _____ Attachment

Enactment Date: _____

Statutory Authority: _____

Amendment of Existing Rule: _____ Attachment

Implement Delegated Federal Program: _____ Attachment

Other: OAR 340-41-470(3) Attachment E

Time Constraints:

The most significant erosion potential will occur during the rainy winter months. The Department believes the proposed rules should be adopted and implemented to reduce as much erosion possible during the next wet season. Because these rules will require adoption of ordinances by the jurisdictions, however, the Department has proposed that the rules not become effective until November 1, 1989.

DEVELOPMENTAL BACKGROUND:

Advisory Committee Report/Recommendation Attachment

Hearing Officer's Report/Recommendations Attachment F

Response to Testimony/Comments Attachment F

Prior EQC Agenda Items: Attachment G

a. EQC staff-request for hearing

Other Related Reports/Rules/Statutes: Attachment

Supplemental Background Information: Attachment H

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

1. Developers and builders will be affected because the proposed rules will require that erosion control plans be prepared and implemented during construction to minimize erosion. These plans will employ various erosion control practices that will add to the cost of developments.
2. Local jurisdictions will be affected because the proposed rules will require some additional staffing to review erosion control plans.

PROGRAM CONSIDERATIONS:

The rules place most of the burden of implementation upon the local jurisdictions. It will be necessary for the Department to provide some oversight to assure that the rules are being implemented as required. Some evaluation of the practices for erosion control that are applied should be made by the Department so that there is assurance that they will accomplish the goals established.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. **Recommend that the rules not be adopted.**
The Department believes that this action would not be satisfactory because development will continue to occur in the basin without assurances that erosion will be controlled from new development. This option would reduce the pressure on local jurisdictions that are also required to prepare and submit their program plans for urban runoff control by March, 1990.
2. **Recommend that only the portion of the rules pertaining to erosion control during construction be adopted.**
This component of the rules that went to hearing had the greatest amount of support. The Department also believes that controlling erosion during the interim will provide the most obvious gain for water quality.
3. **Recommend that the rules as originally proposed and amended pursuant to hearing testimony, be adopted.**
The Department believes that permanent storm water quality controls for ultimately meeting the TMDL is important. The Department, however, also believes that imposing requirements for permanent storm water quality control facilities will impact the quality of the program plans which should be the Department's higher priority for controlling urban

runoff. There is also risk that the facilities required by the rules will not be properly sited or designed resulting in ineffective systems that are expensive to maintain and are sources of nuisances. Such problems will erode public support for storm water quality control.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Director recommends that the Commission approve alternative 2 and adopt the rules in Attachment A which require that jurisdictions require new development to control erosion during construction. The Director also recommends that the Department be directed to provide an improved Appendix I so that it is easier for both jurisdictions and the development community to apply.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rules are consistent with the direction provided by the Commission in the Tualatin TMDL rule with the exception that the storm water rules do not utilize a permitting system as was specified in the Tualatin TMDL rule nor do the proposed rules provide for permanent storm water quality control systems.

ISSUES FOR COMMISSION TO RESOLVE:

1. Does the Commission wish to forego installation of permanent storm water quality control facilities for new development during the interim period until program plans are implemented?
2. Is it unreasonable to impose additional costs on the development community in the Tualatin/Oswego Lake subbasins which may give competitive advantage to other areas not required to provide storm water quality control facilities? Should the rules be applied regionally or state-wide?

INTENDED FOLLOWUP ACTIONS:

The Department will rewrite Appendix I.

The rules, if adopted, will be distributed to local jurisdictions in the Tualatin and Oswego Lake subbasins.

Follow up meetings with jurisdictions as needed.

Meeting Date: July 21, 1989
Agenda Item: Storm Water Rules
Page 5

Approved:

Section: _____
Division: *Physcia Taylor*
Director: *Iul Hansen*

Report Prepared By: Richard J. Nichols

Phone: 229-6804

Date Prepared: July 7, 1989

RJN:crw
July 7, 1989

Meeting Date: July 21, 1989
Agenda Item: Storm Water Rules
Page 5

Approved:

Section: _____
Division: Lydia Taylor
Director: Jul Hansen

Report Prepared By: Richard J. Nichols

Phone: 229-6804

Date Prepared: July 7, 1989

RJN:crw
July 7, 1989

PROPOSED RULES

340-41-006(18) "Land Development" refers to any human induced change to improved or unimproved real estate, including but not limited to construction, installation or expansion of a building or other structure, land division, drilling, and site alteration such as that due to land surface mining, dredging, grading, construction of earthen berms, paving, improvements for use as parking or storage, excavation or clearing.

(19) "Jurisdiction" refers to any city or county agency in the Tualatin River and Oswego Lake subbasins that regulates land development activities within its boundaries by approving plats, site plans or issuing permits for land development.

(20) "Erosion Control Plan" shall be a plan containing a list of best management practices to be applied during construction to control and limit soil erosion.

(21) "Public Works Project" means any land development conducted or financed by a local, state, or federal governmental body.

340-41-455(3) Non-point source pollution control in the Tualatin River sub-basin and lands draining to Oswego Lake to be provided after November 1, 1989:

(a) The following subsections shall apply to any new land development within the Tualatin River and Oswego Lake sub-basins, except those developments with application dates prior to January 1, 1990. The application date shall be the date on which a complete application for development approval is received by the local jurisdiction in accordance with the regulations of the local jurisdiction.

(b) For land development, no preliminary plat, site plan, permit or public works project shall be approved by any jurisdiction in these sub-basins unless the conditions of the plat permit or plan approval includes an erosion control plan containing methods and/or interim facilities to be constructed or used concurrently with land development and to be operated during construction to control the discharge of sediment in the stormwater runoff. The erosion control plan shall utilize:

(A) Protection techniques to control soil erosion and sediment transport to less than one (1) ton per acre per year, as calculated using the Soil Conservation Service Universal Soil Loss Equation or other equivalent methods. See Figures 1 to 6 in APPENDIX I for examples. The erosion control plan shall include temporary sedimentation basins when, because of steep slopes or other site specific considerations, other on-site sediment control methods will not likely keep the sediment transport to less than one (1) ton per acre per year. The local jurisdictions may establish additional requirements for meeting an equivalent degree of control. Any sediment

basins constructed shall be sized using 1.5 feet minimum sediment storage depth plus 2.0 feet storage depth above for a settlement zone. The storage capacity of the basin shall be sized to store all of the sediment that is likely to be transported and collected during construction while the erosion potential exists. When the erosion potential has been removed, the sediment basin, or other sediment control facilities, can be removed and the site restored as per the final site plan. All sediment basins shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike, or

(B) A soil erosion control matrix derived from and consistent with the universal soil loss equation approved by the jurisdiction or the Department.

(c) The Director may modify Appendix I as necessary without approval from the Environmental Quality Commission. The Director may modify Appendix I to simplify it and to make it easier for people to apply.

(d) As local jurisdictions adopt a Department approved program plan, as required by OAR 340-41-470(3)(g), these requirements will no longer apply to development in that jurisdiction.

APPENDIX I

CONTENTS

Table 1	Universal Soil Loss Equation
Table 2	"R" Values, Washington County
Table 3	Hydrologic Soil Group of the Soils
Table 4	LS Values
Table 5	"C" Values Mulch Factors
Table 6	"C" Values
Figure 1	Interceptor Swale
Figure 2	Temporary Interceptor Dikes
Figure 3	Level Spreader
Figure 4	Sediment Trap
Figure 5	Pipe Slope Drains
Figure 6	Stabilized Construction Entrance

TABLE 1 UNIVERSAL SOIL LOSS EQUATION

- o Computing the sediment storage volume - The sediment storage volume required is the volume required to contain the annual sediment yield to the trap and can be estimated by using the Universal Soil Loss Equation (USLE) developed by the United States Department of Agriculture.

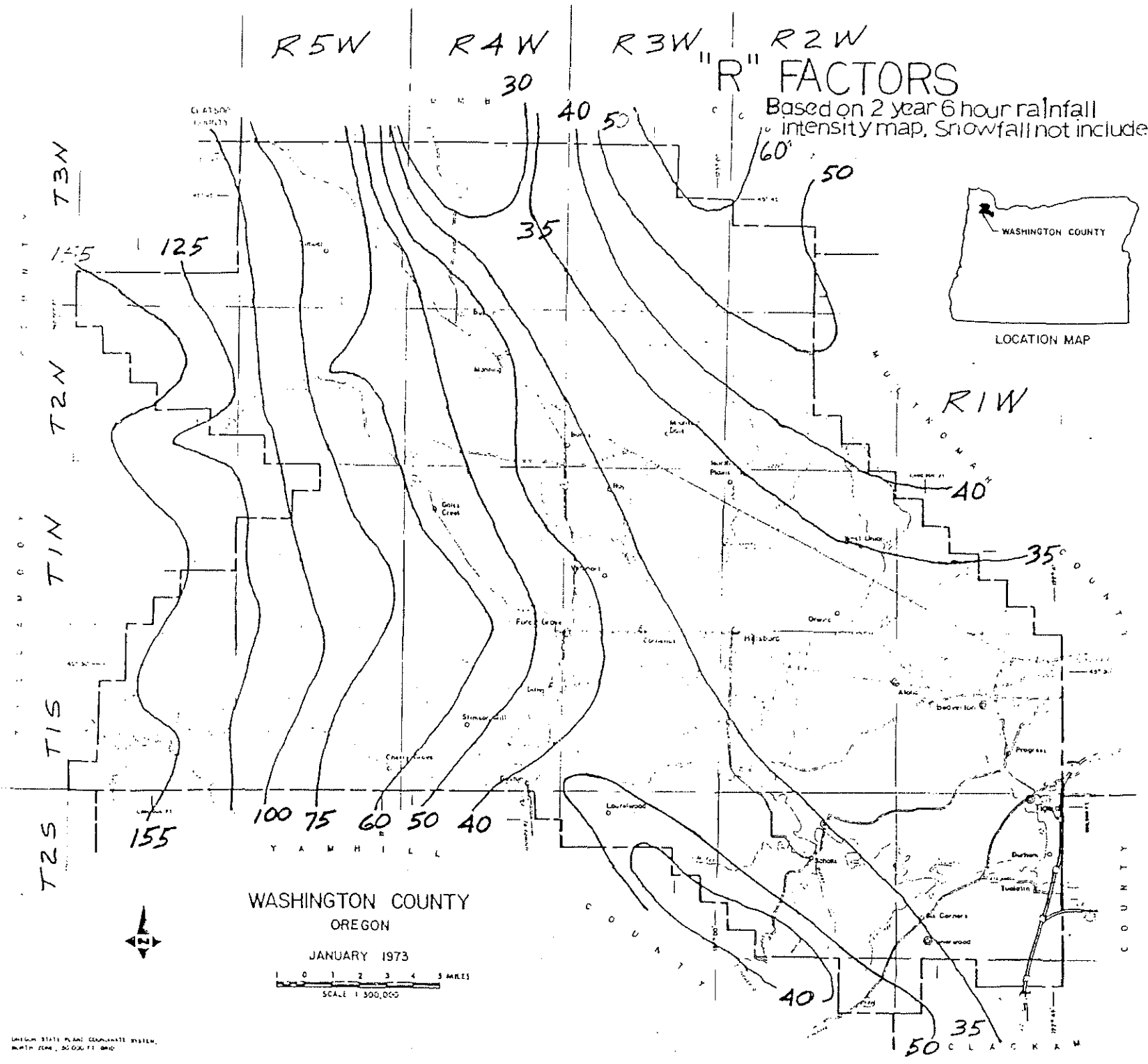
$$A = R \cdot K \cdot LS \cdot CV \cdot PR$$

Where	A	=	annual sediment yield in tons per acre
	R	=	rainfall erosion index;
	K	=	soil erodibility factor, from Table 3 or as determined by field and laboratory testing by a geologist, soil scientist, or geotechnical engineer.
	LS	=	length-slope factor; from Table 4 (note, lengths measured are horizontal distance from a plan view)
	CV	=	cover factor, use 1.0 which represents no ground cover during the construction process. TABLE 5 and 6
	PR	=	erosion control practice factor; use 0.9 which represents trackwalking up and down slope. (Dozer cleat marks parallel to contours)

- o Annual sediment yield calculation, step-by-step procedure:
 - a. Compute the R value by obtaining the R value from the 2-year/6 -hour Isopluvial Map in TABLE 2
 - b. Divide the site into areas of homogeneous SCS soil type and of uniform slope and length.
 - c. Note the K value from the SCS soils chart (Table 3) for each soil type.
 - d. Determine the LS value for each uniform area (See Table 4).
 - e. Compute the annual sediment yield (A) in tons per acre for each homogeneous/uniform area by multiplying R times the K and LS values for each area.
 - f. Multiply the annual sediment yield (A) for each area by the acreage to be exposed (only that area to be cleared) of each area. Sum the results to compute the total annual sediment load (in tons) to the trap (L_A).
- o The sediment storage volume (V_s) is then determined by dividing the total annual sediment load (in tons) (L_A) by an average density for the sediment deposited use 0.05 ton per cubic foot.

$$V_s = L_A / P_{avg}$$

TABLE 2
 'R' VALUES
 WASHINGTON COUNTY



A-5

UNITED STATES PLANE COORDINATE SYSTEM, NORTH ZONE, 3000 FT. GRID

TABLE 3 HYDROLOGIC SOIL GROUP OF THE SOILS WASHINGTON COUNTY

Soil Group	Map Symbol	Hydro-logic Group	Soil Erod-ibility Factor, "K"	Soil Group	Map Symbol	Hydro-logic Group	Soil Erod-ibility Factor, "K"
ALOHA	1	C	0.43	HUBERLY	22	D	0.37
AMITY	2	C	0.32	JORY	23	C	0.2
ASTORIA	3	B	0.24	KILCHIS	24	C	0.15
BRIEDWELL	4	B	0.20	KLICKITAT	24G	B	0.1
BRIEDWELL	5	B	0.17	KNAPPA	26	B	0.37
CARLTON	6	B	0.32	LABISH	27	D	0.2
CASCADE	7	C	0.37	LAURELWOOD	28	B	0.43
CHEHALEM	8	C	0.37	MCBEE	30	B	0.28
CHEHALIS	9	B	0.24	MELBOURNE	31	B	0.24
CHEHALIS	10	B	0.37	MELBY	32	C	0.32
CORNELIUS	11	C	0.37	OLYIC	34	B	0.32
KINTON	11B	C	0.43	PERVINA	36	C	0.24
CORNELIUS VARIANT	12	C	0.37	QUATAMA	37	C	0.37
COVE	13	D	0.20	SAUM	38	C	0.32
COVE	14	D	0.17	TOLKE	39	B	0.28
DAYTON	15	D	0.43	UDIFLUENTS	40	B	0.17
DELENA	16	D	0.43	VERBOORT	42	D	0.20
GOBLE	17	C	0.37	WAPATO	43	D	0.32
GOBLE	18	C	0.37	WILLAMETTE	44	B	0.32
HELVETIA	19	C	0.37	WOODBURN	45	C	0.32
HEMBRE	20	B	0.32	XEROCHREPTS	46	B	0.43
HILLSBORO	21	B	0.49	HAPLOXEROLLS	46F	C	0.32
				XERUCHREPTS	47	D	0.02
				ROCK OUTCROP	47D	NA	0.02

HYDROLOGIC SOIL GROUP CLASSIFICATIONS

- A. (Low runoff potential). Soils having high infiltration rates, even when thoroughly wetted, and consisting chiefly of deep, well-to-excessively drained sands or gravels. These soils have a high rate of water transmission.
- B. (Moderately low runoff potential). Soils having moderate infiltration rates when thoroughly wetted, and consisting chiefly of moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- C. (Moderately high runoff potential). Soils having slow infiltration rates when thoroughly wetted, and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine textures. These soils have a slow rate of water transmission.
- D. (High runoff potential). Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a hardpan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

* From SCS

TABLE 4
LS VALUES*

Slope ratio	Slope gradient s, %	LS values for following slope lengths l, ft (m)										LS values for following slope lengths l, ft (m)												
		10 (3.0)	20 (6.1)	30 (9.1)	40 (12.2)	50 (15.2)	60 (18.3)	70 (21.3)	80 (24.4)	90 (27.4)	100 (30.5)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	600 (183)	700 (213)	800 (244)	900 (274)	1000 (305)
100:1	0.5	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.15	0.15
	1	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.12	0.12	0.12	0.14	0.14	0.15	0.16	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.20
	2	0.10	0.12	0.11	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.23	0.25	0.26	0.28	0.29	0.30	0.32	0.33	0.34	0.36	0.37	0.39	0.40
	3	0.11	0.18	0.20	0.22	0.23	0.25	0.26	0.27	0.28	0.29	0.32	0.35	0.38	0.40	0.42	0.43	0.45	0.46	0.49	0.51	0.54	0.55	0.57
20:1	4	0.16	0.24	0.25	0.28	0.30	0.33	0.35	0.37	0.38	0.40	0.47	0.53	0.58	0.62	0.66	0.70	0.73	0.76	0.82	0.87	0.92	0.96	1.00
	5	0.17	0.24	0.29	0.34	0.38	0.41	0.45	0.48	0.51	0.53	0.66	0.76	0.85	0.93	1.00	1.07	1.13	1.20	1.31	1.42	1.51	1.60	1.69
	6	0.21	0.30	0.37	0.43	0.48	0.52	0.56	0.60	0.64	0.67	0.82	0.95	1.06	1.16	1.26	1.34	1.43	1.50	1.65	1.78	1.90	2.02	2.13
12%:1	7	0.26	0.37	0.45	0.52	0.58	0.64	0.69	0.74	0.78	0.82	1.01	1.17	1.30	1.43	1.54	1.65	1.75	1.81	2.02	2.18	2.33	2.47	2.61
	8	0.31	0.44	0.54	0.63	0.70	0.77	0.83	0.89	0.94	0.99	1.21	1.40	1.57	1.72	1.85	1.98	2.10	2.22	2.43	2.62	2.80	2.97	3.13
10:1	9	0.37	0.52	0.64	0.74	0.83	0.91	0.98	1.05	1.11	1.17	1.44	1.66	1.85	2.03	2.19	2.35	2.49	2.62	2.87	3.10	3.32	3.52	3.71
	10	0.41	0.61	0.75	0.87	0.97	1.06	1.15	1.22	1.30	1.37	1.68	1.94	2.16	2.37	2.56	2.74	2.90	3.06	3.35	3.62	3.87	4.11	4.33
8:1	11	0.50	0.71	0.86	1.00	1.12	1.22	1.32	1.41	1.50	1.58	1.93	2.23	2.50	2.74	2.95	3.16	3.35	3.53	3.87	4.18	4.47	4.74	4.99
	12.5	0.61	0.86	1.05	1.22	1.36	1.49	1.61	1.72	1.82	1.92	2.35	2.72	3.04	3.33	3.59	3.84	4.08	4.30	4.71	5.08	5.43	5.76	6.08
6:1	15	0.81	1.14	1.40	1.62	1.81	1.98	2.14	2.29	2.43	2.56	3.13	3.62	4.05	4.43	4.79	5.12	5.43	5.72	6.27	6.77	7.24	7.68	8.09
	16.7	0.96	1.36	1.67	1.92	2.15	2.36	2.54	2.72	2.88	3.04	3.72	4.30	4.81	5.27	5.69	6.08	6.45	6.80	7.45	8.04	8.60	9.12	9.62
5:1	20	1.29	1.82	2.23	2.58	2.88	3.16	3.41	3.65	3.87	4.08	5.00	5.77	6.45	7.06	7.63	8.16	8.65	9.12	9.99	10.79	11.54	12.24	12.90
	22	1.51	2.13	2.61	3.02	3.37	3.69	3.99	4.27	4.53	4.77	5.84	6.75	7.54	8.26	8.92	9.54	10.12	10.67	11.68	12.62	13.49	14.31	15.08
4:1	25	1.86	2.63	3.23	3.73	4.16	4.56	4.93	5.27	5.59	5.89	7.21	8.33	9.31	10.20	11.02	11.78	12.49	13.17	14.43	15.58	16.66	17.67	18.63
	30	2.51	3.56	4.36	5.03	5.62	6.16	6.65	7.11	7.54	7.95	9.74	11.25	12.57	13.77	14.88	15.91	16.87	17.78	19.48	21.04	22.49	23.86	25.15
3:1	33.3	2.98	4.22	5.17	5.96	6.67	7.30	7.89	8.43	8.95	9.43	11.55	13.34	14.91	16.33	17.64	18.86	20.00	21.09	23.10	24.95	26.67	28.29	29.82
	35	3.23	4.57	5.60	6.46	7.23	7.92	8.55	9.14	9.70	10.22	12.52	14.46	16.16	17.70	19.12	20.44	21.68	22.86	25.01	27.04	28.91	30.67	32.32
2%:1	40	4.00	5.66	6.93	8.00	8.95	9.80	10.59	11.32	12.00	12.65	15.50	17.89	20.01	21.91	23.67	25.30	26.84	28.29	30.99	33.48	35.79	37.96	40.01
	45	4.81	6.80	8.33	9.61	10.75	11.77	12.72	13.60	14.42	15.20	18.62	21.50	24.03	26.33	28.44	30.40	32.24	33.99	37.23	40.22	42.99	45.60	48.07
2:1	50	5.64	7.97	9.76	11.27	12.60	13.81	14.91	15.91	16.91	17.82	21.83	25.21	28.18	30.87	33.34	35.65	37.81	39.85	43.66	47.16	50.41	53.47	56.36
	55	6.48	9.16	11.22	12.96	14.48	15.87	17.14	18.32	19.43	20.48	25.09	28.97	32.39	35.48	38.32	40.97	43.45	45.80	50.18	54.20	57.91	61.45	64.78
1%:1	57	6.82	9.64	11.80	13.63	15.24	16.69	18.03	19.28	20.45	21.55	26.40	30.48	34.08	37.33	40.32	43.10	45.72	48.19	52.79	57.02	60.96	64.66	68.15
	60	7.32	10.35	12.68	14.64	16.37	17.93	19.37	20.71	21.96	23.15	28.35	32.74	36.60	40.10	43.31	46.30	49.11	51.77	56.71	61.25	65.48	69.45	73.21
1%:1	66.7	8.41	11.93	14.61	16.88	18.87	20.67	22.32	23.87	25.31	26.68	32.68	37.74	42.19	46.22	49.92	53.37	56.60	59.66	65.36	70.60	75.47	80.05	84.38
	70	8.98	12.70	15.55	17.96	20.08	21.99	23.75	25.39	26.93	28.39	34.77	40.15	44.89	49.17	53.11	56.78	60.23	63.48	69.54	75.12	80.30	85.17	89.78
1%:1	75	9.78	13.81	16.94	19.56	21.87	23.95	25.87	27.66	29.34	30.92	37.87	43.73	48.89	53.56	57.85	61.85	65.60	69.15	75.75	81.82	87.46	92.77	97.79
	80	10.55	14.93	18.28	21.11	23.60	25.85	27.93	29.85	31.66	33.38	40.88	47.20	52.77	57.81	62.44	66.75	70.80	74.63	81.76	88.31	94.41	100.13	105.55
1%:1	85	11.30	15.98	19.58	22.61	25.27	27.69	29.90	31.97	33.91	35.74	43.78	50.55	56.51	61.91	66.87	71.48	75.82	79.92	87.55	94.57	101.09	107.23	113.03
	90	12.02	17.00	20.82	24.01	26.88	29.44	31.80	34.00	36.06	38.01	46.55	53.76	60.10	65.84	71.11	76.02	80.63	84.99	93.11	100.57	107.51	114.03	120.20
1%:1	95	12.71	17.97	22.01	25.41	28.41	31.12	33.62	35.94	38.12	40.18	49.21	56.82	63.53	69.59	75.17	80.36	85.23	89.84	98.42	106.30	113.64	120.54	127.06
	100	13.36	18.89	23.14	26.72	29.87	32.72	35.34	37.78	40.08	42.24	51.74	59.74	66.79	73.17	79.03	84.49	89.61	94.46	103.48	111.77	119.48	126.73	133.59

*Calculated from

$$LS = \left(\frac{65.41 \times s^2}{s^2 + 10.000} + \frac{4.56 \times s}{\sqrt{s^2 + 10.000}} + 0.065 \right) \left(\frac{l}{72.5} \right)^m$$

- LS = topographic factor
- l = slope length, ft (m x 0.3048)
- s = slope steepness,
- m = exponent dependent upon slope steepness
 0.2 for slopes < 1%, 0.3 for slopes 1 to 3%,
 0.4 for slopes 3.5 to 4.5%, and
 0.5 for slopes > 5%.)

TABLE 5

'C' VALUES MULCH FACTORS¹

Type of mulch	Mulch Rate	Land Slope	Factor C	Length limit ²
	<i>Tons per acre</i>	<i>Percent</i>		<i>Feet</i>
None	0	all	1.0	—
Straw or hay,	1.0	1-5	0.20	200
tied down by	1.0	6-10	.20	100
anchoring and				
tacking	1.5	1-5	.12	300
equipment ³	1.5	6-10	.12	150
Do.	2.0	1-5	.06	400
	2.0	6-10	.06	200
	2.0	11-15	.07	150
	2.0	16-20	.11	100
	2.0	21-25	.14	75
	2.0	26-33	.17	50
	2.0	34-50	.20	35
Crushed stone,	135	<16	.05	200
¼ to 1½ in	135	16-20	.05	150
	135	21-33	.05	100
	135	34-50	.05	75
Do.	240	<21	.02	300
	240	21-33	.02	200
	240	34-50	.02	150
Wood chips	7	<16	.08	75
	7	16-20	.08	50
Do.	12	<16	.05	150
	12	16-20	.05	100
	12	21-33	.05	75
Do.	25	<16	.02	200
	25	16-20	.02	150
	25	21-33	.02	100
	25	34-50	.02	75

¹ From Meyer and Ports (24). Developed by an interagency workshop group on the basis of field experience and limited research data.

² Maximum slope length for which the specified mulch rate is considered effective. When this limit is exceeded, either a higher application rate or mechanical shortening of the effective slope length is required.

³ When the straw or hay mulch is not anchored to the soil, C values on moderate or steep slopes of soils having K values greater than 0.30 should be taken at double the values given in this table.

"C" FACTORS (OREGON)
CONSTRUCTION SITES

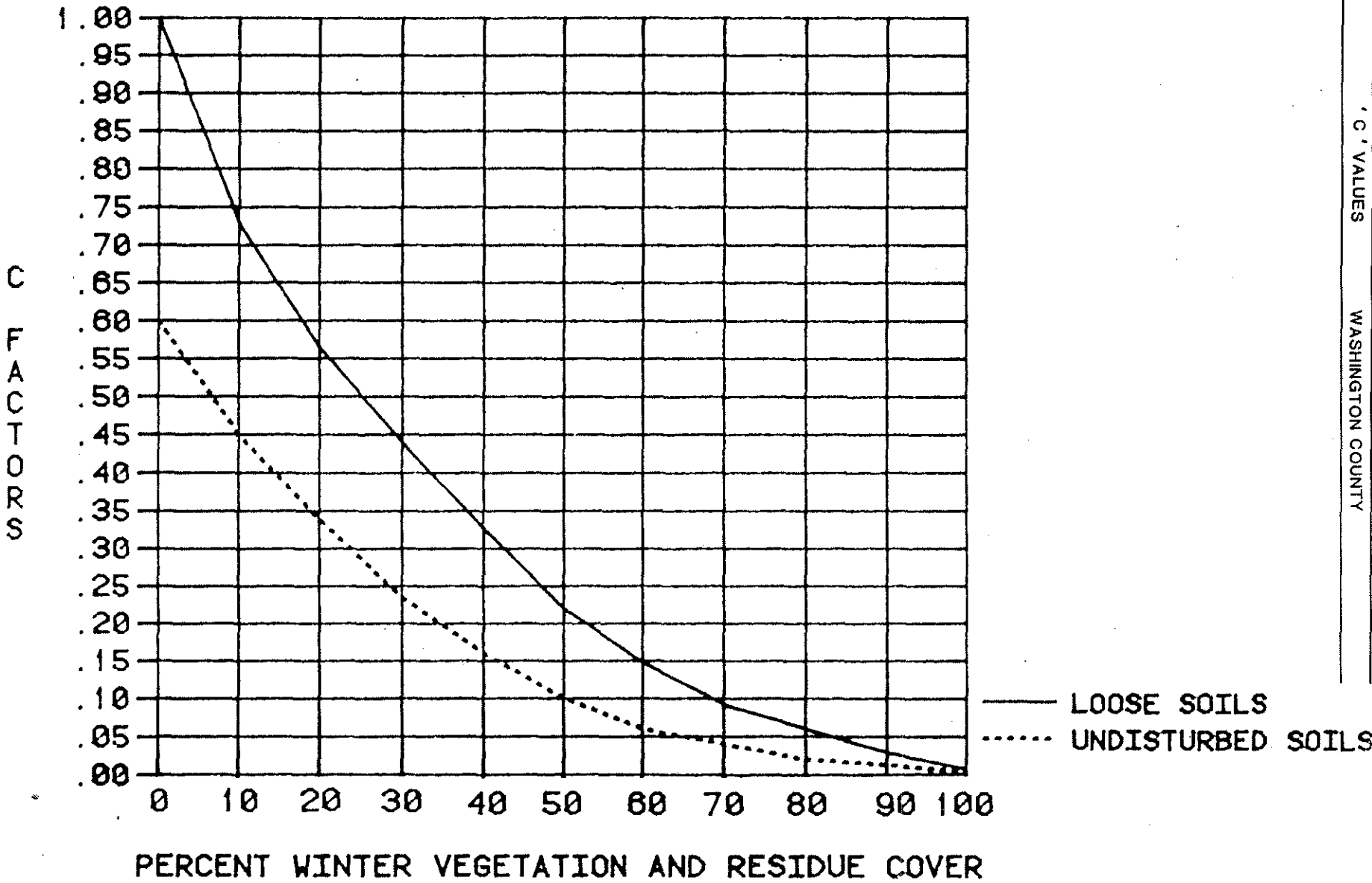
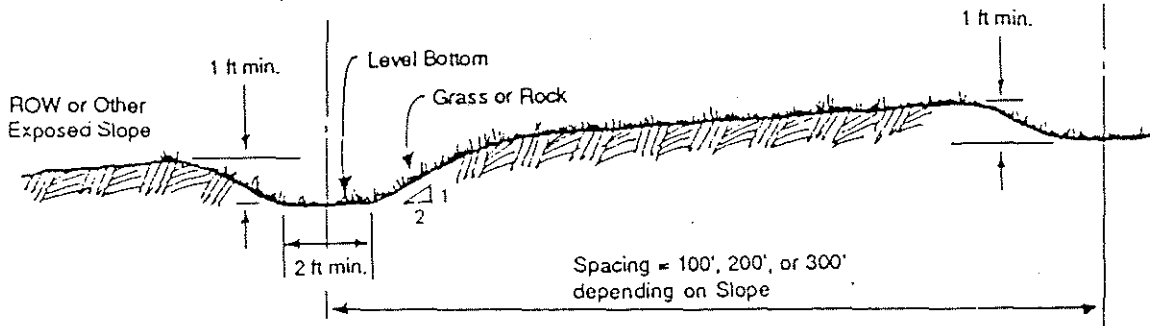


FIGURE 1 INTERCEPTOR SWALE



Bottom Width	2 feet minimum; the bottom width shall be level
Depth	1 foot minimum
Side Slope	2H:1V or flatter
Grade	Maximum 5 percent, with positive drainage to a suitable outlet (such as sedimentation pond)
Stabilization	Seed as per Grassed Channel or, Rock: 12 inches thick, pressed into bank and extending at least 8 inches vertical from the bottom.

FIGURE 2 TEMPORARY INTERCEPTOR DIKES

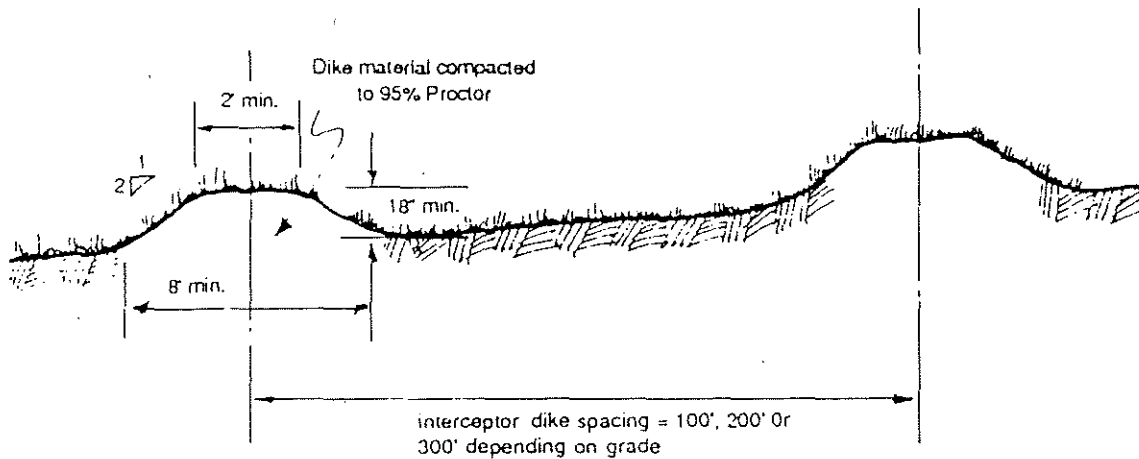


FIGURE 3 LEVEL SPREADER

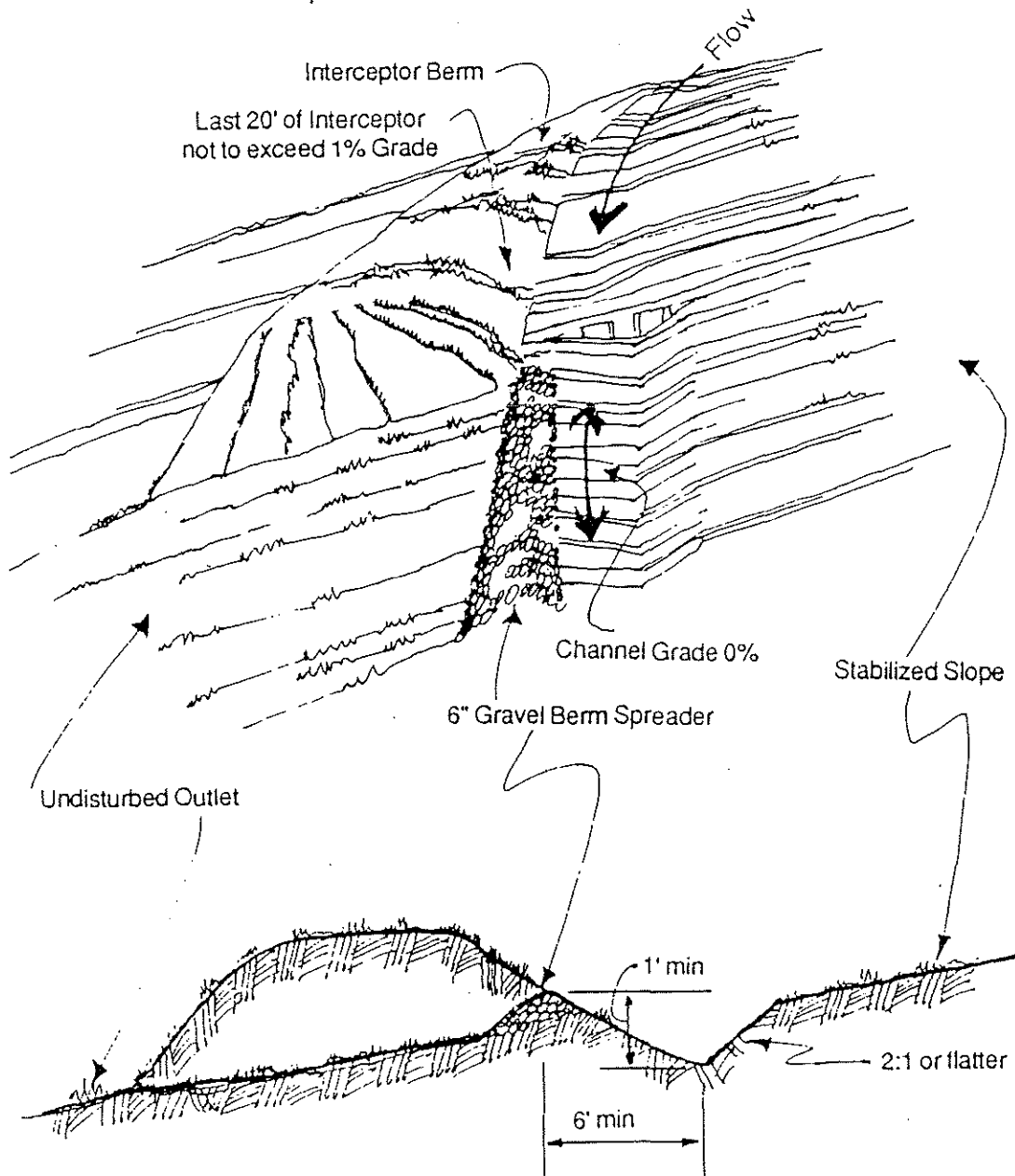
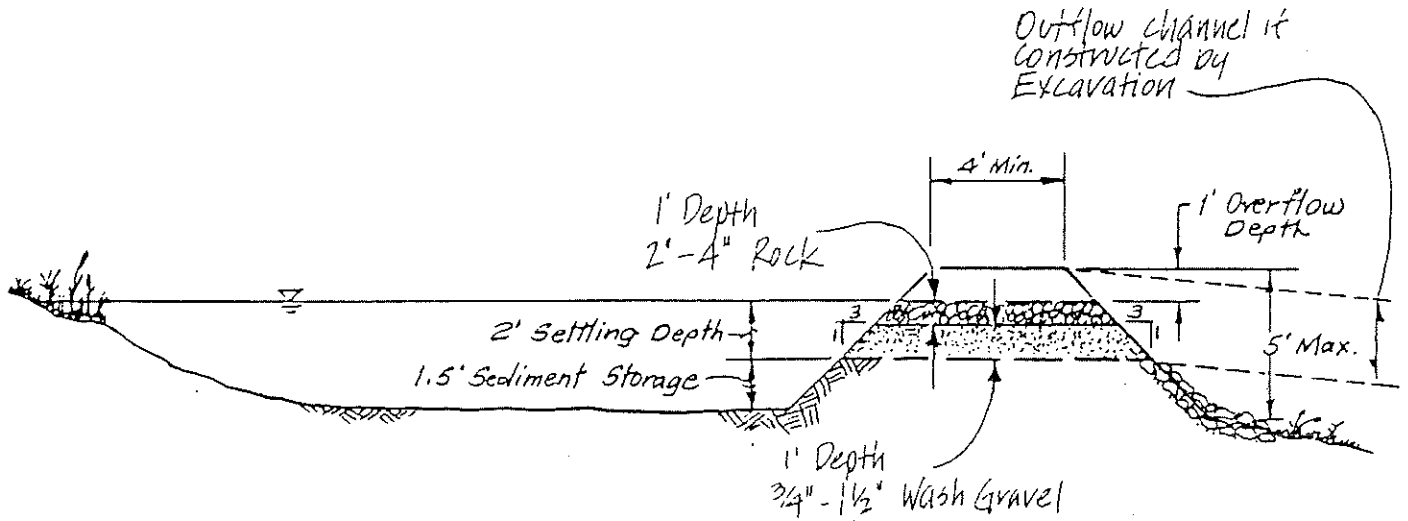
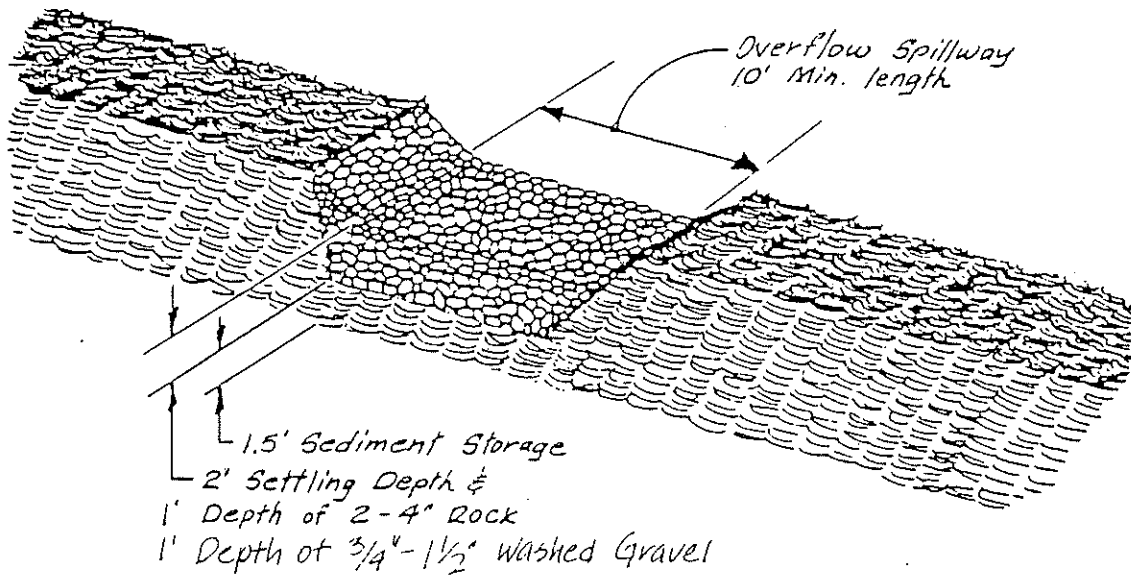


FIGURE 4 SEDIMENT TRAP



CROSS SECTION
No SCALE

Note: May be constructed by excavation or by building a berm



SEDIMENT TRAP OUTLET
No SCALE

FIGURE 5 PIPE SLOPE DRAINS

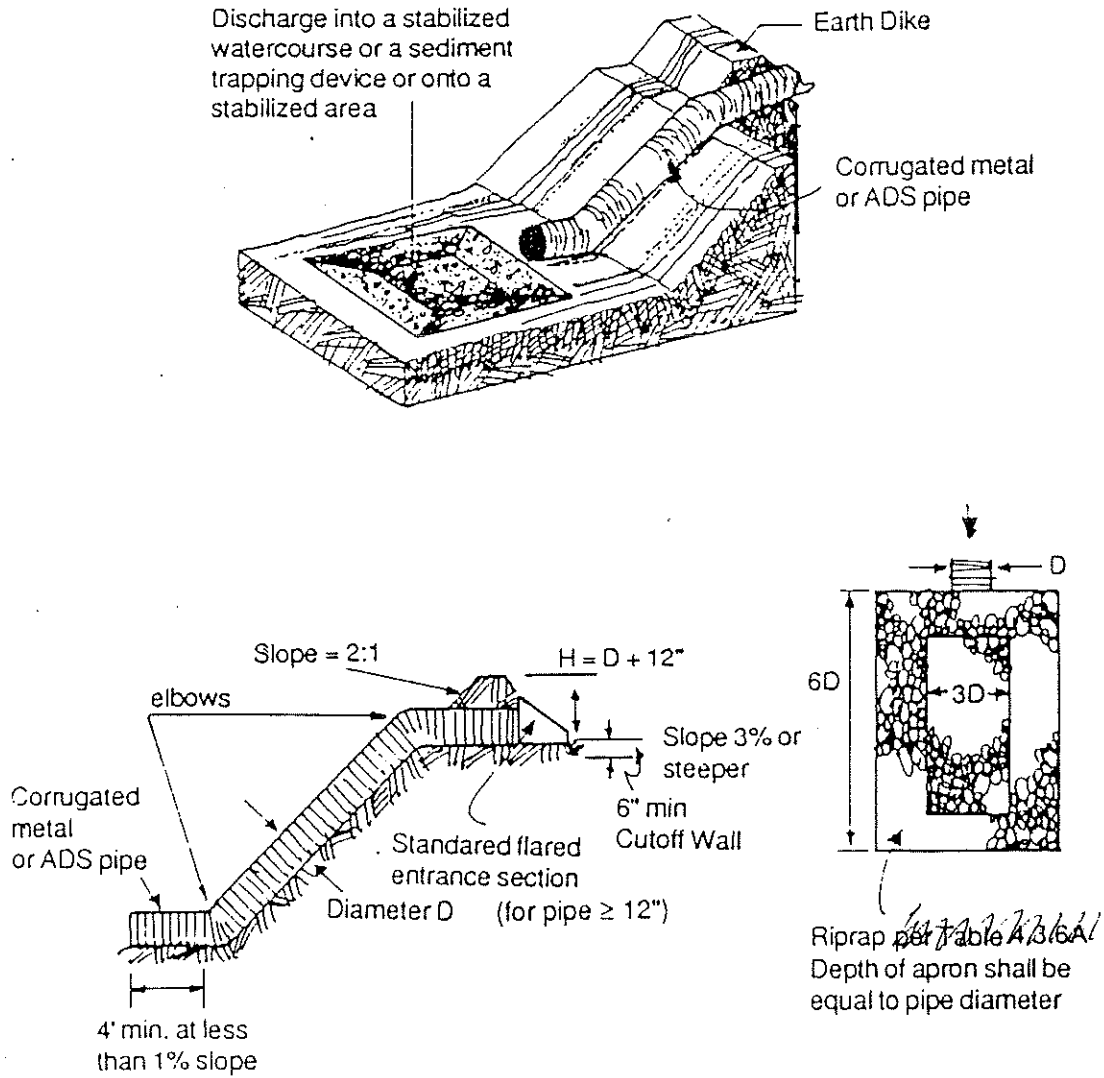
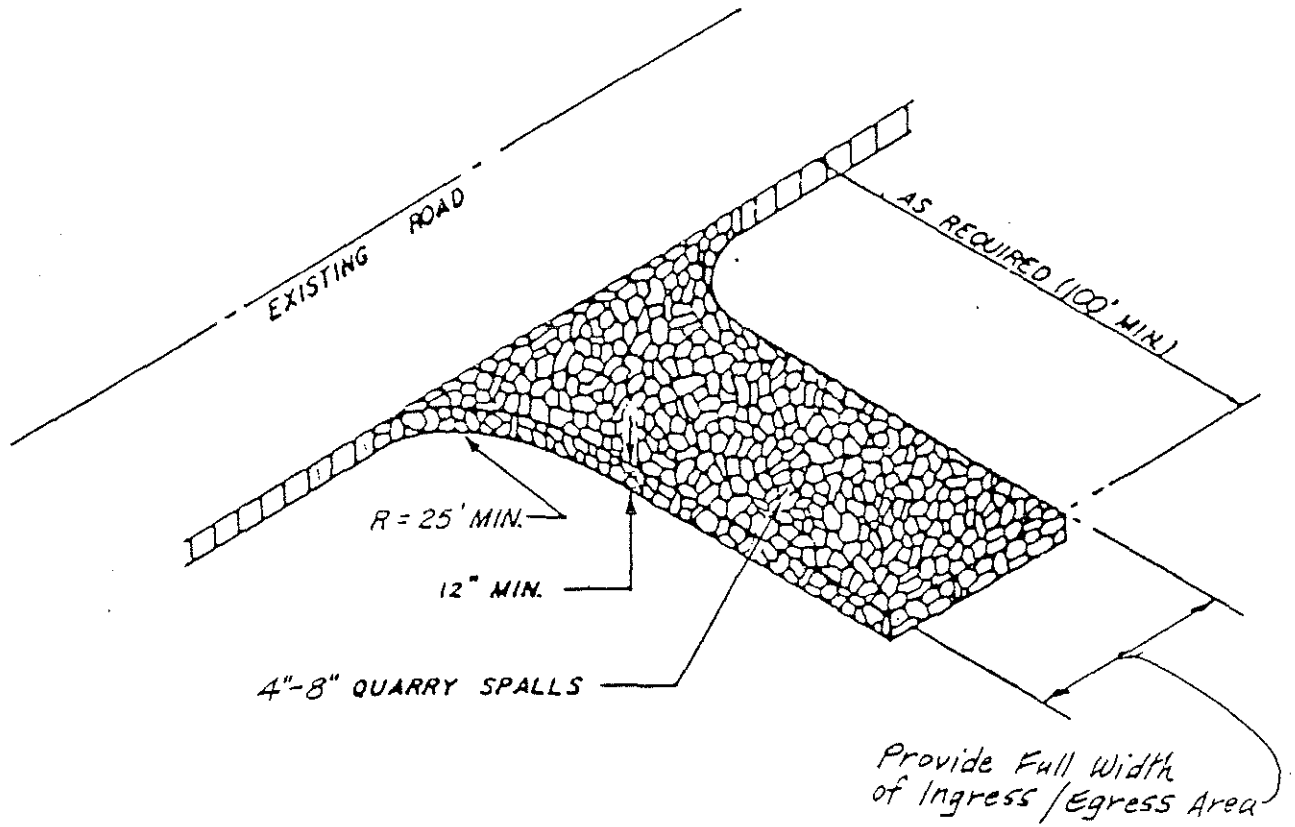


FIGURE 6 · STABILIZED CONSTRUCTION ENTRANCE



STATEMENT OF NEED FOR RULEMAKING

(1) Legal Authority

ORS 468.020 requires the Environmental Quality Commission to adopt rules as necessary for performing its legislatively mandated functions. Water pollution control is one of those functions.

OAR 340-41-470(3)(j)(C) requires the Department to propose rules for permits to control storm water from new development within the Tualatin and Oswego Lake subbasins. The rules were to be proposed by March 8, 1989.

(2) Need for the Rule

There is an over abundance of nutrients in the Tualatin River. These excessive nutrients, primarily phosphorus, cause excessive algae blooms and depress dissolved oxygen. One of the contributors of these nutrients is urban stormwater runoff. The proposed rules will provide some treatment and control of stormwater runoff in the Tualatin and Oswego Lake subbasins until such time as the counties and cities in the subbasins have implemented their own program plan for addressing the problem.

(3) Principal Documents Relied Upon in this Rulemaking

ORS Chapter 468 "Pollution Control"

OAR 340-41-470 "Special Policies and Guidelines"

OAR Chapter 340 Division 45 "Regulations Pertaining to NPDES and WPCF Permits"

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs

The above documents are available for review during normal business hours at the Department's office, 811 SW Sixth, Portland, Oregon.

LAND USE COMPATIBILITY STATEMENT

The proposed rule will affect both goals 6 and 11.

Goal 6 (Air, Water and Land Resources Quality): This proposal is designed to improve water quality in the area by reducing the discharge of nutrients and sediment and is consistent with the goal.

Goal 11 (Public Facilities and Services): This proposal will require the establishment of some local improvement districts for the construction and operation of permanent stormwater control facilities. This is likely to be an added cost to those who would be residing within the boundaries of these districts.

FISCAL AND ECONOMIC IMPACT OF PROPOSED STORMWATER REGULATIONS

Overall Impact

The proposed regulations require all new real estate developments within the Tualatin River and Oswego Lake Sub-basins to provide temporary storm runoff control systems during construction. The temporary stormwater control systems must be able to control sediment transport to less than one (1) ton per acre per year during construction activities. Control systems will range from a few strategically placed straw bales to the construction of sediment ponds.

Except for one or two family residences on existing lots of record, permanent stormwater treatment systems will be required for new developments. The permanent stormwater treatment systems must be designed to remove 65% of the phosphorus and 85% of the sediment from a 0.36 inch summertime storm event. An exception to the construction of permanent stormwater control facilities can be granted if the jurisdiction chooses to require a one time in-lieu-of fee to assist in construction of an area-wide stormwater control facilities.

These interim and permanent stormwater control systems will have some financial impacts not only to all business and residents but also to the local jurisdictions within the basin. Since there are many jurisdictions within the sub-basins, and since property values vary significantly between jurisdictions and categories, it is impossible to determine the overall financial impact to the region.

Impact of Temporary Sediment Control During Construction

The cost of controlling sediment transport during construction will vary dramatically. On level sites, adequate control may require no more than mulching disturbed areas or using straw bales for filtering the runoff. The cost of these controls would normally be less than \$100 per acre. For developments on steeper terrain, where erosion potential is great, construction of sediment ponds may be required. The cost of these sediment ponds could range from \$1000 to \$3000 per acre (See Table 1).

Impact of Permanent Stormwater Control and Treatment Systems

Construction of permanent stormwater control and treatment systems is much more complex and costly. In order to demonstrate the potential financial impacts to the developer(s) and individual homeowner(s), a hypothetical multi-family development within the City of Beaverton was selected as an example. Three scenarios were assumed, i.e., a) a 24 unit apartment on two (2) acres of land, b) a 120 unit apartment on ten (10) acres land, and c) a 580 unit apartment complex on thirty (30) acres of land. The permanent stormwater control systems for the various scenarios would range from \$3,000 to \$7,000 per acre developed (Table 2).

If these capital costs were evenly divided between the individual homeowners, the additional costs ranged from \$230 to \$590. Annual operating and maintenance costs for the permanent system ranged from \$70 to \$960. These costs would be a small percentage (0.25 - 0.5%) of the total project costs. For the individual homeowners, each basic apartment unit cost could be increased by no more than 0.7%.

Because of the lack of practicable alternatives and the land constraints associated with building permanent stormwater treatment systems for individual developments, construction of area-wide treatment and control systems would be more practical and less costly per acre, the proposed rules allow the jurisdiction to charge the developer a one time in-lieu-of fee rather than require the construction of the permanent stormwater treatment system. The fee money would be put in escrow until such time as the jurisdiction could construct the area-wide system. Since construction of area-wide systems would be less costly than permanent treatment systems constructed at development sites, the fees would likely be in the range of \$2000 to \$5000 per acre which would be only about 75% of the cost to the developer of constructing permanent facilities.

Using similar evaluation criteria, the potential financial impacts on any commercial and industrial development(s) within the region would be small. The projected impact on small business, such as those merchants leasing or owning a small shop in a shopping complex, may be approximately a 1% increase in their basic property costs or in their annual rental costs.

A property owner would also experience a fiscal impact if they were unable to develop a piece of property because the local jurisdiction required it to be set aside for an area-wide stormwater treatment system. It is likely that the price they would receive from the property would be far less than if it was developable. Fortunately, much of the property which is suitably located for area-wide stormwater treatment systems is within the flood plane and is not developable to any great extent.

Impact on the local Jurisdiction

The City of Beaverton was selected to demonstrate the potential financial impacts caused by the proposed rules. Currently there are 328.27 gross acres of multi-family development sites within the urban growth boundary of the city. Because of some physical site characteristics, such as steep slope, flood plain, or wet land, only 296.5 net acres are suitable for immediate development. Assuming there were ten drainageways serving the developable acreage, and if each drainageway required the setting aside of 0.85 acres for permanent stormwater control systems, there would be a total net loss of 8.5 acres of developable properties. This would be equivalent to a loss of approximately 0.75 million dollars of property revenue to the property owners. At a property tax rate of about \$4.40 per thousand of assessed value, the loss of property tax revenue to the city would be about \$3200 per year

on property alone. When considering the value of the developed property, the property tax revenue loss would be more like \$24,000 per year. This projected financial impact to the property owner and the local jurisdiction could be less if those undevelopable sites (i.e., flood plains, etc.) could be utilized for the permanent stormwater control systems.

Other financial impacts of the rules to local jurisdictions is the cost of administering the requirements of the rules. Some additional criteria must be evaluated during preliminary plat or plan review and during final plat or plan review. For the larger jurisdictions or those with the most construction activity, one additional plan review person may be required.

Most of these same financial impacts are likely to occur when the jurisdictions have implemented stormwater treatment requirements which will be part of their program plan already required by existing rules [OAR 340-41-470 (1)(g)]. These proposed rules will require the implementation costs to be incurred sooner.

fiscal.imp

TABLE 1 ---- COST SUMMARY FOR INTERIM SEDIMENT CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	MAINTENANCE COST	O&M COST	LAND COST	GRAND TOTAL (5/1989 DOL.)	INDIVIDUAL COST	COST/ACRE
	-----	-----	-----	-----	-----	-----	-----	-----	-----
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) SEDIMENTATION POND	0.01	\$3,684	\$921	\$230		\$796	\$6,147	\$256	\$3,074
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) SEDIMENTATION POND	0.05	\$5,119	\$1,280	\$320	\$128	\$4,021	\$11,723	\$98	\$1,172
b) INFILTRATION TRENCH C/W SM. SED. POND	0.01	\$8,715	\$2,179	\$2,723	\$327	\$1,005	\$15,961	\$133	\$1,596
c) INFILTRATION BASIN C/W SM. SED. POND	0.01	\$6,394	\$1,598	\$1,998	\$80	\$1,005	\$12,003	\$100	\$1,200
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	0.14	\$11,085	\$2,771	\$693	\$277	\$12,320	\$29,330	\$51	\$978
b) SEDIMENTATION POND	0.14	\$21,278	\$5,320	\$1,330		\$12,320	\$43,929	\$76	\$1,464

TABLE 2 ---- COST SUMMARY FOR PERMANENT STORMWATER CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	MAINTENANCE COST	O&M COST	LAND COST	GRAND TOTAL (5/1989 DOL.)	INDIVIDUAL COST	COST/ACRE
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) INFILTRATION TRENCH		\$8,284	\$2,071	\$2,589	\$311		\$14,129	\$589	\$7,064
b) INFILTRATION BASIN		\$5,757	\$1,439	\$1,799	\$72		\$9,819	\$409	\$4,909
c) WET POND	0.05	\$5,670	\$1,418	\$354		\$4,773	\$13,334	\$556	\$6,667
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) EXT'D DETENTION POND	0.28	\$17,624	\$4,406	\$1,101	\$441	\$24,125	\$51,585	\$430	\$5,158
b) INFILTRATION TRENCH		\$22,988	\$5,747	\$7,184	\$862		\$39,210	\$327	\$3,921
c) INFILTRATION BASIN		\$17,607	\$4,402	\$5,502	\$220		\$30,031	\$250	\$3,003
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	0.85	\$38,163	\$9,541	\$2,385	\$954	\$73,922	\$135,372	\$233	\$4,512
b) WET POND	0.85	\$44,263	\$11,066	\$2,766		\$73,922	\$144,112	\$248	\$4,804

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

**PROPOSED STORM WATER TREATMENT AND CONTROL RULES
NOTICE OF PUBLIC HEARING**

Hearing Date: June 20, 1989

Comments Due: June 21, 1989

- WHO IS AFFECTED:** Most new construction activity in the Tualatin River and Oswego Lake Sub-basins will be affected.
- WHAT IS PROPOSED:** Environmental Quality Commission rules require Washington and Clackamas Counties and the incorporated cities in those counties to develop ways to treat storm water runoff. Because these jurisdictions have not yet developed plans, the Department of Environmental Quality (DEQ) is proposing to amend OAR 340-41-470 by adding a requirement of interim practices to reduce the flow of pollutants off construction sites during rainfall events. Construction of sediment ponds or equivalent sediment control facilities may be required. The proposed rules would also require construction of permanent storm water treatment systems. These systems would treat storm runoff from new developments for the removal of phosphorus, sediment, and other pollutants.
- Once adopted, these interim rules will apply to construction activities until the affected jurisdictions in the basins have implemented an approved equivalent local storm water treatment program plan.
- WHAT ARE THE HIGHLIGHTS:** One and two family residences would be excluded from the requirements of the rules if they are on existing Lots of Record.
- The rules apply only to the Tualatin River and Oswego Lake Sub-basins.
- Instead of requiring the developer to construct the permanent control facilities, the local jurisdiction may require the developer to pay a fee. The local jurisdiction would hold the funds in escrow until the jurisdiction could build an area-wide runoff treatment system.
- All permanent storm water treatment systems constructed must be designed to remove at least 65% of the phosphorus and 85% of the sediment from the storm water runoff.
- INFORMATION AVAILABLE:** The set of draft rules currently open for public comment combines two drafts developed jointly by the DEQ and the affected jurisdictions. Comments are requested on this jointly prepared draft of rules. In addition to the draft rules, a background report and Fiscal and Economic Impact Report are available upon request.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

HOW TO
COMMENT:

Copies of the proposed rules, background report, and Fiscal and Economic Impact Report can be obtained from: The Department of Environmental Quality, Water Quality Division, 811 S.W. Sixth Avenue, Portland, Oregon, 97204. Written comments can be submitted to the same office. For further information contact Kent Ashbaker at (503) 229-5325.

Public Hearings will be held as follows:

WHERE: DEQ offices, Conference Room 4A

DATE: June 20, 1989

TIME: 9:00 a.m.

AND

WHERE: Room 402, Washington County Administration Building,
150 N. First Avenue,
Hillsboro, Oregon

DATE: June 20, 1989

TIME: 7:00 p.m.

Oral and written comments will be accepted at the hearings. Additional written comments will be accepted until 5:00 p.m., June 21, 1989.

WHAT IS THE
NEXT STEP:

Testimony received during this public participation process will be evaluated and a final draft of rules will be prepared to take to the Environmental Quality Commission for adoption at their regular meeting to be held on July 21, 1989.

WJ1876

NOTICE

On June 20, 1989, public hearings will be held regarding the adoption of interim stormwater control rules for the Tualatin-Oswego Lake Sub-basins. The draft rules allow the planning agencies to collect a development fee for stormwater treatment rather than requiring the construction of permanent stormwater treatment systems concurrent with development. It is likely that most jurisdictions which elect to allow payment of the in-lieu-of fee will be required to adopt ordinances to allow for the collection of that fee as well as implement other requirements of the rules.

It is anticipated that these proposed rules will be adopted by the Commission on July 21, 1989. Normally the rules become effective as soon as filed with the Secretary of State, which will be just a few days after adoption by the Commission.

The Department is concerned whether or not the municipal entities in the basin, which will be approving stormwater handling systems and collecting in-lieu-of fees, will be ready to implement the rules upon adoption. Should a rule implementation date be developed which is different than the rule adoption date? If so, what should that date be? How long will it take the implementing entities in the basin to be ready to implement the rules? Should an implementation date be established in the body of the rules.

The Department is requesting input on this issue. Please provide a response to the above questions during this public participation process.

notice.4

SPECIAL POLICIES AND GUIDELINES

ATTACHMENT E

340-41-470

- (1) In order to preserve the existing high quality water for municipal water supplies and recreation, it is the policy of the EQC to prohibit any further waste discharges to the waters of:
 - (a) The Clackamas River Subbasin;
 - (b) The McKenzie River Subbasin above the Hayden Bridge (river mile 15);
 - (c) The North Santiam River Subbasin.
- (2) The Environmental Quality Commission shall investigate, together with any other affected state agencies, the means of maintaining at least existing minimum flow during the summer low flow period.
- (3) In order to improve water quality within the Tualatin River subbasin to meet the existing water quality standard for dissolved oxygen, and the 15 ug/l chlorophyll a action level stated in OAR 340-41-150, the following special rules for total maximum daily loads, waste load allocations, load allocations, and implementation plans are established.

(a) After completion of wastewater control facilities and implementation of management plans approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged to the Tualatin River or its tributaries without the specific authorization of the Commission that cause the monthly median concentration of total phosphorus at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured during the low flow period between May 1 and October 31* of each year, unless otherwise specified by the Department, to exceed the following criteria:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	20	Scoggins Cr.	60
Dilley (58.8)	40	Gales Cr.	45
Golf Course Rd. (52.8)	45	Dairy Cr.	45
Rood Rd. (38.5)	50	McKay Cr.	45
Farmington (33.3)	70	Rock Cr.	70
Elsner (16.2)	70	Fanno Cr.	70
Stafford (5.4)	70	Chicken Cr.	70

(b) After completion of wastewater control facilities and implementation of management plans required approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged

[discharge of wastewater] to the Tualatin River or its tributaries without the specific authorization of the Commission [~~shall be allowed~~] that cause[s] the monthly median concentration of ammonia-nitrogen at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured between May 1 and November 15* of each year, unless otherwise specified by the Department, to exceed the following target concentrations:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	30	Scoggins Cr.	30
Dilley (58.8)	30	Gales Cr.	40
Golf Course Rd. (52.8)	40	Dairy Cr.	40
Rood Rd. (38.5)	50	McKay Cr.	40
Farmington (33.3)	1000	Rock Cr.	100
Elsner (16.2)	850	Fanno Cr.	100
Stafford (5.4)	850	Chicken Cr.	100

- (c) The sum of tributary load allocations and waste load allocations for total phosphorus and ammonia-nitrogen can be converted to pounds per day by multiplying the instream criteria by flow in the tributary in cfs and by the conversion factor 0.00539. The sum of load allocations waste load allocations for existing or future nonpoint sources and point source discharges to the mainstem Tualatin River not allocated in a tributary load allocation or waste load allocation may be calculated as the difference between

the mass (criteria multiplied by flow) leaving a segment minus the mass entering the segment (criteria multiplied by flow) from all sources plus instream assimilation.

(d) The waste load allocation (WLA) for total phosphorus and ammonia-nitrogen for Unified Sewerage Agency of Washington County is determined by subtracting the sum of the calculated load at Rood Road and Rock Creek from the calculated load at Farmington.

(e) Subject to the approval of the Environmental Quality Commission, the Director may modify existing waste discharge permits for the Unified Sewerage Agency of Washington County and allow temporary additional waste discharges to the Tualatin River provided the Director finds that facilities allowed by the modified permit are not inconsistent and will not impede compliance with the June 30, 1993 date for final compliance and the Unified Sewerage Agency is in compliance with the Commission approved program plan.

[(e) The Director may issue new waste discharge permits containing additional waste load allocations and approve nonpoint source activities containing additional load allocations for total phosphorus and ammonia-nitrogen provided the Director finds that the concentrations specified in sections (a) and (b) will not be exceeded.]

(f) Within 90 days of the adoption of these rules, the Unified Sewerage Agency of Washington County shall submit a program** plan

and time schedule to the Department describing how and when the Agency will modify its sewerage facilities to comply with this rule. The program plan shall include provisions and time schedule for developing and implementing a management plan under an agreement with the Lake Oswego Corporation for addressing nuisance algal growths in Lake Oswego.

(g) Within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan** for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule.

(h) After July 1, 1989, Memorandums of Agreements between the Departments of Forestry and Agriculture and the Department of Environmental Quality shall include a time schedule for submitting a program plan** for achieving the requirements of sections (a) and (b) of this rule. The program plans shall be submitted to the Department within 18 months of the adoption of this rule.

(i) Within one hundred twenty (120) days of submittal of the program plan** and within sixty (60) days of the public hearing, the Environmental Quality Commission shall either approve or reject the plan. If the Commission rejects the plan, it shall specify a compliance schedule for resubmittal for approval and shall specify

the reasons for the rejection. If the Commission determines that an agency has not made a good faith effort to provide an approvable plan within a reasonable time, the Commission may invoke appropriate enforcement action as allowed under law. The Commission shall reject the plan if it determines that the plan will not meet the requirements of this rule within a reasonable amount of time. Before approving a final program plan, the Commission shall reconsider and may revise the June 30, 1993 date stated in sections (a), (b), and (e) of this rule. Significant components of the program plans shall be inserted into permits or memorandums of agreement as appropriate.

(j) For the purpose of assisting local governments in achieving the requirements of this rule, the Department shall:

(A) Within 90 days of the adoption of these rules, distribute initial waste load allocations and load allocations among the point source and nonpoint source management agencies in the basin. These allocations shall be considered interim and may be redistributed based upon the conclusions of the approved program plans.

(B) Within 120 days of the adoption of these rules, develop guidance to nonpoint source management agencies as to the specific content of the programs plans.

(C) Within 180 days of the adoption of these rules, propose additional rules for permits issued to local jurisdictions to address the control of storm water from new development within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

(i) Alternative control systems capable of complying with sections (a) and (b) of this rule;

(ii) Maintenance and operation of the control systems.

(iii) Assurance of erosion control during as well as after construction.

(D) In cooperation with the Department of Agriculture, within 180 days of the adoption of this rule develop a control strategy for addressing the runoff from container nurseries.

*Precise dates for complying with this rule may be conditioned on physical conditions (i.e., flow, temperature) of the receiving water and shall be specified in individual permits or memorandums of understanding issued by the Department. The Department shall consider system design flows, river travel times, and other relevant information when establishing the specific conditions to be inserted in the permits or memorandums of understanding. Conditions shall be consistent with Commission-approved program plans** and the intent of this rule.

**For the purpose of this section of the rules, program plan is defined as the first level plan for developing a waste water management system and describes the present physical and institutional infrastructure and the proposed strategy for changes including alternatives. A program plan should also include intergovernmental agreements and approvals, as appropriate, time schedules for accomplishing goals, including interim objectives, and a financing plan.

Stat. Auth.: ORS Ch. 468
Hist: DEQ 128, f. & ef. 1-21-77

HEARINGS OFFICER REPORT

INTERIM STORM WATER CONTROL RULES FOR THE TUALATIN AND OSWEGO LAKE
SUBBASINS

This report will summarize the information received at two public hearings held on June 20, 1989, concerning proposed rules to control the quality of storm water runoff from new development in the Tualatin and Oswego Lake subbasins. The hearings were held beginning at 9:00AM in Room 4A, 811 SW 6th, Portland, Oregon and beginning at 7:00PM in the Washington County Administration Building in Hillsboro, Oregon.

1. The requirements for erosion control during construction and for permanent storm water quality control facilities are not clear. The requirements will not produce desired results. The Department should be more deliberate in developing the rules and should base them on sound scientific information.
2. Jurisdictions felt that the proposed rules for interim storm water quality control facilities would impose administrative burdens upon them at the expense of resources that would otherwise be devoted to developing the program plans. Further, the interim rules amount to putting the "cart before the horse" with the risk that the interim rules will guide the program plans instead of the program plans establishing the approach for storm water quality control. Further, the interim rules add an additional level of complication in a process that is confusing to the local jurisdictions in the first place.
3. Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River and Oswego Lake subbasins was too stringent, unrealistic, and not achievable. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized.
4. Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

5. Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. Some felt the issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

The hearing was recorded by the Department. Tapes together with written material is in the Department files. The Department response to testimony is contained in Attachment F which follows.

HEARINGS OFFICER'S REPORT**INTERIM STORM WATER CONTROL RULES FOR THE TUALATIN AND OSWEGO LAKE
SUBBASINS**

This report will summarize the information received at two public hearings held on June 20, 1989, concerning proposed rules to control the quality of storm water runoff from new development in the Tualatin and Oswego Lake subbasins. The hearings were held beginning at 9:00AM in Room 4A, 811 SW 6th, Portland, Oregon and beginning at 7:00PM in the Washington County Administration Building in Hillsboro, Oregon.

This hearings officer's report has been arranged in two parts. The first part addresses issues that were presented at the hearing either orally or by letter. The second part addresses issues submitted in a report prepared by Century West Engineering Corporation for the Sunset Corridor Association. Because the Department is not now proposing that rules be adopted that would require permanent storm water quality control facilities during the interim, only those comments in the Century West Report concerning erosion control have been addressed in this report. The other issues discussed in their report have either been addressed in part I of this hearing officer's report or are now moot.

PART I**ISSUE**

Generally, the majority of those testifying agreed that the erosion caused during construction should be controlled. One testifier supported control of erosion during construction because it would provide the quickest results as far as improving water quality. Several testifiers felt the use of the Universal Soil Loss Equation was inappropriate for urban development since it had been developed for the purpose of controlling agricultural erosion. One testifier felt that the equation was not suitable for Washington County because it had been developed for conditions in the midwest. Another felt that it would be extremely difficult, if not impossible, to meet the one ton per acre requirement for erosion control during construction.

DEPARTMENT RESPONSE

Although the Universal Soil Loss Equation was originally developed for agricultural runoff, it is still applicable to disturbed land at construction sites. The amount of sediment that can be expected to move from the site under various soil conditions, slopes, and cover materials can be reasonable predicted by the equation. The tables in Appendix I have been prepared specifically for Washington County. Further, the proposed rules require that the erosion control plan be calculated on the basis of the Universal Soil Loss Equation. This means the one ton per acre figure is a

design goal and not a performance standard. The proposed rules do not provide for any monitoring of actual soil loss to determine compliance with the one ton per acre figure.

ISSUE

Two testifiers had concerns about the limitations on sizing for the settling ponds required by the proposed rules controlling erosion and felt that deeper ponds should be allowed in order to reduce the area necessary for the ponds.

DEPARTMENT RESPONSE

The rules have been changed to indicate that the sediment ponds should have a sediment storage depth of a minimum of 1.5 feet.

ISSUE

Some testifiers felt that the equation should be displayed as a matrix so that the regulated community and city planners could more easily understand and implement the requirements. Another testifier felt that the rules should be very prescriptive so that the small builder or developer would not be forced to seek the services of a consultant. One testifier felt that the controls required during construction should be practicable.

DEPARTMENT RESPONSE

The Department has added a section to the rules that allows either a jurisdiction or the Department to develop a matrix for determining appropriate BMPs for controlling erosion during construction. The matrix must be based upon the uniform soil loss equation.

The Department recognizes that the rules for erosion control plans are not as easily used as they could be. The Department believes that Appendix I could be modified relatively easy to make it more user friendly and would intend to do this if this portion of the rules are adopted.

ISSUE

Many testifiers voiced concerns about the requirement in the proposed rules for permanent storm water control. Many felt the requirement for 65% removal of phosphorus and 85% removal for suspended solids was not achievable. Others wanted the rules to clearly delineate that the removal efficiencies required in the rules were design standards and not performance standards. One testifier felt that the rules should require a performance standard based upon pounds per acre rather than a design standard. Another testifier stated that the rules should be prescriptive such that a small builder or developer would not need to acquire the services of a consulting engineer in order to design a permanent storm water control facility. In addition, prescriptive requirements would lessen the ability of project opponents to appeal land use decisions. One testifier felt that both design and performance standards should be required.

DEPARTMENT RESPONSE

The Department proposed 65% removal of phosphorus and 85% removal of sediment as strictly a design standard and not a performance standard. This means that a facility would be acceptable if it is designed consistent with specifications capable of meeting the noted removal efficiencies outlined in CONTROLLING URBAN RUNOFF: A Practical Manual For Planning and Designing Urban BMPs. The Department considered requiring performance standards, but decided that design standards would be as effective for assuring that a high level of storm water control facilities would be installed for new development until such time as the program plans for urban nonpoint source were implemented. In addition, using design standards would allow the Department and local government to rely on an engineer's certification that the systems was properly designed. This would eliminate the need for extensive review by either the Department or local jurisdiction as to whether or not the design was proper.

Data provided in CONTROLLING URBAN RUNOFF: A Practical Manual For Planning and Designing Urban BMPs indicates that the removal efficiencies specified in the proposed rules have been achieved. The Department admits that maximum removal efficiencies were chosen to assure that the storm water quality control facilities would produce an effluent as good as practicably possible. This would eliminate a number of best management practices that could remove some pollutants from being considered and applied.

The Department recognizes that very prescriptive rules could eliminate the need for developers to obtain the services of consulting engineers. The Department believes, however, that prescriptive rules tend to be rigid and cumbersome.

Permanent storm water quality control facilities must be carefully sited and the design should include suitable amenities that will make the facility attractive or, at least, as unobtrusive as possible to surrounding neighbors. CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs states that improperly sited and designed storm water systems can result in poorly operating systems with high maintenance costs. Further, care must be taken in the design of the facilities to assure that they work well with the surrounding development. Improperly designed and constructed facilities will lose public support for storm water systems that is vital to the overall water pollution control program in the Tualatin subbasin.

Effective storm water quality control facilities must result from the interim rules. The Department believes that it may be impossible to assure this within the goals established for the rules. Further work on rule development could be undertaken, but this will be at the expense of time and resources that should be devoted to development of the program plans. Based upon these concerns, the Department believes that the overall storm water quality control effort is better served by not adopting the proposed rules relative to permanent storm water quality control facilities. The Department should rely on the program plans to define the approach on permanent storm water quality facilities. While the Department believes this will allow some continued degradation of water quality in the Tualatin

until the program plans are approved and implemented, it should better assure good program plans and eliminates the risk of poor systems being installed that will erode public support.

ISSUE

One testifier felt that there was only one viable storm water treatment system that could be employed in the Tualatin subbasin. As a result, the rules should be simplified to reflect this limitation.

DEPARTMENT RESPONSE

The Department recognizes that the proposed rules severely limit the number and type of best management practices. Based upon this and other reasons stated above, the Department has modified the proposed rules and eliminated all requirements for permanent storm water quality control facilities.

ISSUE

Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River subbasin was too stringent. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized. Some felt that it was inappropriate to require permanent storm water controls before the program plans had been submitted, analyzed, and approved. Without the final program plans, there is no basis to justify the need for interim storm water controls in the first place. Several testifiers felt that much additional research was necessary to determine alternatives for storm water control systems, associated costs, and mechanisms to finance the systems. One testifier felt that the reduction of pollutants due to storm water were insignificant compared to other sources (sewage treatment plants) and pollution cleanup efforts should be concentrated on the big sources. Some testifiers stated they would participate in funding additional study of the issue.

DEPARTMENT RESPONSE

The Department recognizes that these rules, in addition to other requirements imposed in the Tualatin River subbasin to control water pollution, will increase costs to the residents and businesses in the subbasin. The Department believes the clean up efforts will produce improved water quality in the river and will protect the river's beneficial uses. Because of its slow moving, meandering nature, the river probably never has had the high quality waters associated with other Oregon streams

such as the McKenzie River or the Willamette River. Reduction in in-stream contaminants will not transform the Tualatin River into a McKenzie or Willamette River. The Department believes, however, that this is not a justifiable reason to forego water pollution control efforts and allow the river to become merely a drainage conveyance for treated sewage and storm runoff.

The Department also recognizes that the program plans have not been completed and, consequently, we do not know what will eventually be needed to reduce phosphorus and ammonia-nitrogen loadings to levels necessary to meet load allocations. The Department believes that priority should be given to assuring that the program plans are effective and comprehensive. Interim rules for storm water quality control facilities will impact the ability of jurisdictions to put together effective program plans. Further, the interim rules add another layer of complexity in a water pollution control strategy that is already confusing to the people in the area. Based upon this and issues related above, the Department does not propose to recommend rules for the interim for permanent storm water quality control facilities.

ISSUE

One testifier felt that the rules were necessary to deal with increasing water pollution due to the rapid pace of development in the basin. Without storm water controls, permanent damage to water quality would occur. This testifier believed that construction of permanent storm water systems during the development of property was cost effective compared to retrofitting a system after the development is completed.

DEPARTMENT RESPONSE

The Department does not agree that permanent damage has occurred or that permanent damage will inevitably occur if storm water quality control facilities are not provided during the interim period until the program plans for nonpoint source are developed and implemented. We do agree, however, that degradation will increase and the costs for retrofitting a system after development has been constructed will much more costly. The interim rules, if they contain requirements for permanent systems, will impact the ability for jurisdictions to prepare and implement program plans and add confusion to an already complicated issue. The Department is also concerned that the rules will cause improperly designed and constructed system to be installed which will erode public support for the effort to reduce pollution in the Tualatin River and Oswego Lake subbasin.

ISSUE

Many testifiers believed that area-wide permanent storm water control systems were preferable to on-site systems. One testifier spoke in opposition to this approach and advocated on-site systems in all cases except where physically impracticable. In such cases where systems are impracticable, this testifier believed that mitigation of the effects of no on-site system should be required.

DEPARTMENT RESPONSE

The Department believes that area-wide systems should be more efficient and would take advantage of economies of scale. The Department also believes, however, that the types of systems should be defined in the program plans and not in these rules.

ISSUE

Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. The issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

DEPARTMENT RESPONSE

The Department does not agree that these proposed rules will create a building moratorium in the Tualatin River subbasin. The Department does recognize that the requirements of the rules will create additional costs for the development community. The Department also realizes that the added costs will, to some degree, reduce the attractiveness of the Tualatin subbasin to some developers and this could divert development to other areas both in and out of the state. We do not have information upon which to estimate how much development will be diverted elsewhere.

This issue creates a policy choice for the Commission. In order to create greater equity in the region or the state, the Commission could choose to apply the rules to the Tualatin subbasin, the Portland metropolitan area, or the entire state. The Department believes that there are other areas in the state where urban storm water controls would be effective in preventing pollution from occurring. We believe, however, that broader application of the rule would impose tremendous burdens upon the resources of both the Department and local government. Until the resource aspect of this matter could be resolved, the Department would not recommend broadening the application of the rule to areas outside the Tualatin subbasin unless it is necessary to address an identified water pollution problem. This issue, however, will be highlighted in the Commission staff report as a policy matter.

ISSUE

Some testifiers felt that the proposed rules would increase the likelihood that they would be unable to develop their property. These people have property in the outlying areas that are not as marketable and, as a result, when the property is sold, the prices are less and they are unable to recover the costs to the same extent as property located closer into the current developing areas.

DEPARTMENT RESPONSE

The Department empathizes with those developers that hold land that is not as marketable because of its location or other factor. The Department believes, however, that pollution control is a cost of doing business. If the land cannot be developed with necessary pollution control facilities and remain cost effective to the developer, the property should not be developed.

ISSUE

Most of the local jurisdictions that testified support the provisions in the rules for an in-lieu fee that would be paid if an on-site storm water system could or should not be installed. Many of the other testifiers, however, had concerns about the in-lieu fees. Some felt that the costs for all future storm water systems for both new development and existing development would be paid for out of the in-lieu fee and this was inappropriate and unfair. Storm water control facilities to serve existing development should be paid for by current property owners and not put on the backs of the development community. One testifier felt that the in-lieu fees were illegal. Another felt that the in-lieu fees should be based on a reasonable and rationale analysis of projected costs and should be uniform throughout the area. A testifier indicated that in-lieu fees were difficult to implement. In addition, one testifier felt that lottery monies should be used to fund storm water control facilities.

DEPARTMENT RESPONSE

The Department believes the in-lieu fee is a good practicable means to begin to establish funding for necessary storm water quality control facilities. The Department, however, believes that this issue should be dealt with in the program plans not in the interim rules. In-lieu fees have been dropped as a part of the Department's current rule proposal.

The Department has consulted with the Attorney General's office about the legality of the fees. The Attorney General's office advises that there are legal procedures and limitations that local jurisdictions must consider in imposing the fees, but that the proposed rule on in-lieu fees is probably valid.

The Commission has no authority over the use of lottery monies.

ISSUE

Several testifiers stated that, because the proposed rules will be implemented by local jurisdictions, local ordinances will have to be adopted by the jurisdictions and approved by the Oregon Land Use and Development Commission. This process will take some time to complete. Several testifiers requested that the rules not take effect for at least 120 days in order to allow the local ordinances to be developed. Others testified that it would take 180 days. One testifier suggested that the rules not go into effect until January 1, 1990.

DEPARTMENT RESPONSE

The Department believes this concern is valid and has modified the rules such that become effective on January 1, 1990. This will also allow the Department sufficient time to redraft appendix I.

ISSUE

Some testifiers were concerned that the rules would require that all storm water facilities be under the control of the local governmental jurisdiction. Some felt that this would require deeding of the lands associated with storm systems to the jurisdictions and were opposed to this. Others felt that the rules should allow for private interests to operate and maintain their own systems.

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are not longer proposed.

ISSUE

One testifier represented a large industrial/commercial development near Hillsboro. This development has already installed a state-of-the-art storm water control system. The testifier believed that where a development had already provided permanent storm water control facilities, that future construction on that site be exempt from the requirements of these proposed rules.

DEPARTMENT RESPONSE

In some cases, large campus-type industrial/commercial developments have included special covenants and development restrictions with the deeds to the lots in the development. These covenants and restrictions may provide suitable controls to limit erosion due to construction activities. The Department believes, however, that these erosion control restrictions should be judged on the basis of the rules and believes that a provision to grant exceptions for such developments would add too much complexity to the rules. The Department does not believe it will be difficult or excessively burdensome to apply the Universal Soil Loss Equation to such developments.

ISSUE

One testifier stated that separate financial assurance for storm water control should not be required.

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are not longer proposed.

ISSUE

One testifier questioned whether public facilities were to be covered under the requirements of these rules.

DEPARTMENT RESPONSE

Yes. To clarify this, the Department has added language that requires public works projects to be subject to these rules.

ISSUE

Several testifiers suggested language in the rules to exempt development where it could be shown that phosphorus concentrations would not exceed the in-stream phosphorus criteria adopted by the Commission for the Tualatin River subbasin. One testifier believed that such an exemption was necessary because certain public facilities such as sewers or water lines would not create any additional phosphorus loading and, therefore, should not be required to provide permanent storm water control.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

ISSUE

Several testifiers felt that individual permits for storm water facilities should not be required.

DEPARTMENT RESPONSE

The Department agrees. The proposed rules do not require permits for the required erosion control plans.

ISSUE

Several jurisdictions testified that the rules would have a significant effect on city resources. One testifier urged that the Department and the Commission be flexible and provide technical assistance during the period the rules are in effect. One testifier felt that the rules should state Commission policy and should not be regulatory.

DEPARTMENT RESPONSE

The Department recognizes that implementing these rules will impose additional demands upon the staffs of the local jurisdictions. The Department has requested an additional position from the legislature to devote to the water pollution issues in the Tualatin River subbasin. This position will have as one of its duties, assisting local government with the interim storm water quality control rules.

The rules have been proposed to minimize the intrusion of state government into local building approval process. The Department does view them, however, as regulatory and expects local jurisdictions as applicable to comply with them.

ISSUE

Several testifiers stated that adoption of the interim storm water rules will interfere and potentially conflict with the preparation and implementation of the final program plans for urban nonpoint source control. The program plans are due in March 1990, and the interim storm water rules probably cannot be implemented much before this time. Some felt that interim storm water rules should be dropped and the issue addressed in the final program plan.

DEPARTMENT RESPONSE

The Department realizes that these interim rules will add to the burdens of the local jurisdictions. We also recognize that cities and counties have limited resources and the requirements of the interim rules will compete for those resources necessary to prepare and implement the program plans for urban nonpoint source pollution. The Department believes that the effective storm water quality control will depend on good program plans. This is one reason had modified the proposed rules to eliminate the requirements for permanent storm water quality control facilities.

ISSUE

One testifier felt that the proposed interim storm water rules did not consider other forms of nonpoint source pollution such as agricultural and forestry sources.

DEPARTMENT RESPONSE

The Department recognizes that other nonpoint sources of water pollution exist in the Tualatin River subbasin and that these need to be controlled as well as that from new development. The Department believes, however, that urbanization is increasing at furious pace in comparison with agriculture and forestry. It is the rapid urban growth that prompts the need for the interim rules for new development. Nonpoint source pollution from agriculture and forestry is not expanding at the same rate. Control programs for these segments will be addressed in the program plans due in March, 1990.

ISSUE

One testifier felt the rules needed to be carefully crafted to limit potential liability on the part of the state and local government.

DEPARTMENT RESPONSE

The Attorney General office advises that a new regulation almost always entails some additional risk of liability. Liability would exist, however, only when government failed to abide by the regulation and thereby injured someone. The Department has tried to minimize such liability by making sure that the proposed rules are reasonable and achievable. The Department believes that the environmental need for the rules outweighs any remaining risk of liability.

ISSUE

Some testifiers suggested that the rules include provisions for monitoring the effectiveness of the rules and include a mechanism for modifying them if necessary. One suggested that the rules include a benefit/cost analysis process to determine if a provision of the rule is appropriate.

DEPARTMENT RESPONSE

The Department intends to track the rules as they are implemented by the local jurisdictions. If modifications are needed, the Commission can revise them as needed. The Commission has the authority to adopt temporary rules without public hearing if a particularly burdensome issue arises.

The Department believes that a benefit/cost provision in the rule would be difficult to develop and would severely complicate a rule package that we have attempted to keep as simple as possible. We cannot recommend such a provision.

ISSUE

Several testifiers had concerns relative to wetlands. Some were concerned that storm water systems installed for pollution control may ultimately be considered wetlands and be subject to additional regulatory requirements. Some were concerned that routine maintenance and operation could be subject to wetlands protection requirements of both the state and federal requirements.

DEPARTMENT RESPONSE

The Department asked the Office of the Attorney General to investigate this concern. They, in turn, consulted with the Division of State Lands which regulates wetland dredge and fill projects in Oregon. According to the Division of State Lands, human-made wetlands are not subject to either state or federal requirements pertaining to protection of wetlands.

ISSUE

Another testifier had concerns about the impact of storm water control facilities on existing wetlands. This person felt that siting of facilities needed to be done with sensitivity to the hydrology of the area so that existing wetlands were not impacted.

DEPARTMENT RESPONSE

The Department agrees that storm water quality control facilities should not be located on or utilize existing wetlands. Federal and state laws relating to wetlands should prevent this from occurring.

ISSUE

One testifier felt that the rules needed to specifically relate to summertime water quality concerns. In-lieu fees should be required only for those facilities necessary to deal with urban runoff under low flow conditions affecting water quality and not for facilities that deal with winter-time storm water control and conveyance. One testifier had concerns with the definition of storm water quality control facility because it included the term flow attenuation which seemed to convey a purpose other than protecting water quality.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

ISSUE

One testifier felt that the word "Oregon" should be inserted before the phrase "registered professional engineer."

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are no longer proposed.

ISSUE

One testifier believed that the storm water issue should be addressed by a regional authority.

DEPARTMENT RESPONSE

The Department agrees with this and has supported legislation that will more easily allow the Unified Sewerage Agency of Washington County to deal with the storm water issues in Washington County. The issue, however, is outside the scope of this rule proposal.

ISSUE

One testifier felt that the rules were confusing and that additional definitions were necessary to clarify the language.

DEPARTMENT RESPONSE

The Department has reviewed the proposed rules and has added definitions for jurisdiction, erosion control plan, and public works projects to reduce confusion.

ISSUE

One testifier indicated that the costs for providing storm water control facilities will significantly increase the costs for road construction in Washington County. This person estimated that it would increase costs by about 6% to 10%. For Washington County over the next five to six years, this will amount to about 5 to 8 million dollars.

DEPARTMENT RESPONSE

Although the Department's fiscal impact statement did not specifically address added costs for highway and street construction, the additional costs are consistent with our estimate of costs for new development, generally.

ISSUE

Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

DEPARTMENT RESPONSE

The Department did not conduct a cost/benefit analysis of the proposed rules nor did the Department attempt to consider how the costs would affect each and every class of development in the Tualatin River subbasin. State law requires a fiscal impact analysis which was done. Such an analysis does not contemplate nor require that costs be weighed against benefits derived.

The Department could, if directed by the Commission, expand the economic impact analysis and include other segments or classes of development. The Department believes that estimation of costs would be relatively easy compared to estimating the value of the benefits of clean water. Clean rivers and lakes have intangible benefits for which monetary values are difficult to estimate and which are subject to opinions more than objective determinations.

To conduct a cost/benefit analysis would, presuming the benefits could be suitably quantified, imply that, if the costs are too high, violation of water quality standards would be tolerated. Neither state or federal law contemplate that such a trade-off would be considered.

The Department does not believe a cost/benefit analysis is necessary or desirable, but believes the issue is important and will highlight it in the Commission report.

ISSUE

Several testifiers were dismayed about the proposed rules passing the problem to the local jurisdictions without providing a framework of technical assistance, financial planning, program guidelines, and seminars.

DEPARTMENT RESPONSE

In draft the proposed rules, the Department's first concern and desire was to utilize existing government institutions to the extent possible and minimize the inconvenience to the regulated community. Developers and builders already are required to submit site plans and obtain building permits for development from local government. The Department felt that requirements for storm water quality control facilities could be best handled in the building and planning departments of local government since the developers and builders have to go here anyway.

The Department recognizes the additional burdens imposed on local government as a result of these storm water rules. The Department does have authority for an additional position to deal with water quality issues in the Tualatin River subbasin. The Department will use this position, as much as practicable, to assist local governments in developing and implementing the proposed rules.

ISSUE

One testifier felt that it was unreasonably burdensome for a developer to get an exemption for an area-wide storm water quality control facility.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

PART II

(Note: The following is an excerpt from a report prepared for the Sunset Corridor Association by Century West Engineering. The report is entitled "A Report on the DEQ Draft Interim New Development Rules, May, 1989." This section of the report lists each component of the rules followed by a statement of their concerns with that component of the rules. In responding to these concerns as part of the Hearing Officer's Report, the Department has stated its response in **BOLD, CAPITALIZED** letters to distinguish DEQ comments from that provided in the report by Century West Engineering).

Critique of Proposed Draft Interim New Development Rules

Introduction:

The interim rules proposed by the DEQ were prepared to guide the development of the Tualatin Sub-Basin toward the construction of storm water quality control facilities in order to reduce the phosphorous and sediment loading of the sub-basin waterways. The proposed rules have gone through a number of revisions during the formulation period. The following overview represents a critique of the proposed rules as they existed on April 5, 1989. The proposed rules is shown in bold type, with comments shown in normal type.

Overview:

DRAFT RULES (April 5, 1989)

340-41-006 (18) "Land Development" refers to any human induced change to **improved or unimproved real estate, including but not limited to construction, installation or expansion of a building or other structure, land division, drilling, and site alteration such as that due to land surface mining, dredging, grading, construction of earthen berms, paving, improvements for use as parking or storage, excavation, or clearing.**

- o Public Projects on Public Lands should be included within the "Land Development" definition.

DEQ RESPONSE: IN MANY CASES, PUBLIC PROJECTS ARE REQUIRED TO OBTAIN APPROVAL FOR PLATS, SITE PLANS, AND BE ISSUED PERMITS JUST LIKE NONPUBLIC DEVELOPMENT. THESE TYPES OF PUBLIC PROJECTS WOULD NOT BE EXEMPT FROM THE REQUIREMENTS OF THESE RULES. THERE ARE OTHER TYPES OF PUBLIC PROJECTS, HOWEVER, THAT DO NOT REQUIRE PLAT OR SITE PLAN APPROVAL OR BUILDING PERMITS. TO ADDRESS THIS, THE RULES HAVE BEEN MODIFIED TO APPLY TO PUBLIC WORKS PROJECTS.

(19) "Storm Water Quality Control Facility" refers to any structure or drainage way that is designed, constructed, and maintained to collect and filter, retain, or detain surface water runoff during and after a storm event for the purpose of water quality improvement and flow attenuation. It may also include, but not be limited to, existing features such as wet lands, grassy swales, and ponds which are maintained as storm water quality control facilities.

- o The definition should be expanded to differentiate between the interim and permanent storm water quality control facilities.

DEQ RESPONSE: THE DEPARTMENT HAS MODIFIED THE RULES TO ELIMINATE REFERENCE TO PERMANENT STORM WATER QUALITY CONTROL FACILITIES.

- o The emphasis of the Draft Rules is for water quality enhancement. Achieving flow attenuation could conflict with the water quality objectives.

DEQ RESPONSE: THE TERM "FLOW ATTENUATION" HAS BEEN REMOVED FROM THE DEFINITION.

- o No flow attenuation performance guidelines are provided in the Draft Rules or the supporting appendices.

DEQ RESPONSE: SEE RESPONSE ABOVE.

- o The Draft Rules often use the terminology "storm water control facilities" which should be changed for consistency.

DEQ RESPONSE: THE RULES HAVE BEEN EDITED TO DELETE REFERENCES TO "STORM WATER QUALITY CONTROL FACILITIES."

340-41-455 (3) Nonpoint source pollution control in the Tualatin River sub-basin and lands draining to Oswego Lake:

(a) These rules shall apply to any new land development within the Tualatin River sub-basin and lands draining to Oswego Lake, except those developments with application dates prior to the effective date of these rules. The application date shall be the date on which a complete application for development approval is received by the local jurisdiction in accordance with the regulations of the local jurisdiction.

- o No comment on this paragraph.

(b) For land development, no preliminary plat, site plan, or permit shall be approved by any jurisdiction in these sub-basins unless the conditions of the plat or plan approval includes interim storm water quality control facilities to be constructed concurrent with land development and to be operated during construction to control the discharge of sediment in the storm water runoff. The erosion control plan shall utilize protection techniques to control soil erosion and sediment transport to less than one (1) ton per acre per year, as calculated using the Soil Conservation Service Universal Soil Loss Equation. See Figures 1 to 6 in APPENDIX I for examples. The erosion control plan shall include temporary sedimentation basins when, because of steep slopes or other site specific considerations, other on-site sediment control methods will not likely keep the sediment transport to less than one (1) ton per acre per year. The local jurisdictions may establish additional requirements for meeting an equivalent degree of control. Any sediment basins constructed shall be sized using 1.5 feet maximum sediment storage depth plus 2.0 feet storage depth above for a settlement zone. The storage capacity of the basin shall be sized to store all of the sediment that is likely to be transported and collected during construction while the erosion potential exists. When the erosion potential has been removed, the sediment basin can be removed and the site restored as per the final site plan.

All sediment basins shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike.

- o The Soil Conservation Service (SCS) Universal Soil Loss Equation (USLE) was developed for agricultural applications and tends to be overly conservative when applied to construction sites.

DEQ RESPONSE: WHILE THE EQUATION WAS DEVELOPED FOR AGRICULTURAL APPLICATION, THE DEPARTMENT BELIEVES THAT IT STILL IS AN EFFECTIVE MEANS FOR ESTIMATING AND ADDRESSING SOIL EROSION DURING CONSTRUCTION.

- o The USLE is limited to only sheet and rill erosion which is not applicable to all sites. Localized channel erosion may be far more significant.

DEQ RESPONSE: THE DEPARTMENT BELIEVES THAT, IF EROSION CONTROLS ARE PROPERLY APPLIED ACCORDING TO THE UNIVERSAL SOIL LOSS EQUATION, CHANNEL EROSION SHOULD BE ELIMINATED AND WILL NOT BE AN ISSUE.

- o The USLE was developed to predict soil loss on a long-term (annual) basis and therefore may not be applicable for short construction periods.

DEQ RESPONSE: THE DEPARTMENT RECOGNIZES THAT THE UNIVERSAL SOIL LOSS EQUATION EXPRESSES EROSION IN TERMS OF TONS PER YEAR. WE BELIEVE, HOWEVER, THAT, REGARDLESS OF THE UNITS USED TO QUANTIFY THE EROSION, THE EQUATION IS STILL APPROPRIATE FOR USE IN ADDRESSING AND CONTROLLING SOIL EROSION FROM CONSTRUCTION ACTIVITIES.

- o Wording of the paragraph should be revised to include public and private project plans.

DEQ RESPONSE: THE PROPOSED RULES HAVE BEEN CHANGED TO ASSURE THAT THEY APPLY TO PUBLIC PROJECTS.

- o The USLE is most accurate for medium textured soils (Washington County soils are generally fine textured), slopes between 3% to 18% (60% of Washington County land is outside that range) and slope lengths less than 400 feet (sites less than 5 acres).

DEQ RESPONSE: THE UNIVERSAL SOIL LOSS EQUATION IN APPENDIX I OF THE PROPOSED RULES HAS HAD ITS FACTORS ADJUSTED TO ACCOUNT FOR CONDITIONS IN WASHINGTON COUNTY. USE OF THE EQUATION MAY LOSE ACCURACY AT STEEPER OR LONGER SLOPES. EVEN SO, IT DOES PROVIDE A REASONABLY GOOD BASIS UPON WHICH TO BASE EROSION CONTROL METHODS.

- o If a site does not produce one ton per acre per year of sediment, based on the USLE, the developer does not have to do anything.

NO RESPONSE.

- o If the USLE shows a greater than one ton per acre discharge, then surface treatment (mulching, seeding, etc.) and/or sediment basins will be required. The specific guidelines on these erosion control measures (Appendix I) are somewhat vague.

DEQ RESPONSE: THE USE OF THE EQUATION IS NOT A PRESCRIPTIVE PROCESS AND, AS A RESULT, MAY REQUIRE SOME JUDGEMENT. THE DEPARTMENT BELIEVES THAT APPENDIX I SHOULD BE REVISED TO MAKE IT EASIER TO USE AND APPLY. IN ADDITION, THE PROPOSED RULES HAVE BEEN CHANGED TO ALLOW THE DIRECTOR AND/OR THE JURISDICTION TO DEVELOP AND USE A MATRIX APPROACH AS A SUBSTITUTE FOR DETERMINING NECESSARY EROSION CONTROL MEASURES. THE MATRIX WOULD BE BASED UPON THE EQUATION, HOWEVER.

Respectfully submitted,

Richard J. Nichols
Hearings Officer
Oregon Department of
Environmental Quality



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: March 3, 1989
Agenda Item: M
Division: Water Quality
Section: Industrial Waste

SUBJECT:

Proposed Rules Requiring Control of Stormwater Discharges from New Development in the Tualatin River Subbasin.

PURPOSE:

The proposed rules are intended to assure that new development in the Tualatin River Subbasin is provided with facilities to control and reduce the level of pollutants discharged until local jurisdictions develop and implement their own program plans for controlling pollutants in urban runoff.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Program Strategy
 - Proposed Policy
 - Potential Rules
 - Other: (specify)

- Authorize Rulemaking Hearing
 - Proposed Rules (Draft) Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Draft Public Notice Attachment D

- Adopt Rules
 - Proposed Rules (Final Recommendation) Attachment
 - Rulemaking Statements Attachment
 - Fiscal and Economic Impact Statement Attachment
 - Public Notice Attachment

- Issue Contested Case Decision/Order
 - Proposed Order Attachment

- Other: (specify)

DESCRIPTION OF REQUESTED ACTION:

The Department is proposing rules for the treatment and control of urban stormwater runoff in the Tualatin River Subbasin. The proposed rules will:

1. Require that interim stormwater control systems be installed during construction activities in order to control sediment runoff.

2. Require residential, commercial, or industrial developments involving 20 acres or more to submit an approvable plan for construction and maintenance of permanent stormwater treatment and control facilities as a condition of a preliminary plat or site approval.

3. Require subdivisions and industrial or commercial developments of less than 20 acres to be included in a local improvement district established to provide for the construction and maintenance of permanent stormwater treatment and control systems. Single family residence construction is exempt from this requirement.

4. Refer to best management practices (BMPs) already established for the treatment and control of urban stormwater but provide for others to be included as they are developed.

5. Require that permanent stormwater treatment systems achieve a removal efficiency of 65% for phosphorus and 85% for sediment.

6. Require a registered professional engineer to certify that the stormwater control facilities proposed will achieve the required removal efficiencies for phosphates and sediment.

7. Require a bond posted by the developer and placed with the jurisdiction to assure that stormwater control facilities are properly constructed.

8. Allow the Director to grant an exemption of the requirement to construct a permanent stormwater treatment system if the development will be part of an area-wide system.

9. Requires owners to get a permit from the Department for construction and operation of stormwater control and treatment systems.

development because of space taken by the stormwater control facilities.

2. Local jurisdictions will be affected because the proposed rules will:

a. require additional staffing and other resources to review development plans to assure stormwater control systems are included, and

b. in some cases, require operation and maintenance of stormwater control systems serving new subdivisions.

PROGRAM CONSIDERATIONS:

If the proposed rules are adopted as drafted, the Department should not have to expend a significant amount of resources once the permits have been drafted and once the local jurisdictions get staffed up to handle the requirements. The time associated with permit processing can be reduced to a few days if the Department issues a general permit which could adequately cover most applications. This assumes that there are few permit applications for unconventional stormwater control systems. Such applications could take several weeks of staff resource to review the application and prepare and issue a permit because the unconventional technology would need to be evaluated.

The Department believes, however, that once the rules take effect, there will be a number of developers caught unaware. Resolving problems resulting from these people will be time consuming. Further, the rules may make some developments infeasible. Such problems will also be time-consuming because it is likely that the developer will attempt to obtain relief in some form from local and state officials.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Do nothing at this time. The counties within the Tualatin and Oswego Lake subbasins are responsible for putting together a stormwater management plan such that the waste load allocations for stormwater meet the subbasin standards. This alternative has the advantage of putting the responsibility back on the counties without committing Department resources. The disadvantage is that, until the counties get their programs designed and implemented, development will continue to occur

without any thought to designing for stormwater control and treatment.

2. The Department considered regulating all development in the basin with a simple permit program implemented by the Department. This alternative could be implemented immediately so that new development could be controlled until such time as the counties complete and implement their plans. This alternative puts all of the burden upon the Department to control storm runoff from all of the new developments and to review and approve each storm water control and treatment system.

3. The third alternative is to draft rules which establish some basic criteria for developers to follow until such time as the counties have implemented their plans. The process would be regulated by a simplified permit process. However, the burden of approving the development would remain with the local planning jurisdictions. Since the local jurisdictions do not yet have the expertise to review and approve plans for stormwater control and treatment systems, reliance will be placed upon the requirement that facilities be designed in accordance with known technology and that all plans be submitted by professional engineers. This alternative puts some burden upon the Department because of the permitting requirement but the primary approval process will remain with the local jurisdiction. This is the alternative which the Department considers most appropriate and upon which the draft rules are based.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Director recommends that the Commission authorize the Department to proceed with a hearing on the rules as proposed, based upon the following:

1. The proposed rules meet the requirements specified in the Tualatin TMDL rule [OAR 340-41-470(3)]
2. The proposed rules will provide a practicable and effective approach to controlling storm water quality on new development in the Tualatin subbasin until the program plans are developed and implemented.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rules are different from those anticipated by OAR 340-41-470(3)(j)(C) in that it specified that the permit be issued to the local jurisdiction. The proposed rules would issue a permit for a specific development which may be under the control of a jurisdiction, but could also be under the control of a private party. Otherwise, the proposed rules are consistent with the requirements of the rule adopted for the Tualatin TMDL.

ISSUES FOR COMMISSION TO RESOLVE:

1. When should the rules go into effect? If the rules go into effect when they are filed with the Secretary of State (usually less than a week after the EQC adopts them), some developers will have to redo their plans. From their perspective, this may be unreasonable. On the other hand, the fact that the Commission is considering such rules, may cause developers to rush their projects in order to have their projects approved before the rules go into effect.

2. The Department does not intend for the jurisdictions to review and approve the design criteria for the storm water control systems. Design will be based on already developed criteria, but will rely on the designer being capable of applying that criteria appropriately. The rules do require that the plans be certified by a registered professional engineer. The Department believes that expertise of engineering professionals should assure proper design.

3. The proposed rules require installation of a stormwater control system capable of providing a certain removal efficiency as determined by the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs, Metropolitan Washington Council of Governments. Is this acceptable assurance or should the rules or permit require either a given removal efficiency or effluent concentration as performance standards instead of only a design criteria? Performance standards would impose a greater level of responsibility, and also uncertainty, on the developer. If the Commission believes that a concentration limit should be specified in the rules or in the permit, a concentration of 0.07 mg/l would seem to be the most logical, since the phosphorus TMDL is based on this concentration. Even if a system met the concentration limit of 0.07mg/l, however, this is no guarantee that the load allocation for the particular urban area would be met. Concentrations of phosphorus less than 0.07 mg/l may be necessary on new development to compensate for higher

concentrations coming from existing older development that may not be able to reduce phosphorus concentrations as easily as the newer developments.

4. In order for the subbasin to achieve the TMDL, each load allocation and waste load allocation must be met. This will require, in the urban areas, controls for both existing development as well as new development. Controls on new development will contribute to achieving the load allocations, but it is most likely that additional controls will also be required. Developers may argue that, if they provide approved controls when their development is constructed, any additional controls should be imposed on, or at least paid for, by existing development only. At this time, no one knows what additional controls will be required in the approved program plans. The Department believes it would be foolish to commit to developers that the controls imposed by this rule will be all that will ever be required.

5. The Department believes it is likely that the rules as proposed will, in a few cases, cause some developments to be no longer feasible. Developments would be infeasible if the costs of providing stormwater control facilities were excessive or if the systems consumed too much of the area available for development. The Department believes that there are a sufficient number of alternative stormwater systems such that total interference with development will be rare. Nevertheless, they could occur. Should the rules allow for exemptions where development is not found feasible? If an opportunity for exemption is considered appropriate, what should the criteria be? If the Department or Commission is determined the appropriate body for considering an exemption, this could consume substantial resources even if they are rare.

6. The proposed rules do allow an exemption from construction of a stormwater treatment system for a development if an area-wide stormwater control system is proposed. In some cases, an area-wide system may be more efficient use of resources. If both an individual treatment system and an area-wide system are practicable, should the Department hold out for the area-wide system? The proposed rules would not allow the Department or the local jurisdiction to do this.

7. To what extent should the Department oversee approvals made by the local jurisdiction? At this stage, because of limited resources, the Department would not wish to provide an oversight role. The Department believes it is in the local jurisdiction's best interest to assure optimum design, otherwise the jurisdiction will face even more troublesome burdens in trying to achieve their load allocations.

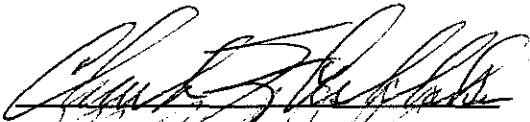
Meeting Date: March 3, 1989
Agenda Item: Storm Water Rules
Page 8

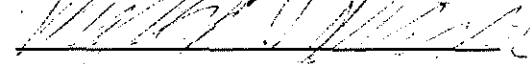
INTENDED FOLLOWUP ACTIONS:

Schedule public hearing for proposed rules.

Come back to the Commission with a final recommendation at
June 2, 1989, Commission Meeting.

Approved:

Section: 

Division: 

Director: 

Report Prepared By: Charles K. Ashbaker

Phone: 229-5325

Date Prepared: February 1, 1989

cka:cka
DEQ.TR5
February 14, 1989

Attachment A

DRAFT RULES

340-41-455 (3) Non-point source pollution control in Tualatin River sub-basin:

(a) For residential, commercial, or industrial developments, no preliminary plat, site plan, or building permit shall be approved by any jurisdiction in this sub-basin unless the plat or plan includes interim stormwater control facilities to be constructed prior to land development and to be operated during construction to control the discharge of sediment in the stormwater runoff. Any sediment ponds constructed shall have sufficient storage to provide a two (2) hour retention for a three (3) inch rainfall event and shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike. Where sediment ponds are not practicable, other sediment control facilities may be used, such as hay bales or other filtration media, provided they are arranged in a manner which will provide equivalent sediment control.

(b) For subdivisions, commercial developments, or industrial developments, twenty (20) acres or over in total area, no preliminary plat or site plan shall be approved by any jurisdiction in this sub-basin unless the requirements in paragraphs (A) through (C) are met.

(A) The preliminary plat or site plan shall include permanent stormwater control facilities capable of achieving 65% removal of phosphorus and 85% of sediment from a one and one-half (1 1/2) inch summertime storm event based upon the design criteria stated in Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. The preliminary plat or site plan proposed by the developer shall include conceptual plans and a certification prepared by a registered, professional engineer that the proposed stormwater control facilities are capable of achieving the required treatment efficiencies.

(B) An agreement must be consummated between the developer and the jurisdiction that assures that the permanent stormwater control facilities will be operated and maintained in perpetuity. The agreement shall define who shall be responsible for obtaining a permit from the Department as required in subsection (d) of this section.

(C) A bond, or equivalent security acceptable to the jurisdiction, shall be posted by the developer with the jurisdiction that assures that the storm water control facilities are constructed according to the plans established in the preliminary plat or site plan approval.

(c) An exception to subsection (b) may be granted by the Director subject to the following requirements:

(A) An area-wide stormwater control system will be provided to control the release of pollutants in the storm runoff;

(B) The development or subdivision would be served by the area-wide stormwater control system;

(C) Land necessary for the stormwater control facilities has been acquired;

(D) An area-wide stormwater control plan has been developed and approved by the Department of Environmental Quality. The plan shall include a time schedule for ensuring the facilities are installed before or concurrently with the development; and

(E) A permit has been issued by the Department to the local jurisdiction assuring adequate operation and maintenance of the stormwater control facilities.

(d) Any person who constructs or operates a stormwater control facility required by subsection (b) of this section shall have obtained a permit from the Department of Environmental Quality prior to construction.

(e) For any residential, commercial, or industrial development on parcels less than twenty (20) acres, no final plat shall be approved, for residential subdivisions, or final occupancy permit issued for industrial or commercial developments unless the development is included in a local improvement district specifically established to construct, operate, and maintain permanent stormwater control facilities capable of serving that development. The district shall have the legal authority to construct, operate, and maintain stormwater control facilities and to collect the necessary revenues to finance such activities.

(f) Single family residences outside urban growth boundaries and on lots of five (5) acres or more are exempt from the requirements in section (a).

(g) Single family residences are exempt from sections (b) and (e).

(h) As local jurisdictions adopt a program equivalent to those established in this section, these requirements will no longer apply to the development in that jurisdiction.

(i) The developer may choose an alternative design criteria for a permanent stormwater control facility required that is not

found in the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. In this case, a preliminary plat or site plan shall not be approved by any jurisdiction in the Tualatin River sub-basin unless the developer applies for and receives a permit from the Department. Any application for permit for a stormwater control facility located in the Tualatin River sub-basin shall include necessary technical documentation to support that the proposed system will achieve 65% removal of phosphorus and 85% removal of sediment.

(j) As the Department obtains additional information on appropriate BMPs for controlling stormwater quality, the Director may add additional BMPs and associated design criteria to those allowed in the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.

DEQ.TS2

Attachment B

STATEMENT OF NEED FOR RULEMAKING

(1) Legal Authority

ORS 468.020 requires the Environmental Quality Commission to adopt rules as necessary for performing its legislatively mandated functions. Water pollution control is one of those functions.

OAR 340-41-470(3)(j)(C) requires the Department to propose rules for permits to control storm water from new development within the Tualatin and Oswego Lake subbasins. The rules were to be proposed by March 8, 1989.

(2) Need for the Rule

There is an over abundance of nutrients in the Tualatin River. These excessive nutrients, primarily phosphorus, cause excessive algae blooms and depress dissolved oxygen. One of the contributors of these nutrients is urban stormwater runoff. The proposed rules will provide some treatment and control of stormwater runoff in the Tualatin and Oswego Lake subbasins until such time as the counties and cities in the subbasins have implemented their own program plan for addressing the problem.

(3) Principal Documents Relied Upon in this Rulemaking

ORS Chapter 468 "Pollution Control"

OAR 340-41-470 "Special Policies and Guidelines"

OAR Chapter 340 Division 45 "Regulations Pertaining to NPDES and WPCF Permits"

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs

The above documents are available for review during normal business hours at the Department's office, 811 SW Sixth, Portland, Oregon.

LAND USE COMPATIBILITY STATEMENT

The proposed rule will affect both goals 6 and 11.

Goal 6 (Air, Water and Land Resources Quality): This proposal is designed to improve water quality in the area by reducing the discharge of nutrients and sediment and is consistent with the goal.

Goal 11 (Public Facilities and Services): This proposal will require the establishment of some local improvement districts for the construction and operation of permanent stormwater control facilities. This is likely to be an added cost to those who would be residing within the boundaries of these districts.

ATTACHMENT C

FISCAL AND ECONOMIC IMPACT OF PROPOSED STORMWATER REGULATIONS

The proposed regulations require all new real estate developments within the Tualatin River Subbasin to provide temporary storm runoff control systems during construction. Permanent stormwater treatment systems will be required for some larger developments (i.e. over 20 Acres). For others, they must become part of an area-wide stormwater treatment system. A performance bond for construction will be required. Prior to any construction, developer(s) must obtain a stormwater control facility permit from the Department of Environmental Quality (DEQ) for the proposed development(s). Furthermore, local jurisdictions will be required to develop area-wide stormwater control plans for DEQ review and approval.

Overall Impact

The proposed regulations will affect Washington County, portions of Multnomah and Clackamas Counties, and all incorporated cities within the Tualatin River Subbasin. All new real estate developments will be required to have interim stormwater control facilities. The interim system must be able to control sediment generated from a three (3) inch storm event. The larger developments, over twenty (20) acres, must also provide permanent stormwater control facilities. The permanent system must be designed to remove 65% phosphorous and 85% sediment from a one and a half (1-1/2) inch summertime storm event. These interim and permanent stormwater control systems will have some financial impacts not only to all businesses and residents but also to the local jurisdictions within the basin. Since there are many jurisdictions within the Tualatin River Subbasin, and since property values vary significantly between jurisdictions and categories, it is impossible to determine the overall financial impact of the region.

Impact on developer or individual land owner

In order to demonstrate the potential financial impacts to the developer(s) and individual homeowner(s), a hypothetical multi-family development within the City of Beaverton was selected as an example. Three scenarios were assumed, i.e. a) a 24 unit apartment on a two (2) acres land, b) a 120 unit apartment on a ten (10) acres land, and c) a 580 unit apartment complex in a thirty (30) acres land. During the construction phase, the developer(s) might incur an additional expense of \$5,500 to \$40,000 for the interim sediment control facilities (Table 1). However, the permanent stormwater control systems for the various scenarios would range from \$9,000 to \$132,000 (Table 2). If these capital costs were evenly divided between the individual homeowners, the additional costs ranged from \$50 to \$240 for the interim system, and \$220 to \$530 for the permanent control system. Annual operating and maintenance costs for the permanent systems ranged \$70 to \$1,000.

If the hypothetical development was required to provide both interim and permanent control facilities, the projected maximum costs would be \$175,000. This amount would be a small percentage (0.25-0.5%) of the total project costs. For the individual homeowner, each basic apartment unit cost could be increased by no more than 0.7%. Based on this example, it is clearly demonstrated that the proposed regulations would not cause great hardship on the developer(s) or the individual homeowner(s).

Because of the lack of practicable alternatives and the land constraints associated with building permanent stormwater treatment systems for developments of less than twenty (20) acres, the proposed rules require only development over twenty (20) acres to build permanent facilities. Those development less than twenty (20) acres must become part of an area-wide system. It is anticipated that their costs, as part of an improvement district managing an area-wide system, should be about the same as the allocated cost of developments over twenty (20) acres.

Using similar evaluation criteria, the potential financial impacts on any commercial and industrial development(s) within the region would be small. The projected impact on small business, such as those merchants leasing or owning a small shop in a shopping complex, may be approximately a 1% increase in their basic property costs or in their annual rental costs.

Impact on the local Jurisdiction

The City of Beaverton was selected to demonstrate the potential financial impacts caused by the proposed rules. Currently there are 328.27 gross acres of multi-family development sites. Because of some physical site characteristics, such as steep slope, flood plain, or wet land, only 296.5 net acres are suitable for immediate development. Assuming there were ten (10) service districts serving the developable acreage, and if each service district, serving 30 acres of land, were required to set aside 0.85 acres for their permanent stormwater control systems, there would be a total net loss of 8.5 acres of developable properties, which would be equivalent to a loss of approximately 0.75 million dollars of property revenue. This projected financial impact to the local jurisdiction could be less if those undevelopable sites (i.e. flood plains, etc.) could be utilized for the permanent stormwater control systems.

Summary

The proposed rules will have small financial impacts to the developer or individual landowners, but do affect the local jurisdiction in terms of property revenue.

TABLE 1 ---- COST SUMMARY FOR INTERIM SEDIMENT CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT

	STORAGE VOLUME (CU.FT.)	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	TOTAL MAINT. COST	O&M COST	LAND COST	GRAND TOTAL (1988 DOL.)	INDIVIDUAL COST
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SCENARIO A) -- 24 units Apartment Complex
on 2 Acre Land
BMP ALTERNATIVES FOR < 2.0 ACRE

a) SEDIMENTATION POND	1511.90	0.01	\$3,684.45	\$921.11	\$230.28		\$795.57	\$5,609.45	\$233.73
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SCENARIO B) -- 120 units Apartment Complex
on 10 Acre Land
BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE

a) SEDIMENTATION POND	7641.15	0.05	\$5,118.81	\$1,279.70	\$319.93	\$127.97	\$4,020.84	\$10,708.77	\$89.24
b) INFILTRATION TRENCH C/W SM. SED. POND	7641.15	0.01	\$8,714.54	\$2,178.64	\$2,723.29	\$326.80	\$1,005.21	\$14,361.96	\$119.68
c) INFILTRATION BASIN C/W SM. SED. POND	7641.15	0.01	\$6,393.73	\$1,598.43	\$1,998.04	\$79.92	\$1,005.21	\$10,804.86	\$90.04

SCENARIO C) -- 580 units Apartment Complex
on 30 Acre Land
BMP ALTERNATIVES FOR > 10.0 ACRE

a) EXT'D DETENTION POND	23413.50	0.14	\$11,084.63	\$2,771.16	\$692.79	\$277.12	\$12,320.40	\$26,802.91	\$46.21
b) SEDIMENTATION POND	23413.50	0.14	\$21,278.32	\$5,319.58	\$1,329.90		\$12,320.40	\$40,121.37	\$69.17

TABLE 2 ---- COST SUMMARY FOR PERMANENT STORMWATER CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT

	STORAGE VOLUME (CU.FT.)	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	TOTAL MAINT. COST	O&M COST	LAND COST	GRAND TOTAL (1988 DOL.)	INDIVIDUAL COST
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) INFILTRATION TRENCH	9071.37		\$8,283.53	\$2,070.88	\$2,588.60	\$310.63		\$12,696.14	\$529.01
b) INFILTRATION BASIN	9071.37		\$5,756.76	\$1,439.19	\$1,798.99	\$71.96		\$8,823.36	\$367.64
c) WET POND	9071.37	0.05	\$5,670.02	\$1,417.50	\$354.38		\$4,773.44	\$12,181.54	\$507.56
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) EXT'D DETENTION POND	45846.90	0.28	\$17,623.55	\$4,405.89	\$1,101.47	\$440.59	\$24,125.07	\$47,150.92	\$392.92
b) INFILTRATION TRENCH	45846.90		\$22,988.30	\$5,747.08	\$7,183.84	\$862.06		\$35,234.09	\$293.62
c) INFILTRATION BASIN	45846.90		\$17,607.09	\$4,401.77	\$5,502.22	\$220.09		\$26,986.33	\$224.89
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	140481.00	0.85	\$38,163.27	\$9,540.82	\$2,385.20	\$954.08	\$73,922.41	\$123,784.22	\$213.42
b) WET POND	140481.00	0.85	\$44,263.22	\$11,065.81	\$2,766.45		\$73,922.41	\$131,754.05	\$227.16

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PROPOSED STORMWATER TREATMENT AND CONTROL RULES
NOTICE OF PUBLIC HEARING

Hearing Date:

Comments Due:

WHO IS
AFFECTED:

Most new construction activity in the Tualatin River and Oswego Lake subbasins will be affected. This includes multi-family residences, residential subdivisions, and commercial or industrial developments.

WHAT IS
PROPOSED:

The Department of Environmental Quality is proposing to amend OAR 340-41-470 by adding a section requiring construction of interim sediment ponds or equivalent sediment control facilities at construction sites. The proposed rules would also require permanent stormwater treatment systems to be built for new developments over 20 acres. The rules would require a DEQ permit for the construction and operation of those water pollution control facilities.

WHAT ARE THE
HIGHLIGHTS:

Private residences would be excluded from the requirements of the rules. Subdivisions and industrial or commercial developments less than 20 acres must become part of an area-wide permanent stormwater treatment system, probably through a local improvement district. These rules apply only to the Tualatin River and Oswego Lake Subbasins.

HOW TO
COMMENT:

Copies of the complete proposed rule package may be obtained from the Water Quality Division in Portland (811 S.W. Sixth Avenue). For further information contact Charles K. Ashbaker at (503) 229-5325.

A public hearing will be held before a hearings officer at:

(TIME) _____

(DATE) _____

(PLACE) _____

Oral and written comments will be accepted at the public hearing. Written comments may be sent to the DEQ's Water Quality Division, 811 S.W. Sixth Avenue, Portland, Oregon 97204, but must be received by no later than _____.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

WHAT IS THE
NEXT STEP:

After public hearing, the Environmental Quality Commission may adopt rules identical to those proposed, adopt modified rules on the same subject matter, or decline to act. The Commission's deliberation should come in _____ as part of the agenda of a regularly scheduled Commission meeting.

A Statement of Need, Fiscal and Economic Impact Statement, and Land Use Consistency Statement are attached to this notice.

WJ1494

SPECIAL POLICIES AND GUIDELINES

340-41-470

- (1) In order to preserve the existing high quality water for municipal water supplies and recreation, it is the policy of the EQC to prohibit any further waste discharges to the waters of:
 - (a) The Clackamas River Subbasin;
 - (b) The McKenzie River Subbasin above the Hayden Bridge (river mile 15);
 - (c) The North Santiam River Subbasin.
- (2) The Environmental Quality Commission shall investigate, together with any other affected state agencies, the means of maintaining at least existing minimum flow during the summer low flow period.
- (3) In order to improve water quality within the Tualatin River subbasin to meet the existing water quality standard for dissolved oxygen, and the 15 ug/l chlorophyll a action level stated in OAR 340-41-150, the following special rules for total maximum daily loads, waste load allocations, load allocations, and implementation plans are established.

(a) After completion of wastewater control facilities and implementation of management plans approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged to the Tualatin River or its tributaries without the specific authorization of the Commission that cause the monthly median concentration of total phosphorus at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured during the low flow period between May 1 and October 31* of each year, unless otherwise specified by the Department, to exceed the following criteria:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	20	Scoggins Cr.	60
Dilley (58.8)	40	Gales Cr.	45
Golf Course Rd. (52.8)	45	Dairy Cr.	45
Rood Rd. (38.5)	50	McKay Cr.	45
Farmington (33.3)	70	Rock Cr.	70
Elsner (16.2)	70	Fanno Cr.	70
Stafford (5.4)	70	Chicken Cr.	70

(b) After completion of wastewater control facilities and implementation of management plans required approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged

[discharge of wastewater] to the Tualatin River or its tributaries without the specific authorization of the Commission [shall-be-allowed] that cause[s] the monthly median concentration of ammonia-nitrogen at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured between May 1 and November 15* of each year, unless otherwise specified by the Department, to exceed the following target concentrations:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	30	Scoggins Cr.	30
Dilley (58.8)	30	Gales Cr.	40
Golf Course Rd. (52.8)	40	Dairy Cr.	40
Rood Rd. (38.5)	50	McKay Cr.	40
Farmington (33.3)	1000	Rock Cr.	100
Elsner (16.2)	850	Fanno Cr.	100
Stafford (5.4)	850	Chicken Cr.	100

- (c) The sum of tributary load allocations and waste load allocations for total phosphorus and ammonia-nitrogen can be converted to pounds per day by multiplying the instream criteria by flow in the tributary in cfs and by the conversion factor 0.00539. The sum of load allocations waste load allocations for existing or future nonpoint sources and point source discharges to the mainstem Tualatin River not allocated in a tributary load allocation or waste load allocation may be calculated as the difference between

the mass (criteria multiplied by flow) leaving a segment minus the mass entering the segment (criteria multiplied by flow) from all sources plus instream assimilation.

(d) The waste load allocation (WLA) for total phosphorus and ammonia-nitrogen for Unified Sewerage Agency of Washington County is determined by subtracting the sum of the calculated load at Rood Road and Rock Creek from the calculated load at Farmington.

(e) Subject to the approval of the Environmental Quality Commission, the Director may modify existing waste discharge permits for the Unified Sewerage Agency of Washington County and allow temporary additional waste discharges to the Tualatin River provided the Director finds that facilities allowed by the modified permit are not inconsistent and will not impede compliance with the June 30, 1993 date for final compliance and the Unified Sewerage Agency is in compliance with the Commission approved program plan.

[(e) The Director may issue new waste discharge permits containing additional waste load allocations and approve nonpoint source activities containing additional load allocations for total phosphorus and ammonia-nitrogen provided the Director finds that the concentrations specified in sections (a) and (b) will not be exceeded.]

(f) Within 90 days of the adoption of these rules, the Unified Sewerage Agency of Washington County shall submit a program** plan

and time schedule to the Department describing how and when the Agency will modify its sewerage facilities to comply with this rule. The program plan shall include provisions and time schedule for developing and implementing a management plan under an agreement with the Lake Oswego Corporation for addressing nuisance algal growths in Lake Oswego.

(g) Within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan** for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule.

(h) After July 1, 1989, Memorandums of Agreements between the Departments of Forestry and Agriculture and the Department of Environmental Quality shall include a time schedule for submitting a program plan** for achieving the requirements of sections (a) and (b) of this rule. The program plans shall be submitted to the Department within 18 months of the adoption of this rule.

(i) Within one hundred twenty (120) days of submittal of the program plan** and within sixty (60) days of the public hearing, the Environmental Quality Commission shall either approve or reject the plan. If the Commission rejects the plan, it shall specify a compliance schedule for resubmittal for approval and shall specify

the reasons for the rejection. If the Commission determines that an agency has not made a good faith effort to provide an approvable plan within a reasonable time, the Commission may invoke appropriate enforcement action as allowed under law. The Commission shall reject the plan if it determines that the plan will not meet the requirements of this rule within a reasonable amount of time. Before approving a final program plan, the Commission shall reconsider and may revise the June 30, 1993 date stated in sections (a), (b), and (e) of this rule. Significant components of the program plans shall be inserted into permits or memorandums of agreement as appropriate.

(j) For the purpose of assisting local governments in achieving the requirements of this rule, the Department shall:

(A) Within 90 days of the adoption of these rules, distribute initial waste load allocations and load allocations among the point source and nonpoint source management agencies in the basin. These allocations shall be considered interim and may be redistributed based upon the conclusions of the approved program plans.

(B) Within 120 days of the adoption of these rules, develop guidance to nonpoint source management agencies as to the specific content of the programs plans.

(C) Within 180 days of the adoption of these rules, propose additional rules for permits issued to local jurisdictions to address the control of storm water from new development within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

(i) Alternative control systems capable of complying with sections (a) and (b) of this rule;

(ii) Maintenance and operation of the control systems.

(iii) Assurance of erosion control during as well as after construction.

(D) In cooperation with the Department of Agriculture, within 180 days of the adoption of this rule develop a control strategy for addressing the runoff from container nurseries.

*Precise dates for complying with this rule may be conditioned on physical conditions (i.e., flow, temperature) of the receiving water and shall be specified in individual permits or memorandums of understanding issued by the Department. The Department shall consider system design flows, river travel times, and other relevant information when establishing the specific conditions to be inserted in the permits or memorandums of understanding. Conditions shall be consistent with Commission-approved program plans** and the intent of this rule.

**For the purpose of this section of the rules, program plan is defined as the first level plan for developing a waste water management system and describes the present physical and institutional infrastructure and the proposed strategy for changes including alternatives. A program plan should also include intergovernmental agreements and approvals, as appropriate, time schedules for accomplishing goals, including interim objectives, and a financing plan.

Stat. Auth.: ORS Ch. 468
Hist: DEQ 128, f. & ef. 1-21-77

Attachment F

BACKGROUND

PROPOSED REGULATIONS TO ADDRESS THE QUALITY OF STORMWATER RUNOFF FROM NEW DEVELOPMENT IN THE TUALATIN RIVER SUBBASIN

At the Commission's September 9, 1988, meeting, regulations were adopted that established total daily maximum daily loads (TMDLs) for phosphorus and ammonia-nitrogen in the Tualatin River Subbasin. In December, 1989, as required by the regulations, the Department established waste load allocations and load allocations based upon the TMDLs. The waste load allocations determine how much of the TMDL that are given to each point source, sewage treatment plants in the case of the Tualatin subbasin. The load allocations are the portions of the TMDL that are given to the various nonpoint sources in the basin. Nonpoint sources for which load allocations were given are urban runoff, agriculture, and forestry. As a result, for each major stream contributing to the Tualatin River, each city and county has a load allocation, stated in pounds per day, that it may discharge.

The regulations also included requirements for both the Department and the cities and counties in the subbasin. For the purpose of this work session item, there are two requirements of importance:

1. Oregon Administrative Rule (OAR) 340-41-470(3)(g) states: "within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah, Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule."

2. OAR 340-41-470(3)(j)(C) states: "Within 180 days of the adoption of these rules, (the Department will) propose additional rules for permits issued to local jurisdictions to address the control of storm water from new development within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

- (i) Alternative control systems capable to complying with sections (a) and (b) of this rule;
- (ii) Maintenance and operation of the control systems;
- (iii) Assurance of erosion control during as well as after construction."

In developing the total maximum daily load (TMDL) for phosphorus, the Department recognized that the TMDL could not be met merely

with more stringent control of sewage treatment plant discharges. The control of phosphorus from nonpoint sources would also have to be provided. One of the significant nonpoint sources of phosphorus is urban runoff. The rules addressed this issue by requiring the counties and cities in the subbasin to develop and submit program plans to control the quality of storm water in their respective jurisdictions (item 1. above).

There was also a concern that storm water quality problems would continue to increase during the interim period while the nonpoint source program plans were being developed and implemented. It was felt that some steps should be taken during the interim to control or at least minimize the increase in pollutants resulting from new development. The question was how could this be best done? Representatives of local government did not feel that they had the technical expertise or the institutional capabilities or resources to quickly and legally adopt ordinances to address the quality of storm water for the interim period. Further, it was felt that interim programs developed separately and differently by each entity would lead to confusion of everyone involved.

The Department believed that it did have the technical expertise, but it did not have the resources to deal directly with individual development proposals in the subbasin. Further, the Department felt that service to developers and builders could be best provided at the local level rather than the state level. The rule for interim storm water control on the Tualatin as finally adopted was intended to deal with the concerns of both local entities and the Department.

The Department has researched the available technologies that have been developed around the country for treating and controlling storm water runoff. A manual produced by the Department of Environmental Programs, Metropolitan Washington Council of Governments entitled Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs, July, 1987, contains a reasonably comprehensive list of technologies that have been used nationally. The manual lists design criteria, siting and operational considerations, performance expectations and other good information on stormwater treatment and control systems.

The capabilities of storm water control systems depend on a number of factors including the soils where the system is to be located and the amount of area to be served by the system. In general the soils in the Tualatin basin tend to be very fine textured (clays and silts) and, as a result, severely restrict infiltration of water into the ground. According to the manual Controlling Urban Runoff, systems that function well in soils with fine textures must serve surface areas greater than twenty acres. As a result, there are no available technologies that are capable of providing good removals of phosphorus and sediment that can serve smaller development in the Tualatin basin.

The Department has developed proposed rules to deal with stormwater discharges from new development in the subbasin on an interim basis. The proposed rules:

1. Require that proposed storm water systems be addressed at the first step of obtaining local approval for residential subdivisions as well as industrial or commercial developments.

2. Require that all construction activities, except single family residences on large lots outside urban growth boundaries, provide interim stormwater controls to control sediment during construction.

3. Require residential, commercial, or industrial developments involving 20 acres or more to submit an approvable plan for construction and maintenance of permanent stormwater treatment and control as a condition of plat or site approval.

4. Utilizes best management practices (BMPs) already developed. These BMPs and associated design criteria and other information are included a manual entitled Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.

5. Require that a registered professional engineer certify that the stormwater facilities included in the plans submitted to the jurisdiction will meet required removal efficiencies based on criteria in the manual.

6. Specify a removal efficiency of 65% for phosphorus and 85% for sediment.

7. Require a bond posted by the developer and placed with the jurisdiction to assure that stormwater control facilities are properly constructed.

8. Require an agreement between the developer and the jurisdiction to assure operation and maintenance pursuant to a permit issued by the Department.

9. Allow the Director to grant an exception, subject to specific criteria, for certain developments if an area-wide stormwater control system will be provided.

10. Provide a mechanism for a developer to propose alternative BMPs to those outlined in the manual Controlling Urban Runoff.

11. Provide a mechanism for the Director to add BMPs and associated design criteria to those specified in the manual.

From the perspective of either the Department, local jurisdiction, or a developer, there are numerous advantages and disadvantages to the proposed rules. The rules certainly add to the burdens and costs of the developer in obtaining approval for a development. The Department has tried to keep this to a minimum by using, as much as practicable, the building and planning approval mechanisms already in place at the local government level. The Department's

role in issuing permits should impose only very minimal effort and cost on the developer. The Department is considering issuing a general permit in order to reduce the paperwork and time involved in the permitting process for both the applicant and the Department.

The local jurisdictions will have additional issues to address in reviewing development proposals. Some jurisdictions do not have adequate staff to deal with current planning and building requirements. The Department has tried to reduce the amount of additional work by putting the responsibility for assuring a proper design on the designer by requiring that individual to be a registered, professional engineer and to certify that the proposed facilities are capable of meeting the removal efficiency criteria in the manual Controlling Urban Runoff.

The cost of development in the basin will increase as a result of these proposed rules. The cost of providing stormwater control facilities when the development is constructed, however, should be less than if the stormwater control facilities must be retrofitted after construction is completed.

Development may be curtailed in certain areas until permanent stormwater control systems can be designed and constructed or until a local improvement district can be organized and plans laid to address the stormwater issues in the area.

Another disadvantage of the proposed rules is that, for the development over 20 acres, the stormwater control systems are only required to meet a given removal efficiency for phosphorus and sediment. Construction and operation of these systems, in themselves, do not assure that the load allocations can be met. The required efficiencies, to be sure, are as high as one can reasonably expect, but there is no way, until the program plans are complete, to verify that further controls will not be necessary. It may be necessary that other steps be required in addition to providing stormwater control systems. Conceivably, such steps could include a ban on phosphate-containing detergents, restrictions on the application of lawn and garden fertilizers, or other measures. The Department believes that such steps should be considered and defined in the program plans that are being prepared by the local jurisdictions.

The Department could specify a concentration limit to be met by each stormwater control system. What concentration should be specified? One could use 0.07 mg/l of phosphorus because this is the concentration upon which the phosphorus TMDL was based. Even with the removal efficiencies proposed in this rule, additional restrictions as discussed above may be necessary to meet a 0.07 mg/l phosphorus limit. In addition, concentrations of phosphorus below 0.07 may be necessary on new development to compensate for higher concentrations coming from older development that may not be able to reduce phosphorus concentrations as easily as the newer development. The Department believes that concentration limits should be set to address the actual load allocations and this

cannot be done until the program plans are developed. Consequently, removal efficiencies are believed to be the most appropriate design and performance criteria at this time.

There are several alternatives that could be considered:

1. Do not require stormwater control systems to be installed until the program plans are developed and implemented. Instead, developers could contribute money to a sinking fund to construct the facilities on an area-wide basis once the program plan defines what those facilities might be. This approach assumes that land would be available for such facilities and also allows a continued increase in pollution to occur while the program plans are being developed and implemented. This approach, however, would assure that the facilities being constructed would be consistent with the load allocations established for the subbasin.

2. The rules could require that each development be approved by the Department after a review of the impact upon the load allocation. Such a system would probably require that an individual permit be issued in each case. Such an approach would be time-consuming for the developer and would impose significant resource commitments on the Department.

3. The rules could require that the local jurisdictions develop a system similar to that proposed in alternative 2 above. As previously stated, the jurisdictions currently do not have the expertise and would be unable to obtain such expertise for, at least several months. Further, the jurisdiction would have to develop ordinances in order to implement such a program. This would also take considerable time.

There are other issues for the Commission to consider concerning these rules:

1. When should the rules go into effect? If the rules go into effect when they are filed with the Secretary of State (usually less than a week after the EQC adopts them), some developers will have to redo their plans. From their perspective, this may be unreasonable. On the other hand, the fact that the Commission is considering such rules, may cause developers to rush their projects in order to have their projects approved before the rules go into effect.

2. The Department does not intend for the jurisdictions to review and approve the design criteria for the storm water control systems. Design will be based on already developed criteria, but will rely on the designer being capable of applying that criteria appropriately. The rules do require that the plans be certified by a registered professional engineer. The Department believes that professional ethics should assure proper design.

3. The proposed rules require installation of a stormwater control system capable of providing a certain removal efficiency as determined by the manual Controlling Urban Runoff. Is this acceptable assurance or should the rules or permit require either a given removal efficiency or effluent concentration as performance standards instead of only a design criteria? Performance standards would impose a greater level of responsibility, and also uncertainty, on the developer. If the Commission believes that a concentration limit should be specified in the rules or in the permit, a concentration of 0.07 mg/l would seem to be the most logical since the phosphorus TMDL is based on this concentration. Even if a system met the concentration limit of 0.07mg/l, however, this is no guarantee that the load allocation for the particular urban area would be met. Concentrations of phosphorus less than 0.07 mg/l may be necessary on new development to compensate for higher concentrations coming from older development that may not be able to reduce phosphorus concentrations as easily as the newer developments.

4. In order for the subbasin to achieve the TMDL, each load allocation and waste load allocation must be met. This will require, in the urban areas, controls for both existing development as well as new development. Controls on new development will contribute to achieving the load allocations, but it is most likely that additional controls will also be required. Developers may argue that, if they provide approved controls when their development is constructed, any additional controls should be imposed on, or at least paid for, by existing development only. At this time, no one knows what additional controls will be required in the approved program plans. The Department believes it would be foolish to commit to developers that the controls imposed by this rule will be all that will ever be required.

5. The Department believes it is likely that the rules as proposed will, in a few cases, cause some developments to be no longer feasible. Developments would be infeasible if the costs of providing stormwater control facilities were excessive or if the systems consumed too much of the area available for development. The Department believes that there are a sufficient number of alternative stormwater systems such that total interference with development will be rare. Nevertheless, they could occur. Should the rules allow for exemptions where development is not found feasible? If an opportunity for exemption is considered appropriate, what should the criteria be? If the Department or Commission is determined the appropriate body for considering an exemption, this could consume substantial resources even if they are rare.

6. The proposed rules do allow an exemption from construction of a stormwater treatment system for a development if an area-wide stormwater control system is proposed. In some cases, an area-wide system may be more efficient use of resources. If both an individual treatment system and an area-wide system are practicable, should the Department hold out for the area-wide

system? The proposed rules would not allow the Department or the local jurisdiction to do this.

7. To what extent should the Department oversee approvals made by the local jurisdiction? At this stage, because of limited resources, the Department would not wish to provide an oversight role. The Department believes it is the local jurisdiction's best interest to assure optimum design, otherwise the jurisdiction will face even more troublesome burdens in trying to achieve their load allocations.

BACKGROUND REPORTINTERIM RULES FOR CONTROLLING STORM WATER QUALITY
IN THE TUALATIN AND OSWEGO LAKE SUBBASINS

In September, 1988, the Environmental Quality Commission adopted rules establishing in-stream criteria for a total maximum daily load (TMDL) for phosphorus and ammonia-nitrogen in the Tualatin and Oswego Lake subbasins. In addition, the rules provided requirements for the Department and local and state jurisdictions to meet in achieving the TMDL.

One of the requirements imposed upon the Department was to develop and propose additional rules to control storm water quality from new development until local jurisdictions could develop and implement their own plans for controlling storm water quality from urban runoff. The Department's interim rules were believed necessary because of the rapid growth occurring in the subbasins. There was also the belief that, because storm water quality controls would be necessary to meet the Tualatin TMDL, costs could be reduced if the controls were provided during development and not afterward.

Rules were proposed to the Commission in March, 1989. The proposed rules were based upon the following goals:

1. Interim requirements on developers should be handled in a manner that utilizes the development and building approval processes already in existence at the local level.
2. The interim rules should impose minimal additional resource burdens on both local jurisdictions and the Department to the extent practicable.
3. Because of their interim nature, the proposed rules should be as simple and as flexible as possible and rely on proven and acceptable best management practices.

Based upon their review of the rules proposed to the Commission in March, 1989, local jurisdictions developed a separate proposal for the Commission's review. The Commission directed the Department to take both the Department's and the local jurisdiction's proposals to hearing. To facilitate the hearing process, the Department met with the local jurisdictions to merge the two proposals together. The merged proposed rules were the subject of two public hearings held on June 20, 1989. A detailed summary of the hearing record and the Department's response to the testimony is attached to the Commission report.

There are a few major issues that have been raised as a result of public testimony. These are described as follows:

1. The requirements for erosion control during construction and for permanent storm water quality control facilities are not clear. The requirements will not produce desired results. The Department should be more deliberate in developing the rules and should base them on sound scientific information.

The Department agrees that its approach for erosion control is not a cookbook method that will be easily understood by nontechnical people. The erosion control plans proposed in the rules are based on the Universal Soil Loss Equation which is a reasonable basis for designing erosion control practices. The Department believes that appendix I can be modified fairly easily so that erosion control requirements are clearly understandable and relatively user friendly. Use of the Universal Soil Loss Equation is a valid, scientifically-based approach to dealing with erosion control.

The requirements for permanent storm water quality control facilities are based on references to a compilation of best management practices established in a manual entitled: CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs. In addition, the rules specify that only those systems that are capable of achieving 65% and 85% removal of phosphorus and sediment, respectively, will be acceptable. The Department intention in specifying high removal rates was to assure that pollutants would be reduced to the maximum practicable extent. This eliminates, however, many of the other best management practices that could help reduce pollutants in storm runoff.

The Department could consider other approaches for establishing minimum requirements for the permanent storm water quality control facilities. One approach suggested in the hearing would be to specify an area loading rate that each proposed development would have to meet. The loading rate would be specified in terms of pounds per day per acre and could be easily derived from the proposed load allocations for the Tualatin subbasin that have been already derived. To utilize this approach would necessitate additional review by the Department to determine if it is feasible. The Department believes that it could not be used in a cookbook fashion, however.

Storm water quality control facilities must be carefully sited and the design should include suitable amenities that will make the facility attractive or, at least, as unobtrusive as possible to surrounding neighbors. CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs states that improperly sited and designed storm water systems can result in poorly operating systems with high maintenance costs. Further, care must be taken in the design of the facilities to assure that they work well with the surrounding development. Improperly designed and constructed facilities will lose public support for storm water systems that is vital to the overall water pollution control program in the Tualatin subbasin.

Effective storm water quality control facilities must result from the interim rules. The Department believes that it may be impossible to assure this within the goals established for the rules. Further work on rule development could be undertaken, but this will be at the expense of time and resources that should be devoted to development of the program plans. Based upon these concerns, the Department believes that the overall storm water quality control effort is better served by not adopting the proposed rules relative to permanent storm water quality control facilities. The Department should rely on the program plans to define the approach on permanent storm water quality facilities. While the Department believes this will allow some continued degradation of water quality in the Tualatin until the program plans are approved and implemented, it should better assure good program plans and eliminates the risk of poor systems being installed that will erode public support.

2. Jurisdictions felt that the proposed rules for interim storm water quality control facilities would impose administrative burdens upon them at the expense of resources that would otherwise be devoted to developing the program plans. Further, the interim rules amount to putting the "cart before the horse" with the risk that the interim rules will guide the program plans instead of the program plans establishing the approach for storm water quality control. Further, the interim rules add an additional level of complication in a process that is confusing to the local jurisdictions in the first place.

The Department believes the first priority should be to assure that the program plans are as effective and comprehensive as possible. Further, the storm water quality control rules should not be necessarily used as a guiding marker for the program plan. The Department, however, can understand the difficulty the interim rules could impose on the development of the program plans. We believe this provides further justification for not adopting rules that require storm water quality control facilities during the interim period until program plans are implemented.

3. Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River and Oswego Lake subbasins was too stringent, unrealistic, and not achievable. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized.

The Department recognizes that these rules, in addition to other requirements imposed in the Tualatin River and Oswego Lake subbasins to control water pollution, will increase costs to the residents and businesses in the subbasin. The Department believes the clean up efforts will produce much improved water quality in the river and will protect the river's beneficial uses. Because of its slow moving, meandering nature, the river probably never has had the high quality waters associated with other Oregon streams such as the McKenzie River or the Willamette River. Reduction in in-stream contaminants will not transform the Tualatin River into a McKenzie or Willamette River. The Department believes, however, that this is not a justifiable reason to forego water pollution control efforts and allow the river to become merely a drainage conveyance for treated sewage and storm runoff.

4. Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

The Department did not conduct a cost/benefit analysis of the proposed rules nor did the Department attempt to consider how the costs would affect each and every class of development in the Tualatin River and Lake Oswego subbasins. State law requires a fiscal impact analysis which was done. This analysis evaluated costs on a typical development. The Department believes the information provided by the analysis provides reasonable insight as to potential costs. Such an analysis does not contemplate nor require that costs be weighed against benefits derived.

The Department could, if directed by the Commission, expand the economic impact analysis and include other segments or classes of development. The Department believes that estimation of costs would be relatively easy compared to estimating the value of the benefits of clean water. Clean rivers and lakes have intangible benefits for which monetary values are difficult to estimate and which are subject to opinions more than objective determinations.

To conduct a cost/benefit analysis would, presuming the benefits could be suitably quantified, imply that, if the costs are too high, violation of water quality standards would be tolerated. Neither state or federal law contemplate that such a trade-off would be considered.

5. Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. Some felt the issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

The Department does not agree that these proposed rules will create a building moratorium in the Tualatin River and Oswego Lake subbasins. The Department does recognize that the requirements of the rules will create additional costs for the development community. The Department also realizes that the added costs will, to some degree, reduce the attractiveness of the Tualatin and Oswego Lake subbasins to some developers and this could divert development to other areas both in and out of the state. We do not have information upon which to estimate how much development will be diverted elsewhere.

This issue does create a policy choice. In order to create greater equity in the region or the state, the Commission could choose to apply the rules to the Tualatin subbasin, the Portland metropolitan area, or the entire state. The Department believes that there are other areas in the state where urban storm water controls would be effective in preventing pollution from occurring. We believe, however, that broader application of the rule would impose tremendous burdens upon the resources of both the Department and local government. Until the resource aspect of this matter could be resolved, the Department would not recommend broadening the application of the rule to areas outside the Tualatin subbasin unless it is necessary to address an identified water pollution problem.



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

Meeting Date: July 21, 1989
Agenda Item: J
Division: Water Quality
Section: Industrial Waste

SUBJECT:

Proposed Rules Requiring Control of Storm Water Discharges from New Development in the Tualatin River Subbasin.

PURPOSE:

The proposed rules are intended to assure that new development in the Tualatin River and Oswego Lake Subbasins is provided with facilities to control and reduce the level of pollutants discharged due to erosion during construction. These rules would be effective until local jurisdictions develop and implement their own program plans for controlling pollutants from new development. The proposed rules do not contain requirements for installation of permanent control facilities or an in-lieu of facility fee at this time as had been considered in the original proposal which went to public hearing.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Program Strategy
 - Proposed Policy
 - Potential Rules
 - Other: (specify)

- Authorize Rulemaking Hearing
 - Proposed Rules (Draft) Attachment
 - Rulemaking Statements Attachment
 - Fiscal and Economic Impact Statement Attachment
 - Draft Public Notice Attachment

- Adopt Rules
 - Proposed Rules (Final Recommendation) Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Public Notice Attachment D

WC5171

Issue Contested Case Decision/Order
Proposed Order Attachment

Other: (specify)

DESCRIPTION OF REQUESTED ACTION:

The Department is proposing rules for the treatment and control of urban storm water runoff in the Tualatin River Subbasin. The proposed rules will require that erosion control plans be implemented during construction activities in order to control sediment runoff.

AUTHORITY/NEED FOR ACTION:

Required by Statute: _____ Attachment
Enactment Date: _____

Statutory Authority: _____ Attachment

Amendment of Existing Rule: _____ Attachment

Implement Delegated Federal Program: _____ Attachment

Other: OAR 340-41-470(3) Attachment E

Time Constraints:

The most significant erosion potential will occur during the rainy winter months. The Department believes the proposed rules should be adopted and implemented to reduce as much erosion possible during the next wet season. Because these rules will require adoption of ordinances by the jurisdictions, however, the Department has proposed that the rules not become effective until November 1, 1989.

DEVELOPMENTAL BACKGROUND:

Advisory Committee Report/Recommendation Attachment

Hearing Officer's Report/Recommendations Attachment F

Response to Testimony/Comments Attachment F

Prior EQC Agenda Items: Attachment G

a. EQC staff-request for hearing

Other Related Reports/Rules/Statutes: Attachment

Supplemental Background Information: Attachment H

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

1. Developers and builders will be affected because the proposed rules will require that erosion control plans be prepared and implemented during construction to minimize erosion. These plans will employ various erosion control practices that will add to the cost of developments.
2. Local jurisdictions will be affected because the proposed rules will require some additional staffing to review erosion control plans.

PROGRAM CONSIDERATIONS:

The rules place most of the burden of implementation upon the local jurisdictions. It will be necessary for the Department to provide some oversight to assure that the rules are being implemented as required. Some evaluation of the practices for erosion control that are applied should be made by the Department so that there is assurance that they will accomplish the goals established.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. **Recommend that the rules not be adopted.**
The Department believes that this action would not be satisfactory because development will continue to occur in the basin without assurances that erosion will be controlled from new development. This option would reduce the pressure on local jurisdictions that are also required to prepare and submit their program plans for urban runoff control by March, 1990.
2. **Recommend that only the portion of the rules pertaining to erosion control during construction be adopted.**
This component of the rules that went to hearing had the greatest amount of support. The Department also believes that controlling erosion during the interim will provide the most obvious gain for water quality.
3. **Recommend that the rules as originally proposed and amended pursuant to hearing testimony, be adopted.**
The Department believes that permanent storm water quality controls for ultimately meeting the TMDL is important. The Department, however, also believes that imposing requirements for permanent storm water quality control facilities will impact the quality of the program plans which should be the Department's higher priority for controlling urban

runoff. There is also risk that the facilities required by the rules will not be properly sited or designed resulting in ineffective systems that are expensive to maintain and are sources of nuisances. Such problems will erode public support for storm water quality control.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Director recommends that the Commission approve alternative 2 and adopt the rules in Attachment A which require that jurisdictions require new development to control erosion during construction. The Director also recommends that the Department be directed to provide an improved Appendix I so that it is easier for both jurisdictions and the development community to apply.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rules are consistent with the direction provided by the Commission in the Tualatin TMDL rule with the exception that the storm water rules do not utilize a permitting system as was specified in the Tualatin TMDL rule nor do the proposed rules provide for permanent storm water quality control systems.

ISSUES FOR COMMISSION TO RESOLVE:

1. Does the Commission wish to forego installation of permanent storm water quality control facilities for new development during the interim period until program plans are implemented?
2. Is it unreasonable to impose additional costs on the development community in the Tualatin/Oswego Lake subbasins which may give competitive advantage to other areas not required to provide storm water quality control facilities? Should the rules be applied regionally or state-wide?

INTENDED FOLLOWUP ACTIONS:

The Department will rewrite Appendix I.

The rules, if adopted, will be distributed to local jurisdictions in the Tualatin and Oswego Lake subbasins.

Follow up meetings with jurisdictions as needed.

Meeting Date: July 21, 1989
Agenda Item: Storm Water Rules
Page 5

Approved:

Section: _____
Division: Phyllis Taylor
Director: Iul Hansen

Report Prepared By: Richard J. Nichols

Phone: 229-6804

Date Prepared: July 7, 1989

RJN:crw
July 7, 1989

PROPOSED RULES

340-41-006(18) "Land Development" refers to any human induced change to improved or unimproved real estate, including but not limited to construction, installation or expansion of a building or other structure, land division, drilling, and site alteration such as that due to land surface mining, dredging, grading, construction of earthen berms, paving, improvements for use as parking or storage, excavation or clearing.

(19) "Jurisdiction" refers to any city or county agency in the Tualatin River and Oswego Lake subbasins that regulates land development activities within its boundaries by approving plats, site plans or issuing permits for land development.

(20) "Erosion Control Plan" shall be a plan containing a list of best management practices to be applied during construction to control and limit soil erosion.

(21) "Public Works Project" means any land development conducted or financed by a local, state, or federal governmental body.

340-41-455(3) Non-point source pollution control in the Tualatin River sub-basin and lands draining to Oswego Lake to be provided after November 1, 1989:

(a) The following subsections shall apply to any new land development within the Tualatin River and Oswego Lake sub-basins, except those developments with application dates prior to January 1, 1990. The application date shall be the date on which a complete application for development approval is received by the local jurisdiction in accordance with the regulations of the local jurisdiction.

(b) For land development, no preliminary plat, site plan, permit or public works project shall be approved by any jurisdiction in these sub-basins unless the conditions of the plat permit or plan approval includes an erosion control plan containing methods and/or interim facilities to be constructed or used concurrently with land development and to be operated during construction to control the discharge of sediment in the stormwater runoff. The erosion control plan shall utilize:

(A) Protection techniques to control soil erosion and sediment transport to less than one (1) ton per acre per year, as calculated using the Soil Conservation Service Universal Soil Loss Equation or other equivalent methods. See Figures 1 to 6 in APPENDIX I for examples. The erosion control plan shall include temporary sedimentation basins when, because of steep slopes or other site specific considerations, other on-site sediment control methods will not likely keep the sediment transport to less than one (1) ton per acre per year. The local jurisdictions may establish additional requirements for meeting an equivalent degree of control. Any sediment

basins constructed shall be sized using 1.5 feet minimum sediment storage depth plus 2.0 feet storage depth above for a settlement zone. The storage capacity of the basin shall be sized to store all of the sediment that is likely to be transported and collected during construction while the erosion potential exists. When the erosion potential has been removed, the sediment basin, or other sediment control facilities, can be removed and the site restored as per the final site plan. All sediment basins shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike, or

(B) A soil erosion control matrix derived from and consistent with the universal soil loss equation approved by the jurisdiction or the Department.

(c) The Director may modify Appendix I as necessary without approval from the Environmental Quality Commission. The Director may modify Appendix I to simplify it and to make it easier for people to apply.

(d) As local jurisdictions adopt a Department approved program plan, as required by OAR 340-41-470(3)(g), these requirements will no longer apply to development in that jurisdiction.

APPENDIX I

CONTENTS

Table 1	Universal Soil Loss Equation
Table 2	"R" Values, Washington County
Table 3	Hydrologic Soil Group of the Soils
Table 4	LS Values
Table 5	"C" Values Mulch Factors
Table 6	"C" Values
Figure 1	Interceptor Swale
Figure 2	Temporary Interceptor Dikes
Figure 3	Level Spreader
Figure 4	Sediment Trap
Figure 5	Pipe Slope Drains
Figure 6	Stabilized Construction Entrance

TABLE 1

UNIVERSAL SOIL LOSS EQUATION

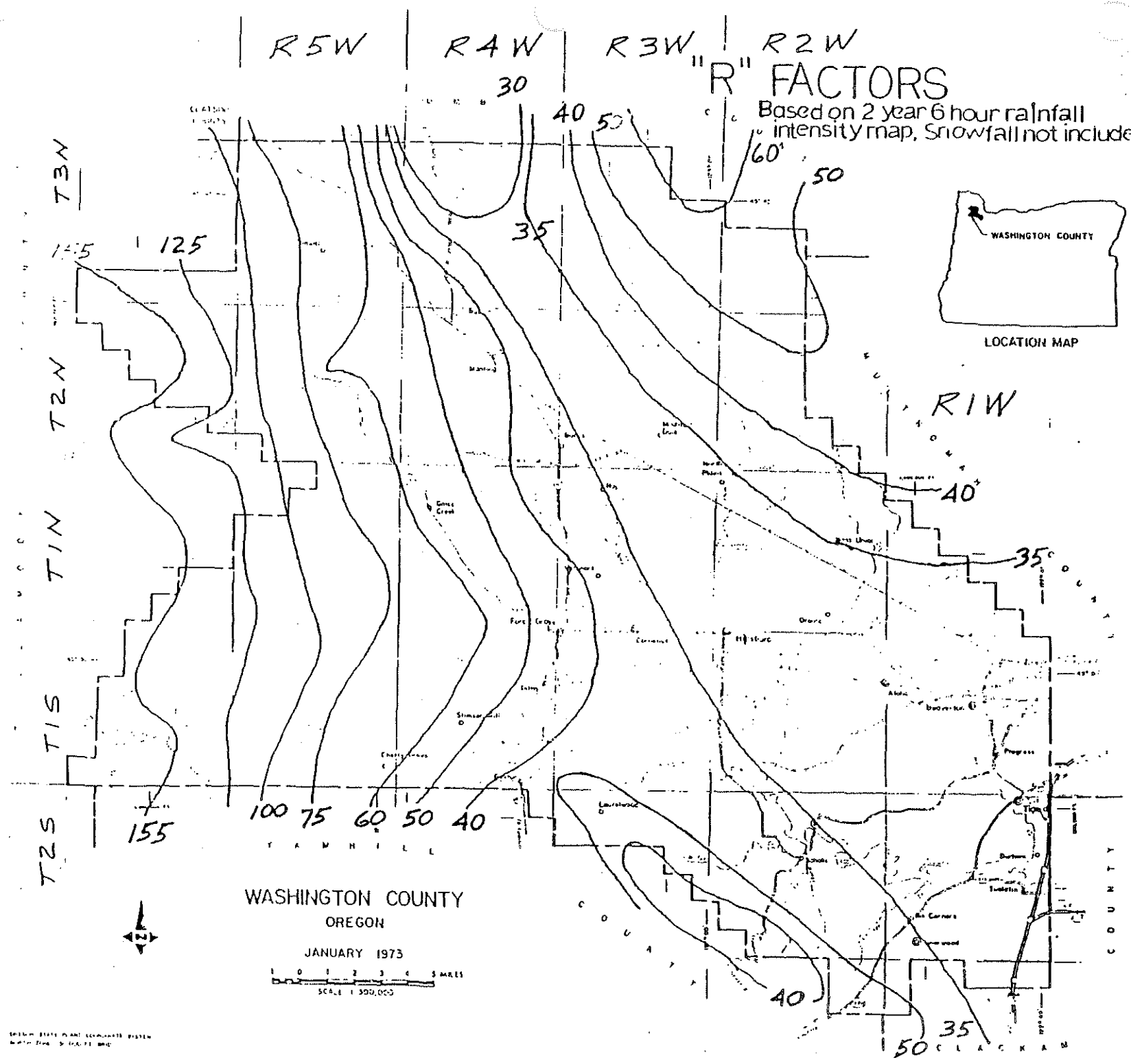
- o Computing the sediment storage volume - The sediment storage volume required is the volume required to contain the annual sediment yield to the trap and can be estimated by using the Universal Soil Loss Equation (USLE) developed by the United States Department of Agriculture.

$$A = R * K * LS * CV * PR$$

Where	A	=	annual sediment yield in tons per acre
	R	=	rainfall erosion index;
	K	=	soil erodibility factor, from Table 3 or as determined by field and laboratory testing by a geologist, soil scientist, or geotechnical engineer.
	LS	=	length-slope factor; from Table 4 (note, lengths measured are horizontal distance from a plan view)
	CV	=	cover factor, use 1.0 which represents no ground cover during the construction process. TABLE 5 and 6
	PR	=	erosion control practice factor; use 0.9 which represents trackwalking up and down slope. (Dozer cleat marks parallel to contours)

- o Annual sediment yield calculation, step-by-step procedure:
- Compute the R value by obtaining the R value from the 2-year/6 -hour Isopluvial Map in TABLE 2
 - Divide the site into areas of homogeneous SCS. soil type and of uniform slope and length.
 - Note the K value from the SCS soils chart (Table 3) for each soil type.
 - Determine the LS value for each uniform area (See Table 4).
 - Compute the annual sediment yield (A) in tons per acre for each homogeneous/uniform area by multiplying R times the K and LS values for each area.
 - Multiply the annual sediment yield (A) for each area by the acreage to be exposed (only that area to be cleared) of each area. Sum the results to compute the total annual sediment load (in tons) to the trap (L_A).
- o The sediment storage volume (V_s) is then determined by dividing the total annual sediment load (in tons) (L_A) by an average density for the sediment deposited use 0.05 ton per cubic foot.
- $$V_s = L_A / P_{avg}$$

TABLE 2 'R' VALUES WASHINGTON COUNTY



A-5

SOUTH STATE PLANE COORDINATE SYSTEM
 NORTH ZONE 50 (NAD 83) MDC

TABLE 3 HYDROLOGIC SOIL GROUP OF THE SOILS WASHINGTON COUNTY

Soil Group	Map Symbol	Hydro-logic Group	Soil Erod-ibility Factor, "K"	Soil Group	Map Symbol	Hydro-logic Group	Soil Erod-ibility Factor, "K"
ALOHA	1	C	0.43	HUBERLY	22	D	0.37
AMITY	2	C	0.32	JORY	23	C	0.2
ASTORIA	3	B	0.24	KILCHIS	24	C	0.15
BRIEDWELL	4	B	0.20	KLICKITAT	24G	B	0.1
BRIEDWELL	5	B	0.17	KNAPPA	26	B	0.37
CARLTON	6	B	0.32	LABISH	27	D	0.2
CASCADE	7	C	0.37	LAURELWOOD	28	B	0.43
CHEHALEM	8	C	0.37	MCBEE	30	B	0.28
CHEHALIS	9	B	0.24	MELBOURNE	31	B	0.24
CHEHALIS	10	B	0.37	MELBY	32	C	0.32
CORNELIUS	11	C	0.37	OLYIC	34	B	0.32
KINTON	11B	C	0.43	PERVINA	36	C	0.24
CORNELIUS VARIANT	12	C	0.37	QUATAMA	37	C	0.37
COVE	13	D	0.20	SAUM	38	C	0.32
COVE	14	D	0.17	TOLKE	39	B	0.28
DAYTON	15	D	0.43	UDIFLUVENTS	40	B	0.17
DELENA	16	D	0.43	VERBOORT	42	D	0.20
GOBLE	17	C	0.37	WAPATO	43	D	0.32
GOBLE	18	C	0.37	WILLAMETTE	44	B	0.32
HELVETIA	19	C	0.37	WOODBURN	45	C	0.32
HEMBRE	20	B	0.32	XEROCHREPTS	46	B	0.43
HILLSBORO	21	B	0.49	HAPLOXEROLLS	46F	C	0.32
				XERUCHREPTS	47	D	0.02
				ROCK OUTCROP	47D	NA	0.02

HYDROLOGIC SOIL GROUP CLASSIFICATIONS

- A. (Low runoff potential). Soils having high infiltration rates, even when thoroughly wetted, and consisting chiefly of deep, well-to-excessively drained sands or gravels. These soils have a high rate of water transmission.
- B. (Moderately low runoff potential). Soils having moderate infiltration rates when thoroughly wetted, and consisting chiefly of moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- C. (Moderately high runoff potential). Soils having slow infiltration rates when thoroughly wetted, and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine textures. These soils have a slow rate of water transmission.
- D. (High runoff potential). Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a hardpan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

From SCS

TABLE 5 C' VALUES MULCH FACTORS¹

Type of mulch	Mulch Rate	Land Slope	Factor C	Length limit ²
	<i>Tons per acre</i>	<i>Percent</i>		<i>Feet</i>
None	0	all	1.0	—
Straw or hay,	1.0	1-5	0.20	200
tied down by	1.0	6-10	.20	100
anchoring and				
tacking	1.5	1-5	.12	300
equipment ³	1.5	6-10	.12	150
Do.	2.0	1-5	.06	400
	2.0	6-10	.06	200
	2.0	11-15	.07	150
	2.0	16-20	.11	100
	2.0	21-25	.14	75
	2.0	26-33	.17	50
	2.0	34-50	.20	35
Crushed stone,	135	<16	.05	200
¼ to 1½ in	135	16-20	.05	150
	135	21-33	.05	100
	135	34-50	.05	75
Do.	240	<21	.02	300
	240	21-33	.02	200
	240	34-50	.02	150
Wood chips	7	<16	.08	75
	7	16-20	.08	50
Do.	12	<16	.05	150
	12	16-20	.05	100
	12	21-33	.05	75
Do.	25	<16	.02	200
	25	16-20	.02	150
	25	21-33	.02	100
	25	34-50	.02	75

¹ From Meyer and Ports (24). Developed by an interagency workshop group on the basis of field experience and limited research data.

² Maximum slope length for which the specified mulch rate is considered effective. When this limit is exceeded, either a higher application rate or mechanical shortening of the effective slope length is required.

³ When the straw or hay mulch is not anchored to the soil, C values on moderate or steep slopes of soils having K values greater than 0.30 should be taken at double the values given in this table.

TABLE

"C" FACTORS (OREGON) CONSTRUCTION SITES

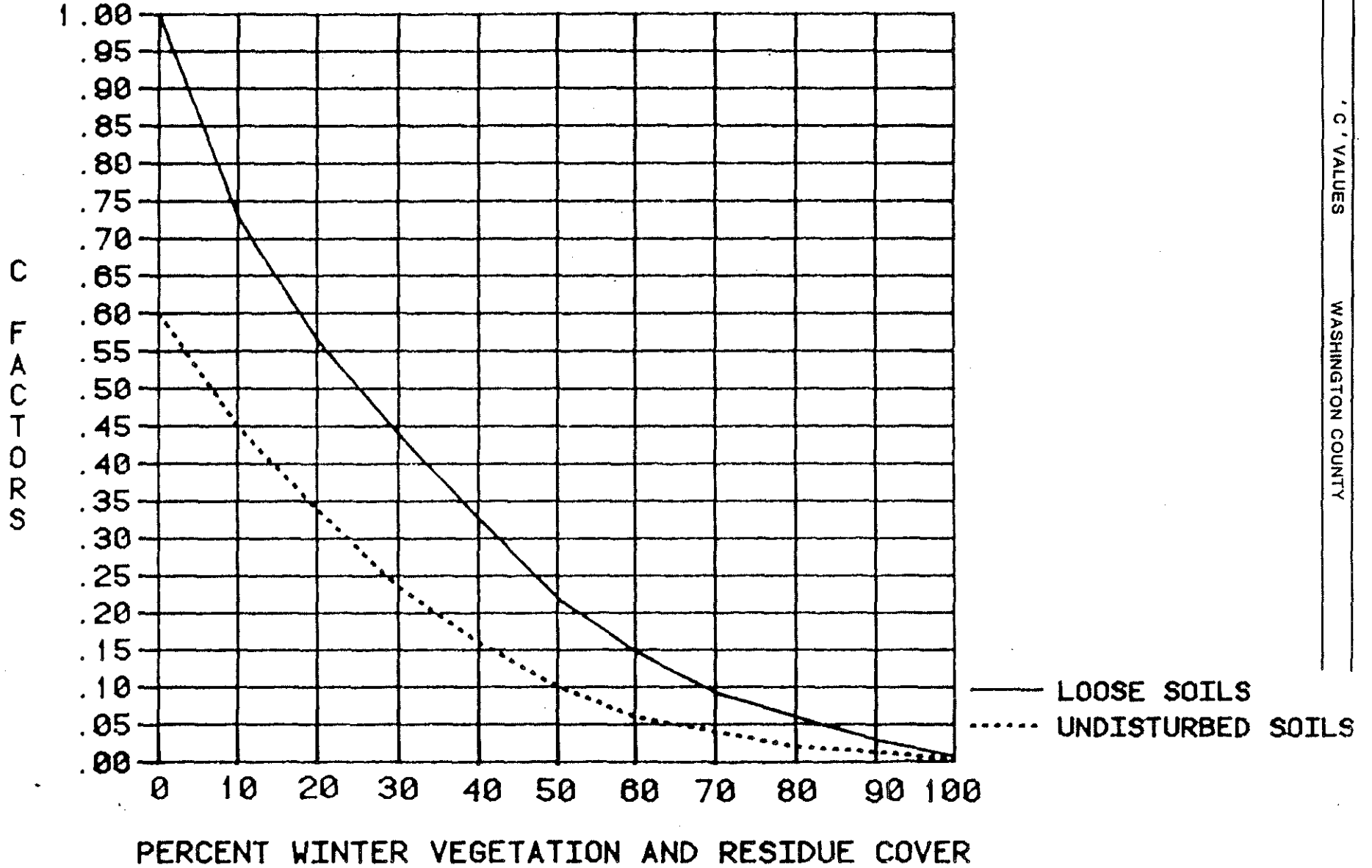
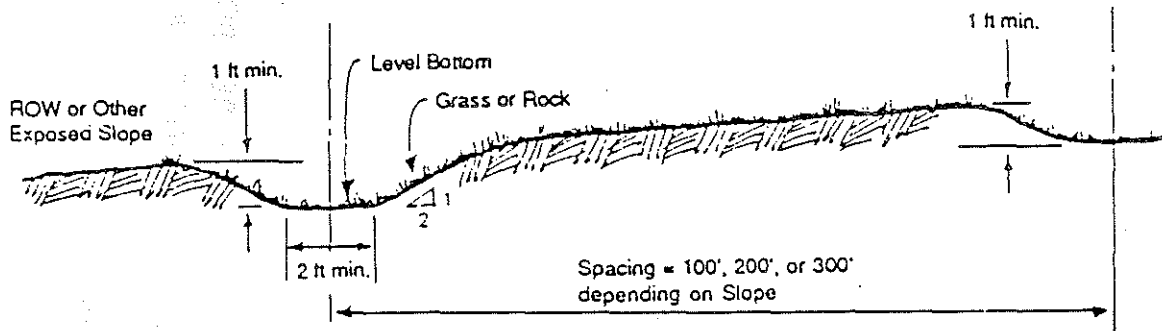


TABLE 6

'C' VALUES

WASHINGTON COUNTY

FIGURE 1 INTERCEPTOR SWALE



Bottom Width	2 feet minimum; the bottom width shall be level
Depth	1 foot minimum
Side Slope	2H:1V or flatter
Grade	Maximum 5 percent, with positive drainage to a suitable outlet (such as sedimentation pond)
Stabilization	Seed as per Grassed Channel or, Rock: 12 inches thick, pressed into bank and extending at least 8 inches vertical from the bottom.

FIGURE 2 TEMPORARY INTERCEPTOR DIKES

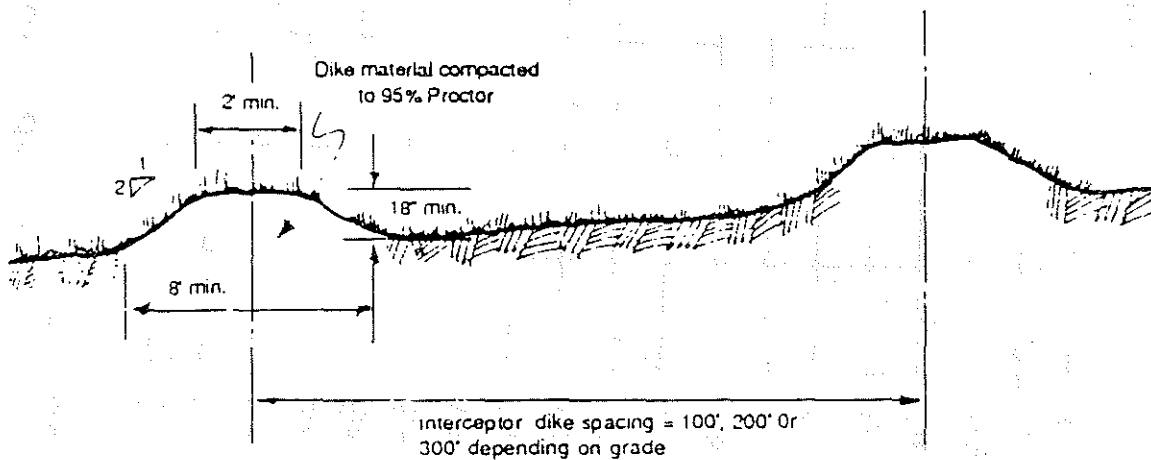


FIGURE 3 LEVEL SPREADER

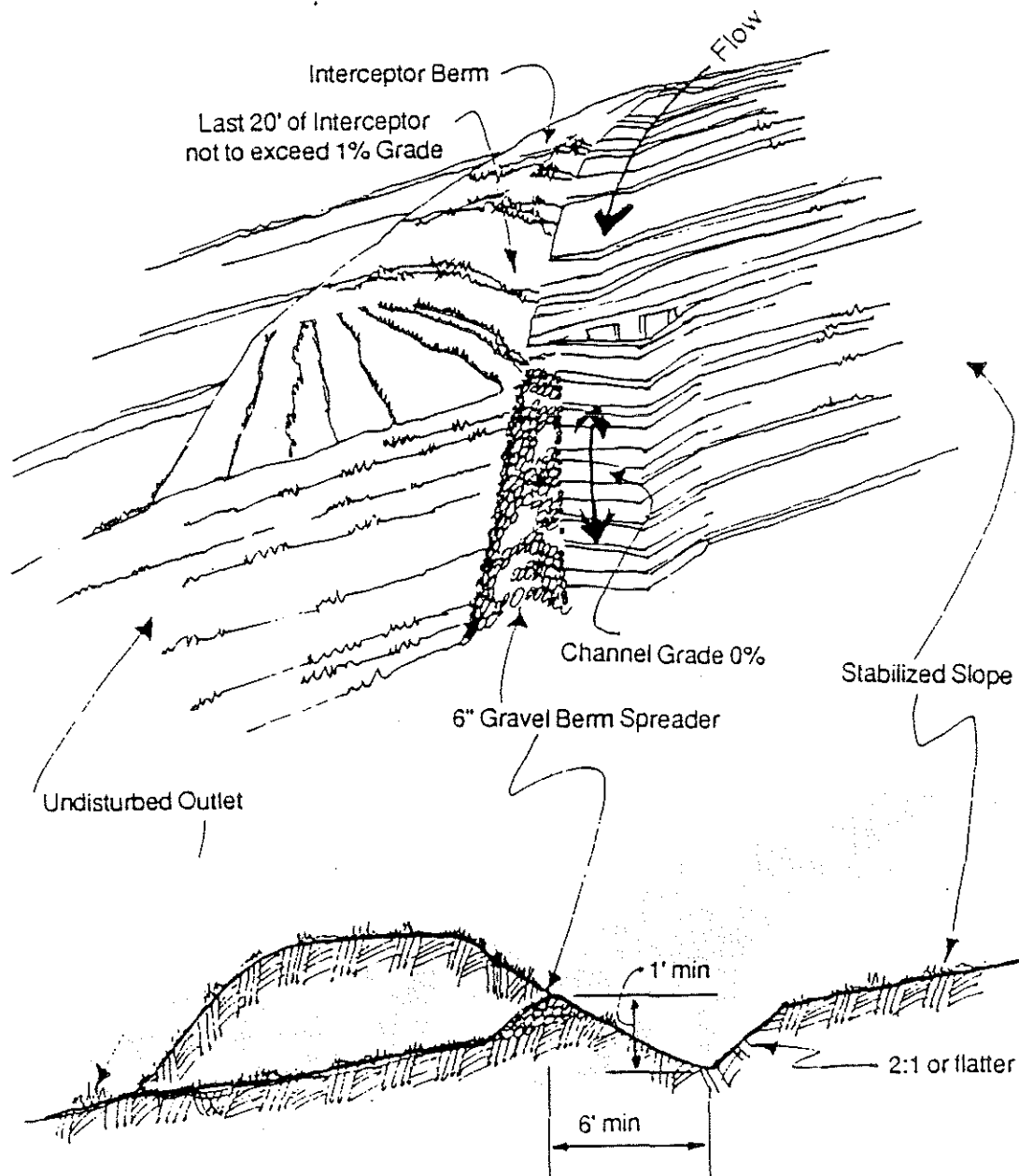
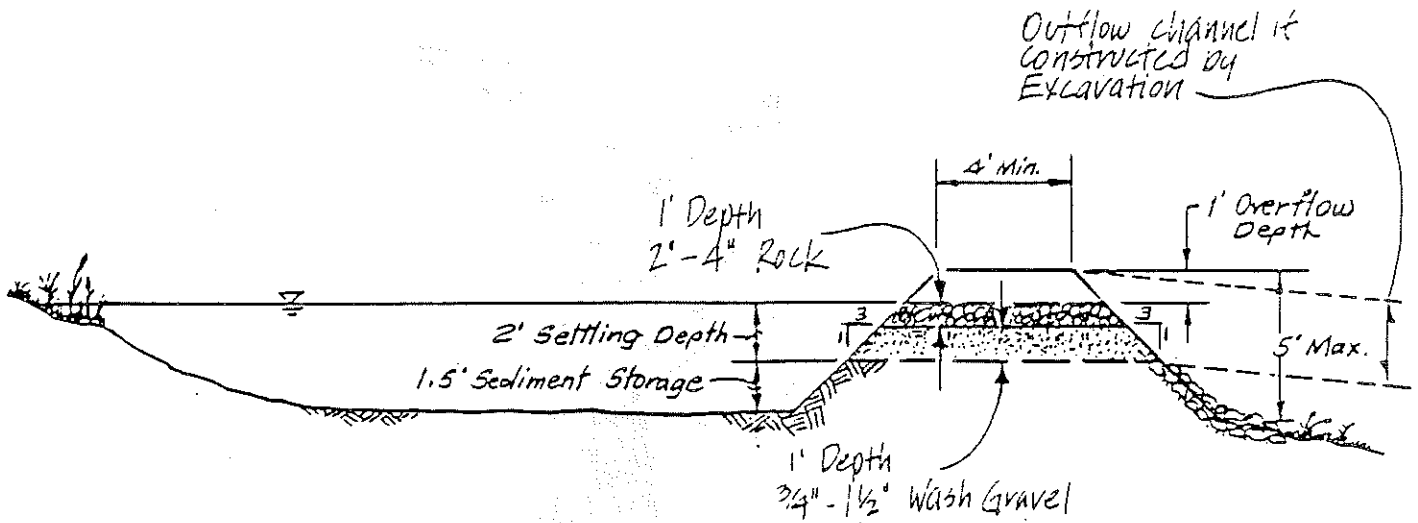
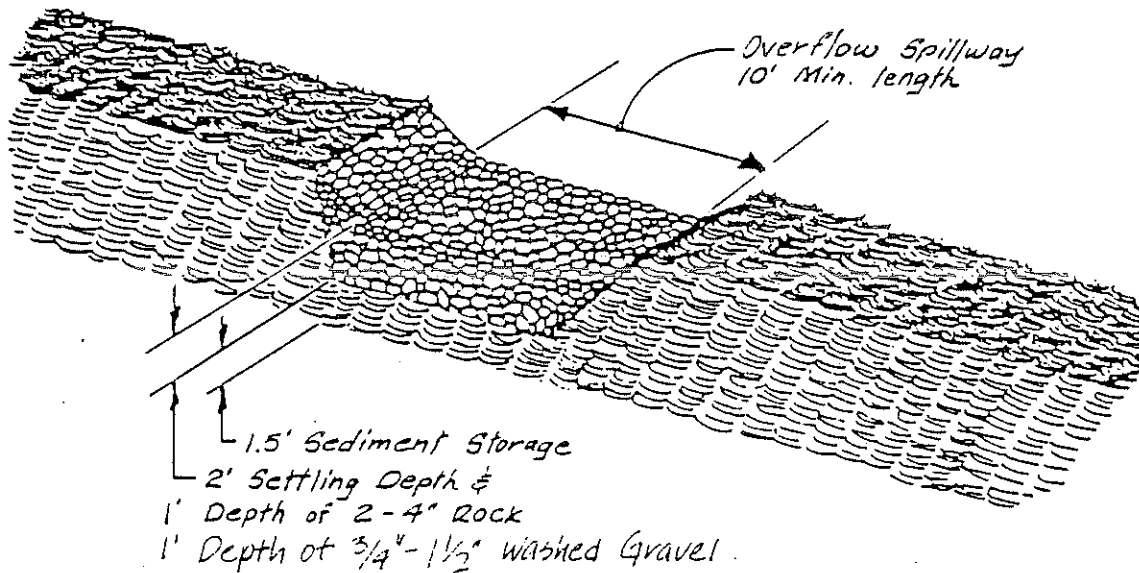


FIGURE 4 SEDIMENT TRAP



CROSS SECTION
NO SCALE

Note: May be constructed by excavation or by building a berm



SEDIMENT TRAP OUTLET
NO SCALE

FIGURE 5 PIPE SLOPE DRAINS

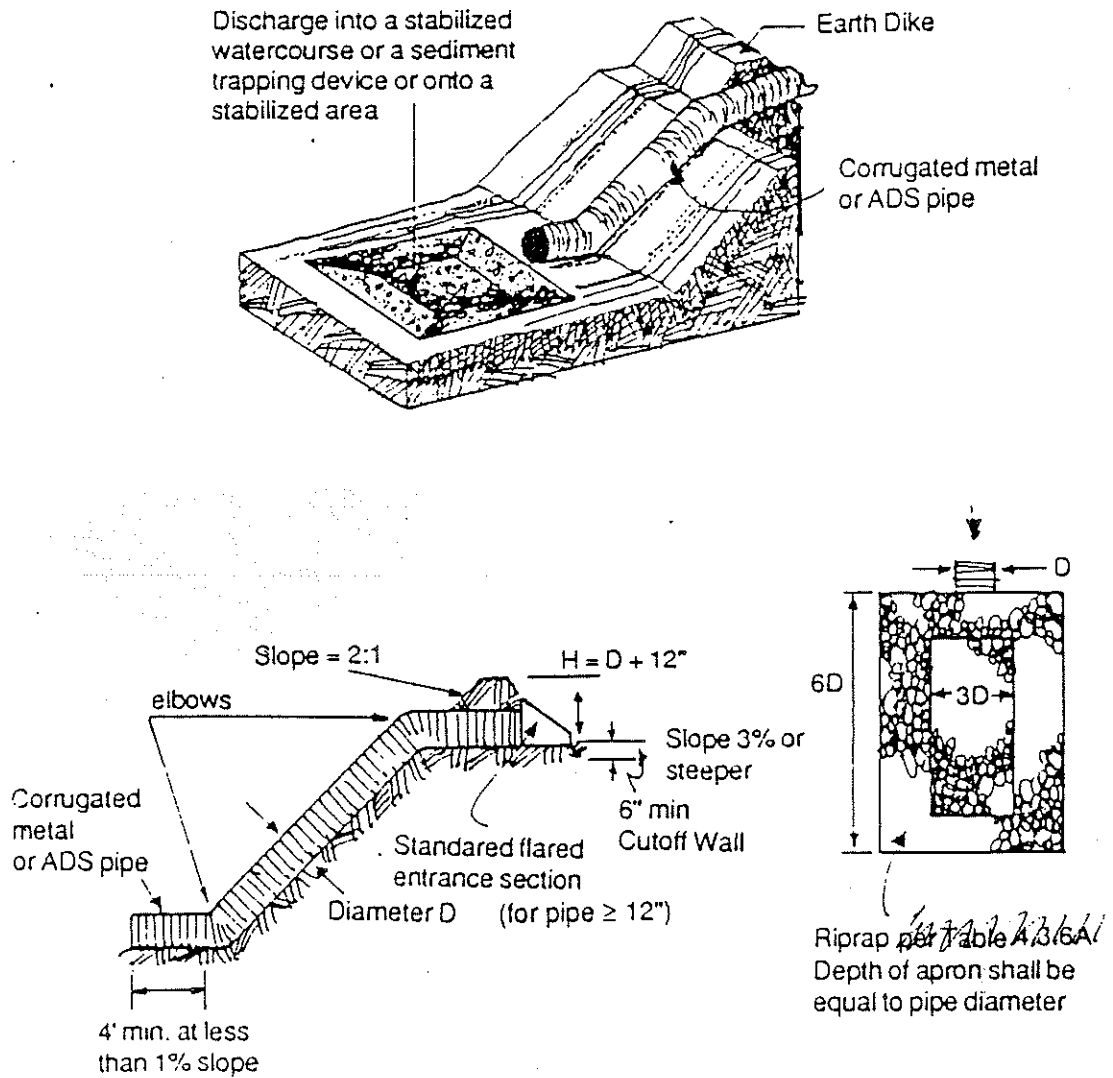
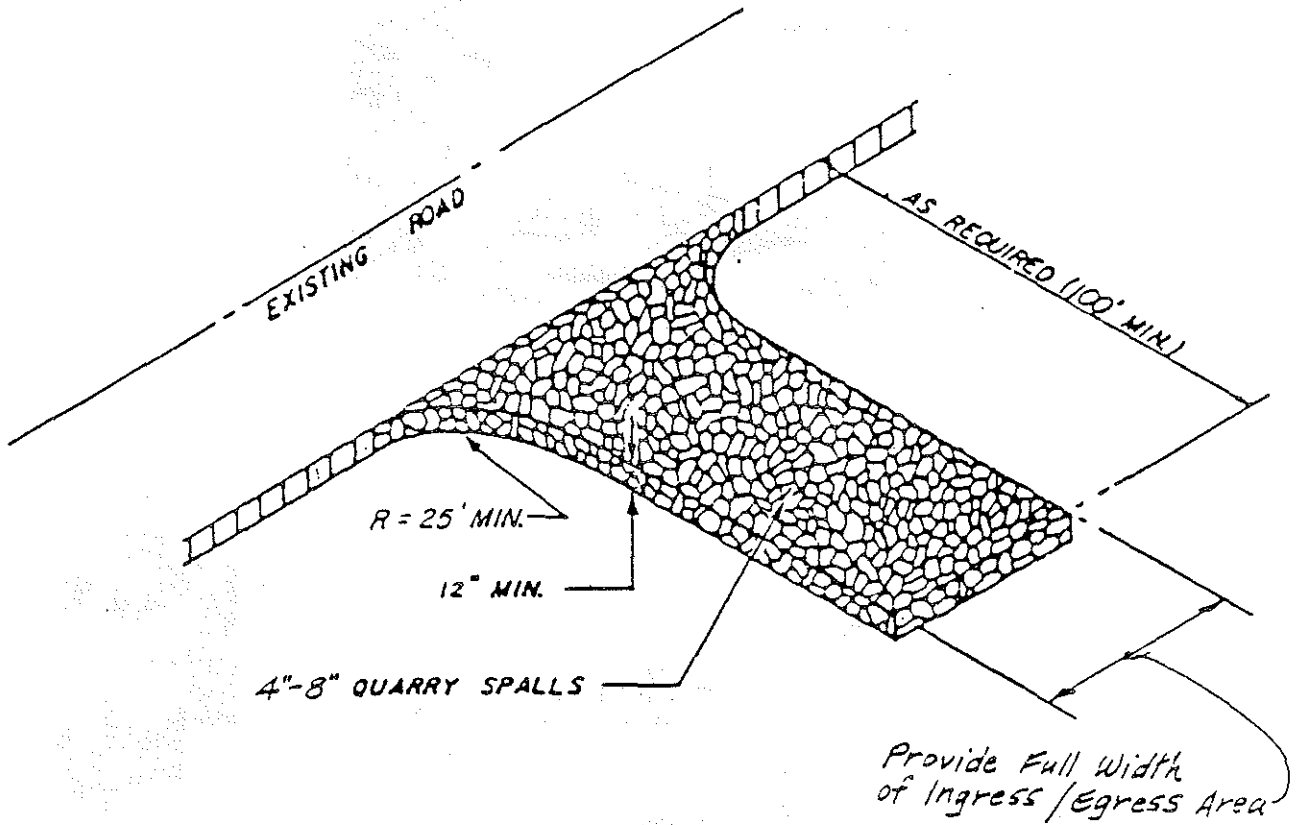


FIGURE 6 · STABILIZED CONSTRUCTION ENTRANCE



STATEMENT OF NEED FOR RULEMAKING

(1) Legal Authority

ORS 468.020 requires the Environmental Quality Commission to adopt rules as necessary for performing its legislatively mandated functions. Water pollution control is one of those functions.

OAR 340-41-470(3)(j)(C) requires the Department to propose rules for permits to control storm water from new development within the Tualatin and Oswego Lake subbasins. The rules were to be proposed by March 8, 1989.

(2) Need for the Rule

There is an over abundance of nutrients in the Tualatin River. These excessive nutrients, primarily phosphorus, cause excessive algae blooms and depress dissolved oxygen. One of the contributors of these nutrients is urban stormwater runoff. The proposed rules will provide some treatment and control of stormwater runoff in the Tualatin and Oswego Lake subbasins until such time as the counties and cities in the subbasins have implemented their own program plan for addressing the problem.

(3) Principal Documents Relied Upon in this Rulemaking

ORS Chapter 468 "Pollution Control"

OAR 340-41-470 "Special Policies and Guidelines"

OAR Chapter 340 Division 45 "Regulations Pertaining to NPDES and WPCF Permits"

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs

The above documents are available for review during normal business hours at the Department's office, 811 SW Sixth, Portland, Oregon.

LAND USE COMPATIBILITY STATEMENT

The proposed rule will affect both goals 6 and 11.

Goal 6 (Air, Water and Land Resources Quality): This proposal is designed to improve water quality in the area by reducing the discharge of nutrients and sediment and is consistent with the goal.

Goal 11 (Public Facilities and Services): This proposal will require the establishment of some local improvement districts for the construction and operation of permanent stormwater control facilities. This is likely to be an added cost to those who would be residing within the boundaries of these districts.

FISCAL AND ECONOMIC IMPACT OF PROPOSED STORMWATER REGULATIONS

Overall Impact

The proposed regulations require all new real estate developments within the Tualatin River and Oswego Lake Sub-basins to provide temporary storm runoff control systems during construction. The temporary stormwater control systems must be able to control sediment transport to less than one (1) ton per acre per year during construction activities. Control systems will range from a few strategically placed straw bales to the construction of sediment ponds.

Except for one or two family residences on existing lots of record, permanent stormwater treatment systems will be required for new developments. The permanent stormwater treatment systems must be designed to remove 65% of the phosphorus and 85% of the sediment from a 0.36 inch summertime storm event. An exception to the construction of permanent stormwater control facilities can be granted if the jurisdiction chooses to require a one time in-lieu-of fee to assist in construction of an area-wide stormwater control facilities.

These interim and permanent stormwater control systems will have some financial impacts not only to all business and residents but also to the local jurisdictions within the basin. Since there are many jurisdictions within the sub-basins, and since property values vary significantly between jurisdictions and categories, it is impossible to determine the overall financial impact to the region.

Impact of Temporary Sediment Control During Construction

The cost of controlling sediment transport during construction will vary dramatically. On level sites, adequate control may require no more than mulching disturbed areas or using straw bales for filtering the runoff. The cost of these controls would normally be less than \$100 per acre. For developments on steeper terrain, where erosion potential is great, construction of sediment ponds may be required. The cost of these sediment ponds could range from \$1000 to \$3000 per acre (See Table 1).

Impact of Permanent Stormwater Control and Treatment Systems

Construction of permanent stormwater control and treatment systems is much more complex and costly. In order to demonstrate the potential financial impacts to the developer(s) and individual homeowner(s), a hypothetical multi-family development within the City of Beaverton was selected as an example. Three scenarios were assumed, i.e., a) a 24 unit apartment on two (2) acres of land, b) a 120 unit apartment on ten (10) acres land, and c) a 580 unit apartment complex on thirty (30) acres of land. The permanent stormwater control systems for the various scenarios would range from \$3,000 to \$7,000 per acre developed (Table 2).

If these capital costs were evenly divided between the individual homeowners, the additional costs ranged from \$230 to \$590. Annual operating and maintenance costs for the permanent system ranged from \$70 to \$960. These costs would be a small percentage (0.25 - 0.5%) of the total project costs. For the individual homeowners, each basic apartment unit cost could be increased by no more than 0.7%.

Because of the lack of practicable alternatives and the land constraints associated with building permanent stormwater treatment systems for individual developments, construction of area-wide treatment and control systems would be more practical and less costly per acre, the proposed rules allow the jurisdiction to charge the developer a one time in-lieu-of fee rather than require the construction of the permanent stormwater treatment system. The fee money would be put in escrow until such time as the jurisdiction could construct the area-wide system. Since construction of area-wide systems would be less costly than permanent treatment systems constructed at development sites, the fees would likely be in the range of \$2000 to \$5000 per acre which would be only about 75% of the cost to the developer of constructing permanent facilities.

Using similar evaluation criteria, the potential financial impacts on any commercial and industrial development(s) within the region would be small. The projected impact on small business, such as those merchants leasing or owning a small shop in a shopping complex, may be approximately a 1% increase in their basic property costs or in their annual rental costs.

A property owner would also experience a fiscal impact if they were unable to develop a piece of property because the local jurisdiction required it to be set aside for an area-wide stormwater treatment system. It is likely that the price they would receive from the property would be far less than if it was developable. Fortunately, much of the property which is suitably located for area-wide stormwater treatment systems is within the flood plane and is not developable to any great extent.

Impact on the local Jurisdiction

The City of Beaverton was selected to demonstrate the potential financial impacts caused by the proposed rules. Currently there are 328.27 gross acres of multi-family development sites within the urban growth boundary of the city. Because of some physical site characteristics, such as steep slope, flood plain, or wet land, only 296.5 net acres are suitable for immediate development. Assuming there were ten drainageways serving the developable acreage, and if each drainageway required the setting aside of 0.85 acres for permanent stormwater control systems, there would be a total net loss of 8.5 acres of developable properties. This would be equivalent to a loss of approximately 0.75 million dollars of property revenue to the property owners. At a property tax rate of about \$4.40 per thousand of assessed value, the loss of property tax revenue to the city would be about \$3200 per year.

on property alone. When considering the value of the developed property, the property tax revenue loss would be more like \$24,000 per year. This projected financial impact to the property owner and the local jurisdiction could be less if those undevelopable sites (i.e., flood plains, etc.) could be utilized for the permanent stormwater control systems.

Other financial impacts of the rules to local jurisdictions is the cost of administering the requirements of the rules. Some additional criteria must be evaluated during preliminary plat or plan review and during final plat or plan review. For the larger jurisdictions or those with the most construction activity, one additional plan review person may be required.

Most of these same financial impacts are likely to occur when the jurisdictions have implemented stormwater treatment requirements which will be part of their program plan already required by existing rules [OAR 340-41-470 (1)(g)]. These proposed rules will require the implementation costs to be incurred sooner.

fiscal.imp

TABLE 1 ---- COST SUMMARY FOR INTERIM SEDIMENT CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	MAINTENANCE COST	O&M COST	LAND COST	GRAND TOTAL (5/1989 DOL.)	INDIVIDUAL COST	COST/ACRE
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) SEDIMENTATION POND	0.01	\$3,684	\$921	\$230		\$796	\$6,147	\$256	\$3,074
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) SEDIMENTATION POND	0.05	\$5,119	\$1,280	\$320	\$128	\$4,021	\$11,723	\$98	\$1,172
b) INFILTRATION TRENCH C/W SM. SED. POND	0.01	\$8,715	\$2,179	\$2,723	\$327	\$1,005	\$15,961	\$133	\$1,596
c) INFILTRATION BASIN C/W SM. SED. POND	0.01	\$6,394	\$1,598	\$1,998	\$80	\$1,005	\$12,003	\$100	\$1,200
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	0.14	\$11,085	\$2,771	\$693	\$277	\$12,320	\$29,330	\$51	\$978
b) SEDIMENTATION POND	0.14	\$21,278	\$5,320	\$1,330		\$12,320	\$43,929	\$76	\$1,464

TABLE 2 ---- COST SUMMARY FOR PERMANENT STORMWATER CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT

	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	MAINTENANCE COST	O&M COST	LAND COST	GRAND TOTAL (5/1989 DOL.)	INDIVIDUAL COST	COST/ACRE
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) INFILTRATION TRENCH		\$8,284	\$2,071	\$2,589	\$311		\$14,129	\$589	\$7,064
b) INFILTRATION BASIN		\$5,757	\$1,439	\$1,799	\$72		\$9,819	\$409	\$4,909
c) WET POND	0.05	\$5,670	\$1,418	\$354		\$4,773	\$13,334	\$556	\$6,667
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) EXT'D DETENTION POND	0.28	\$17,624	\$4,406	\$1,101	\$441	\$24,125	\$51,585	\$430	\$5,158
b) INFILTRATION TRENCH		\$22,988	\$5,747	\$7,184	\$862		\$39,210	\$327	\$3,921
c) INFILTRATION BASIN		\$17,607	\$4,402	\$5,502	\$220		\$30,031	\$250	\$3,003
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	0.85	\$38,163	\$9,541	\$2,385	\$954	\$73,922	\$135,372	\$233	\$4,512
b) WET POND	0.85	\$44,263	\$11,066	\$2,766		\$73,922	\$144,112	\$248	\$4,804

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PROPOSED STORM WATER TREATMENT AND CONTROL RULES NOTICE OF PUBLIC HEARING

Hearing Date: June 20, 1989
Comments Due: June 21, 1989

- WHO IS AFFECTED:** Most new construction activity in the Tualatin River and Oswego Lake Sub-basins will be affected.
- WHAT IS PROPOSED:** Environmental Quality Commission rules require Washington and Clackamas Counties and the incorporated cities in those counties to develop ways to treat storm water runoff. Because these jurisdictions have not yet developed plans, the Department of Environmental Quality (DEQ) is proposing to amend OAR 340-41-470 by adding a requirement of interim practices to reduce the flow of pollutants off construction sites during rainfall events. Construction of sediment ponds or equivalent sediment control facilities may be required. The proposed rules would also require construction of permanent storm water treatment systems. These systems would treat storm runoff from new developments for the removal of phosphorus, sediment, and other pollutants.
- Once adopted, these interim rules will apply to construction activities until the affected jurisdictions in the basins have implemented an approved equivalent local storm water treatment program plan.
- WHAT ARE THE HIGHLIGHTS:** One and two family residences would be excluded from the requirements of the rules if they are on existing Lots of Record.
- The rules apply only to the Tualatin River and Oswego Lake Sub-basins.
- Instead of requiring the developer to construct the permanent control facilities, the local jurisdiction may require the developer to pay a fee. The local jurisdiction would hold the funds in escrow until the jurisdiction could build an area-wide runoff treatment system.
- All permanent storm water treatment systems constructed must be designed to remove at least 65% of the phosphorus and 85% of the sediment from the storm water runoff.
- INFORMATION AVAILABLE:** The set of draft rules currently open for public comment combines two drafts developed jointly by the DEQ and the affected jurisdictions. Comments are requested on this jointly prepared draft of rules. In addition to the draft rules, a background report and Fiscal and Economic Impact Report are available upon request.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

HOW TO
COMMENT:

Copies of the proposed rules, background report, and Fiscal and Economic Impact Report can be obtained from: The Department of Environmental Quality, Water Quality Division, 811 S.W. Sixth Avenue, Portland, Oregon, 97204. Written comments can be submitted to the same office. For further information contact Kent Ashbaker at (503) 229-5325.

Public Hearings will be held as follows:

WHERE: DEQ offices, Conference Room 4A

DATE: June 20, 1989

TIME: 9:00 a.m.

AND

WHERE: Room 402, Washington County Administration Building,
150 N. First Avenue,
Hillsboro, Oregon

DATE: June 20, 1989

TIME: 7:00 p.m.

Oral and written comments will be accepted at the hearings. Additional written comments will be accepted until 5:00 p.m., June 21, 1989.

WHAT IS THE
NEXT STEP:

Testimony received during this public participation process will be evaluated and a final draft of rules will be prepared to take to the Environmental Quality Commission for adoption at their regular meeting to be held on July 21, 1989.

WJ1876

NOTICE

On June 20, 1989, public hearings will be held regarding the adoption of interim stormwater control rules for the Tualatin-Oswego Lake Sub-basins. The draft rules allow the planning agencies to collect a development fee for stormwater treatment rather than requiring the construction of permanent stormwater treatment systems concurrent with development. It is likely that most jurisdictions which elect to allow payment of the in-lieu-of fee will be required to adopt ordinances to allow for the collection of that fee as well as implement other requirements of the rules.

It is anticipated that these proposed rules will be adopted by the Commission on July 21, 1989. Normally the rules become effective as soon as filed with the Secretary of State, which will be just a few days after adoption by the Commission.

The Department is concerned whether or not the municipal entities in the basin, which will be approving stormwater handling systems and collecting in-lieu-of fees, will be ready to implement the rules upon adoption. Should a rule implementation date be developed which is different than the rule adoption date? If so, what should that date be? How long will it take the implementing entities in the basin to be ready to implement the rules? Should an implementation date be established in the body of the rules.

The Department is requesting input on this issue. Please provide a response to the above questions during this public participation process.

notice.4

SPECIAL POLICIES AND GUIDELINES

ATTACHMENT E

340-41-470

- (1) In order to preserve the existing high quality water for municipal water supplies and recreation, it is the policy of the EQC to prohibit any further waste discharges to the waters of:
 - (a) The Clackamas River Subbasin;
 - (b) The McKenzie River Subbasin above the Hayden Bridge (river mile 15);
 - (c) The North Santiam River Subbasin.
- (2) The Environmental Quality Commission shall investigate, together with any other affected state agencies, the means of maintaining at least existing minimum flow during the summer low flow period.
- (3) In order to improve water quality within the Tualatin River subbasin to meet the existing water quality standard for dissolved oxygen, and the 15 ug/l chlorophyll a action level stated in OAR 340-41-150, the following special rules for total maximum daily loads, waste load allocations, load allocations, and implementation plans are established.

(a) After completion of wastewater control facilities and implementation of management plans approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged to the Tualatin River or its tributaries without the specific authorization of the Commission that cause the monthly median concentration of total phosphorus at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured during the low flow period between May 1 and October 31* of each year, unless otherwise specified by the Department, to exceed the following criteria:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	20	Scoggins Cr.	60
Dilley (58.8)	40	Gales Cr.	45
Golf Course Rd. (52.8)	45	Dairy Cr.	45
Rood Rd. (38.5)	50	McKay Cr.	45
Farmington (33.3)	70	Rock Cr.	70
Elsner (16.2)	70	Fanno Cr.	70
Stafford (5.4)	70	Chicken Cr.	70

(b) After completion of wastewater control facilities and implementation of management plans required approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged

[discharge of wastewater] to the Tualatin River or its tributaries without the specific authorization of the Commission [~~shall be allowed~~] that cause[s] the monthly median concentration of ammonia-nitrogen at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured between May 1 and November 15* of each year, unless otherwise specified by the Department, to exceed the following target concentrations:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	30	Scoggins Cr.	30
Dilley (58.8)	30	Gales Cr.	40
Golf Course Rd. (52.8)	40	Dairy Cr.	40
Rood Rd. (38.5)	50	McKay Cr.	40
Farmington (33.3)	1000	Rock Cr.	100
Elsner (16.2)	850	Fanno Cr.	100
Stafford (5.4)	850	Chicken Cr.	100

- (c) The sum of tributary load allocations and waste load allocations for total phosphorus and ammonia-nitrogen can be converted to pounds per day by multiplying the instream criteria by flow in the tributary in cfs and by the conversion factor 0.00539. The sum of load allocations waste load allocations for existing or future nonpoint sources and point source discharges to the mainstem Tualatin River not allocated in a tributary load allocation or waste load allocation may be calculated as the difference between

the mass (criteria multiplied by flow) leaving a segment minus the mass entering the segment (criteria multiplied by flow) from all sources plus instream assimilation.

(d) The waste load allocation (WLA) for total phosphorus and ammonia-nitrogen for Unified Sewerage Agency of Washington County is determined by subtracting the sum of the calculated load at Rood Road and Rock Creek from the calculated load at Farmington.

(e) Subject to the approval of the Environmental Quality Commission, the Director may modify existing waste discharge permits for the Unified Sewerage Agency of Washington County and allow temporary additional waste discharges to the Tualatin River provided the Director finds that facilities allowed by the modified permit are not inconsistent and will not impede compliance with the June 30, 1993 date for final compliance and the Unified Sewerage Agency is in compliance with the Commission approved program plan.

[(e) The Director may issue new waste discharge permits containing additional waste load allocations and approve nonpoint source activities containing additional load allocations for total phosphorus and ammonia-nitrogen provided the Director finds that the concentrations specified in sections (a) and (b) will not be exceeded.]

(f) Within 90 days of the adoption of these rules, the Unified Sewerage Agency of Washington County shall submit a program** plan

and time schedule to the Department describing how and when the Agency will modify its sewerage facilities to comply with this rule. The program plan shall include provisions and time schedule for developing and implementing a management plan under an agreement with the Lake Oswego Corporation for addressing nuisance algal growths in Lake Oswego.

- (g) Within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan** for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule.
- (h) After July 1, 1989, Memorandums of Agreements between the Departments of Forestry and Agriculture and the Department of Environmental Quality shall include a time schedule for submitting a program plan** for achieving the requirements of sections (a) and (b) of this rule. The program plans shall be submitted to the Department within 18 months of the adoption of this rule.
- (i) Within one hundred twenty (120) days of submittal of the program plan** and within sixty (60) days of the public hearing, the Environmental Quality Commission shall either approve or reject the plan. If the Commission rejects the plan, it shall specify a compliance schedule for resubmittal for approval and shall specify

the reasons for the rejection. If the Commission determines that an agency has not made a good faith effort to provide an approvable plan within a reasonable time, the Commission may invoke appropriate enforcement action as allowed under law. The Commission shall reject the plan if it determines that the plan will not meet the requirements of this rule within a reasonable amount of time. Before approving a final program plan, the Commission shall reconsider and may revise the June 30, 1993 date stated in sections (a), (b), and (e) of this rule. Significant components of the program plans shall be inserted into permits or memorandums of agreement as appropriate.

(j) For the purpose of assisting local governments in achieving the requirements of this rule, the Department shall:

(A) Within 90 days of the adoption of these rules, distribute initial waste load allocations and load allocations among the point source and nonpoint source management agencies in the basin. These allocations shall be considered interim and may be redistributed based upon the conclusions of the approved program plans.

(B) Within 120 days of the adoption of these rules, develop guidance to nonpoint source management agencies as to the specific content of the programs plans.

(C) Within 180 days of the adoption of these rules, propose additional rules for permits issued to local jurisdictions to address the control of storm water from new developments within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

(i) Alternative control systems capable of complying with sections (a) and (b) of this rule;

(ii) Maintenance and operation of the control systems.

(iii) Assurance of erosion control during as well as after construction.

(D) In cooperation with the Department of Agriculture, within 180 days of the adoption of this rule develop a control strategy for addressing the runoff from container nurseries.

*Precise dates for complying with this rule may be conditioned on physical conditions (i.e., flow, temperature) of the receiving water and shall be specified in individual permits or memorandums of understanding issued by the Department. The Department shall consider system design flows, river travel times, and other relevant information when establishing the specific conditions to be inserted in the permits or memorandums of understanding. Conditions shall be consistent with Commission-approved program plans** and the intent of this rule.

**For the purpose of this section of the rules, program plan is defined as the first level plan for developing a waste water management system and describes the present physical and institutional infrastructure and the proposed strategy for changes including alternatives. A program plan should also include intergovernmental agreements and approvals, as appropriate, time schedules for accomplishing goals, including interim objectives, and a financing plan.

Stat. Auth.: ORS Ch. 468
Hist: DEQ 128, f. & ef. 1-21-77

HEARINGS OFFICER REPORT

INTERIM STORM WATER CONTROL RULES FOR THE TUALATIN AND OSWEGO LAKE
SUBBASINS

This report will summarize the information received at two public hearings held on June 20, 1989, concerning proposed rules to control the quality of storm water runoff from new development in the Tualatin and Oswego Lake subbasins. The hearings were held beginning at 9:00AM in Room 4A, 811 SW 6th, Portland, Oregon and beginning at 7:00PM in the Washington County Administration Building in Hillsboro, Oregon.

1. The requirements for erosion control during construction and for permanent storm water quality control facilities are not clear. The requirements will not produce desired results. The Department should be more deliberate in developing the rules and should base them on sound scientific information.
2. Jurisdictions felt that the proposed rules for interim storm water quality control facilities would impose administrative burdens upon them at the expense of resources that would otherwise be devoted to developing the program plans. Further, the interim rules amount to putting the "cart before the horse" with the risk that the interim rules will guide the program plans instead of the program plans establishing the approach for storm water quality control. Further, the interim rules add an additional level of complication in a process that is confusing to the local jurisdictions in the first place.
3. Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River and Oswego Lake subbasins was too stringent, unrealistic, and not achievable. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized.
4. Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

5. Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. Some felt the issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

The hearing was recorded by the Department. Tapes together with written material is in the Department files. The Department response to testimony is contained in Attachment F which follows.

HEARINGS OFFICER'S REPORT**INTERIM STORM WATER CONTROL RULES FOR THE TUALATIN AND OSWEGO LAKE
SUBBASINS**

This report will summarize the information received at two public hearings held on June 20, 1989, concerning proposed rules to control the quality of storm water runoff from new development in the Tualatin and Oswego Lake subbasins. The hearings were held beginning at 9:00AM in Room 4A, 811 SW 6th, Portland, Oregon and beginning at 7:00PM in the Washington County Administration Building in Hillsboro, Oregon.

This hearings officer's report has been arranged in two parts. The first part addresses issues that were presented at the hearing either orally or by letter. The second part addresses issues submitted in a report prepared by Century West Engineering Corporation for the Sunset Corridor Association. Because the Department is not now proposing that rules be adopted that would require permanent storm water quality control facilities during the interim, only those comments in the Century West Report concerning erosion control have been addressed in this report. The other issues discussed in their report have either been addressed in part I of this hearing officer's report or are now moot.

PART I**ISSUE**

Generally, the majority of those testifying agreed that the erosion caused during construction should be controlled. One testifier supported control of erosion during construction because it would provide the quickest results as far as improving water quality. Several testifiers felt the use of the Universal Soil Loss Equation was inappropriate for urban development since it had been developed for the purpose of controlling agricultural erosion. One testifier felt that the equation was not suitable for Washington County because it had been developed for conditions in the midwest. Another felt that it would be extremely difficult, if not impossible, to meet the one ton per acre requirement for erosion control during construction.

DEPARTMENT RESPONSE

Although the Universal Soil Loss Equation was originally developed for agricultural runoff, it is still applicable to disturbed land at construction sites. The amount of sediment that can be expected to move from the site under various soil conditions, slopes, and cover materials can be reasonable predicted by the equation. The tables in Appendix I have been prepared specifically for Washington County. Further, the proposed rules require that the erosion control plan be calculated on the basis of the Universal Soil Loss Equation. This means the one ton per acre figure is a

design goal and not a performance standard. The proposed rules do not provide for any monitoring of actual soil loss to determine compliance with the one ton per acre figure.

ISSUE

Two testifiers had concerns about the limitations on sizing for the settling ponds required by the proposed rules controlling erosion and felt that deeper ponds should be allowed in order to reduce the area necessary for the ponds.

DEPARTMENT RESPONSE

The rules have been changed to indicate that the sediment ponds should have a sediment storage depth of a minimum of 1.5 feet.

ISSUE

Some testifiers felt that the equation should be displayed as a matrix so that the regulated community and city planners could more easily understand and implement the requirements. Another testifier felt that the rules should be very prescriptive so that the small builder or developer would not be forced to seek the services of a consultant. One testifier felt that the controls required during construction should be practicable.

DEPARTMENT RESPONSE

The Department has added a section to the rules that allows either a jurisdiction or the Department to develop a matrix for determining appropriate BMPs for controlling erosion during construction. The matrix must be based upon the uniform soil loss equation.

The Department recognizes that the rules for erosion control plans are not as easily used as they could be. The Department believes that Appendix I could be modified relatively easy to make it more user friendly and would intend to do this if this portion of the rules are adopted.

ISSUE

Many testifiers voiced concerns about the requirement in the proposed rules for permanent storm water control. Many felt the requirement for 65% removal of phosphorus and 85% removal for suspended solids was not achievable. Others wanted the rules to clearly delineate that the removal efficiencies required in the rules were design standards and not performance standards. One testifier felt that the rules should require a performance standard based upon pounds per acre rather than a design standard. Another testifier stated that the rules should be prescriptive such that a small builder or developer would not need to acquire the services of a consulting engineer in order to design a permanent storm water control facility. In addition, prescriptive requirements would lessen the ability of project opponents to appeal land use decisions. One testifier felt that both design and performance standards should be required.

DEPARTMENT RESPONSE

The Department proposed 65% removal of phosphorus and 85% removal of sediment as strictly a design standard and not a performance standard. This means that a facility would be acceptable if it is designed consistent with specifications capable of meeting the noted removal efficiencies outlined in CONTROLLING URBAN RUNOFF: A Practical Manual For Planning and Designing Urban BMPs. The Department considered requiring performance standards, but decided that design standards would be as effective for assuring that a high level of storm water control facilities would be installed for new development until such time as the program plans for urban nonpoint source were implemented. In addition, using design standards would allow the Department and local government to rely on an engineer's certification that the systems was properly designed. This would eliminate the need for extensive review by either the Department or local jurisdiction as to whether or not the design was proper.

Data provided in CONTROLLING URBAN RUNOFF: A Practical Manual For Planning and Designing Urban BMPs indicates that the removal efficiencies specified in the proposed rules have been achieved. The Department admits that maximum removal efficiencies were chosen to assure that the storm water quality control facilities would produce an effluent as good as practicably possible. This would eliminate a number of best management practices that could remove some pollutants from being considered and applied.

The Department recognizes that very prescriptive rules could eliminate the need for developers to obtain the services of consulting engineers. The Department believes, however, that prescriptive rules tend to be rigid and cumbersome.

Permanent storm water quality control facilities must be carefully sited and the design should include suitable amenities that will make the facility attractive or, at least, as unobtrusive as possible to surrounding neighbors. CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs states that improperly sited and designed storm water systems can result in poorly operating systems with high maintenance costs. Further, care must be taken in the design of the facilities to assure that they work well with the surrounding development. Improperly designed and constructed facilities will lose public support for storm water systems that is vital to the overall water pollution control program in the Tualatin subbasin.

Effective storm water quality control facilities must result from the interim rules. The Department believes that it may be impossible to assure this within the goals established for the rules. Further work on rule development could be undertaken, but this will be at the expense of time and resources that should be devoted to development of the program plans. Based upon these concerns, the Department believes that the overall storm water quality control effort is better served by not adopting the proposed rules relative to permanent storm water quality control facilities. The Department should rely on the program plans to define the approach on permanent storm water quality facilities. While the Department believes this will allow some continued degradation of water quality in the Tualatin

until the program plans are approved and implemented, it should better assure good program plans and eliminates the risk of poor systems being installed that will erode public support.

ISSUE

One testifier felt that there was only one viable storm water treatment system that could be employed in the Tualatin subbasin. As a result, the rules should be simplified to reflect this limitation.

DEPARTMENT RESPONSE

The Department recognizes that the proposed rules severely limit the number and type of best management practices. Based upon this and other reasons stated above, the Department has modified the proposed rules and eliminated all requirements for permanent storm water quality control facilities.

ISSUE

Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River subbasin was too stringent. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized. Some felt that it was inappropriate to require permanent storm water controls before the program plans had been submitted, analyzed, and approved. Without the final program plans, there is no basis to justify the need for interim storm water controls in the first place. Several testifiers felt that much additional research was necessary to determine alternatives for storm water control systems, associated costs, and mechanisms to finance the systems. One testifier felt that the reduction of pollutants due to storm water were insignificant compared to other sources (sewage treatment plants) and pollution cleanup efforts should be concentrated on the big sources. Some testifiers stated they would participate in funding additional study of the issue.

DEPARTMENT RESPONSE

The Department recognizes that these rules, in addition to other requirements imposed in the Tualatin River subbasin to control water pollution, will increase costs to the residents and businesses in the subbasin. The Department believes the clean up efforts will produce improved water quality in the river and will protect the river's beneficial uses. Because of its slow moving, meandering nature, the river probably never has had the high quality waters associated with other Oregon streams

such as the McKenzie River or the Willamette River. Reduction in in-stream contaminants will not transform the Tualatin River into a McKenzie or Willamette River. The Department believes, however, that this is not a justifiable reason to forego water pollution control efforts and allow the river to become merely a drainage conveyance for treated sewage and storm runoff.

The Department also recognizes that the program plans have not been completed and, consequently, we do not know what will eventually be needed to reduce phosphorus and ammonia-nitrogen loadings to levels necessary to meet load allocations. The Department believes that priority should be given to assuring that the program plans are effective and comprehensive. Interim rules for storm water quality control facilities will impact the ability of jurisdictions to put together effective program plans. Further, the interim rules add another layer of complexity in a water pollution control strategy that is already confusing to the people in the area. Based upon this and issues related above, the Department does not propose to recommend rules for the interim for permanent storm water quality control facilities.

ISSUE

One testifier felt that the rules were necessary to deal with increasing water pollution due to the rapid pace of development in the basin. Without storm water controls, permanent damage to water quality would occur. This testifier believed that construction of permanent storm water systems during the development of property was cost effective compared to retrofitting a system after the development is completed.

DEPARTMENT RESPONSE

The Department does not agree that permanent damage has occurred or that permanent damage will inevitably occur if storm water quality control facilities are not provided during the interim period until the program plans for nonpoint source are developed and implemented. We do agree, however, that degradation will increase and the costs for retrofitting a system after development has been constructed will much more costly. The interim rules, if they contain requirements for permanent systems, will impact the ability for jurisdictions to prepare and implement program plans and add confusion to an already complicated issue. The Department is also concerned that the rules will cause improperly designed and constructed system to be installed which will erode public support for the effort to reduce pollution in the Tualatin River and Oswego Lake subbasin.

ISSUE

Many testifiers believed that area-wide permanent storm water control systems were preferable to on-site systems. One testifier spoke in opposition to this approach and advocated on-site systems in all cases except where physically impracticable. In such cases where systems are impracticable, this testifier believed that mitigation of the effects of no on-site system should be required.

DEPARTMENT RESPONSE

The Department believes that area-wide systems should be more efficient and would take advantage of economies of scale. The Department also believes, however, that the types of systems should be defined in the program plans and not in these rules.

ISSUE

Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. The issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

DEPARTMENT RESPONSE

The Department does not agree that these proposed rules will create a building moratorium in the Tualatin River subbasin. The Department does recognize that the requirements of the rules will create additional costs for the development community. The Department also realizes that the added costs will, to some degree, reduce the attractiveness of the Tualatin subbasin to some developers and this could divert development to other areas both in and out of the state. We do not have information upon which to estimate how much development will be diverted elsewhere.

This issue creates a policy choice for the Commission. In order to create greater equity in the region or the state, the Commission could choose to apply the rules to the Tualatin subbasin, the Portland metropolitan area, or the entire state. The Department believes that there are other areas in the state where urban storm water controls would be effective in preventing pollution from occurring. We believe, however, that broader application of the rule would impose tremendous burdens upon the resources of both the Department and local government. Until the resource aspect of this matter could be resolved, the Department would not recommend broadening the application of the rule to areas outside the Tualatin subbasin unless it is necessary to address an identified water pollution problem. This issue, however, will be highlighted in the Commission staff report as a policy matter.

ISSUE

Some testifiers felt that the proposed rules would increase the likelihood that they would be unable to develop their property. These people have property in the outlying areas that are not as marketable and, as a result, when the property is sold, the prices are less and they are unable to recover the costs to the same extent as property located closer into the current developing areas.

DEPARTMENT RESPONSE

The Department empathizes with those developers that hold land that is not as marketable because of its location or other factor. The Department believes, however, that pollution control is a cost of doing business. If the land cannot be developed with necessary pollution control facilities and remain cost effective to the developer, the property should not be developed.

ISSUE

Most of the local jurisdictions that testified support the provisions in the rules for an in-lieu fee that would be paid if an on-site storm water system could or should not be installed. Many of the other testifiers, however, had concerns about the in-lieu fees. Some felt that the costs for all future storm water systems for both new development and existing development would be paid for out of the in-lieu fee and this was inappropriate and unfair. Storm water control facilities to serve existing development should be paid for by current property owners and not put on the backs of the development community. One testifier felt that the in-lieu fees were illegal. Another felt that the in-lieu fees should be based on a reasonable and rationale analysis of projected costs and should be uniform throughout the area. A testifier indicated that in-lieu fees were difficult to implement. In addition, one testifier felt that lottery monies should be used to fund storm water control facilities.

DEPARTMENT RESPONSE

The Department believes the in-lieu fee is a good practicable means to begin to establish funding for necessary storm water quality control facilities. The Department, however, believes that this issue should be dealt with in the program plans not in the interim rules. In-lieu fees have been dropped as a part of the Department's current rule proposal.

The Department has consulted with the Attorney General's office about the legality of the fees. The Attorney General's office advises that there are legal procedures and limitations that local jurisdictions must consider in imposing the fees, but that the proposed rule on in-lieu fees is probably valid.

The Commission has no authority over the use of lottery monies.

ISSUE

Several testifiers stated that, because the proposed rules will be implemented by local jurisdictions, local ordinances will have to be adopted by the jurisdictions and approved by the Oregon Land Use and Development Commission. This process will take some time to complete. Several testifiers requested that the rules not take effect for at least 120 days in order to allow the local ordinances to be developed. Others testified that it would take 180 days. One testifier suggested that the rules not go into effect until January 1, 1990.

DEPARTMENT RESPONSE

The Department believes this concern is valid and has modified the rules such that become effective on January 1, 1990. This will also allow the Department sufficient time to redraft appendix I.

ISSUE

Some testifiers were concerned that the rules would require that all storm water facilities be under the control of the local governmental jurisdiction. Some felt that this would require deeding of the lands associated with storm systems to the jurisdictions and were opposed to this. Others felt that the rules should allow for private interests to operate and maintain their own systems.

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are not longer proposed.

ISSUE

One testifier represented a large industrial/commercial development near Hillsboro. This development has already installed a state-of-the-art storm water control system. The testifier believed that where a development had already provided permanent storm water control facilities, that future construction on that site be exempt from the requirements of these proposed rules.

DEPARTMENT RESPONSE

In some cases, large campus-type industrial/commercial developments have included special covenants and development restrictions with the deeds to the lots in the development. These covenants and restrictions may provide suitable controls to limit erosion due to construction activities. The Department believes, however, that these erosion control restrictions should be judged on the basis of the rules and believes that a provision to grant exceptions for such developments would add too much complexity to the rules. The Department does not believe it will be difficult or excessively burdensome to apply the Universal Soil Loss Equation to such developments.

ISSUE

One testifier stated that separate financial assurance for storm water control should not be required.

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are not longer proposed.

ISSUE

One testifier questioned whether public facilities were to be covered under the requirements of these rules.

DEPARTMENT RESPONSE

Yes. To clarify this, the Department has added language that requires public works projects to be subject to these rules.

ISSUE

Several testifiers suggested language in the rules to exempt development where it could be shown that phosphorus concentrations would not exceed the in-stream phosphorus criteria adopted by the Commission for the Tualatin River subbasin. One testifier believed that such an exemption was necessary because certain public facilities such as sewers or water lines would not create any additional phosphorus loading and, therefore, should not be required to provide permanent storm water control.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

ISSUE

Several testifiers felt that individual permits for storm water facilities should not be required.

DEPARTMENT RESPONSE

The Department agrees. The proposed rules do not require permits for the required erosion control plans.

ISSUE

Several jurisdictions testified that the rules would have a significant effect on city resources. One testifier urged that the Department and the Commission be flexible and provide technical assistance during the period the rules are in effect. One testifier felt that the rules should state Commission policy and should not be regulatory.

DEPARTMENT RESPONSE

The Department recognizes that implementing these rules will impose additional demands upon the staffs of the local jurisdictions. The Department has requested an additional position from the legislature to devote to the water pollution issues in the Tualatin River subbasin. This position will have as one of its duties, assisting local government with the interim storm water quality control rules.

The rules have been proposed to minimize the intrusion of state government into local building approval process. The Department does view them, however, as regulatory and expects local jurisdictions as applicable to comply with them.

ISSUE

Several testifiers stated that adoption of the interim storm water rules will interfere and potentially conflict with the preparation and implementation of the final program plans for urban nonpoint source control. The program plans are due in March 1990, and the interim storm water rules probably cannot be implemented much before this time. Some felt that interim storm water rules should be dropped and the issue addressed in the final program plan.

DEPARTMENT RESPONSE

The Department realizes that these interim rules will add to the burdens of the local jurisdictions. We also recognize that cities and counties have limited resources and the requirements of the interim rules will compete for those resources necessary to prepare and implement the program plans for urban nonpoint source pollution. The Department believes that the effective storm water quality control will depend on good program plans. This is one reason had modified the proposed rules to eliminate the requirements for permanent storm water quality control facilities.

ISSUE

One testifier felt that the proposed interim storm water rules did not consider other forms of nonpoint source pollution such as agricultural and forestry sources.

DEPARTMENT RESPONSE

The Department recognizes that other nonpoint sources of water pollution exist in the Tualatin River subbasin and that these need to be controlled as well as that from new development. The Department believes, however, that urbanization is increasing at furious pace in comparison with agriculture and forestry. It is the rapid urban growth that prompts the need for the interim rules for new development. Nonpoint source pollution from agriculture and forestry is not expanding at the same rate. Control programs for these segments will be addressed in the program plans due in March, 1990.

ISSUE

One testifier felt the rules needed to be carefully crafted to limit potential liability on the part of the state and local government.

DEPARTMENT RESPONSE

The Attorney General office advises that a new regulation almost always entails some additional risk of liability. Liability would exist, however, only when government failed to abide by the regulation and thereby injured someone. The Department has tried to minimize such liability by making sure that the proposed rules are reasonable and achievable. The Department believes that the environmental need for the rules outweighs any remaining risk of liability.

ISSUE

Some testifiers suggested that the rules include provisions for monitoring the effectiveness of the rules and include a mechanism for modifying them if necessary. One suggested that the rules include a benefit/cost analysis process to determine if a provision of the rule is appropriate.

DEPARTMENT RESPONSE

The Department intends to track the rules as they are implemented by the local jurisdictions. If modifications are needed, the Commission can revise them as needed. The Commission has the authority to adopt temporary rules without public hearing if a particularly burdensome issue arises.

The Department believes that a benefit/cost provision in the rule would be difficult to develop and would severely complicate a rule package that we have attempted to keep as simple as possible. We cannot recommend such a provision.

ISSUE

Several testifiers had concerns relative to wetlands. Some were concerned that storm water systems installed for pollution control may ultimately be considered wetlands and be subject to additional regulatory requirements. Some were concerned that routine maintenance and operation could be subject to wetlands protection requirements of both the state and federal requirements.

DEPARTMENT RESPONSE

The Department asked the Office of the Attorney General to investigate this concern. They, in turn, consulted with the Division of State Lands which regulates wetland dredge and fill projects in Oregon. According to the Division of State Lands, human-made wetlands are not subject to either state or federal requirements pertaining to protection of wetlands.

ISSUE

Another testifier had concerns about the impact of storm water control facilities on existing wetlands. This person felt that siting of facilities needed to be done with sensitivity to the hydrology of the area so that existing wetlands were not impacted.

DEPARTMENT RESPONSE

The Department agrees that storm water quality control facilities should not be located on or utilize existing wetlands. Federal and state laws relating to wetlands should prevent this from occurring.

ISSUE

One testifier felt that the rules needed to specifically relate to summertime water quality concerns. In-lieu fees should be required only for those facilities necessary to deal with urban runoff under low flow conditions affecting water quality and not for facilities that deal with winter-time storm water control and conveyance. One testifier had concerns with the definition of storm water quality control facility because it included the term flow attenuation which seemed to convey a purpose other than protecting water quality.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

ISSUE

One testifier felt that the word "Oregon" should be inserted before the phrase "registered professional engineer."

DEPARTMENT RESPONSE

This issue is moot because it refers to portions of the rules that are no longer proposed.

ISSUE

One testifier believed that the storm water issue should be addressed by a regional authority.

DEPARTMENT RESPONSE

The Department agrees with this and has supported legislation that will more easily allow the Unified Sewerage Agency of Washington County to deal with the storm water issues in Washington County. The issue, however, is outside the scope of this rule proposal.

ISSUE

One testifier felt that the rules were confusing and that additional definitions were necessary to clarify the language.

DEPARTMENT RESPONSE

The Department has reviewed the proposed rules and has added definitions for jurisdiction, erosion control plan, and public works projects to reduce confusion.

ISSUE

One testifier indicated that the costs for providing storm water control facilities will significantly increase the costs for road construction in Washington County. This person estimated that it would increase costs by about 6% to 10%. For Washington County over the next five to six years, this will amount to about 5 to 8 million dollars.

DEPARTMENT RESPONSE

Although the Department's fiscal impact statement did not specifically address added costs for highway and street construction, the additional costs are consistent with our estimate of costs for new development, generally.

ISSUE

Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

DEPARTMENT RESPONSE

The Department did not conduct a cost/benefit analysis of the proposed rules nor did the Department attempt to consider how the costs would affect each and every class of development in the Tualatin River subbasin. State law requires a fiscal impact analysis which was done. Such an analysis does not contemplate nor require that costs be weighed against benefits derived.

The Department could, if directed by the Commission, expand the economic impact analysis and include other segments or classes of development. The Department believes that estimation of costs would be relatively easy compared to estimating the value of the benefits of clean water. Clean rivers and lakes have intangible benefits for which monetary values are difficult to estimate and which are subject to opinions more than objective determinations.

To conduct a cost/benefit analysis would, presuming the benefits could be suitably quantified, imply that, if the costs are too high, violation of water quality standards would be tolerated. Neither state or federal law contemplate that such a trade-off would be considered.

The Department does not believe a cost/benefit analysis is necessary or desirable, but believes the issue is important and will highlight it in the Commission report.

ISSUE

Several testifiers were dismayed about the proposed rules passing the problem to the local jurisdictions without providing a framework of technical assistance, financial planning, program guidelines, and seminars.

DEPARTMENT RESPONSE

In draft the proposed rules, the Department's first concern and desire was to utilize existing government institutions to the extent possible and minimize the inconvenience to the regulated community. Developers and builders already are required to submit site plans and obtain building permits for development from local government. The Department felt that requirements for storm water quality control facilities could be best handled in the building and planning departments of local government since the developers and builders have to go here anyway.

The Department recognizes the additional burdens imposed on local government as a result of these storm water rules. The Department does have authority for an additional position to deal with water quality issues in the Tualatin River subbasin. The Department will use this position, as much as practicable, to assist local governments in developing and implementing the proposed rules.

ISSUE

One testifier felt that it was unreasonably burdensome for a developer to get an exemption for an area-wide storm water quality control facility.

DEPARTMENT RESPONSE

This comment relates to portions of the rules that are no longer part of the Department's proposed rule; consequently, it is a moot issue.

PART II

(Note: The following is an excerpt from a report prepared for the Sunset Corridor Association by Century West Engineering. The report is entitled "A Report on the DEQ Draft Interim New Development Rules, May, 1989." This section of the report lists each component of the rules followed by a statement of their concerns with that component of the rules. In responding to these concerns as part of the Hearing Officer's Report, the Department has stated its response in **BOLD, CAPITALIZED** letters to distinguish DEQ comments from that provided in the report by Century West Engineering).

Critique of Proposed Draft Interim New Development Rules

Introduction:

The interim rules proposed by the DEQ were prepared to guide the development of the Tualatin Sub-Basin toward the construction of storm water quality control facilities in order to reduce the phosphorous and sediment loading of the sub-basin waterways. The proposed rules have gone through a number of revisions during the formulation period. The following overview represents a critique of the proposed rules as they existed on April 5, 1989. The proposed rules is shown in bold type, with comments shown in normal type.

Overview:

DRAFT RULES (April 5, 1989)

340-41-006 (18) "Land Development" refers to any human induced change to **improved or unimproved** real estate, including but not limited to **construction, installation or expansion of a building or other structure, land division, drilling, and site alteration** such as that due to land surface mining, dredging, grading, construction of earthen berms, paving, improvements for use as parking or storage, excavation, or clearing.

- o Public Projects on Public Lands should be included within the "Land Development" definition.

DEQ RESPONSE: IN MANY CASES, PUBLIC PROJECTS ARE REQUIRED TO OBTAIN APPROVAL FOR PLATS, SITE PLANS, AND BE ISSUED PERMITS JUST LIKE NONPUBLIC DEVELOPMENT. THESE TYPES OF PUBLIC PROJECTS WOULD NOT BE EXEMPT FROM THE REQUIREMENTS OF THESE RULES. THERE ARE OTHER TYPES OF PUBLIC PROJECTS, HOWEVER, THAT DO NOT REQUIRE PLAT OR SITE PLAN APPROVAL OR BUILDING PERMITS. TO ADDRESS THIS, THE RULES HAVE BEEN MODIFIED TO APPLY TO PUBLIC WORKS PROJECTS.

(19) "Storm Water Quality Control Facility" refers to any structure or drainage way that is designed, constructed, and maintained to collect and filter, retain, or detain surface water runoff during and after a storm event for the purpose of water quality improvement and flow attenuation. It may also include, but not be limited to, existing features such as wet lands, grassy swales, and ponds which are maintained as storm water quality control facilities.

- o The definition should be expanded to differentiate between the interim and permanent storm water quality control facilities.

DEQ RESPONSE: THE DEPARTMENT HAS MODIFIED THE RULES TO ELIMINATE REFERENCE TO PERMANENT STORM WATER QUALITY CONTROL FACILITIES.

- o The emphasis of the Draft Rules is for water quality enhancement. Achieving flow attenuation could conflict with the water quality objectives.

DEQ RESPONSE: THE TERM "FLOW ATTENUATION" HAS BEEN REMOVED FROM THE DEFINITION.

- o No flow attenuation performance guidelines are provided in the Draft Rules or the supporting appendices.

DEQ RESPONSE: SEE RESPONSE ABOVE.

- o The Draft Rules often use the terminology "storm water control facilities" which should be changed for consistency.

DEQ RESPONSE: THE RULES HAVE BEEN EDITED TO DELETE REFERENCES TO "STORM WATER QUALITY CONTROL FACILITIES."

340-41-455 (3) Nonpoint source pollution control in the Tualatin River sub-basin and lands draining to Oswego Lake:

(a) These rules shall apply to any new land development within the Tualatin River sub-basin and lands draining to Oswego Lake, except those developments with application dates prior to the effective date of these rules. The application date shall be the date on which a complete application for development approval is received by the local jurisdiction in accordance with the regulations of the local jurisdiction.

- o No comment on this paragraph.

(b) For land development, no preliminary plat, site plan, or permit shall be approved by any jurisdiction in these sub-basins unless the conditions of the plat or plan approval includes interim storm water quality control facilities to be constructed concurrent with land development and to be operated during construction to control the discharge of sediment in the storm water runoff. The erosion control plan shall utilize protection techniques to control soil erosion and sediment transport to less than one (1) ton per acre per year, as calculated using the Soil Conservation Service Universal Soil Loss Equation. See Figures 1 to 6 in APPENDIX I for examples. The erosion control plan shall include temporary sedimentation basins when, because of steep slopes or other site specific considerations, other on-site sediment control methods will not likely keep the sediment transport to less than one (1) ton per acre per year. The local jurisdictions may establish additional requirements for meeting an equivalent degree of control. Any sediment basins constructed shall be sized using 1.5 feet maximum sediment storage depth plus 2.0 feet storage depth above for a settlement zone. The storage capacity of the basin shall be sized to store all of the sediment that is likely to be transported and collected during construction while the erosion potential exists. When the erosion potential has been removed, the sediment basin can be removed and the site restored as per the final site plan.

All sediment basins shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike.

- o The Soil Conservation Service (SCS) Universal Soil Loss Equation (USLE) was developed for agricultural applications and tends to be overly conservative when applied to construction sites.

DEQ RESPONSE: WHILE THE EQUATION WAS DEVELOPED FOR AGRICULTURAL APPLICATION, THE DEPARTMENT BELIEVES THAT IT STILL IS AN EFFECTIVE MEANS FOR ESTIMATING AND ADDRESSING SOIL EROSION DURING CONSTRUCTION.

- o The USLE is limited to only sheet and rill erosion which is not applicable to all sites. Localized channel erosion may be far more significant.

DEQ RESPONSE: THE DEPARTMENT BELIEVES THAT, IF EROSION CONTROLS ARE PROPERLY APPLIED ACCORDING TO THE UNIVERSAL SOIL LOSS EQUATION, CHANNEL EROSION SHOULD BE ELIMINATED AND WILL NOT BE AN ISSUE.

- o The USLE was developed to predict soil loss on a long-term (annual) basis and therefore may not be applicable for short construction periods.

DEQ RESPONSE: THE DEPARTMENT RECOGNIZES THAT THE UNIVERSAL SOIL LOSS EQUATION EXPRESSES EROSION IN TERMS OF TONS PER YEAR. WE BELIEVE, HOWEVER, THAT, REGARDLESS OF THE UNITS USED TO QUANTIFY THE EROSION, THE EQUATION IS STILL APPROPRIATE FOR USE IN ADDRESSING AND CONTROLLING SOIL EROSION FROM CONSTRUCTION ACTIVITIES.

- o Wording of the paragraph should be revised to include public and private project plans.

DEQ RESPONSE: THE PROPOSED RULES HAVE BEEN CHANGED TO ASSURE THAT THEY APPLY TO PUBLIC PROJECTS.

- o The USLE is most accurate for medium textured soils (Washington County soils are generally fine textured), slopes between 3% to 18% (60% of Washington County land is outside that range) and slope lengths less than 400 feet (sites less than 5 acres).

DEQ RESPONSE: THE UNIVERSAL SOIL LOSS EQUATION IN APPENDIX I OF THE PROPOSED RULES HAS HAD ITS FACTORS ADJUSTED TO ACCOUNT FOR CONDITIONS IN WASHINGTON COUNTY. USE OF THE EQUATION MAY LOSE ACCURACY AT STEEPER OR LONGER SLOPES. EVEN SO, IT DOES PROVIDE A REASONABLY GOOD BASIS UPON WHICH TO BASE EROSION CONTROL METHODS.

- o If a site does not produce one ton per acre per year of sediment, based on the USLE, the developer does not have to do anything.

NO RESPONSE.

- o If the USLE shows a greater than one ton per acre discharge, then surface treatment (mulching, seeding, etc.) and/or sediment basins will be required. The specific guidelines on these erosion control measures (Appendix I) are somewhat vague.

DEQ RESPONSE: THE USE OF THE EQUATION IS NOT A PRESCRIPTIVE PROCESS AND, AS A RESULT, MAY REQUIRE SOME JUDGEMENT. THE DEPARTMENT BELIEVES THAT APPENDIX I SHOULD BE REVISED TO MAKE IT EASIER TO USE AND APPLY. IN ADDITION, THE PROPOSED RULES HAVE BEEN CHANGED TO ALLOW THE DIRECTOR AND/OR THE JURISDICTION TO DEVELOP AND USE A MATRIX APPROACH AS A SUBSTITUTE FOR DETERMINING NECESSARY EROSION CONTROL MEASURES. THE MATRIX WOULD BE BASED UPON THE EQUATION, HOWEVER.

Respectfully submitted,

Richard J. Nichols
Hearings Officer
Oregon Department of
Environmental Quality



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: March 3, 1989
Agenda Item: M
Division: Water Quality
Section: Industrial Waste

SUBJECT:

Proposed Rules Requiring Control of Stormwater Discharges from New Development in the Tualatin River Subbasin.

PURPOSE:

The proposed rules are intended to assure that new development in the Tualatin River Subbasin is provided with facilities to control and reduce the level of pollutants discharged until local jurisdictions develop and implement their own program plans for controlling pollutants in urban runoff.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Program Strategy
 - Proposed Policy
 - Potential Rules
 - Other: (specify)
- Authorize Rulemaking Hearing
 - Proposed Rules (Draft) Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Draft Public Notice Attachment D
- Adopt Rules
 - Proposed Rules (Final Recommendation) Attachment
 - Rulemaking Statements Attachment
 - Fiscal and Economic Impact Statement Attachment
 - Public Notice Attachment
- Issue Contested Case Decision/Order
 - Proposed Order Attachment
- Other: (specify)

DESCRIPTION OF REQUESTED ACTION:

The Department is proposing rules for the treatment and control of urban stormwater runoff in the Tualatin River Subbasin. The proposed rules will:

1. Require that interim stormwater control systems be installed during construction activities in order to control sediment runoff.
2. Require residential, commercial, or industrial developments involving 20 acres or more to submit an approvable plan for construction and maintenance of permanent stormwater treatment and control facilities as a condition of a preliminary plat or site approval.
3. Require subdivisions and industrial or commercial developments of less than 20 acres to be included in a local improvement district established to provide for the construction and maintenance of permanent stormwater treatment and control systems. Single family residence construction is exempt from this requirement.
4. Refer to best management practices (BMPs) already established for the treatment and control of urban stormwater but provide for others to be included as they are developed.
5. Require that permanent stormwater treatment systems achieve a removal efficiency of 65% for phosphorus and 85% for sediment.
6. Require a registered professional engineer to certify that the stormwater control facilities proposed will achieve the required removal efficiencies for phosphates and sediment.
7. Require a bond posted by the developer and placed with the jurisdiction to assure that stormwater control facilities are properly constructed.
8. Allow the Director to grant an exemption of the requirement to construct a permanent stormwater treatment system if the development will be part of an area-wide system.
9. Requires owners to get a permit from the Department for construction and operation of stormwater control and treatment systems.

Meeting Date: March 3, 1989
Agenda Item: Storm Water Rules
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AUTHORITY/NEED FOR ACTION:

- Required by Statute: _____ Attachment _____
 Enactment Date: _____
 Statutory Authority: _____
 Amendment of Existing Rule: _____ Attachment _____
 Implement Delegated Federal Program: _____ Attachment _____
- Other: OAR 340-41-470(3) Attachment E
- Time Constraints:

OAR 340-41-470(3)(j)(C) requires the Department to propose rules for permits to local jurisdictions to address the control of storm water from new development within the Tualatin subbasin by March 8, 1989 (180 days from September 9, 1989).

DEVELOPMENTAL BACKGROUND:

- Advisory Committee Report/Recommendation Attachment _____
 Hearing Officer's Report/Recommendations Attachment _____
 Response to Testimony/Comments Attachment _____
 Prior EQC Agenda Items: (list) Attachment _____
- Other Related Reports/Rules/Statutes: Attachment _____
- Supplemental Background Information: Attachment F

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

1. Developers and builders will be affected because the proposed rules will:
 - a. require additional review by the local jurisdictions of their developments plans,
 - b. impose increased costs for engineering services and for construction of stormwater control systems,
 - c. in the case of commercial and industrial developments, impose increased costs for operating and maintaining stormwater control facilities, and
 - d. reduce the area of land available for

development because of space taken by the stormwater control facilities.

2. Local jurisdictions will be affected because the proposed rules will:

a. require additional staffing and other resources to review development plans to assure stormwater control systems are included, and

b. in some cases, require operation and maintenance of stormwater control systems serving new subdivisions.

PROGRAM CONSIDERATIONS:

If the proposed rules are adopted as drafted, the Department should not have to expend a significant amount of resources once the permits have been drafted and once the local jurisdictions get staffed up to handle the requirements. The time associated with permit processing can be reduced to a few days if the Department issues a general permit which could adequately cover most applications. This assumes that there are few permit applications for unconventional stormwater control systems. Such applications could take several weeks of staff resource to review the application and prepare and issue a permit because the unconventional technology would need to be evaluated.

The Department believes, however, that once the rules take effect, there will be a number of developers caught unaware. Resolving problems resulting from these people will be time consuming. Further, the rules may make some developments infeasible. Such problems will also be time-consuming because it is likely that the developer will attempt to obtain relief in some form from local and state officials.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Do nothing at this time. The counties within the Tualatin and Oswego Lake subbasins are responsible for putting together a stormwater management plan such that the waste load allocations for stormwater meet the subbasin standards. This alternative has the advantage of putting the responsibility back on the counties without committing Department resources. The disadvantage is that, until the counties get their programs designed and implemented, development will continue to occur

without any thought to designing for stormwater control and treatment.

2. The Department considered regulating all development in the basin with a simple permit program implemented by the Department. This alternative could be implemented immediately so that new development could be controlled until such time as the counties complete and implement their plans. This alternative puts all of the burden upon the Department to control storm runoff from all of the new developments and to review and approve each storm water control and treatment system.

3. The third alternative is to draft rules which establish some basic criteria for developers to follow until such time as the counties have implemented their plans. The process would be regulated by a simplified permit process. However, the burden of approving the development would remain with the local planning jurisdictions. Since the local jurisdictions do not yet have the expertise to review and approve plans for stormwater control and treatment systems, reliance will be placed upon the requirement that facilities be designed in accordance with known technology and that all plans be submitted by professional engineers. This alternative puts some burden upon the Department because of the permitting requirement but the primary approval process will remain with the local jurisdiction. This is the alternative which the Department considers most appropriate and upon which the draft rules are based.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Director recommends that the Commission authorize the Department to proceed with a hearing on the rules as proposed, based upon the following:

1. The proposed rules meet the requirements specified in the Tualatin TMDL rule [OAR 340-41-470(3)]
2. The proposed rules will provide a practicable and effective approach to controlling storm water quality on new development in the Tualatin subbasin until the program plans are developed and implemented.

Meeting Date: March 3, 1989
Agenda Item: Storm Water Rules
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CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rules are different from those anticipated by OAR 340-41-470(3)(j)(C) in that it specified that the permit be issued to the local jurisdiction. The proposed rules would issue a permit for a specific development which may be under the control of a jurisdiction, but could also be under the control of a private party. Otherwise, the proposed rules are consistent with the requirements of the rule adopted for the Tualatin TMDL.

ISSUES FOR COMMISSION TO RESOLVE:

1. When should the rules go into effect? If the rules go into effect when they are filed with the Secretary of State (usually less than a week after the EQC adopts them), some developers will have to redo their plans. From their perspective, this may be unreasonable. On the other hand, the fact that the Commission is considering such rules, may cause developers to rush their projects in order to have their projects approved before the rules go into effect.

2. The Department does not intend for the jurisdictions to review and approve the design criteria for the storm water control systems. Design will be based on already developed criteria, but will rely on the designer being capable of applying that criteria appropriately. The rules do require that the plans be certified by a registered professional engineer. The Department believes that expertise of engineering professionals should assure proper design.

3. The proposed rules require installation of a stormwater control system capable of providing a certain removal efficiency as determined by the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs, Metropolitan Washington Council of Governments. Is this acceptable assurance or should the rules or permit require either a given removal efficiency or effluent concentration as performance standards instead of only a design criteria? Performance standards would impose a greater level of responsibility, and also uncertainty, on the developer. If the Commission believes that a concentration limit should be specified in the rules or in the permit, a concentration of 0.07 mg/l would seem to be the most logical, since the phosphorus TMDL is based on this concentration. Even if a system met the concentration limit of 0.07mg/l, however, this is no guarantee that the load allocation for the particular urban area would be met. Concentrations of phosphorus less than 0.07 mg/l may be necessary on new development to compensate for higher

concentrations coming from existing older development that may not be able to reduce phosphorus concentrations as easily as the newer developments.

4. In order for the subbasin to achieve the TMDL, each load allocation and waste load allocation must be met. This will require, in the urban areas, controls for both existing development as well as new development. Controls on new development will contribute to achieving the load allocations, but it is most likely that additional controls will also be required. Developers may argue that, if they provide approved controls when their development is constructed, any additional controls should be imposed on, or at least paid for, by existing development only. At this time, no one knows what additional controls will be required in the approved program plans. The Department believes it would be foolish to commit to developers that the controls imposed by this rule will be all that will ever be required.

5. The Department believes it is likely that the rules as proposed will, in a few cases, cause some developments to be no longer feasible. Developments would be infeasible if the costs of providing stormwater control facilities were excessive or if the systems consumed too much of the area available for development. The Department believes that there are a sufficient number of alternative stormwater systems such that total interference with development will be rare. Nevertheless, they could occur. Should the rules allow for exemptions where development is not found feasible? If an opportunity for exemption is considered appropriate, what should the criteria be? If the Department or Commission is determined the appropriate body for considering an exemption, this could consume substantial resources even if they are rare.

6. The proposed rules do allow an exemption from construction of a stormwater treatment system for a development if an area-wide stormwater control system is proposed. In some cases, an area-wide system may be more efficient use of resources. If both an individual treatment system and an area-wide system are practicable, should the Department hold out for the area-wide system? The proposed rules would not allow the Department or the local jurisdiction to do this.

7. To what extent should the Department oversee approvals made by the local jurisdiction? At this stage, because of limited resources, the Department would not wish to provide an oversight role. The Department believes it is in the local jurisdiction's best interest to assure optimum design, otherwise the jurisdiction will face even more troublesome burdens in trying to achieve their load allocations.

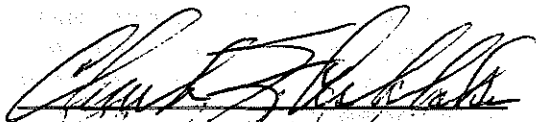
Meeting Date: March 3, 1989
Agenda Item: Storm Water Rules
Page 8

INTENDED FOLLOWUP ACTIONS:

Schedule public hearing for proposed rules.

Come back to the Commission with a final recommendation at June 2, 1989, Commission Meeting.

Approved:

Section: 

Division: _____

Director: _____

Report Prepared By: Charles K. Ashbaker

Phone: 229-5325

Date Prepared: February 1, 1989

cka:cka
DEQ.TR5
February 14, 1989

Attachment A

DRAFT RULES

340-41-455 (3) Non-point source pollution control in Tualatin River sub-basin:

(a) For residential, commercial, or industrial developments, no preliminary plat, site plan, or building permit shall be approved by any jurisdiction in this sub-basin unless the plat or plan includes interim stormwater control facilities to be constructed prior to land development and to be operated during construction to control the discharge of sediment in the stormwater runoff. Any sediment ponds constructed shall have sufficient storage to provide a two (2) hour retention for a three (3) inch rainfall event and shall be constructed with an emergency overflow to prevent erosion or failure of the containment dike. Where sediment ponds are not practicable, other sediment control facilities may be used, such as hay bales or other filtration media, provided they are arranged in a manner which will provide equivalent sediment control.

(b) For subdivisions, commercial developments, or industrial developments, twenty (20) acres or over in total area, no preliminary plat or site plan shall be approved by any jurisdiction in this sub-basin unless the requirements in paragraphs (A) through (C) are met.

(A) The preliminary plat or site plan shall include permanent stormwater control facilities capable of achieving 65% removal of phosphorus and 85% of sediment from a one and one-half (1 1/2) inch summertime storm event based upon the design criteria stated in Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. The preliminary plat or site plan proposed by the developer shall include conceptual plans and a certification prepared by a registered, professional engineer that the proposed stormwater control facilities are capable of achieving the required treatment efficiencies.

(B) An agreement must be consummated between the developer and the jurisdiction that assures that the permanent stormwater control facilities will be operated and maintained in perpetuity. The agreement shall define who shall be responsible for obtaining a permit from the Department as required in subsection (d) of this section.

(C) A bond, or equivalent security acceptable to the jurisdiction, shall be posted by the developer with the jurisdiction that assures that the storm water control facilities are constructed according to the plans established in the preliminary plat or site plan approval.

(c) An exception to subsection (b) may be granted by the Director subject to the following requirements:

(A) An area-wide stormwater control system will be provided to control the release of pollutants in the storm runoff;

(B) The development or subdivision would be served by the area-wide stormwater control system;

(C) Land necessary for the stormwater control facilities has been acquired;

(D) An area-wide stormwater control plan has been developed and approved by the Department of Environmental Quality. The plan shall include a time schedule for ensuring the facilities are installed before or concurrently with the development; and

(E) A permit has been issued by the Department to the local jurisdiction assuring adequate operation and maintenance of the stormwater control facilities.

(d) Any person who constructs or operates a stormwater control facility required by subsection (b) of this section shall have obtained a permit from the Department of Environmental Quality prior to construction.

(e) For any residential, commercial, or industrial development on parcels less than twenty (20) acres, no final plat shall be approved, for residential subdivisions, or final occupancy permit issued for industrial or commercial developments unless the development is included in a local improvement district specifically established to construct, operate, and maintain permanent stormwater control facilities capable of serving that development. The district shall have the legal authority to construct, operate, and maintain stormwater control facilities and to collect the necessary revenues to finance such activities.

(f) Single family residences outside urban growth boundaries and on lots of five (5) acres or more are exempt from the requirements in section (a).

(g) Single family residences are exempt from sections (b) and (e).

(h) As local jurisdictions adopt a program equivalent to those established in this section, these requirements will no longer apply to the development in that jurisdiction.

(i) The developer may choose an alternative design criteria for a permanent stormwater control facility required that is not

found in the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. In this case, a preliminary plat or site plan shall not be approved by any jurisdiction in the Tualatin River sub-basin unless the developer applies for and receives a permit from the Department. Any application for permit for a stormwater control facility located in the Tualatin River sub-basin shall include necessary technical documentation to support that the proposed system will achieve 65% removal of phosphorus and 85% removal of sediment.

(j) As the Department obtains additional information on appropriate BMPs for controlling stormwater quality, the Director may add additional BMPs and associated design criteria to those allowed in the manual Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.

DEQ.TS2

Attachment B

STATEMENT OF NEED FOR RULEMAKING

(1) Legal Authority

ORS 468.020 requires the Environmental Quality Commission to adopt rules as necessary for performing its legislatively mandated functions. Water pollution control is one of those functions.

OAR 340-41-470(3)(j)(C) requires the Department to propose rules for permits to control storm water from new development within the Tualatin and Oswego Lake subbasins. The rules were to be proposed by March 8, 1989.

(2) Need for the Rule

There is an over abundance of nutrients in the Tualatin River. These excessive nutrients, primarily phosphorus, cause excessive algae blooms and depress dissolved oxygen. One of the contributors of these nutrients is urban stormwater runoff. The proposed rules will provide some treatment and control of stormwater runoff in the Tualatin and Oswego Lake subbasins until such time as the counties and cities in the subbasins have implemented their own program plan for addressing the problem.

(3) Principal Documents Relied Upon in this Rulemaking

ORS Chapter 468 "Pollution Control"

OAR 340-41-470 "Special Policies and Guidelines"

OAR Chapter 340 Division 45 "Regulations Pertaining to NPDES and WPCF Permits"

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs

The above documents are available for review during normal business hours at the Department's office, 811 SW Sixth, Portland, Oregon.

LAND USE COMPATIBILITY STATEMENT

The proposed rule will affect both goals 6 and 11.

Goal 6 (Air, Water and Land Resources Quality): This proposal is designed to improve water quality in the area by reducing the discharge of nutrients and sediment and is consistent with the goal.

Goal 11 (Public Facilities and Services): This proposal will require the establishment of some local improvement districts for the construction and operation of permanent stormwater control facilities. This is likely to be an added cost to those who would be residing within the boundaries of these districts.

ATTACHMENT C

FISCAL AND ECONOMIC IMPACT OF PROPOSED STORMWATER REGULATIONS

The proposed regulations require all new real estate developments within the Tualatin River Subbasin to provide temporary storm runoff control systems during construction. Permanent stormwater treatment systems will be required for some larger developments (i.e. over 20 Acres). For others, they must become part of an area-wide stormwater treatment system. A performance bond for construction will be required. Prior to any construction, developer(s) must obtain a stormwater control facility permit from the Department of Environmental Quality (DEQ) for the proposed development(s). Furthermore, local jurisdictions will be required to develop area-wide stormwater control plans for DEQ review and approval.

Overall Impact

The proposed regulations will affect Washington County, portions of Multnomah and Clackamas Counties, and all incorporated cities within the Tualatin River Subbasin. All new real estate developments will be required to have interim stormwater control facilities. The interim system must be able to control sediment generated from a three (3) inch storm event. The larger developments, over twenty (20) acres, must also provide permanent stormwater control facilities. The permanent system must be designed to remove 65% phosphorous and 85% sediment from a one and a half (1-1/2) inch summertime storm event. These interim and permanent stormwater control systems will have some financial impacts not only to all businesses and residents but also to the local jurisdictions within the basin. Since there are many jurisdictions within the Tualatin River Subbasin, and since property values vary significantly between jurisdictions and categories, it is impossible to determine the overall financial impact of the region.

Impact on developer or individual land owner

In order to demonstrate the potential financial impacts to the developer(s) and individual homeowner(s), a hypothetical multi-family development within the City of Beaverton was selected as an example. Three scenarios were assumed, i.e. a) a 24 unit apartment on a two (2) acres land, b) a 120 unit apartment on a ten (10) acres land, and c) a 580 unit apartment complex in a thirty (30) acres land. During the construction phase, the developer(s) might incur an additional expense of \$5,500 to \$40,000 for the interim sediment control facilities (Table 1). However, the permanent stormwater control systems for the various scenarios would range from \$9,000 to \$132,000 (Table 2). If these capital costs were evenly divided between the individual homeowners, the additional costs ranged from \$50 to \$240 for the interim system, and \$220 to \$530 for the permanent control system. Annual operating and maintenance costs for the permanent systems ranged \$70 to \$1,000.

If the hypothetical development was required to provide both interim and permanent control facilities, the projected maximum costs would be \$175,000. This amount would be a small percentage (0.25-0.5%) of the total project costs. For the individual homeowner, each basic apartment unit cost could be increased by no more than 0.7%. Based on this example, it is clearly demonstrated that the proposed regulations would not cause great hardship on the developer(s) or the individual homeowner(s).

Because of the lack of practicable alternatives and the land constraints associated with building permanent stormwater treatment systems for developments of less than twenty (20) acres, the proposed rules require only development over twenty (20) acres to build permanent facilities. Those development less than twenty (20) acres must become part of an area-wide system. It is anticipated that their costs, as part of an improvement district managing an area-wide system, should be about the same as the allocated cost of developments over twenty (20) acres.

Using similar evaluation criteria, the potential financial impacts on any commercial and industrial development(s) within the region would be small. The projected impact on small business, such as those merchants leasing or owning a small shop in a shopping complex, may be approximately a 1% increase in their basic property costs or in their annual rental costs.

Impact on the local Jurisdiction

The City of Beaverton was selected to demonstrate the potential financial impacts caused by the proposed rules. Currently there are 328.27 gross acres of multi-family development sites. Because of some physical site characteristics, such as steep slope, flood plain, or wet land, only 296.5 net acres are suitable for immediate development. Assuming there were ten (10) service districts serving the developable acreage, and if each service district, serving 30 acres of land, were required to set aside 0.85 acres for their permanent stormwater control systems, there would be a total net loss of 8.5 acres of developable properties, which would be equivalent to a loss of approximately 0.75 million dollars of property revenue. This projected financial impact to the local jurisdiction could be less if those undevelopable sites (i.e. flood plains, etc.) could be utilized for the permanent stormwater control systems.

Summary

The proposed rules will have small financial impacts to the developer or individual landowners, but do affect the local jurisdiction in terms of property revenue.

TABLE 1 ---- COST SUMMARY FOR INTERIM SEDIMENT CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT	STORAGE VOLUME (CU.FT.)	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	TOTAL MAINT. COST	O&M COST	LAND COST	GRAND TOTAL (1988 DOL.)	INDIVIDUAL COST
SCENARIO A) -- 24 units Apartment Complex on 2 Acre Land BMP ALTERNATIVES FOR < 2.0 ACRE									
a) SEDIMENTATION POND	1511.90	0.01	\$3,684.45	\$921.11	\$230.28		\$795.57	\$5,609.45	\$233.73
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) SEDIMENTATION POND	7641.15	0.05	\$5,118.81	\$1,279.70	\$319.93	\$127.97	\$4,020.84	\$10,708.77	\$89.24
b) INFILTRATION TRENCH C/W SM. SED. POND	7641.15	0.01	\$8,714.54	\$2,178.64	\$2,723.29	\$326.80	\$1,005.21	\$14,361.96	\$119.68
c) INFILTRATION BASIN C/W SM. SED. POND	7641.15	0.01	\$6,393.73	\$1,598.43	\$1,998.04	\$79.92	\$1,005.21	\$10,804.86	\$90.04
SCENARIO C) -- 580 units Apartment Complex on 30 Acre Land BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	23413.50	0.14	\$11,084.63	\$2,771.16	\$692.79	\$277.12	\$12,320.40	\$26,802.91	\$46.21
b) SEDIMENTATION POND	23413.50	0.14	\$21,278.32	\$5,319.58	\$1,329.90		\$12,320.40	\$40,121.37	\$69.17

TABLE 2 ---- COST SUMMARY FOR PERMANENT STORMWATER CONTROL SYSTEMS

CITY OF BEAVERTON (DIST. 13 & 14)

MULTI/FAMILY RESIDENTIAL DEVELOPMENT

	STORAGE VOLUME (CU.FT.)	LAND (AC.) CONSUMPTION	CONST. COST (1985 DOLLAR)	CONTINGENCY (25%)	TOTAL MAINT. COST	O&M COST	LAND COST	GRAND TOTAL (1988 DOL.)	INDIVIDUAL COST
SCENARIO A) -- 24 units Apartment Complex on 2 Acre land									
BMP ALTERNATIVES FOR < 2.0 ACRE									
a) INFILTRATION TRENCH	9071.37		\$8,283.53	\$2,070.88	\$2,588.60	\$310.63		\$12,696.14	\$529.01
b) INFILTRATION BASIN	9071.37		\$5,756.76	\$1,439.19	\$1,798.99	\$71.96		\$8,823.36	\$367.64
c) WET POND	9071.37	0.05	\$5,670.02	\$1,417.50	\$354.38		\$4,773.44	\$12,181.54	\$507.56
SCENARIO B) -- 120 units Apartment Complex on 10 Acre Land									
BMP ALTERNATIVES FOR 2.0 TO 10.0 ACRE									
a) EXT'D DETENTION POND	45846.90	0.28	\$17,623.55	\$4,405.89	\$1,101.47	\$440.59	\$24,125.07	\$47,150.92	\$392.92
b) INFILTRATION TRENCH	45846.90		\$22,988.30	\$5,747.08	\$7,183.84	\$862.06		\$35,234.09	\$293.62
c) INFILTRATION BASIN	45846.90		\$17,607.09	\$4,401.77	\$5,502.22	\$220.09		\$26,986.33	\$224.89
SCENARIO C) -- 580 units Apartment Complex on 30 Acre land									
BMP ALTERNATIVES FOR > 10.0 ACRE									
a) EXT'D DETENTION POND	140481.00	0.85	\$38,163.27	\$9,540.82	\$2,385.20	\$954.08	\$73,922.41	\$123,784.22	\$213.42
b) WET POND	140481.00	0.85	\$44,263.22	\$11,065.81	\$2,766.45		\$73,922.41	\$131,754.05	\$227.16

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PROPOSED STORMWATER TREATMENT AND CONTROL RULES
NOTICE OF PUBLIC HEARING

Hearing Date:

Comments Due:

WHO IS
AFFECTED:

Most new construction activity in the Tualatin River and Oswego Lake subbasins will be affected. This includes multi-family residences, residential subdivisions, and commercial or industrial developments.

WHAT IS
PROPOSED:

The Department of Environmental Quality is proposing to amend OAR 340-41-470 by adding a section requiring construction of interim sediment ponds or equivalent sediment control facilities at construction sites. The proposed rules would also require permanent stormwater treatment systems to be built for new developments over 20 acres. The rules would require a DEQ permit for the construction and operation of those water pollution control facilities.

WHAT ARE THE
HIGHLIGHTS:

Private residences would be excluded from the requirements of the rules. Subdivisions and industrial or commercial developments less than 20 acres must become part of an area-wide permanent stormwater treatment system, probably through a local improvement district. These rules apply only to the Tualatin River and Oswego Lake Subbasins.

HOW TO
COMMENT:

Copies of the complete proposed rule package may be obtained from the Water Quality Division in Portland (811 S.W. Sixth Avenue). For further information contact Charles K. Ashbaker at (503) 229-5325.

A public hearing will be held before a hearings officer at:

(TIME) _____

(DATE) _____

(PLACE) _____

Oral and written comments will be accepted at the public hearing. Written comments may be sent to the DEQ's Water Quality Division, 811 S.W. Sixth Avenue, Portland, Oregon 97204, but must be received by no later than _____.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

WHAT IS THE
NEXT STEP:

After public hearing, the Environmental Quality Commission may adopt rules identical to those proposed, adopt modified rules on the same subject matter, or decline to act. The Commission's deliberation should come in _____ as part of the agenda of a regularly scheduled Commission meeting.

A Statement of Need, Fiscal and Economic Impact Statement, and Land Use Consistency Statement are attached to this notice.

WJ1494

SPECIAL POLICIES AND GUIDELINES

340-41-470

- (1) In order to preserve the existing high quality water for municipal water supplies and recreation, it is the policy of the EQC to prohibit any further waste discharges to the waters of:
 - (a) The Clackamas River Subbasin;
 - (b) The McKenzie River Subbasin above the Hayden Bridge (river mile 15);
 - (c) The North Santiam River Subbasin.
- (2) The Environmental Quality Commission shall investigate, together with any other affected state agencies, the means of maintaining at least existing minimum flow during the summer low flow period.
- (3) In order to improve water quality within the Tualatin River subbasin to meet the existing water quality standard for dissolved oxygen, and the 15 ug/l chlorophyll a action level stated in OAR 340-41-150, the following special rules for total maximum daily loads, waste load allocations, load allocations, and implementation plans are established.

(a) After completion of wastewater control facilities and implementation of management plans approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged to the Tualatin River or its tributaries without the specific authorization of the Commission that cause the monthly median concentration of total phosphorus at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured during the low flow period between May 1 and October 31* of each year, unless otherwise specified by the Department, to exceed the following criteria:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	20	Scoggins Cr.	60
Dilley (58.8)	40	Gales Cr.	45
Golf Course Rd. (52.8)	45	Dairy Cr.	45
Rood Rd. (38.5)	50	McKay Cr.	45
Farmington (33.3)	70	Rock Cr.	70
Elsner (16.2)	70	Fanno Cr.	70
Stafford (5.4)	70	Chicken Cr.	70

(b) After completion of wastewater control facilities and implementation of management plans required approved by the Commission under this rule and no later than June 30, 1993, no activities shall be allowed and no wastewater shall be discharged

[discharge of wastewater] to the Tualatin River or its tributaries without the specific authorization of the Commission [shall-be-all-owed] that cause[s] the monthly median concentration of ammonia-nitrogen at the mouths of the tributaries listed below and the specified points along the mainstem of the Tualatin River, as measured between May 1 and November 15^{*}, of each year, unless otherwise specified by the Department, to exceed the following target concentrations:

Mainstem (RM)	ug/l	Tributaries	ug/l
Cherry Grove (67.8)	30	Scoggins Cr.	30
Dilley (58.8)	30	Gales Cr.	40
Golf Course Rd. (52.8)	40	Dairy Cr.	40
Rood Rd. (38.5)	50	McKay Cr.	40
Farmington (33.3)	1000	Rock Cr.	100
Elsner (16.2)	850	Fanno Cr.	100
Stafford (5.4)	850	Chicken Cr.	100

- (c) The sum of tributary load allocations and waste load allocations for total phosphorus and ammonia-nitrogen can be converted to pounds per day by multiplying the instream criteria by flow in the tributary in cfs and by the conversion factor 0.00539. The sum of load allocations waste load allocations for existing or future nonpoint sources and point source discharges to the mainstem Tualatin River not allocated in a tributary load allocation or waste load allocation may be calculated as the difference between

the mass (criteria multiplied by flow) leaving a segment minus the mass entering the segment (criteria multiplied by flow) from all sources plus instream assimilation.

(d) The waste load allocation (WLA) for total phosphorus and ammonia-nitrogen for Unified Sewerage Agency of Washington County is determined by subtracting the sum of the calculated load at Rood Road and Rock Creek from the calculated load at Farmington.

(e) Subject to the approval of the Environmental Quality Commission, the Director may modify existing waste discharge permits for the Unified Sewerage Agency of Washington County and allow temporary additional waste discharges to the Tualatin River provided the Director finds that facilities allowed by the modified permit are not inconsistent and will not impede compliance with the June 30, 1993 date for final compliance and the Unified Sewerage Agency is in compliance with the Commission approved program plan.

[(e) The Director may issue new waste discharge permits containing additional waste load allocations and approve nonpoint source activities containing additional load allocations for total phosphorus and ammonia-nitrogen provided the Director finds that the concentrations specified in sections (a) and (b) will not be exceeded.]

(f) Within 90 days of the adoption of these rules, the Unified Sewerage Agency of Washington County shall submit a program** plan

and time schedule to the Department describing how and when the Agency will modify its sewerage facilities to comply with this rule. The program plan shall include provisions and time schedule for developing and implementing a management plan under an agreement with the Lake Oswego Corporation for addressing nuisance algal growths in Lake Oswego.

(g) Within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan** for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule.

(h) After July 1, 1989, Memorandums of Agreements between the Departments of Forestry and Agriculture and the Department of Environmental Quality shall include a time schedule for submitting a program plan** for achieving the requirements of sections (a) and (b) of this rule. The program plans shall be submitted to the Department within 18 months of the adoption of this rule.

(i) Within one hundred twenty (120) days of submittal of the program plan** and within sixty (60) days of the public hearing, the Environmental Quality Commission shall either approve or reject the plan. If the Commission rejects the plan, it shall specify a compliance schedule for resubmittal for approval and shall specify

the reasons for the rejection. If the Commission determines that an agency has not made a good faith effort to provide an approvable plan within a reasonable time, the Commission may invoke appropriate enforcement action as allowed under law. The Commission shall reject the plan if it determines that the plan will not meet the requirements of this rule within a reasonable amount of time. Before approving a final program plan, the Commission shall reconsider and may revise the June 30, 1993 date stated in sections (a), (b), and (e) of this rule. Significant components of the program plans shall be inserted into permits or memorandums of agreement as appropriate.

(j) For the purpose of assisting local governments in achieving the requirements of this rule, the Department shall:

(A) Within 90 days of the adoption of these rules, distribute initial waste load allocations and load allocations among the point source and nonpoint source management agencies in the basin. These allocations shall be considered interim and may be redistributed based upon the conclusions of the approved program plans.

(B) Within 120 days of the adoption of these rules, develop guidance to nonpoint source management agencies as to the specific content of the programs plans.

(C) Within 180 days of the adoption of these rules, propose additional rules for permits issued to local jurisdictions to address the control of storm water from new development within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

(i) Alternative control systems capable of complying with sections (a) and (b) of this rule:

(ii) Maintenance and operation of the control systems.

(iii) Assurance of erosion control during as well as after construction.

(D) In cooperation with the Department of Agriculture, within 180 days of the adoption of this rule develop a control strategy for addressing the runoff from container nurseries.

*Precise dates for complying with this rule may be conditioned on physical conditions (i.e., flow, temperature) of the receiving water and shall be specified in individual permits or memorandums of understanding issued by the Department. The Department shall consider system design flows, river travel times, and other relevant information when establishing the specific conditions to be inserted in the permits or memorandums of understanding. Conditions shall be consistent with Commission-approved program plans** and the intent of this rule.

**For the purpose of this section of the rules, program plan is defined as the first level plan for developing a waste water management system and describes the present physical and institutional infrastructure and the proposed strategy for changes including alternatives. A program plan should also include intergovernmental agreements and approvals, as appropriate, time schedules for accomplishing goals, including interim objectives, and a financing plan.

Stat. Auth.: ORS Ch. 468
Hist: DEQ 128, f. & ef. 1-21-77

Attachment F

BACKGROUND

PROPOSED REGULATIONS TO ADDRESS THE QUALITY OF STORMWATER RUNOFF FROM NEW DEVELOPMENT IN THE TUALATIN RIVER SUBBASIN

At the Commission's September 9, 1988, meeting, regulations were adopted that established total daily maximum daily loads (TMDLs) for phosphorus and ammonia-nitrogen in the Tualatin River Subbasin. In December, 1989, as required by the regulations, the Department established waste load allocations and load allocations based upon the TMDLs. The waste load allocations determine how much of the TMDL that are given to each point source, sewage treatment plants in the case of the Tualatin subbasin. The load allocations are the portions of the TMDL that are given to the various nonpoint sources in the basin. Nonpoint sources for which load allocations were given are urban runoff, agriculture, and forestry. As a result, for each major stream contributing to the Tualatin River, each city and county has a load allocation, stated in pounds per day, that it may discharge.

The regulations also included requirements for both the Department and the cities and counties in the subbasin. For the purpose of this work session item, there are two requirements of importance:

1. Oregon Administrative Rule (OAR) 340-41-470(3)(g) states: "within 18 months after the adoption of these rules, Washington, Clackamas, Multnomah, Counties and all incorporated cities within the Tualatin River and Oswego Lake subbasins shall submit to the Department a program plan for controlling the quality of urban storm runoff within their respective jurisdictions to comply with the requirements of sections (a) and (b) of this rule."

2. OAR 340-41-470(3)(j)(C) states: "Within 180 days of the adoption of these rules, (the Department will) propose additional rules for permits issued to local jurisdictions to address the control of storm water from new development within the Tualatin and Oswego Lake subbasins. The rules shall consider the following factors:

(i) Alternative control systems capable to complying with sections (a) and (b) of this rule;

(ii) Maintenance and operation of the control systems;

(iii) Assurance of erosion control during as well as after construction."

In developing the total maximum daily load (TMDL) for phosphorus, the Department recognized that the TMDL could not be met merely

with more stringent control of sewage treatment plant discharges. The control of phosphorus from nonpoint sources would also have to be provided. One of the significant nonpoint sources of phosphorus is urban runoff. The rules addressed this issue by requiring the counties and cities in the subbasin to develop and submit program plans to control the quality of storm water in their respective jurisdictions (item 1. above).

There was also a concern that storm water quality problems would continue to increase during the interim period while the nonpoint source program plans were being developed and implemented. It was felt that some steps should be taken during the interim to control or at least minimize the increase in pollutants resulting from new development. The question was how could this be best done? Representatives of local government did not feel that they had the technical expertise or the institutional capabilities or resources to quickly and legally adopt ordinances to address the quality of storm water for the interim period. Further, it was felt that interim programs developed separately and differently by each entity would lead to confusion of everyone involved.

The Department believed that it did have the technical expertise, but it did not have the resources to deal directly with individual development proposals in the subbasin. Further, the Department felt that service to developers and builders could be best provided at the local level rather than the state level. The rule for interim storm water control on the Tualatin as finally adopted was intended to deal with the concerns of both local entities and the Department.

The Department has researched the available technologies that have been developed around the country for treating and controlling storm water runoff. A manual produced by the Department of Environmental Programs, Metropolitan Washington Council of Governments entitled Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs, July, 1987, contains a reasonably comprehensive list of technologies that have been used nationally. The manual lists design criteria, siting and operational considerations, performance expectations and other good information on stormwater treatment and control systems.

The capabilities of storm water control systems depend on a number of factors including the soils where the system is to be located and the amount of area to be served by the system. In general the soils in the Tualatin basin tend to be very fine textured (clays and silts) and, as a result, severely restrict infiltration of water into the ground. According to the manual Controlling Urban Runoff, systems that function well in soils with fine textures must serve surface areas greater than twenty acres. As a result, there are no available technologies that are capable of providing good removals of phosphorus and sediment that can serve smaller development in the Tualatin basin.

The Department has developed proposed rules to deal with stormwater discharges from new development in the subbasin on an interim basis. The proposed rules:

1. Require that proposed storm water systems be addressed at the first step of obtaining local approval for residential subdivisions as well as industrial or commercial developments.

2. Require that all construction activities, except single family residences on large lots outside urban growth boundaries, provide interim stormwater controls to control sediment during construction.

3. Require residential, commercial, or industrial developments involving 20 acres or more to submit an approvable plan for construction and maintenance of permanent stormwater treatment and control as a condition of plat or site approval.

4. Utilizes best management practices (BMPs) already developed. These BMPs and associated design criteria and other information are included a manual entitled Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.

5. Require that a registered professional engineer certify that the stormwater facilities included in the plans submitted to the jurisdiction will meet required removal efficiencies based on criteria in the manual.

6. Specify a removal efficiency of 65% for phosphorus and 85% for sediment.

7. Require a bond posted by the developer and placed with the jurisdiction to assure that stormwater control facilities are properly constructed.

8. Require an agreement between the developer and the jurisdiction to assure operation and maintenance pursuant to a permit issued by the Department.

9. Allow the Director to grant an exception, subject to specific criteria, for certain developments if an area-wide stormwater control system will be provided.

10. Provide a mechanism for a developer to propose alternative BMPs to those outlined in the manual Controlling Urban Runoff.

11. Provide a mechanism for the Director to add BMPs and associated design criteria to those specified in the manual.

From the perspective of either the Department, local jurisdiction, or a developer, there are numerous advantages and disadvantages to the proposed rules. The rules certainly add to the burdens and costs of the developer in obtaining approval for a development. The Department has tried to keep this to a minimum by using, as much as practicable, the building and planning approval mechanisms already in place at the local government level. The Department's

role in issuing permits should impose only very minimal effort and cost on the developer. The Department is considering issuing a general permit in order to reduce the paperwork and time involved in the permitting process for both the applicant and the Department.

The local jurisdictions will have additional issues to address in reviewing development proposals. Some jurisdictions do not have adequate staff to deal with current planning and building requirements. The Department has tried to reduce the amount of additional work by putting the responsibility for assuring a proper design on the designer by requiring that individual to be a registered, professional engineer and to certify that the proposed facilities are capable of meeting the removal efficiency criteria in the manual Controlling Urban Runoff.

The cost of development in the basin will increase as a result of these proposed rules. The cost of providing stormwater control facilities when the development is constructed, however, should be less than if the stormwater control facilities must be retrofitted after construction is completed.

Development may be curtailed in certain areas until permanent stormwater control systems can be designed and constructed or until a local improvement district can be organized and plans laid to address the stormwater issues in the area.

Another disadvantage of the proposed rules is that, for the development over 20 acres, the stormwater control systems are only required to meet a given removal efficiency for phosphorus and sediment. Construction and operation of these systems, in themselves, do not assure that the load allocations can be met. The required efficiencies, to be sure, are as high as one can reasonably expect, but there is no way, until the program plans are complete, to verify that further controls will not be necessary. It may be necessary that other steps be required in addition to providing stormwater control systems. Conceivably, such steps could include a ban on phosphate-containing detergents, restrictions on the application of lawn and garden fertilizers, or other measures. The Department believes that such steps should be considered and defined in the program plans that are being prepared by the local jurisdictions.

The Department could specify a concentration limit to be met by each stormwater control system. What concentration should be specified? One could use 0.07 mg/l of phosphorus because this is the concentration upon which the phosphorus TMDL was based. Even with the removal efficiencies proposed in this rule, additional restrictions as discussed above may be necessary to meet a 0.07 mg/l phosphorus limit. In addition, concentrations of phosphorus below 0.07 may be necessary on new development to compensate for higher concentrations coming from older development that may not be able to reduce phosphorus concentrations as easily as the newer development. The Department believes that concentration limits should be set to address the actual load allocations and this

cannot be done until the program plans are developed. Consequently, removal efficiencies are believed to be the most appropriate design and performance criteria at this time.

There are several alternatives that could be considered:

1. Do not require stormwater control systems to be installed until the program plans are developed and implemented. Instead, developers could contribute money to a sinking fund to construct the facilities on an area-wide basis once the program plan defines what those facilities might be. This approach assumes that land would be available for such facilities and also allows a continued increase in pollution to occur while the program plans are being developed and implemented. This approach, however, would assure that the facilities being constructed would be consistent with the load allocations established for the subbasin.

2. The rules could require that each development be approved by the Department after a review of the impact upon the load allocation. Such a system would probably require that an individual permit be issued in each case. Such an approach would be time-consuming for the developer and would impose significant resource commitments on the Department.

3. The rules could require that the local jurisdictions develop a system similar to that proposed in alternative 2 above. As previously stated, the jurisdictions currently do not have the expertise and would be unable to obtain such expertise for, at least several months. Further, the jurisdiction would have to develop ordinances in order to implement such a program. This would also take considerable time.

There are other issues for the Commission to consider concerning these rules:

1. When should the rules go into effect? If the rules go into effect when they are filed with the Secretary of State (usually less than a week after the EQC adopts them), some developers will have to redo their plans. From their perspective, this may be unreasonable. On the other hand, the fact that the Commission is considering such rules, may cause developers to rush their projects in order to have their projects approved before the rules go into effect.

2. The Department does not intend for the jurisdictions to review and approve the design criteria for the storm water control systems. Design will be based on already developed criteria, but will rely on the designer being capable of applying that criteria appropriately. The rules do require that the plans be certified by a registered professional engineer. The Department believes that professional ethics should assure proper design.

3. The proposed rules require installation of a stormwater control system capable of providing a certain removal efficiency as determined by the manual Controlling Urban Runoff. Is this acceptable assurances or should the rules or permit require either a given removal efficiency or effluent concentration as performance standards instead of only a design criteria? Performance standards would impose a greater level of responsibility, and also uncertainty, on the developer. If the Commission believes that a concentration limit should be specified in the rules or in the permit, a concentration of 0.07 mg/l would seem to be the most logical since the phosphorus TMDL is based on this concentration. Even if a system met the concentration limit of 0.07mg/l, however, this is no guarantee that the load allocation for the particular urban area would be met. Concentrations of phosphorus less than 0.07 mg/l may be necessary on new development to compensate for higher concentrations coming from older development that may not be able to reduce phosphorus concentrations as easily as the newer developments.

4. In order for the subbasin to achieve the TMDL, each load allocation and waste load allocation must be met. This will require, in the urban areas, controls for both existing development as well as new development. Controls on new development will contribute to achieving the load allocations, but it is most likely that additional controls will also be required. Developers may argue that, if they provide approved controls when their development is constructed, any additional controls should be imposed on, or at least paid for, by existing development only. At this time, no one knows what additional controls will be required in the approved program plans. The Department believes it would be foolish to commit to developers that the controls imposed by this rule will be all that will ever be required.

5. The Department believes it is likely that the rules as proposed will, in a few cases, cause some developments to be no longer feasible. Developments would be infeasible if the costs of providing stormwater control facilities were excessive or if the systems consumed too much of the area available for development. The Department believes that there are a sufficient number of alternative stormwater systems such that total interference with development will be rare. Nevertheless, they could occur. Should the rules allow for exemptions where development is not found feasible? If an opportunity for exemption is considered appropriate, what should the criteria be? If the Department or Commission is determined the appropriate body for considering an exemption, this could consume substantial resources even if they are rare.

6. The proposed rules do allow an exemption from construction of a stormwater treatment system for a development if an area-wide stormwater control system is proposed. In some cases, an area-wide system may be more efficient use of resources. If both an individual treatment system and an area-wide system are practicable, should the Department hold out for the area-wide

system? The proposed rules would not allow the Department or the local jurisdiction to do this.

7. To what extent should the Department oversee approvals made by the local jurisdiction? At this stage, because of limited resources, the Department would not wish to provide an oversight role. The Department believes it is the local jurisdiction's best interest to assure optimum design, otherwise the jurisdiction will face even more troublesome burdens in trying to achieve their load allocations.

BACKGROUND REPORTINTERIM RULES FOR CONTROLLING STORM WATER QUALITY
IN THE TUALATIN AND OSWEGO LAKE SUBBASINS

In September, 1988, the Environmental Quality Commission adopted rules establishing in-stream criteria for a total maximum daily load (TMDL) for phosphorus and ammonia-nitrogen in the Tualatin and Oswego Lake subbasins. In addition, the rules provided requirements for the Department and local and state jurisdictions to meet in achieving the TMDL.

One of the requirements imposed upon the Department was to develop and propose additional rules to control storm water quality from new development until local jurisdictions could develop and implement their own plans for controlling storm water quality from urban runoff. The Department's interim rules were believed necessary because of the rapid growth occurring in the subbasins. There was also the belief that, because storm water quality controls would be necessary to meet the Tualatin TMDL, costs could be reduced if the controls were provided during development and not afterward.

Rules were proposed to the Commission in March, 1989. The proposed rules were based upon the following goals:

1. Interim requirements on developers should be handled in a manner that utilizes the development and building approval processes already in existence at the local level.
2. The interim rules should impose minimal additional resource burdens on both local jurisdictions and the Department to the extent practicable.
3. Because of their interim nature, the proposed rules should be as simple and as flexible as possible and rely on proven and acceptable best management practices.

Based upon their review of the rules proposed to the Commission in March, 1989, local jurisdictions developed a separate proposal for the Commission's review. The Commission directed the Department to take both the Department's and the local jurisdiction's proposals to hearing. To facilitate the hearing process, the Department met with the local jurisdictions to merge the two proposals together. The merged proposed rules were the subject of two public hearings held on June 20, 1989. A detailed summary of the hearing record and the Department's response to the testimony is attached to the Commission report.

There are a few major issues that have been raised as a result of public testimony. These are described as follows:

1. The requirements for erosion control during construction and for permanent storm water quality control facilities are not clear. The requirements will not produce desired results. The Department should be more deliberate in developing the rules and should base them on sound scientific information.

The Department agrees that its approach for erosion control is not a cookbook method that will be easily understood by nontechnical people. The erosion control plans proposed in the rules are based on the Universal Soil Loss Equation which is a reasonable basis for designing erosion control practices. The Department believes that appendix I can be modified fairly easily so that erosion control requirements are clearly understandable and relatively user friendly. Use of the Universal Soil Loss Equation is a valid, scientifically-based approach to dealing with erosion control.

The requirements for permanent storm water quality control facilities are based on references to a compilation of best management practices established in a manual entitled: CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs. In addition, the rules specify that only those systems that are capable of achieving 65% and 85% removal of phosphorus and sediment, respectively, will be acceptable. The Department intention in specifying high removal rates was to assure that pollutants would be reduced to the maximum practicable extent. This eliminates, however, many of the other best management practices that could help reduce pollutants in storm runoff.

The Department could consider other approaches for establishing minimum requirements for the permanent storm water quality control facilities. One approach suggested in the hearing would be to specify an area loading rate that each proposed development would have to meet. The loading rate would be specified in terms of pounds per day per acre and could be easily derived from the proposed load allocations for the Tualatin subbasin that have been already derived. To utilize this approach would necessitate additional review by the Department to determine if it is feasible. The Department believes that it could not be used in a cookbook fashion, however.

Storm water quality control facilities must be carefully sited and the design should include suitable amenities that will make the facility attractive or, at least, as unobtrusive as possible to surrounding neighbors. CONTROLLING URBAN RUNOFF: A Practical Manual for Planning and Designing Urban BMPs states that improperly sited and designed storm water systems can result in poorly operating systems with high maintenance costs. Further, care must be taken in the design of the facilities to assure that they work well with the surrounding development. Improperly designed and constructed facilities will lose public support for storm water systems that is vital to the overall water pollution control program in the Tualatin subbasin.

Effective storm water quality control facilities must result from the interim rules. The Department believes that it may be impossible to assure this within the goals established for the rules. Further work on rule development could be undertaken, but this will be at the expense of time and resources that should be devoted to development of the program plans. Based upon these concerns, the Department believes that the overall storm water quality control effort is better served by not adopting the proposed rules relative to permanent storm water quality control facilities. The Department should rely on the program plans to define the approach on permanent storm water quality facilities. While the Department believes this will allow some continued degradation of water quality in the Tualatin until the program plans are approved and implemented, it should better assure good program plans and eliminates the risk of poor systems being installed that will erode public support.

2. Jurisdictions felt that the proposed rules for interim storm water quality control facilities would impose administrative burdens upon them at the expense of resources that would otherwise be devoted to developing the program plans. Further, the interim rules amount to putting the "cart before the horse" with the risk that the interim rules will guide the program plans instead of the program plans establishing the approach for storm water quality control. Further, the interim rules add an additional level of complication in a process that is confusing to the local jurisdictions in the first place.

The Department believes the first priority should to assure that the program plans are as effective and comprehensive as possible. Further, the storm water quality control rules should not be necessarily used as a guiding marker for the program plan. The Department, however, can understand the difficulty the interim rules could impose on the development of the program plans. We believe this provides further justification for not adopting rules that require storm water quality control facilities during the interim period until program plans are implemented.

3. Several testifiers were skeptical of the need for permanent storm water control facilities. Some felt that it was unrealistic to believe that the Tualatin River could be cleaned up and that the in-stream criteria for phosphorus adopted by the Commission for the Tualatin River and Oswego Lake subbasins was too stringent, unrealistic, and not achievable. Before developers and builders should be required to install expensive storm water systems, further study and analysis should be conducted to determine if any meaningful improvement in the water quality of the Tualatin River will be realized.

The Department recognizes that these rules, in addition to other requirements imposed in the Tualatin River and Oswego Lake subbasins to control water pollution, will increase costs to the residents and businesses in the subbasin. The Department believes the clean up efforts will produce much improved water quality in the river and will protect the river's beneficial uses. Because of its slow moving, meandering nature, the river probably never has had the high quality waters associated with other Oregon streams such as the McKenzie River or the Willamette River. Reduction in in-stream contaminants will not transform the Tualatin River into a McKenzie or Willamette River. The Department believes, however, that this is not a justifiable reason to forego water pollution control efforts and allow the river to become merely a drainage conveyance for treated sewage and storm runoff.

4. Other testifiers had concerns over the Department's fiscal impact analysis and believed that the analysis should consider the expected benefit to be derived from the rule. These testifiers believed that all cost including all lost tax and business revenues, capital construction and land costs for all classes of development should be determined. If the analysis does not show acceptable costs for the benefits derived, the approach must be reevaluated or terminated.

The Department did not conduct a cost/benefit analysis of the proposed rules nor did the Department attempt to consider how the costs would affect each and every class of development in the Tualatin River and Lake Oswego subbasins. State law requires a fiscal impact analysis which was done. This analysis evaluated costs on a typical development. The Department believes the information provided by the analysis provides reasonable insight as to potential costs. Such an analysis does not contemplate nor require that costs be weighed against benefits derived.

The Department could, if directed by the Commission, expand the economic impact analysis and include other segments or classes of development. The Department believes that estimation of costs would be relatively easy compared to estimating the value of the benefits of clean water. Clean rivers and lakes have intangible benefits for which monetary values are difficult to estimate and which are subject to opinions more than objective determinations.

To conduct a cost/benefit analysis would, presuming the benefits could be suitably quantified, imply that, if the costs are too high, violation of water quality standards would be tolerated. Neither state or federal law contemplate that such a trade-off would be considered.

5. Some testifiers felt that imposition of the storm water rules would, in effect, create a building moratorium in the Tualatin basin and seriously jeopardize the economic well-being of the area and the state. Some were concerned that, by applying the storm water rules only to the Tualatin subbasin, the area would be faced with an economic competitive disadvantage. Developers and builders would divert their activity to other regions in the state and outside the state. Developers would move away from the Tualatin and would go to areas in east Multnomah County, Clackamas County and Clark County in Washington State. Some felt the issue of storm water controls should be addressed as a state-wide issue and not on a single subbasin basis.

The Department does not agree that these proposed rules will create a building moratorium in the Tualatin River and Oswego Lake subbasins. The Department does recognize that the requirements of the rules will create additional costs for the development community. The Department also realizes that the added costs will, to some degree, reduce the attractiveness of the Tualatin and Oswego Lake subbasins to some developers and this could divert development to other areas both in and out of the state. We do not have information upon which to estimate how much development will be diverted elsewhere.

This issue does create a policy choice. In order to create greater equity in the region or the state, the Commission could choose to apply the rules to the Tualatin subbasin, the Portland metropolitan area, or the entire state. The Department believes that there are other areas in the state where urban storm water controls would be effective in preventing pollution from occurring. We believe, however, that broader application of the rule would impose tremendous burdens upon the resources of both the Department and local government. Until the resource aspect of this matter could be resolved, the Department would not recommend broadening the application of the rule to areas outside the Tualatin subbasin unless it is necessary to address an identified water pollution problem.

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DAMES

Date: 7-18-89 12:58pm
From: Harold Sawyer:OD:DEQ
To: Bill Hutchison:OD
cc: Fred Hansen:OD, Division Administrators:DEQ, Hals:OD,
Tina Payne:OD, Julie Schmitt:OD
Subj: EQC Dinner, Thursday Evening

The following guests are expected to be present on Thursday Evening:

ROY ARNOLD, Dean of the College of Agriculture, OSU.

- Roy received his PhD from OSU in Food Technology.
- He came to OSU from the University of Nebraska a little more than a year ago.
- He brings a fresh approach to the OSU College of Agriculture.
- His wife () is expected to attend.

CARL STOLTENBERG, Dean of the College of Forestry, OSU.

- Carl will be retiring at the end of this year.
- He is a Forest Economist and has been at OSU for 22-23 years.
- He has served as a member/chairman of the State Board of Forestry.
- His wife (Rosemary) is expected to attend.

BILL WILKINS, Dean of the College of Liberal Arts, OSU

- Bill is an Economist.
- The Department of Economics is in the College of Liberal Arts.
- Bill is very interested in expanding the ability of the College of Liberal Arts to serve the state.
- His wife (Caroline) is expected to attend.

Unfortunately, Fred Burgess, Dean of the College of Engineering will not be attending. Fred elected to go salmon fishing instead. Fred also will be retiring sometime later this year. Fred at one time was an employee of the State Sanitary Authority, and later served as a member of the Environmental Quality Commission.

Dr. Castle expects to bring his wife (Merab) providing her health permits. He would like to have the opportunity to start "break the ice" for discussions on the relationship of the University to DEQ by telling a story from his past.

Potential Discussion Notes:

- OSU prides itself on its credibility. The various colleges make an effort to be close to their related industries, but to remain objective in their research and teaching missions.

Potential topic areas for questions or discussion:

Field Burning

How does the University view the future of field burning in light of the legislature's failure to agree on legislation and the prospect for an initiative measure?

Are there any fresh ideas for research that may shed new light on the issue?

Slash Burning (Forest issues in general)

With the reductions on timber harvest that we are seeing as a result of lawsuits, what is the potential for greater salvage of residues (eg chips for the pulp industry, etc.) rather than burning?

What research efforts are underway to reduce the reliance on burning or reduce the visual and air quality impact on burning?

Explain a little about COPE (Coastal Oregon Productivity Enhancement) -- an effort of federal, state, local, and private agencies to improve the productivity and economy of Oregon's Coastal Forests through the conduct of carefully targeted research and the transfer of technology for application in the field.

Groundwater Protection

How do we get the most bang for the limited bucks available to develop needed information on groundwater quality and quality protection opportunities?

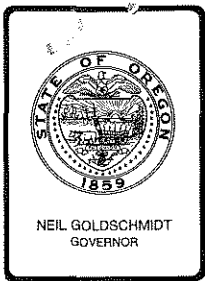
What are the most effective mechanisms for working with the agricultural community on this issue?

Food Processing Industry

What do you see as the environmental issues related to the food processing industry, and what role should DEQ be playing?

Economic Impact assessment for proposed regulatory actions and control programs.

Attention is increasingly being directed to the economic impact of regulatory actions on business in general but small business in particular. Do you have any advice for us regarding how we do a better job in this area?



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: K, Action Item
Division: Hazardous & Solid Waste
Section: Hazardous Waste Management

SUBJECT:

Hazardous Waste Fee Rules - Adoption of Temporary Rule to Continue Existing Fee Schedule, and Authorization for Hearing for Adoption as a Permanent Rule.

PURPOSE:

During the current biennium (1987-89), the hazardous waste program anticipated a \$490,000 revenue shortfall. In response, on April 29, 1988, the Environmental Quality Commission (EQC) amended the fee schedule rules to permanently increase the base fee rate by 25% and to add a one-time surcharge for the 1988 billing.

In order to avoid a revenue shortfall in the 1989-91 biennium, the hazardous waste program has been working with the Hazardous Waste Advisory Committee and the Hazardous Waste Funding Committee to revise the base fee schedule. In cooperation with representatives of the regulated community, the Department of Environmental Quality (DEQ or Department) proposes to amend the rules to maintain the 1988 fee structure.

With the proposed rule amendment, the 1989 billing will be conducted under the same fee schedule as the 1988 billing. Without the amendment, fees will decrease to the base level.

The purpose of proposing adoption of a temporary rule amendment is to ensure a timely billing for 1989 at the higher fee rates, thereby reducing a projected biennial budget shortfall. The temporary rule can be adopted without a prior public hearing and is only in effect for 180 days. Authorization to conduct a public hearing is also requested in order to adopt the amendment as a final rule.

The proposed rule amendments also include the following house-keeping changes:

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- a. change the words "fee period" to "billing cycle" and other minor wording changes for clarification,
- b. delete interest charges on overdue payments.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules (Temporary Rule)
 - Proposed Rules Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment B
 - Public Notice Attachment C
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___
- Approve Department Recommendation
 - Variance Request Attachment ___
 - Exception to Rule Attachment ___
 - Informational Report Attachment ___
 - Other: Haz. Waste Advisory Committee Attachment D,E
Haz. Waste Funding Committee

DESCRIPTION OF REQUESTED ACTION:

Adopt as a temporary rule, proposed amendments to OAR 340-105-110 (Permit fees), OAR 340-105-113 (Fee schedule) and OAR 340-102-065 (Hazardous waste generator fees), and authorize the Department to conduct a public hearing on the same proposed amendments for adoption as a permanent rule.

The proposed amendments are shown in Attachment A. Notice of the temporary rule proposal has been mailed to known interested persons and published in newspapers of general circulation in Oregon. Notice of the public hearing and the proposed rule amendments will be mailed to known interested persons and published in newspapers of general circulation in Oregon.

The existing rules require the Commission to reconsider the fee schedules prior to September 30, 1989.

AUTHORITY/NEED FOR ACTION:

- | | |
|---|---------------------|
| <input type="checkbox"/> Required by Statute: _____ | Attachment _____ |
| <input type="checkbox"/> Enactment Date: _____ | |
| <input checked="" type="checkbox"/> Statutory Authority: <u>ORS 466.165 & ORS 183.335</u> | Attachment _____ |
| <input checked="" type="checkbox"/> Pursuant to Rule: <u>OAR340-105-110 & 340-102-065</u> | Attachment <u>A</u> |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment _____ |
| <input type="checkbox"/> Other: | Attachment _____ |
| <input checked="" type="checkbox"/> Time Constraints: (explain) | |

EQC action on this proposed temporary rule amendment is needed on July 21, 1989 in order to conduct the 1989 billing in a timely manner. The program has scheduled two billings this biennium, one in 1989 and one in 1990.

DEVELOPMENTAL BACKGROUND:

- | | |
|---|---------------------|
| <input type="checkbox"/> Advisory Committee Report/Recommendation | Attachment _____ |
| <input type="checkbox"/> Hearing Officer's Report/Recommendations | Attachment _____ |
| <input type="checkbox"/> Response to Testimony/Comments | Attachment _____ |
| <input checked="" type="checkbox"/> Prior EQC Agenda Items: <u>Item O, April 29, 1988</u> | Attachment <u>F</u> |
| <input type="checkbox"/> Other Related Reports/Rules/Statutes: | Attachment _____ |
| <input type="checkbox"/> Supplemental Background Information | Attachment _____ |

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The proposed amendments would make the 1988 fee billing schedule permanent, rather than allowing fees billed in 1989 to decrease to a prior base level. This proposal is supported by the Hazardous Waste Funding Committee, which is comprised of industry representatives (see Attachment D for a list of members).

The majority of companies invoiced in July of 1988 paid their fees in a timely manner. Of the 526 generators billed, 494 companies paid by October 31, 1988. Of the 24 treatment, storage and disposal (TSD) facilities billed, 22 companies paid by January, 1989.

Because the 1988 surcharge was expected to be one-time only, some representatives of the regulated community may object to

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continuing the higher fee schedule. We expect our Hazardous Waste Funding Committee members to support the higher fees among their peers.

Notice of the proposed fee increases has been developed with the assistance of Funding Committee members, and sent to the affected regulated community prior to the July 21 EQC meeting. This will give business managers time to comment and to prepare for the billing, scheduled for fall of 1989.

PROGRAM CONSIDERATIONS:

The proposed fee schedule is necessary to maintain the Hazardous Waste Program at the current level (35 FTE), but does not provide for program enhancement in the 1989-91 biennium. The proposal will not totally alleviate a projected shortfall for the coming biennium.

Given the final budget approved by the Legislature, the projected shortfall even with the proposed fee schedule is \$75,000 to \$200,000. If the proposed fee schedule is not approved by the EQC, the projected shortfall may be as high as \$900,000.

These figures were calculated assuming a 96% fee collection rate, and the same 550 generators and TSD facilities as were invoiced in 1988. While it is not likely that the number of TSD facilities will change, it is possible that the number of generators will increase sufficiently to offset the projected shortfall.

The Hazardous Waste program will be working with a new Hazardous Waste Advisory Committee during the biennium to stabilize program funding.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. For fee schedule changes:

A. Amend the rules to delete the one-time surcharge, allowing fees to be billed at the lower base fee rate.

The majority of the regulated community expects the fee schedule to be less this year, although some know that a new schedule is being developed.

B. Amend the rules to maintain the 1988 fee structure.

Maintaining the 1988 fee schedule will reduce the projected biennial shortfall. The remaining shortfall can then be

addressed through position and budget management, through later development of a new fee schedule with the Hazardous Waste Advisory Committee, or by bringing new generators into the system.

C. Amend the rules to increase fees above the 1988 schedule, thereby avoiding any revenue shortfall.

The Department developed an alternative fee schedule with the former Hazardous Waste Advisory Committee which increased total fee revenues sufficiently to avoid a shortfall. This schedule was not well received by the Hazardous Waste Funding Committee, however. The Funding Committee requested the Department to explore other options for funding the program before significantly increasing fees on the regulated community.

2. For the housekeeping changes:

A. Implement housekeeping changes, including changing the words "fee period" to "billing cycle" and deleting interest charges on late payments.

The change of the words "fee period" to "billing cycle" clarifies that while fees are assessed according to the amount of waste generated in the previous calendar year, the billing and collections cycle used by the Department for administrative purposes is based on a fiscal year.

The changes relating to penalties, interest and collection fees are to clarify the rule and delete interest charges for late payments. Delinquent payments are currently assessed interest and a late charge of \$200 every 90 days the invoice is overdue. It is felt that the late charge is the more significant incentive for payment. Interest charges are insignificant for the smaller fee amounts relative to the penalty charge, and in many cases it costs the Department more to collect the interest than is received. Deletion of the interest charge is supported by the Business Office of the Department.

B. Leave the existing rules about the interest charges as they are.

This would continue higher costs to the Department of collecting overdue fee payments.

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DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends amending the rules in the form of a temporary rule to maintain the 1988 fee schedule (Alternative 1B), and authorizing a public hearing on the adoption of these amendments as a permanent rule.

The effect on the regulated community will be a 1989 billing based on the same fee rates as the 1988 billing (see Attachment B, Fiscal and Economic Impact Statement). The Hazardous Waste Funding Committee will support this alternative among their peers. Although the funding shortfall will not be eliminated, it will be reduced to a manageable amount.

The Department also recommends incorporating the housekeeping changes stated in Alternative 2A. These changes will reduce the cost to the Department of pursuing overdue payments.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

Department policy has been to actively seek delegation of federal programs, to develop state programs in the absence of federal programs, and to help fund these programs with fees from the regulated community. The Department has accepted delegation of the base hazardous waste program from EPA, and continues to seek authorization for the balance of the program.

Fees from the regulated community support approximately one half of the hazardous waste budget, which is consistent with overall Department funding.

Federal funding has remained at the same level for the last two years and will not increase significantly this biennium. Anticipated revenue from the state general fund will pay for approximately one-fourth of the program and is unlikely to increase this biennium.

If the Department is going to continue to operate the hazardous waste program at the current level of approximately \$3.9 million and 35 FTE, and is going to seek authorization for more of the program, a stable funding base must be established, which will include substantial funding by the regulated community.

There is a fundamental funding problem built into the structure of the generator schedule because it is based on the amount of waste generated; the more you reduce, the less you pay. This characteristic of the schedule provides an incentive for waste reduction, especially for larger companies who pay higher fees.

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And it is working, which is one reason there continues to be a shortfall. One of the tasks of the new Hazardous Waste Advisory Committee will be to evaluate and propose changes to the fee schedule structure.

The proposed fee schedule is not a complete answer to the revenue shortfall. The proposal would make the projected budget problem manageable, however, so that the Department can seek alternative solutions without facing an immediate funding crisis.

ISSUES FOR COMMISSION TO RESOLVE:

1. Is the Commission concerned that the current program is dependent on the regulated community for half of its funding, and that the regulated community is likely to pay an even larger share in the future?

As a regulatory agency, it may not be desirable to be funded to such a great extent by the community we regulate. It is, however, likely that a significant level of dependence on this funding source will continue.

INTENDED FOLLOWUP ACTIONS:

- * Collect hazardous waste fees in fall of 1989 based on the fee schedule in the temporary rule.
- * Conduct a public hearing in October, 1989.
- * Review comments and discuss them with the new Hazardous Waste Advisory Committee.
- * Prepare a response to comments and a final report to the Commission requesting adoption of the final rule amendments at the December, 1989 Environmental Quality Commission meeting.

Meeting Date: 7/21/89
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Approved:

Section:

Jean Whitworth

Division:

Stephanie Hallock

Director:

Judicia Taylor

Report Prepared By: Debi Sturdevant, HSW

Phone: 229-6590

Date Prepared: July 5, 1989

(DJS:Debis:HSW)
(E:\wordp\fees89)
(7/5/89)

Before the Environmental Quality Commission
of the State of Oregon

In the Matter of Amending) Proposed Amendments
OAR 340, Divisions 102 and 105)

Unless otherwise indicated, material enclosed in brackets [] is proposed to be deleted and material that is underlined is proposed to be added.

1. Rule 340-102-065 is proposed to be amended as follows:

Hazardous waste generator fees.

340-102-065 (1) each person generating hazardous waste shall be subject to an annual fee based on the weight of hazardous waste generated during the previous calendar year. The billing cycle [~~fee period~~] shall be the state's fiscal year (July 1 through June 30) and shall be paid annually [~~by July 1~~] within 30 days of the invoice date. A late charge in the amount of \$200[~~;~~ plus ~~interest compounded daily at the rate established under ORS 305.220;~~ shall ~~also~~] shall be paid[~~;~~] if the fees are not received by the due date on the invoice. An additional \$200 late charge shall also be paid each 90 days that the [~~fees~~] invoice remains unpaid. [~~Fees~~] Invoices 90 days or more overdue shall also be increased by 20 percent and referred to the state Department of Revenue for collection.

(2) For the purpose of determining appropriate fees, each hazardous waste generator shall be assigned to a category in Table 1 of this Division based upon the amount of hazardous waste generated in the calendar year identified in section (1) of this rule except as otherwise provided in section (5) of this rule.

Table 1

Hazardous Waste

Generation Rate (Metric Tons/Year)	[Base Fee]	[One-Time Surcharge]	[Total Fee]
<1.....	[125]	[105]	230
1 but <3.....	[375]	[310]	685
3 but <14.....	[688]	[562]	1,250
14 but <28.....	[1,094]	[906]	2,000
28 but <142.....	[2,469]	[2,031]	4,500
142 but <284.....	[5,594]	[4,606]	10,200
>284.....	[7,938]	[6,542]	14,480

(3) For the purpose of determining appropriate fees, hazardous waste shall be included in the quantity determinations required by section (1) of this rule as follows:

(a) Except as provided in subsection (b) of this section, all quantities of "listed" and "characteristic" hazardous waste shall be counted that are:

- (A) Accumulated on-site for any period of time prior to subsequent management;
- (B) Packaged and transported off-site;
- (C) Placed directly in a regulated on-site treatment or disposal unit;

or

(D) Generated as still bottoms or sludges and removed from product storage tanks.

(b) Hazardous wastes shall not be counted that are:

(A) Specifically excluded from regulation under 40 CFR 261.4 or 261.6;

(B) Continuously reclaimed on-site without storage prior to reclamation. (Note: Any residues resulting from the reclamation process, as well as spent filter materials, are to be counted);

(C) Managed in an elementary neutralization unit, a totally enclosed treatment unit, or a wastewater treatment unit;

(D) Discharged directly to a publicly-owned wastewater treatment works, without first being stored or accumulated (Note: Any such discharge must be in compliance with applicable federal, state and local water quality regulations); or

(E) Already counted once during the calendar month, prior to being recycled.

(4) In order to determine annual hazardous waste generation rates, the Department may use generator quarterly reports required by rule 340-102-041; treatment, storage and disposal reports required by rule 340-104-075; information derived from manifests required by 40 CFR 262.20, and any other relevant information. For wastes reported in the units of measure other than metric tons, the Department will use the following conversion factors: 1.0 metric tons = 1,000 kg = 2,200 lbs. = 35.25 cubic feet = 264 gallons = 1.10 tons (English) = 4.80 drums (55 gallon).

(5) Owners and operators of hazardous waste treatment, storage and disposal facilities shall not be subject to the fees required by section

(1) of this rule for any wastes generated as a result of storing, treating, or disposing of wastes upon which an annual hazardous waste generation fee has already been paid. Any other wastes generated by owners and operators of treatment, storage and disposal facilities are subject to the fees required by section (1) of this rule.

(6) All fees shall be made payable to the Department of Environmental Quality.

~~{(7) -The -fee -schedule -in -this -rule -shall -be -reconsidered -by -the Environmental -Quality -Commission, -prior -to -September -30, -1989 -}~~

2. Rule 340-105-110 is proposed to be amended as follows:

Permit fees.

340-105-110 (1) each person required to have a hazardous waste storage, treatment or disposal permit (management facility permit) shall be subject to a three-part fee consisting of a filing fee, an application processing fee and an annual compliance determination fee as listed in rule 340-105-113. The amount equal to the filing fee, application processing fee and the first year's annual compliance determination fee shall be submitted as a required part of any application for a new permit. The amount equal to the filing fee and application processing fee shall be submitted as a required part of any application for renewal or modification of an existing permit.

(2) As used in this rule, the following definitions shall apply:

(a) The term management facility includes, but is not limited to:

(A) Hazardous waste storage facility;

(B) Hazardous waste treatment facility; and

(C) Hazardous waste disposal facility.

(b) The term hazardous wastes includes any residue or hazardous wastes as defined in Division 101 or 40 CFR Part 261 handled under the authority of a management facility permit.

(c) The term license and permit shall mean the same thing and will be referred to in this rule as permit.

(3) The annual compliance determination fee shall be paid for each year a management facility is in operation and, in the case of a disposal facility, for each year that post-closure care is required. The billing cycle ~~{fee-period}~~ shall be the state's fiscal year (July 1 through June 30) and shall be paid annually ~~{by-July-1}~~ within 30 days of the invoice date. A late charge in the amount of \$200 ~~{,-plus-interest compounded-daily-at-the-rate-established-under-ORS-305.220,}~~ shall ~~{also}~~ be paid~~{,}~~ if the fees are not received by the due date on the invoice. An additional \$200 late charge shall also be paid each 90 days that the ~~{fees}~~ invoice remains unpaid. ~~{Fees}~~ Invoices 90 days or more overdue shall also be increased by 20 percent and referred to the state Department of Revenue for collection. Any annual compliance determination fee submitted as part of an application for a new permit shall apply to the ~~{fiscal}~~ calendar year the permitted management facility is put into operation. For the first year's operation, the full fee shall apply if the management facility is permitted on or before April 1. Any new management facility permitted after April 1 shall not owe a compliance determination fee until ~~{July-1}~~ the invoice due date of the following year. The Director may alter the due date for the annual compliance determination fee upon receipt of a justifiable request from a permittee.

(4) For the purpose of determining appropriate fees, each management facility shall be assigned to a category in rule 340-105-113 based upon the amount of hazardous waste received and upon the complexity of each management facility. Each management facility which falls into more than one category shall pay whichever fee is higher. The Department shall assign a storage and treatment facility to a category on the basis of design capacity of the facility. The Department shall assign a new disposal facility to a category on the basis of estimated annual cubic feet of hazardous waste to be received and an existing disposal facility on the basis of average annual cubic feet of hazardous waste received during the previous three calendar years.

(5) Where more than one management facility exists on a single site, in addition to the compliance determination fee required by rules 340-105-110(3) and (4), a flat fee of \$250 shall be assessed for each additional management facility.

(6) Modifications of existing, unexpired permits which are instituted by the Department due to changing conditions or standards, receipt of additional information or any other reason pursuant to applicable statutes and do not require re-filing or review of an application or plans and specifications shall not require submission of the filing fee or the application processing fee.

(7) Upon the Department accepting an application for filing, the filing fee shall be nonrefundable.

(8) The application processing fee, except for disposal permits, may be refunded in whole or in part when submitted with an application if either of the following conditions exist:

(a) The Department determines that no permit will be required.

(b) The applicant withdraws the application before the Department has approved or denied the application.

(9) The annual compliance determination fee may be refunded in whole or in part when submitted with a new permit application if either of the following conditions exist:

(a) The Department denies the application.

(b) The permittee does not proceed to construct and operate the permitted facility.

(10) All fees shall be made payable to the Department of Environmental Quality.

~~{(11) The fee schedule in rule 340-105-113 shall be reconsidered by the Environmental Quality Commission, prior to September 30, 1989.}~~

3. Rule 340-105-113 is proposed to be amended as follows:

Fee Schedule

340-105-113 (1) Filing Fee. A filing fee of \$50 shall accompany each application for issuance, reissuance or modification of a hazardous waste management facility or PCB treatment or disposal facility permit. This fee is nonrefundable and is in addition to any application processing fee or annual compliance determination fee which might be imposed.

(2) Application Processing Fee. An application processing fee shall be submitted with each hazardous waste management facility or PCB treatment or disposal facility permit application or Authorization to Proceed request, if such a request is required under OAR 340-120-005. The intent of the application processing fee is to cover the Department's costs in

investigating and processing the application. For all applications, any portion of the application processing fee which exceeds the Department's expenses in reviewing and processing the application shall be refunded to the applicant. In the case of permit reissuance, a fee is not initially required with the application. Within sixty days of receipt of the application, the Department will estimate its costs to reissue the permit and will bill the applicant for those costs, up to the amount specified in subsection (2)(b) of this rule. The application will be considered incomplete and processing will not proceed, until the fee is paid. In the event that the Department underestimates its costs, the applicant will be assessed a supplemental fee. The permit shall not be reissued until all required fees are paid. The total fees paid shall not exceed the amount specified in subsection (2)(b) of this rule. The amount of the fee shall depend on the type of facility and the required action as follows:

(a) A new permit:

(A) Storage facility	\$ 70,000
(B) Treatment facility	70,000
(C) Disposal facility	70,000
(D) Disposal facility - post closure	70,000

(b) Permit Reissuance:

(A) Storage facility	50,000
(B) Treatment facility	50,000
(C) Disposal facility	50,000
(D) Disposal facility - post closure	50,000

(c) Permit Modification - major:

(A) Storage facility	No Fee
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- (B) Treatment facility No Fee
- (C) Disposal facility No Fee
- (D) Disposal facility - post closure No Fee
- (d) Permit Modification - minor:
 - All Categories No Fee

(3) Annual Compliance Determination Fee. Except as provided in rule 340-105-110(5), in any case where a facility fits into more than one category, the permittee shall pay only the highest fee as follows:

	[Base]	[One-Time]	[Total]
	<u>[-Fee-]</u>	<u>[Surcharge]</u>	<u>Fee</u>
(a) Storage facility:			
(A) 5-55 gallon drums or 250 gallons total			
or 2,000 pounds	[1,063]	-----[877]	1,940
(B) 5 to 250 - 55 gallon drums or 250 to			
10,000 gallons total or			
2,000 to 80,000 pounds	[2,188]	[1,232]	3,420
(C) >250 - 55 gallon drums or >10,000 gallons			
total or >80,000 pounds	[4,375]	[3,605]	7,980
(D) Closure	[1,875]	[2,115]	3,990
(b) Treatment Facility:			
(A) <25 gallons/hour or 50,000 gallon/day			
or 6,000 pounds/day	[1,063]	[877]	1,940

(B) 25-200 gallons/hour or 50,000 to 500,000 gallons/day or 6,000 to 60,000 pounds/day	[2,188]	[1,232]	3,420
(C) >200 gallons/hour or >500,000 gallons/day or >60,000 pounds/day	[4,375]	[3,605]	7,980
(D) Closure	[4,375]	[3,605]	7,980

(c) Disposal Facility:

(A) <750,000 cubic feet/year or <37,500 tons/year100,000		
(B) 750,000 to 2,500,000 cubic feet/year or 37,500 to 125,000 tons/year150,000		
(C) >2,500,000 cubic feet/year or >125,000 tons/year200,000		
(D) Closure	[7,500]	[6,180]	13,680

(d) Disposal Facility - Post Closure:

All categories	[7,500]	[6,180]	13,680
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Before the Environmental Quality Commission
of the State of Oregon

In the matter of Amending)	Statement of Need for Rule
OAR Chapter 340,)	Amendment and Fiscal and
Divisions 102 and 105)	Economic Impact

1. Statutory Authority

ORS 466.165 provides that fees may be required of hazardous waste generators and of owners and operators of hazardous waste treatment, storage or disposal facilities (TSDs). The fees shall be in amounts determined by the Commission to be necessary to carry on the Department's monitoring, inspection and surveillance program established under ORS 466.195 and to cover related administrative costs.

ORS 466.045 sets limits on permit application processing fees for new and existing hazardous waste treatment and disposal sites and establishes the manner in which such fees are to be assessed.

ORS 466.020 requires the Commission to adopt rules pertaining to generators of hazardous waste and to TSD facilities.

ORS 183.335 allows an agency to amend a rule without prior notice or hearing on a temporary basis, effective 180 days.

2. Statement of Need

The existing rules (OAR 340-102-065 & 340-105-110) require the Environmental Quality Commission to reconsider the fee schedule prior to September, 1989.

Maintenance of the 1988 fee schedule is needed to partially offset a projected biennial revenue shortfall of up to \$900,000 for the Department's hazardous waste program.

Failure to amend the fee rule before the 1989 billing would exacerbate the projected shortfall and reduce commitments during the 1989-91 biennium. This reduction could increase the threat to public health and safety and the environment from the mismanagement of hazardous waste. In addition, program cutbacks could result in the loss of the state's authorization to manage the federal hazardous waste program.

3. Principal Documents Relied Upon

- A. Oregon Revised Statutes, Chapter 466 and 183.
- B. Oregon Administrative Rules, Chapter 340, Divisions 102 and 105.
- C. The Governor's budget for the 1989-91 biennium.

4. Statement of Fiscal and Economic Impact

The proposed fee schedule would pose no fiscal impact to businesses above the amount paid in June of 1988. This amount would be higher than that expected under the existing rule, however, because the existing rule would decrease the fees to the base fee level. Therefore, there would be some fiscal impact to generators and TSD facilities by amending the fee schedule as recommended.

Under the proposed fee schedule, hazardous waste generators and TSD facilities will pay the same fees they were billed in June 1988. Under the existing rule, companies would pay the base fees without the surcharge in the next biennium. Fee revenues generated with and without the surcharge, given the 1988 number and distribution of generators and TSD facilities, are shown in Table 1.

Table 1. Total Annual Fees Assessed
(Based on the Number of Generators and TSD Facilities
Invoiced in 1988)

	With Surcharge (proposed rule)	Without Surcharge (existing rule)	Difference
From Generators	\$ 656,395	\$ 359,683	\$ 296,712
From TSD Fac.s	<u>334,200</u>	<u>249,251</u>	<u>84,949</u>
TOTAL	990,595	608,934	381,661

The generator fee schedule categorizes businesses according to the amount of waste they generate in a year. Table 2 (page 3) shows the number of generators in each of these categories and the total difference in revenue paid with and without the surcharge for that group of businesses. Similarly, the TSD facilities pay according to the type of activity and their design capacities or the amount of waste they accepted. Table 3 (page 3) shows the number of facilities invoiced under each category and the difference in revenue generated with and without the surcharge.

Incorporation of the surcharge into the fee schedule will not totally eliminate the anticipated shortfall in the 1989-91 biennium.

Table 2. Number of Generators and Annual Revenue Difference With and Without the Surcharge, by Fee Schedule Category

<u>Category</u>	<u>No. of Generators</u>	<u>Revenue Difference</u>
<1 MT/year	314	\$32,970
1 - <3	57	17,670
3 - <14	69	38,778
14 - <28	28	25,368
28 - <142	36	73,116
142 - 284	8	36,848
>284	<u>11</u>	<u>71,962</u>
TOTAL	523	\$296,712

Table 3. Number of Facilities and Annual Revenue Difference With and Without the Surcharge, by Fee Schedule Category

<u>Category</u>	<u>No. of Fac.s</u>	<u>Revenue Difference</u>
Storage:		
B) 5-250 55 gal drums, 250-10,000 gal, or 2,000-80,000 lbs	1	\$ 1,232
C) >250 55 gal drums, >10,000 gal, or >80,000 lbs	7	25,235
D) Closure	8	16,920
Treatment:		
A) <25 gal/hr, 50,000 gal/day, or 6,000 lbs/day	1	877
C) >200 gal/hr, >500,000 gal/day, or >60,000 lbs/day	1	3,605
Disposal:		
B) 750,000 - 2,500,000 cubic ft/yr or 37,500 - 125,000 tons/yr	1	0
D) Closure	<u>6</u>	<u>37,080</u>
TOTAL	24*	\$ 84,949

* The total billed does not equal the sum of the categories because some facilities are invoiced for more than one category.

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Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PUBLIC HEARING ON PROPOSED AMENDMENTS TO THE HAZARDOUS WASTE FEE SCHEDULES

Date Prepared: 6/19/89
Hearing Date: 10/10/89
Comments Due: 10/10/89

**WHO IS
AFFECTED:**

Persons who manage hazardous waste, including generators, and owners and operators of hazardous waste treatment, storage and disposal facilities (TSD facilities).

**WHAT IS
PROPOSED:**

The Department of Environmental Quality (DEQ) proposes to amend rules concerning hazardous waste fees, OAR 340-102-065, OAR 340-105-110 and 340-105-113. The amendments are necessary to help offset a projected biennial revenue shortfall.

**WHAT ARE THE
HIGHLIGHTS:**

Annual fees for generators of hazardous waste and for TSD facilities are proposed to be maintained at the level of the 1988 schedule. The existing rule, adopted April 29, 1988, includes a one-time only surcharge for 1988 hazardous waste fees, and requires the Environmental Quality Commission to reconsider the fee schedule prior to September 30, 1989. Without the amendment, fees would decrease to the base fee only level.

The Hazardous Waste Funding Committee, comprised of industry representatives, has reviewed and recommended the proposed schedules for generators, and treatment, storage and disposal facilities. The Department has reviewed different funding approaches with the Hazardous Waste Funding Committee and the Hazardous Waste Advisory Committee and is proposing to adopt the Funding Committee's recommendation to maintain fees at the 1988 Hazardous Waste Fee Schedule level. The Department is further proposing that interest charges on late payments be deleted.

Failure to adopt the proposed fee rule amendment would result in a reduction in compliance activities. This reduction could increase the threat to public health, safety and the environment from the mismanagement of hazardous waste and could result in a loss of the state's authorization to manage the federal hazardous waste program in Oregon.

(over)



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

C-1

**HOW TO
COMMENT:**

Public Hearing

9:00 a.m.
Tuesday, October 10, 1989
DEQ's Portland Office
811 S.W. Sixth Avenue
4th Floor Conference Room

Written comments should be submitted at the public hearings or sent to:
Hazardous Waste Fees, DEQ, 811 S.W. Sixth Avenue, Portland, OR 97204
by October 10, 1989 at 5:00 p.m.

**WHAT IS THE
NEXT STEP:**

After the public hearing, DEQ will evaluate the comments, prepare a response to comments, and make a recommendation to the Environmental Quality Commission on December 1, 1989. The Commission may adopt the amendments as proposed, adopt modified amendments as a result of the testimony received, or decline to adopt any amendments.

For more information, call the Hazardous Waste Section at
(503) 229-5913 or toll-free at 1-800-452-4011, in the State of Oregon.

ZB8387

HAZARDOUS WASTE FUNDING COMMITTEE MEMBERSHIP LIST

Frank Deaver
Tektronix, Inc.
Beaverton

Jason Boe
Jason Boe & Associates
Portland

Douglas Richardson
Great Western Chemical Co.
Portland

Tom Donaca
Associated Oregon Industries
Portland

Diane Stockton
Omark Industries
Milwaukie

John Pittman
Wacker Siltronic Corp.
Portland

Robert Ferguson
Rhone-Poulenc
Portland

Richard Zweig
Chem-Security Systems, Inc.
Arlington

Terry Virnig (alternate)
Chemical Waste Mgmt.
Portland

HAZARDOUS WASTE PROGRAM ADVISORY COMMITTEE
MEMBERSHIP LIST

Mr. Frank Deaver
Tektronix, Inc.
Beaverton

Ms. Diane Stockton
Omark Industries
Milwaukie

Mr. Rich Barrett
Willamette Industries - Duraflake
Albany

Mr. Jeffrey E. Detlefsen
Attorney at Law
Portland

Mr. Quincy Sagarman
OSPRIG
Portland

Ms. Jean Meddaugh
Oregon Environmental Council
Portland

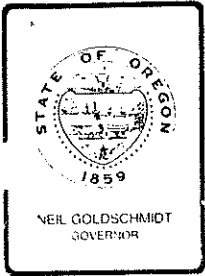
Mr. Jack Payne
CH2M-Hill
Portland

Ms. Alice Weatherford-Harper
Ione

Mr. Gary Bauer
Portland General Electric
Portland

Dr. Marshall Cronyn
Reed College
Portland

Mr. John Goss
Service Manager - Alexander Motors
Portland



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission
From: Director
Subject: Agenda Item O, April 29, 1988, EQC Meeting

Proposed Adoption of Amendments to the Hazardous Waste Fee Rules, OAR 340, Divisions 102 and 105.

Problem Statement

The Department's Hazardous Waste Program has determined that during the 1987-1989 biennium, a fee revenue shortfall of \$490,000 will occur. The shortfall is the difference between the projected fee revenues included in the Program's proposed 1987-1989 budget, and actual fee revenues.

Background

Prior to the 1987 Legislative Session, a 9-member Hazardous Waste Program Funding Committee, made up of representatives from the regulated industries in Oregon, reviewed the overall hazardous waste program and recommended an approach for long-term funding of the program. The committee looked at the required activities and effort necessary to maintain an authorized state program and also evaluated other aspects of an effective hazardous waste program for Oregon. The committee found that the Department's current program was understaffed and underfunded to adequately cover the demands of the program.

Funding for the hazardous waste program is derived from three sources: A U.S. Environmental Protection Agency grant, State General Fund, and other funds (primarily fees from the regulated community). The committee recommended a balanced funding approach. It agreed that there should be increases in the fees paid by generators of hazardous waste and by facilities that treat, store or dispose of hazardous waste (TSD facilities). The committee also felt that an increase in state general funds was warranted. Historically, the program has received little general fund support and has primarily been funded by federal grant money and fees on industry. These recommendations were included in the Department's proposed budget for fiscal years 1988 and 1989.

In 1987, the Oregon Legislature significantly increased general fund support for the hazardous waste program, as the funding committee had recommended. The program was appropriated approximately \$761,011 in general

funds for the current biennium. However, \$300,000 of that amount was initially held in reserve. The Department returned to the Legislative Emergency Board in January 1988 and obtained \$283,800 of the reserved amount.

As noted above, the funding committee's recommendations also included an increase in the amount of fees paid by generators of hazardous waste and by hazardous waste TSD facilities. The committee agreed that fees should be increased to provide a total of approximately \$1,510,000 in revenue for the biennium. On July 13, 1987, the Commission adopted amendments to the hazardous waste fee schedules, calculated to generate this amount of revenue. The new fees were assessed in September 1987.

The Department now finds that the fee revenues for the 1987-1989 biennium are less than anticipated. The new fee schedule did not produce the required \$755,000 (one-half of the \$1,510,000) for 1988. Only about \$510,000 has been received for 1988. Assuming that the fee revenue for 1989 will also total approximately \$510,000, a shortfall of \$490,000 is projected for the biennium:

$$\begin{aligned} 2 \times \$510,000 &= \$1,020,000 \\ \$1,510,000 &- \$1,020,000 = \$490,000 \end{aligned}$$

The projected shortfall is the result of several factors: first, the Department was unable to accurately predict the number of new generators who would enter the system last year and where they would fit into the fee schedule; second, the Department underestimated waste minimization efforts by generators; and third, some generators dropped out of the system, for various reasons.

At the Commission's January 22, 1988 meeting, the Department informed the Commission that it intended to reconvene the funding committee to determine how to best overcome the shortfall. The Commission granted the Department authorization to conduct public hearings on the proposal to be developed by the funding committee and the Department.

The Department also proposes amendments to the rules concerning permit application filing and processing fees for hazardous waste storage facilities and for the modification of hazardous waste facility permits. The Department proposes to restore the fees for storage facilities, which were temporarily suspended while a clarification of statutory authority was being obtained. Also, for lack of clear statutory authority, the Department is now proposing to temporarily suspend the fees required for permit modification.

Public hearings on these matters were held, in Portland, on March 24 and 30, 1988. A total of 17 people attended, in addition to Department staff. Three people testified at the hearings and seven people submitted written testimony. In general, the commentators reluctantly accepted the proposed fee

increases, with the admonishment that the Department must do a better job of collecting fees from non-compliers, and that the proposed surcharge must be for one-time only. A Hearing Officer's Report and the Department's Response to Comment are attached.

The Department now proposes adoption of amendments to the hazardous waste fee rules. A Statement of Need for Rulemaking is attached. The Commission is authorized to adopt rules pertaining to hazardous waste fees by ORS 466.020, 466.045, and 466.165.

Alternatives and Evaluation

As stated previously, the hazardous waste program is funded from three sources: A Federal EPA grant, State General Fund, and Other Funds (primarily fee revenues). For the current biennium, the federal grant is \$928,875. State General Fund contribution is \$761,011. Fee revenue was projected to be \$1,510,000. However, based upon fees collected to date, only about \$1,020,000 (2 X \$510,000) will be received. This results in a shortfall in fee revenue of \$490,000.

The Hazardous Waste Program Funding Committee was reconvened on February 16, 1988 and recommended a new fee schedule to the Department on March 14, 1988. A committee membership list is attached. The funding committee recommended recovery of about 75% of the current shortfall, based upon the Department's anticipated 75% collection rate (i.e., the new fee schedule would provide 100% of the shortfall, with a 100% collection rate, but that is not expected). The committee did not recommend raising the fees to completely cover the shortfall with only a 75% collection rate.

The funding committee's final report is attached. The committee's recommendations include the following key provisions:

- The base fees for all categories, except disposal sites, should be increased by 25%;
- A surcharge should be added to all categories, except disposal sites;
- A late charge should be added for fees that are not promptly paid;
- The fee increases should be for 1988-89 only and should not be considered permanent;
- The Department should immediately initiate a program to identify additional generators; and
- A new funding method must be found for the period beyond July 1, 1989.

The Department amended the committee's proposal, in two ways, in the draft rules:

- First, the committee recommended that the rules include a late charge of 50%, if the fees were not paid within 60 days of the due date. The Department's legal counsel agreed that a late charge could be assessed, if it is tied to increased administrative costs by the Department. However, a 50% late charge exceeded administrative costs. As an alternative, the Department proposed a late charge of \$200 plus interest for overdue fees, an additional charge of \$200 for each 90 days that the fees remain unpaid, and an additional 20% increase for fees 90 days or more overdue. The \$200 represents typical costs incurred by the Department in the pursuit of unpaid bills. The 20% increase represents the amount charged by the Oregon Department of Revenue, when an overdue bill is sent to that agency for collection; and
- Second, the committee recommended that the rules contain a sunset provision, to repeal the one-time only surcharge after 1988. To do this, however, would essentially require two separate fee schedules in the rules. The Department believes that this would be confusing. Accordingly, the Department drafted the rule to simply require that the new fee schedule be reconsidered by the Commission, prior to September 30, 1989. The Department remains committed to revising the program funding method by that date. That date was selected to allow sufficient time for any necessary statutory changes that may be required for a new funding approach. In any case, the Department would not initiate fee billing under the proposed fee schedule beyond the current biennium.

The proposed fee increases are only a temporary measure to address an immediate funding problem. In the long-term, the Department must reevaluate the hazardous waste fee structure, to both encourage appropriate waste management alternatives, such as waste reduction and recycling, and to ensure a dependable and consistent source of revenue to support the program. These issues were raised by several commentators when the fee schedules were amended in July 1987. The Department is committed to reviewing the entire program funding issue with the Hazardous Waste Program Advisory Committee. This is a broader-based committee than the funding committee, in that it is comprised of representatives from industry, environmental groups and the public. The Commission may anticipate that the Department will return with a more comprehensive revision of its hazardous waste fee rules, prior to the next biennium.

In addition to proposing fee increases, to overcome a revenue shortfall, the Department is also proposing to amend the rules pertaining to permit application filing and processing fees. In December 1986, at the request of the state's Legislative Counsel Committee, the Commission temporarily suspended the permit application filing and processing fees for hazardous waste storage facilities. The Committee advised the Department that statutory authority for these fees was unclear. With the passage of Senate

Bill 116, by the 1987 Legislature, this problem has been eliminated. Accordingly, the Department now proposes to reinstate those fees, at the same level as the fees for hazardous waste treatment and disposal facilities.

Recently, the Legislative Counsel Committee informed the Department that statutory authority to assess fees for permit modification is also unclear. A copy of the Committee's report is attached. Accordingly, the Department is now proposing the temporary suspension of the fees associated with permit modification. The Department will seek clear authority to assess such fees from the 1989 Legislature.

At the public hearings concerning these proposed amendments, three people submitted oral testimony and seven people submitted written testimony. Most of the commentors accepted the proposed fee increases. One commentor requested that the fees not be raised at all. Another accepted the proposed 25% increase in the base fee, but not the proposed one-time surcharge. One commentor accepted the proposed increases for generators, but not for TSD facilities. Another requested that there be no fee for generators who recycle their wastes. In general, commentors believe that the Department must do a better job of discovering currently unregulated generators and of collecting late or unpaid fees. Most commentors supported the proposed late payment changes, but several suggested that the term "overdue" needed to be more clearly defined. The Department has revised that language accordingly. Two commentors requested that both the proposed new base fee and proposed one-time surcharge be displayed in the rules, as well as the total fee. The Department had no objection and has made that change. Two commentors requested that the Department allow fees to be paid in installments. The Department noted that this is currently allowed on a case-by-case basis, but did not agree to amend the rules. Collecting fees on an installment basis is more costly for the Department. Several commentors asked for clarification of elements of the proposed rules. One commentor requested that a table be added to the rules to better define when a permit is required. The Department believes that such a table should be in the form of a guidance document, rather than a rule, and is committed to publishing such guidance by July 1, 1988. The attached Hearing Officer's Report and Department's Response to Public Comment provide a complete listing of all comments received and the Department's responses.

Following the public hearings, the Department received an additional comment from its legal counsel. It was suggested that interest charges for late payments should more properly be assessed at the rate established in ORS 305.220, rather than at the current Internal Revenue Service late payment rate. This is the rate used by the state Department of Revenue and by the Department's Waste Tire Program. Accordingly, the Department has made this change in the proposed rule amendments.

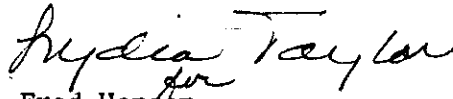
Summation

1. The Department's hazardous waste program has a current projected shortfall in fee revenue of approximately \$490,000 for the biennium.

2. The Department's Hazardous Waste Program Funding Committee has recommended a revised fee schedule to help offset this shortfall.
3. The Department views this proposal as an emergency measure only and is committed to reviewing its long-term funding approach. The proposed rules require the Commission to reconsider the fee schedule, by June 30, 1989.
4. The Department takes the Hazardous Waste Funding Committee's recommendation to initiate a program to identify additional generators very seriously and it is committed to fully implementing that recommendation.
5. Public hearings have been held and commentors generally accepted the proposed increases. The Department has made some revisions to the proposed amendments, in response to the comments received.
6. The Department requests the adoption of these proposed rule amendments.
7. The Commission is authorized to adopt rules pertaining to hazardous waste fees, by ORS 466.020, 466.045, and 466.165.

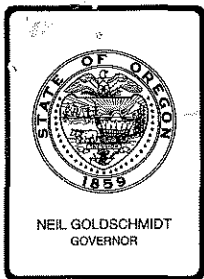
Directors Recommendation

Based upon the summation, it is recommended that the Commission adopt the proposed amendments to the hazardous waste fee rules in OAR Chapter 340, Divisions 102 and 105.


Fred Hansen

Attachments I: Statement of Need for Rulemaking
 II: Funding Committee Membership List
 III: Funding Committee's Final Report
 IV: Report from Legislative Counsel Committee
 V: Hearing Officer's Report
 VI: Department's Response to Public Comment
 VII: Draft Rules; OAR Chapter 340, Divisions 102 and 105

Bill Dana:b
ZB7422
229-6015
March 29, 1988



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: June 3, 1989
Agenda Item: L
Division: Water Quality
Section: Planning/Monitoring

SUBJECT:

Total Maximum Daily Loads (TMDLs) for the Yamhill River -
Establishment of Instream Total Phosphorus Criteria for the
Yamhill, South Yamhill, and North Yamhill Rivers.

PURPOSE:

To provide the basis for establishing the total maximum daily
load (TMDL), waste load allocations (WLA), and load
allocations (LA) for phosphorus in the Yamhill Basin by
defining the assimilative capacity of the Yamhill River for
nutrient loads.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Public Notice Attachment D
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment
- Approve Department Recommendation
 - Variance Request Attachment
 - Exception to Rule Attachment
 - Informational Report Attachment
 - Other: (specify) Attachment

DESCRIPTION OF REQUESTED ACTION:

The proposed rule would:

1. Identify the assimilative capacity of the Yamhill River for nutrient loads.
2. Establish instream criteria for total phosphorus. These criteria will form the basis for allocating phosphorus loads in the Yamhill basin.
3. Define the time frame for the Department to publish interim allocations derived from the criteria established in the rule. Interim allocations will be used to develop and review program plans.
4. Define the time frame for point sources which discharge during the summer low flow in the Yamhill Basin to develop and submit to the Department program plans which describe strategies and options for achieving specified phosphorus load limits.

AUTHORITY/NEED FOR ACTION:

- | | |
|---|---------------------|
| <input checked="" type="checkbox"/> Required by Statute: <u>ORS 468.735</u> | Attachment <u>B</u> |
| Enactment Date: _____ | |
| <input type="checkbox"/> Statutory Authority: _____ | Attachment _____ |
| <input type="checkbox"/> Pursuant to Rule: _____ | Attachment _____ |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment _____ |
|
<input checked="" type="checkbox"/> Other: | |
| Implement Public Law 92-500 as amended,
specifically Section 303 | Attachment <u>B</u> |
| Federal District Court Consent Decree
Civil No. 86-1578-B | Attachment <u>E</u> |
|
<input checked="" type="checkbox"/> Time Constraints: | |

The Department is required to establish TMDLs on water quality limited streams at the rate of 20 percent annually, but in no event less than two stream segments annually. Allocations must be established on the Yamhill River to comply with the requirements stated in the consent decree. Oregon's failure to establish allocations will require the Environmental Protection Agency to promulgate action within 90 days after the deadline.

Meeting Date: June 3, 1989
Agenda Item: L
Page 3

DEVELOPMENTAL BACKGROUND:

<u> </u>	Advisory Committee Report/Recommendation	Attachment	<u> </u>
<u> X</u>	Hearing Officer's Report/Recommendations	Attachment	<u> F</u>
<u> X</u>	Response to Testimony/Comments	Attachment	<u> F</u>
<u> </u>	Prior EQC Agenda Items:	Attachment	<u> </u>
<u> </u>	Other Related Reports/Rules/Statutes:	Attachment	<u> </u>
<u> X</u>	Supplemental Background Information	Attachment	<u> G</u>

The Federal Clean Water Act under Section 303 requires the establishment of total maximum daily loads for streams that do not achieve water quality standards even after the application of technology-based effluents limitations. For municipal treatment plants technology based effluent limitations are defined as standard secondary treatment. The establishment of a total maximum daily load requires a technical evaluation of a receiving water's assimilative capacity. This capacity is then distributed to the various point source discharges as waste load allocations (WLAs), and to nonpoint source, and background as load allocations (LAs). Once the loads are established, it is possible then to identify and review options for protecting the receiving water's beneficial uses.

On August 24, 1987, the Department issued a public notice proposing a flow-based TMDL for the Yamhill River. Following the public notice period, the Department summarized and responded to the comments received. In May of 1988, the Department began intensive sampling to define pollution sources and water quality in the Yamhill Basin. Results for the sampling were used to refine the proposed TMDL, and to propose waste load and load allocations. A public hearing on the proposed rule was held in McMinnville on April 26, 1989. No controversial issues were raised during the public hearing. The hearings officer's report summarizes and responds to the testimony received (Attachment F).

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The proposed rule will:

Establish criteria which will be used to define WLAs for the communities of Carlton, McMinnville and Lafayette.

The proposed WLA for Carlton provides design criteria to assure that effluent from the new wastewater treatment plant will not violate water quality standards.

Achieving the proposed WLA for McMinnville would require reducing existing loads by as much as 90 percent during

summer low flow. Several options exist for achieving the WLA and these need to be assessed relative to cost and time frame for implementation.

The WLA for Lafayette will require reductions in phosphorus load during summer low flow conditions. The level of reduction may depend on options selected by upstream dischargers.

The City of Yamhill requested that the Department hold in reserve an allocation for potential discharge by the City in the future. The proposed allocations provide the requested reserve. The Department proposes to hold reserve for future growth and development but not specifically for the City of Yamhill.

Required program plans describing strategies, available options, time frames, and costs of achieving specific WLAs are to be submitted to the Department by the communities of McMinnville and Lafayette. Evaluation of options and selection of control strategies will follow the Department's review of the program plans. Review of the program plans may result in modifications to the WLAs.

Establish the LA at existing loads with a reserve dedicated to the Department for future growth and development. An additional reserve has been allocated to the North Fork in response to the request by the City of Yamhill. No immediate impacts are expected from establishing LAs. Future growth, development, and discharges may require limitations to stay within the allocated load and reserves.

PROGRAM CONSIDERATIONS:

New tasks established by the proposed rule have been programmed to be handled by existing staff. The added workload is not as significant as that caused by the TMDL on the Tualatin River but will require shifting of priorities and postponing or delays on other required work. New tasks include development of interim TMDLs, program plan review, and continuing proactive involvement with the communities in the Yamhill Basin.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Adopt the proposed rule as written.

Adoption of the proposed rule will provide the framework and time frames for establishing the TMDL with associated WLAs and LAs in the Yamhill basin. The Department identified

three alternatives in the previous staff report. However, no modifications to the recommended proposed rule were suggested during the comment period and the comments which were received supported the proposed rule.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission adopt the proposed rule as written.

The Department is required to establish total maximum daily loads for the Yamhill River. The time frame for developing TMDLs is defined in the Environmental Protection Agency (EPA) - Northwest Environmental Defense Center (NEDC) consent decree. Within 90 days of Department inaction, the Environmental Protection Agency is required to develop TMDLs.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

1. The proposed rule is consistent with the approach for establishing TMDLs on water quality limited stream segments identified in the Environmental Quality Commission Agenda Item O, March 13, 1987.
2. The establishment of phosphorus criteria is needed to improve the water quality of the Yamhill River to protect the recognized beneficial uses of Resident Fish and Aquatic Life, Water Contact Recreation, and Aesthetic Quality. Achieving the phosphorus criteria will prevent nuisance aquatic growth of algae. The Yamhill River is water quality limited due to pH violations resulting from nuisance algal growths. The nuisance algal growths are the result of excessive nutrient loadings. The primary source of nutrients in the Yamhill are the municipal sewage treatment plants.
3. The Federal Clean Water Act, under Section 303, requires that pollution limits termed Total Maximum Daily Loads be established in waters that do not meet standards, in either numerical or narrative form, even after technology-based limitations have been applied.
4. In December 1986, the Northwest Environmental Defense Center filed suit in the Federal District Court against the Environmental Protection Agency to ensure that total maximum daily loads would be established and implemented for waters in Oregon identified as being water quality limited. On June 3, 1987, Federal Judge James Burns signed a consent decree between NEDC and EPA describing a schedule for establishing TMDLs in Oregon. The Yamhill River was one of

Meeting Date: June 3, 1989
Agenda Item: L
Page 6

eleven waterbodies identified in the Consent Decree. In March 1987, the Environmental Quality Commission approved the Department's proposal and schedule for establishing TMDLs on water quality limited streams.

ISSUES FOR COMMISSION TO RESOLVE:

Whether or not to establish instream criteria for phosphorus in the Yamhill River and requirements for establishing TMDLs and the development of program plans in rule form.

INTENDED FOLLOWUP ACTIONS:

Distribute initial allocations for the development of program plans.

Review program plans and return to the Commission for approval.

Approved:

Section: *Richard J. Millone*

Division: *Water Quality*

Director: *Rykeea Taylor*

Report Prepared By: Robert Baumgartner

Phone: 229-5877

Date Prepared: May 3, 1989

RPB:kjc
PM\WJ1840
May 17, 1989

SPECIAL POLICIES AND GUIDELINES

340-41-470

- (4) In order to improve water quality within the Yamhill River subbasin to meet the existing water quality standard for pH, the following special rules for total maximum daily loads, waste load allocations, load allocations and program plans are established.
- (a) After completion of wastewater control facilities and program plans approved by the Commission under this rule and no later than June 30, 1994, no activities shall be allowed and no wastewater shall be discharged to the Yamhill River or its tributaries without the authorization of the Commission that cause the monthly median concentration of total phosphorus to exceed 70 ug/l as measured during the low flow period between approximately May 1 and October 31* of each year.
- * Precise dates for complying with this rule may be conditioned on physical conditions (i.e., flow, temperature) of the receiving water and shall be specified in individual permits or memorandums of understanding issued by the Department. The Department shall consider system design flows, river travel times, and other relevant information when establishing the specific conditions to be inserted in the permits or memorandums of understanding.
- (b) Within 90 days of adoption of these rules, the Cities of McMinnville and Lafayette shall submit a program plan and time schedule to the Department describing how and when they will modify their sewerage facility to comply with this rule.
- (c) Final program plans shall be reviewed and approved by the Commission. The Commission may define alternative compliance dates as program plans are approved. All proposed final program plans shall be subject to public hearing prior to consideration for approval by the Commission.
- (d) The Department shall within 60 days of adoption of these rules distribute initial waste load allocations and load allocations to the point and nonpoint sources in the basin. These allocations shall be considered interim and may be redistributed based upon the conclusions of the approved program plans.

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the Environmental Quality Commission's intended action to adopt and amend rules.

(1) Legal Authority

ORS 468.735 provides that the Commission by rule may establish standards of quality and purity for waters of the state in accordance with the public policy set forth in ORS 468.710. ORS 183.545 requires a review every three years of state agency Administrative Rules to minimize the economic effect these rules may have on businesses. ORS 183.550 requires, among other factors, that public comments be considered in the review and evaluation of these rules. The Clean Water Act (Public Law 92-500, as amended) requires the states to hold public hearings, at least once every three years, to review applicable water quality standards. Section 303 of the Act further requires that Total Maximum Daily Loads be established for water quality limited stream segments.

(2) Need for the Rule

The Environmental Quality Commission, at its meeting on March 13, 1987, approved the process identified by the Department for establishing Total Maximum Daily Loads (TMDLs), including the proposed schedule for completing Phase I of the process for ten stream segments and one lake. To start the process, the Commission concurred with the Department's intent to place the Tualatin River TMDLs on 30-day notice for public review and comment, thus initiating the entire TMDL/WLA (Waste Load Allocation) process for the Yamhill River.

(3) Principal Documents Relied Upon in this Rulemaking

Clean Water Act as amended in 1977.

Quality Criteria for Water, 1986. EPA.

Code of Federal Regulations, 1987 (40 CFR) Part 130 - Water Quality Planning and Management.

State/EPA Agreement, July 1987. Program Document for FY 1988.

FISCAL AND ECONOMIC IMPACT STATEMENT

Overall Impact

Adoption and implementation of the proposed amendments to water quality standards in the Yamhill Basin will result in increased costs for wastewater treatment and control. These increased costs will be limited to communities which treat municipal wastes and discharge effluent to basin streams. The proposed rules do not allocate loads, below existing conditions, to nonpoint waste sources and they do not allocate waste loads to industries. Consequently, neither industries nor nonpoint waste sources (primarily forest harvesting and agricultural operations) will experience fiscal impacts. Communities with municipal treatment facilities will receive specified waste load allocations: to the extent that these allocations require substantial and expensive improvements to treatment capability, there will be significant fiscal impacts.

The actual fiscal impacts to communities cannot be described at this time because cost information is not available. The rules will, if adopted, establish compliance dates for municipalities to submit implementation plans and schedules. When this information is available, the Department can assign monetary values to the impacts.

Although cost information is not available, it is possible to ascertain who may incur fiscal impacts, how they may be impacted, and where the impacts may occur. Local governments may be directly impacted. If capital investment is required, they will have to secure cash from bond sales or from loans. Operating expenses may increase to cover operation and maintenance of new facilities. Sewerage system users may be indirectly impacted. Local governments may have to increase user charges to pay off the bonds and/or loans - system users would have to pay the increased charges. These users include homeowners, small business, and large business. If business operating expenses increase, the public may be indirectly impacted through increased product prices. Property owners could also be indirectly impacted through property tax increases if operating expenses increase for public institutions such as schools. Table 1 presents a summary of possible fiscal and economic impacts which could result from waste load allocations to Yamhill Basin streams. Once cost information is available, these possible impacts will be evaluated.

TABLE 1

SUMMARY OF POSSIBLE FISCAL IMPACTS--YAMHILL BASIN
 WHO IS IMPACTED? HOW ARE THEY IMPACTED? WHERE ARE THEY IMPACTED?

Local Government	Bond sale or loan-Direct	Cash Outlays-1 time
	Operating Expenses-Direct	Cash Outlays-Ongoing
General Public	Rate Increases-Indirect	Cash Outlays-Ongoing
	Price Increases-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual
Small Business	Rate Increases-Indirect	Cash Outlays-Ongoing
	Increased Operating Expenses-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual
Large Businesses	Rate Increases-Indirect	Cash Outlays-Ongoing
	Increased Operating Expenses-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual

Probable Community Impacts

Probable fiscal impacts are presented below for five communities which may receive waste load allocations.

Cove Orchard. This community treats domestic wastes with a gravel filter and drainfield. The treatment system has failed. The EPA will provide a 100% grant to improve treatment capability necessary to meet treatment requirements and water quality standards. No increases in operating expenses are anticipated. There shouldn't be any fiscal impacts.

Yamhill. The waste load allocation to this community is a requested reserve. Treatment facility upgrade will probably not be necessary. There shouldn't be any fiscal impacts.

Carlton. This community is currently preparing a facility plan to upgrade treatment capability necessary to meet permit conditions and Yamhill Basin treatment requirements, and to eliminate compliance problems. Although the analysis is not complete, the facility plan will probably recommend summer holding and spray irrigation of effluent. If this is the case, the waste load allocation to Carlton will not result in increased treatment beyond what will be necessary to meet permit conditions and Basin treatment requirements. Subject to completion of the required facility plan, Carlton should be receiving a federal construction grant, scheduled for summer 1989. This grant will pay about 50% of capital construction costs. The waste load allocation should not result in significant fiscal impacts.

Lafayette. The implementation of a waste load allocation for Lafayette may require treatment facility upgrade and probably summer holding. This could be expensive. The community would be eligible for low interest loans (3%) from the State Revolving Fund. The waste load allocation will probably result in significant fiscal impacts.

McMinnville. McMinnville is the major source of nutrients to the South Yamhill River. The waste load allocation to this community will require substantial facility improvements. Possible alternatives to meet the allocation include summer holding and/or spray irrigation, and advanced waste treatment. The city is now initiating a study to evaluate treatment options, and capital and operating costs. The waste load allocations will probably result in significant fiscal impacts to the community and ratepayers. McMinnville would be eligible for low interest loans from the State Revolving Fund.

(5) Land Use Consistency

The Department has concluded that the proposal conforms with the statewide planning goals and guidelines.

Goal 6 (Air, Water, and Land Resources Quality):

This proposal is designed to improve and maintain water quality in the Yamhill River and achieve the pH standard by reducing the phosphorus loadings which supports nuisance algal blooms during the summer.

Goal 11 (Public Facilities):

Compliance with these proposed rules, if adopted, would require the Cities of McMinnville and Lafayette to provide program plans describing strategies for achieving phosphorus limits. Compliance with these proposed rules, if adopted, would require these cities to provide addition sewerage facilities.

The proposed rules do not appear to conflict with other goals.

Public comment on any land use involved is welcome and may be submitted in the same manner as indicated for testimony in this notice. It is requested that local, state, and federal agencies review the proposed action and comment on possible conflicts with their program affecting land use and with Statewide Planning goals within their expertise and jurisdiction.

The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any appropriate conflicts brought to our attention by local, state and federal authorities.

Bob Baumgartner:crw
229-6978
WC4466
2/3/89

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PHOSPHORUS CRITERIA for the YAMHILL RIVER BASIN
TMDLs for total Phosphorus in the Yamhill

Date Prepared:

Notice Issued:

Comments Due:

WHO IS AFFECTED: All businesses, residents, industries, and local governments within the Yamhill River drainage basin.

WHAT IS PROPOSED: The Department proposes to add the attached language to the special policies and guidelines contained in Oregon Administrative Rules (OAR) Chapter 340, Division 41:-470(4). The proposed language establishes instream phosphorus criteria for the Yamhill, North Yamhill, and South Yamhill Rivers and defines the time period for when the criteria will apply.

The proposed rule will require the Cities of McMinnville and Lafayette to submit program plans to the Department describing a strategy for reviewing and selecting options for achieving phosphorus discharge requirements

WHAT ARE THE HIGHLIGHTS: The Federal Clean Water Act, under section 303, requires that pollution limits known as total maximum daily loads be established on streams that are not achieving water quality standards in either numerical or narrative form. The Yamhill River routinely exceeds the pH standard during summer low flow. The pH violations result from nuisance algal growth which is supported by excessive nutrient concentrations.

The Department believes that phosphorus is the key nutrient supporting the excess algal growths. The proposed rule establishes the instream phosphorus level necessary to prevent the pH standard from being exceeded. The proposed criteria will form the structure for establishing the total maximum daily load, load allocations and waste load allocations. The waste load allocations will define the allowable levels of phosphorus that may be discharged from specified point sources. The load allocations establish the amount of phosphorus that is derived from background and nonpoint sources.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/88

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

D - 1

The Department will accept public comment on the proposed additions and amendments to the special policies and guidelines contained in OAR 340-41-470(4). The proposed language for additions and amendments is attached.

HOW TO
COMMENT:

Public hearings to receive comments on the proposed additions and amendments to OAR 340-41-470(4) as follows:

When:

Where:

The Department will accept written comments received by 9:00 P.M. _____, _____, 1989. Comments should be addressed to:

Mr. Robert Baumgartner
Department of Environmental Quality
811 SW 6th Ave.
Portland OR 97204

WC4467

Copies to...
U. S. DISTRICT COURT
DISTRICT OF OREGON
FILED

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Rech S. Ginsberg, Attorney
United States Department of Justice
Land and Natural Resources Division
Environmental Defense Section
P.O. Box
Washington, D.C. 20026-3986
(202) 643-2689

ROBERT M. CHRIST, CLERK
BY DEPUT.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON

NORTHWEST ENVIRONMENTAL DEFENSE
CENTER (NEDC) and JOHN R. CHURCHILL,

Plaintiffs,

v.

LEE THOMAS, in his official
capacity as Administrator of
the Environmental Protection
Agency,

Defendant.

Civil No. 86-1578-BU

CONSENT DECREE

WHEREAS, on December 12, 1986, the Northwest Environ-
mental Defense Center ("NEDC") filed a complaint, as amended on
March 20, 1987 in the above-captioned case against Lee Thomas, in
his official capacity as Administrator of the Environmental
Protection Agency ("EPA");

WHEREAS, NEDC alleges that EPA has violated sections
303 and 505 of the Clean Water Act ("CWA") by failing to perform
certain mandatory duties, and EPA denies all liability under the
CWA, the Administrative Procedure Act ("APA"), or common law;

WHEREAS, by entering into this decree, EPA in no way
agrees with NEDC's allegations that Oregon's failure to make
the requisite submissions under CWA section 303 constitutes a
"constructive submission" that no submissions are necessary, and
that EPA had subsequently issued a constructive approval of the
same,

WHEREAS, it is the intent of EPA to see that the goals
set forth under CWA section 303 are accomplished, including the
designation of water quality limited segments ("WQLS") and the
establishment of total maximum daily loads ("TMDL"), including
both waste load allocations ("WLA") and load allocations ("LA");

1 WHEREAS, the parties agree that in accordance with the
2 statutory intent of the CWA, the primary responsibility for
accomplishing the goals under section 303 lies with the States;

3 WHEREAS, the State of Oregon and EPA will annually
4 incorporate elements of this agreement into the State's com-
prehensive water quality program through the State/EPA ("SEA")
5 negotiation process;

6 WHEREAS, EPA will not award CWA funds to Oregon for the
7 development of TMDLs, including WLA's and LAS if the elements of
8 this agreement are not identified in the SEA;

9 WHEREAS, promulgation of the TMDL/WLA/LA constitutes
10 "new information" and EPA understands that it is the intent of
11 the State of Oregon to modify, N.P.D.E.S. permits on the basis of
12 the respective permit reopening clauses and 40 C.F.R. § 122.62(a)(1);

13 WHEREAS, the parties wish to resolve this action without
14 litigation, and have, therefore, agreed to entry of this Consent
15 Decree, without the admission or adjudication of any issue of
16 fact or law.

17 NOW, THEREFORE, it is hereby ordered, adjudged, and
18 decreed as follows:

19 1. The Court has jurisdiction over this matter and the
20 parties to the decree.

21 2. That the following terms shall have the meanings
22 provided below:

- 23 A. "EPA" means the United States Environmental
24 Protection Agency.
- 25 B. "NEDC" means the Northwest Environmental Defense
26 Center.
- 27 C. "Loading Capacity" is that which is defined at
28 40 C.F.R. § 130.2(e).
- 29 D. "Water Quality Limited Segments" ("WQLS") is
30 which is defined at 40 C.F.R. § 130.2(i).
- 31 E. "Total Maximum Daily Loads" is that which is
32 defined at 40 C.F.R. § 130.2(h).
- 33 F. "State/EPA Agreement" is that which is
34 defined at 40 C.F.R. 122.2.

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- G. Waste load allocation ("WLA") is that which is defined at 40 C.F.R. § 130.2(g)
- H. Load allocation ("LA") is that which is defined at 40 C.F.R. § 130.2(f).
- I. "New Information" is that which is defined at 40 C.F.R. § 122.62(a)(2).

3. That in accordance with the current State/EPA agreement, the State of Oregon has lead responsibility for the designation of Water Quality Limited Segments and the promulgation of Total Maximum Daily Loads pursuant to CWA section 303, 33 U.S.C. § 1313.

4. That, in the event the State of Oregon fails to undertake the following regulatory actions according to the schedule set out below, EPA will notice in the federal register proposed agency action in accordance with 33 U.S.C. § 1313(d)(2) no later than ninety days following Oregon's inaction. The regulatory actions and the dates by which they will be completed by the State of Oregon are as follows:

- A. submission of the loading capacity as defined at 40 C.F.R. § 130.2(e) for the following Water Quality Limited Segments as set forth below:

<u>Water Body</u>	<u>Date</u>
Tualatin River	5/87
Yamhill River	8/87
Bear Creek	11/87
South Umpqua River	11/87
Cocuille River	2/88
Pudding River	2/88
Garrison Lake	2/88
Klanath River	4/88
Umacilla River	4/88
Calapooia River	6/88
Grande Ronde River	6/88

- B. adoption of TMDLs WLA's/LA's on those WQLS which are identified in paragraph A and subsequent listings of WQLS provided by the State of Oregon in water quality reports prepared in accordance with CWA section 305(b), at the rate of 20% annually, but in no event less than 2 annually.

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C. determination by August, 1988 as to whether the remaining water bodies listed in the plaintiffs' second notice letter of intent to sue dated January 6, 1987, and not identified in EPA's approval on February 20, 1987, of Oregon's January 5, 1987 submission to EPA of Water Quality Limited Segments, are water quality limited.

5. That EPA understands that it is the intent of the State of Oregon to initiate modification of the Rock Creek N.P.D.E permit on the basis of the permit reopener clause and 40 C.F.R. § 122.62(a)(2) within 90 days of promulgation of the phosphorus TMDL/WLA/LA for the Tualatin River.

6. That, it is the intent of the State of Oregon and EPA to reevaluate, in accordance with CWA § 305(b), the waters of the State of Oregon under CWA § 303(d).

7. That defendant will pay plaintiff reasonable costs, including attorney's fees, incurred to date.

8. That this consent decree will expire upon completion of the obligations set forth in paragraph 4 as to the waters identified in subsections (a) and (c) of paragraph 4.

IT IS SO ORDERED.

6-3-87 James M. Burns
JAMES M. BURNS
UNITED STATES DISTRICT JUDGE

Plaintiffs and Defendant consent to the entry of this Consent Decree without further notice or hearing.

Respectfully submitted,

NORTHWEST ENVIRONMENTAL DEFENSE
CENTER and JOHN R. CHURCHILL
Plaintiffs

LEE THOMAS, ADMINISTRATOR
U.S. Environmental Protection
Agency
Defendant

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By: Jeffrey A. Strang
JEFFREY A. STRANG
5525 SW Kelly Avenue
Portland, OR 97201
(503) 245-7641

By: Beth S. Ginsberg
BETH S. GINSBERG, Attorney
U.S. Department of Justice
Land & Natural Resources Div.
Environmental Defense Section
P.O. Box 23986
Washington, D.C. 20026-3986
(202) 633-2689

By: Karl G. Anuta
KARL G. ANUTA
721 S.W. Oak
Portland, OR 97205
(503) 228-6474

By: Monica Kirk
MONICA KIRK
U.S. Environmental Protection
Region X, Office of Regional
Counsel
100 Sixth Avenue
Seattle, WA 98101
(206) 442-1505

STATE OF OREGONDEPARTMENT OF ENVIRONMENTAL QUALITYINTEROFFICE MEMO

TO: Environmental Quality Commission DATE: May 5, 1989

FROM: Neil Mullane

SUBJECT: Hearings Officer's Report on the Proposed Rule OAR 340-41-470(4),
Establishing an Instream Total Phosphorus Criteria for the
Yamhill, South Yamhill, and North Yamhill Rivers

A public hearing was held on April 26, 1989 at the Community Center in McMinnville to receive written and oral testimony on the above proposed rule. Approximately 30 people attended the hearing. Two people presented testimony, one of those individuals, representing the City of McMinnville also submitted written testimony. The Department also received one additional piece of written testimony after the submitted deadline which is included in this report.

Summary of Comments

Robert Morris, a property owner along the river, testified that he felt efforts should be made to keep more water in the river. He felt a lack of water contributed greatly to the problems.

Don Schut, City of McMinnville, summarized written testimony which he submitted and which is attached. McMinnville supports the proposed rule. They are pleased with the revised date of 1994, although it will still be very difficult to achieve in their mind, they felt it is more reasonable. The City also felt that it was really important for the Commission to keep the flexibility to revise dates and time frames.

Robert Burd, U.S. Environmental Protection Agency, submitted written comments, received late, but attached to this report, which supports both the phosphorus criteria and implementation program.

Response to Comment

No comments were received suggesting modifications to the proposed rule.

Recommendation

As Hearings Officer, I recommend adoption of the OAR 340-41-470(4) as proposed.



McMinnville Hearing
4/20/89
Neil J Mullane
NDM

230 East Second Street • McMinnville, Oregon 97128 • 503-472-9371

April 26, 1989

Mr. Robert Baumgartner
Department of Environmental Quality
Willamette Valley Region
895 Summer Street NE
Salem, Oregon 97310

Re: Yamhill River Drainage Basin

Dear Mr. Baumgartner:

The City has presented a rough draft of time schedules to bring the McMinnville Wastewater Facility into compliance with the revised discharge limits at previous informal meetings. The two alternatives reviewed (attached) require three to three and one-half years to complete. Several assumptions were used in developing these time schedules. These include:

1. No formal facility plan is required.
2. No legal challenges filed.
3. Land use requirements are met.
4. No coordination with the long term alternatives.

The starting point of each of the time schedules assumes approval of a program plan by the Environmental Quality Commission. The development of a partially approved Program Plan for Washington County has already used up nine to ten months of their five-year compliance schedule. DEQ and EQC approval and hearings processes can use up considerable time and have not been included in the time schedule to reflect the length of delays seen in Washington County.

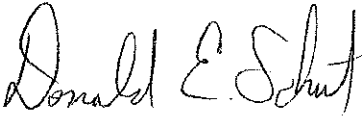
The proposed June 30, 1994 compliance date for the City of McMinnville is not going to be easily met. Many variables exist on the assumptions listed that could significantly extend the approval and construction times.

The City has not reviewed the numerical standards that are the basis for the proposed discharge limits for the wastewater treatment plant. We are assuming that the DEQ staff has done the water quality analysis as

required by the Clean Water Act and have proposed valid standards. We are not in a position to comment on these standards and, therefore, take no responsibility for the level of water quality improvements that may or may not be achieved in the Yamhill River Basin when they are met.

We are pleased that DEQ staff has changed the recommended compliance date from the original proposal. We are also pleased that the Commission will review the compliance date during the Program Plan approval process. Until a plan is developed and approved, we are all guessing on the implementation time schedules. We think that it is important that the EQC retain flexibility in setting the compliance dates and that the long-term solutions be reviewed along with the short-term needs.

Sincerely,

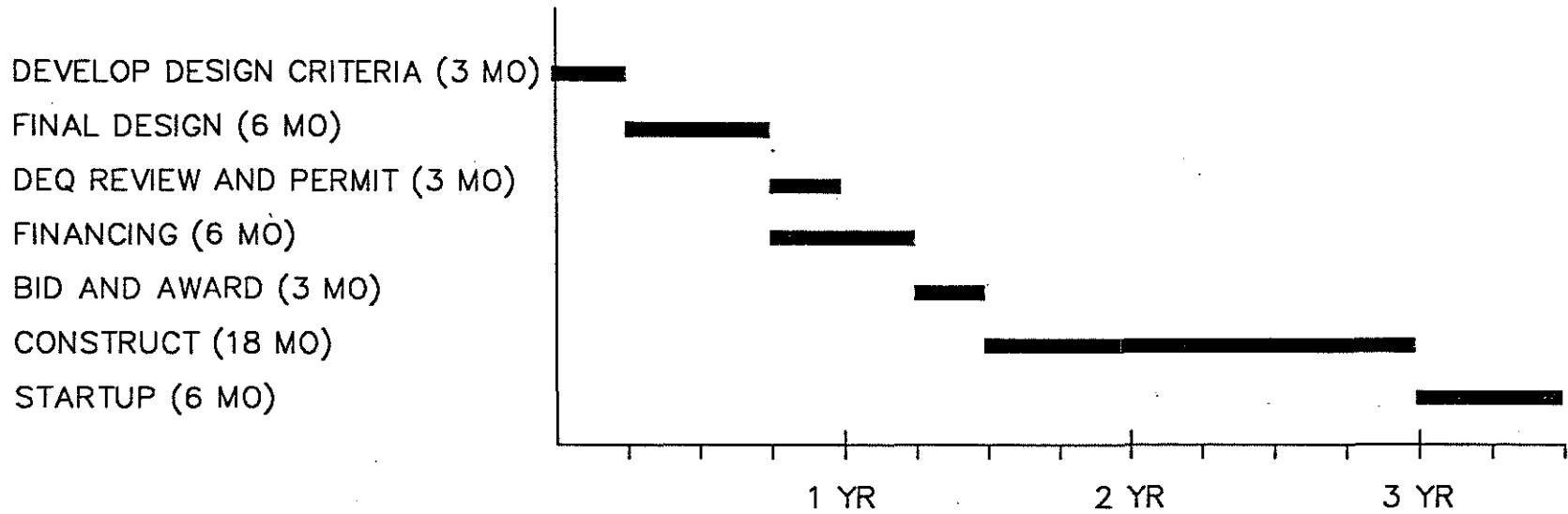


Donald E. Schut
Director of Public Works

DES:llp
Enclosure

FACILITIES:
SECONDARY EFFLUENT PUMPING
TERTIARY CLARIFIERS
FILTERS
CHEMICAL HANDLING AND FEED
SOLIDS PROCESSING

ASSUMES:
* NO FORMAL FACILITIES PLAN
* EXISTING SITE SUITABLE
FOR NEW FACILITIES
* NO COORDINATION WITH LONG
TERM ALTERNATIVE



ADVANCED WASTEWATER TREATMENT

Mc MINNVILLE STP

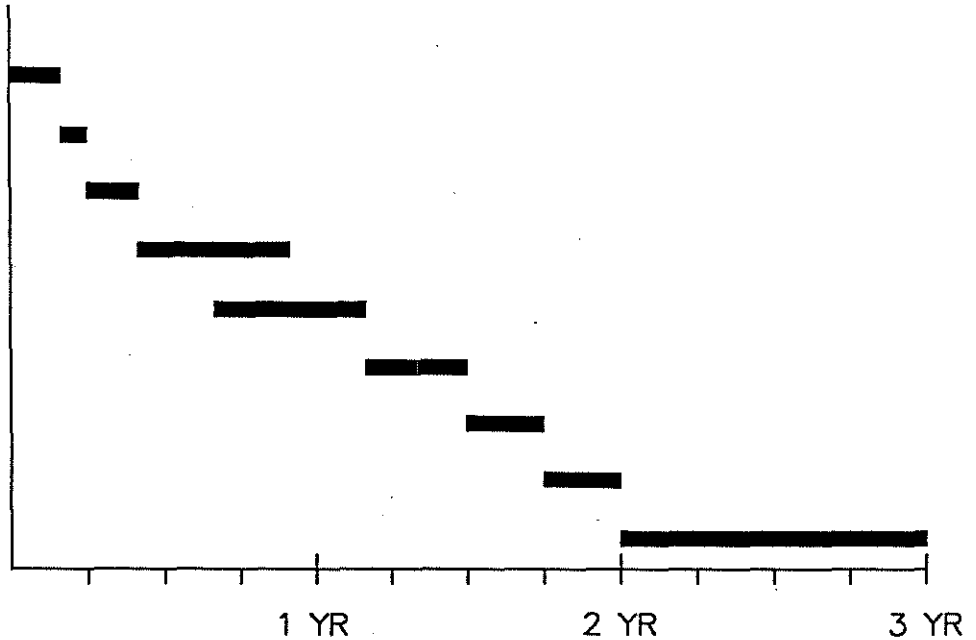


60 DAYS STORAGE → ±50 ACRES
IRRIGATION → ±500 ACRES

ASSUMES:

- * NO FORMAL FACILITIES PLAN
- * NO LEGAL CHALLENGES
- * LAND USE, AND OTHER PLANNING REQUIREMENTS SATISFIED
- * NO COORDINATION WITH LONG TERM ALTERNATIVE

- DEVELOP DESIGN CRITERIA (2 MO)
- LOCATE SUITABLE SITES (1 MO)
- EVALUATE SITES (SOIL, GROUNDWATER (2 MO)
- FINANCING (6 MO)
- AQUIRE LAND (6 MO)
- DESIGN FACILITIES (4 MO)
- DEQ REVIEW AND PERMIT (3 MO)
- BID AND AWARD (3 MO)
- CONSTRUCT (1 YR)



EFFLUENT STORAGE / IRRIGATION / WETLANDS
 Mc MINNVILLE STP



F-5

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101



APR 26 1989

REPLY TO: WD-139
ATTN OF:

Neil
Richard Nichols, Administrator
Water Quality Division
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

RECEIVED
MAY 1 1989

Water Quality Division
Dept. of Environmental Quality

Dear Mr. Nichols: *Duke*

Recently, our office received a public notice requesting comments on proposed revisions to water quality standards for the Yamhill River basin. I appreciate the opportunity to review this proposal. It is clear that these modifications represent a great deal of work and the Department should be commended for this entire effort.

This proposal represents the first step in developing and implementing a comprehensive water quality management plan for the Yamhill River. Our comments cover both the criteria and the implementation program. I was pleased with both the addition of nutrient standards and compliance dates for the Yamhill River. These proposed actions are a major step forward. The proposed rules also define a good framework for involving local governments in efforts to improve water quality in the Yamhill basin.

I fully realize that significant progress has been made and that significant resources are required to develop and implement good water quality management plans. I want to emphasize, however, the need for the Department to stay on the schedule negotiated as part of the Consent Decree in the NEDC v. Thomas lawsuit. Clearly, the future of Oregon's rivers will be best served by having the Department continue its TMDL efforts.

I look forward to seeing the successful implementation of the proposed rule changes. We hope that good communications among all parties will enable us to continue working together towards our common goal, i.e., the establishment of an effective water quality management process in Oregon. If you have any questions or would like to discuss these issues, I would welcome the opportunity to meet you sometime soon.

Sincerely,

A handwritten signature in cursive script that reads "Burd".

Robert S. Burd
Director, Water Division

Enclosure

F-6 72

U.S. ENVIRONMENTAL PROTECTION AGENCY

Comments on Proposed Revisions to OAR 340-41-470 Yamhill River Water Quality Standards

The following summarizes our review comments over proposed revisions to the Oregon Water Quality Standards. We understand that the proposed changes to OAR 340-41-470 are intended to address water quality problems in the Yamhill River. This will be accomplished by first establishing criteria levels for total phosphorus. An implementation program will then be developed to control pollution sources through the use of total maximum daily loads (TMDLs), waste load allocations (WLAs), and load allocation (LAs). Our comments are divided into two sections which address: 1) proposed criteria and 2) the implementation program.

We realize that significant resources are required to develop and implement good water quality management plans. We also understand that these proposed rules begin to define a framework for improving water quality in the Yamhill basin which involves local governments. The Department should be commended for the enormous time and effort which has been devoted to solving the water quality problems of the Yamhill.

PROPOSED CRITERIA

Where water quality standards are not attained, TMDLs are established in order to provide a focus for implementation plans. A critical step in the water quality management process is to ensure that adequate criteria are in place. The Department has stated that the proposed criteria will form the structure for establishing TMDLs, WLAs, and LAs. Clearly defined standards and criteria are essential if meaningful TMDLs are to be developed. Thus, we fully support the Department's intent to adopt new criteria to solve water quality problems. The criteria are set at levels necessary to protect the uses of the water. In the Yamhill, the Department has identified water quality as adversely affecting two significant uses:

- * aquatic life through high pH levels, and
- * the aesthetic quality of the river through excessive algal growth.

The Department has identified phosphorus as the pollutant responsible for contributing to the problem. As a result, a phosphorus criterion is proposed by the Department to address pH standards violations caused by excessive algal growth. Our understanding of the basis for the proposed level is summarized as follows:

1. The Department determined that the summer pH violations in the Yamhill River are the result of algal photosynthesis. Reduced concentrations of carbon dioxide due to photosynthesis raise the stream pH. The role of algal growth as the cause of the violations is supported by increased chlorophyll a and dissolved oxygen concentrations in the Yamhill.

2. To determine the appropriate the water quality parameter affecting algal growth in the Yamhill, laboratory algal assays were performed. The results of these tests showed that algal growth will be significantly reduced with phosphate controls.
3. An empirical analysis (Uttormark & Hutchins, 1983) for assessing algal growth conditions in slow moving lake-like rivers was used in conjunction with measured Yamhill River travel times at low flow conditions. From this evaluation, the Department determined that a level of 70 ug/L total phosphorus was needed to significantly reduce algal growth and to prevent nuisance conditions.
4. The Department determined that a time period of May 1 to October 31 was needed for application of the instream criteria. The Department based this on flow and temperature conditions in the Yamhill Basin which could be expected to result in levels of algal growth leading to pH violations.

The identification of phosphorus as the limiting nutrient controlling algal growth follows as scientifically accepted process. The technical rationale the Department used to determine a median of 70 ug/L total phosphorus appears to be supported by both technical literature and field data. The 70 ug/L is also below the suggested general guideline for total phosphorus which appears in EPA's Gold Book. Therefore, EPA has no major concerns with the proposed phosphorus criteria of 70 ug/L for the Yamhill River. However, it would be useful for the Department to provide our office with a more thorough description of the technical analyses prior to formal submittal for EPA approval. This information would include the pH/algal growth/phosphorus model, travel time data, and the hydrologic/stream temperature analysis.

IMPLEMENTATION PROGRAM

The Department has documented that the major source of nutrients in the Yamhill Basin is municipal sewage treatment plants. Allocations to non-point sources have been determined using existing instream concentrations above the wastewater plants have then been based on the remaining amount available. We would encourage the Department to work with the local community in exploring all available options. This could include non-point source controls or an analysis of upstream sewage treatment plant lagoons which do not discharge during the summer, but are located adjacent to the Yamhill River. The proposed rule does allow the re-allocation of loads if other options identified later appear to be more viable.

The proposed additions to OAR 340-41-470 include time schedules for the cities of McMinnville and Lafayette. Within ninety days of adoption of the rules, these cities are to submit program plans to the Department describing how and when they will modify their wastewater treatment facilities to comply with the rules. The support document attached to the public notice describes final effluent limits and time schedules which we assume will be incorporated into McMinnville's NPDES permit. Information, such as interim limits and monitoring conditions, included in other Oregon TMDLs has not been presented. We realize that this information could change once the cities submit plans. However, it would be useful to outline the framework at the onset of the process for public comment. For this process to function as an effective water quality management tool, the TMDL needs to be understood by the Department's permit writers as well as by the regulated community.

Yamhill River
Problem Assessment

Introduction:

The Yamhill Basin, located in Western Oregon, consists of a central plain completely surrounded by hills and mountains. The Yamhill drainage is contained largely within Yamhill County and contains three major subbasins: the South Yamhill, the North Yamhill, and the mainstem Yamhill. Agriculture and forestry are the dominant land uses. The City of McMinnville is the largest urban area within the Yamhill Basin.

The Yamhill River currently exceeds the pH standard during low flow conditions. Chlorophyll a, an algal pigment, often exceeds the 15 ug/l level used to indicate nuisance algal growth. Because of the standards violations, the Yamhill River has been identified as a water quality limited stream segment.

Problem Assessment:

The pH of a stream is strongly influenced by various biological reactions. The dominant effect is the use of carbon dioxide by algae during photosynthesis. Reduced concentrations of carbon dioxide due to photosynthesis raise the stream pH. Photosynthesis also increases the dissolved oxygen concentration in a stream. During periods of pH violations in the Yamhill River, the dissolved oxygen and chlorophyll a concentrations are elevated due to excessive algal growth. The violations in the Yamhill river are due to excessive algal growth.

Almost all waterbodies support the growth of algae to some degree. Algae are primary producers supporting the base of the food chain. Typically, algae do not grow to nuisance proportions. Many factors contribute to algal growth. Some, such as sunlight, are natural phenomena and are not controllable. Most elements required for algal growth are present naturally and required in small amounts. Phosphorus and sometimes nitrogen are nutrients which typically determine the amount of algal growth that will occur. Excessive amounts of these nutrients are directly related to human activities. Nutrient control, typically phosphorus, is a commonly accepted strategy for controlling nuisance algal growths.

Phosphorus is usually the limiting nutrient under natural conditions and is the nutrient most controllable by human activities. Although phosphorus is not the only factor that affects algal growth, studies indicate it has a major effect on the abundance and type of algae produced. Nitrogen is more ubiquitous in nature. Certain plants and blue green algae can fix atmospheric nitrogen. Nitrogen supply is less controllable than

phosphorus. Inorganic carbon, the third nutrient required in large supply, is available from the atmosphere and is not controllable.

Pollution Sources:

The major source of nutrients in the Yamhill Basin are the municipal sewage treatment plants (STP). Three municipal STPs discharge in the Yamhill Basin during the summer, which is the season of concern. These plants and their nutrient load at design flows are listed below and compared to average low flow loads in the Yamhill River above McMinnville.

Table 1

Point source:	lbs/Day		Limiting Nutrient
	Phosphorus	Nitrogen	
McMinnville STP (4 MGD)	150	363	Nitrogen
Lafayette STP (0.3 MGD)	14	38	Nitrogen
Carlton STP (0.24 MGD)	9	38	Nitrogen
S.Yamhill (35 cfs)	9	75	Phosphorus

Not all the phosphorus in stream water is available for algal growth. Typically from 20% to 60% of the total phosphorus is available. Ortho phosphorus is considered to represent the readily available supply of phosphorus. In a slow flowing stream like the Yamhill, with longer residence times, a portion of the particulate phosphorus may be available for algal growth. Algal assay data indicate that as much as 60% - 70% of the total phosphorus in the South Yamhill above McMinnville is available for algal uptake. Comparatively, almost all of the phosphorus from municipal effluent is readily available for algal growth. McMinnville's waste discharge would be expected to increase the readily available phosphorus by over 95% during summer low flow conditions.

Nonpoint source pollution also contributes nutrients to the Yamhill River. The Department conducted extensive ambient monitoring during 1988 to quantify both point and nonpoint source loads. Figure 1 illustrates the average total phosphorus concentration in the South Yamhill and mainstem Yamhill Rivers during 1988. The major peak is the result of phosphorus loads from the McMinnville STP. The subsequent drop is due both to assimilation and dilution from the North Fork Yamhill River. The following smaller peak is derived from the Lafayette STP.

Both algal growth and pH respond to the increased nutrient loads below McMinnville. Upstream from McMinnville the pH is within standard and the chlorophyll a concentrations remain below the reference level. At all sampling stations below McMinnville, the pH frequently exceeds standards and chlorophyll a concentrations exceed the reference level which indicates nuisance conditions.

Time of Concern:

Summer low flow conditions are the period of greatest water quality problems in the Yamhill basin. During the winter, low stream temperatures, limited sunlight, and faster flow combine to reduce algal growth. Nutrient limits are required when physical limitations would not control nuisance algal growth. This period extends from April through October.

Stream temperatures observed in October are sufficient to support nuisance algal growth. Similarly, observed low flow conditions of 23 cfs would result in residence time long enough to support algal growth. Ambient data from 1987 through 1988 show pH violations in the Yamhill River occurring from June through September. The time period for application of the instream criteria is described as the low flow period between May 1 and October 31.

Nutrient Concentration:

An instream total phosphorus concentration of 70 ug/l in the Yamhill River will prevent nuisance algal growths and maintain pH within standards. The 70 ug/l criteria was determined using algal assays, empirical analysis, and modelling analysis. Similar results were obtained for the Tualatin River. Data indicates that similar environmental conditions exist for the Yamhill River. Model results show that residence time is sufficiently long to support algal growth, and that nutrient reduction to 70 ug/l total phosphorus is required to prevent nuisance growth in the Yamhill River.

Uttormark and Hutchins (1983) adapted the widely accepted Vollenweider method for assessing algal growth conditions in slow moving lake-like rivers. This empirical model allows residence time, algal growth, and nutrient concentration to be assessed in terms of trophic state. Figure 2 illustrates this empirical model to conditions observed in the Yamhill River.

In Figure 2, the horizontal axis represents the washout rate. Higher streamflow resulting in a long washout rate is the same as a short residence time. The horizontal slanting lines represent potential washout of algae. To the right of these lines residence times are short. Points to the right of the lines would indicate algae do not have time to grow and multiply to nuisance proportions.

Residence time in the Yamhill River below McMinnville was measured by dye test. Under low flow conditions residence time ranges from two to three weeks. Under existing conditions algae can grow to nuisance proportions in approximately three days. If phosphorus was limited an estimated eight to nine days would be required for algae to grow. Washout is not expected to reduce algal growth in the Yamhill River during low flow conditions.

The line slanting across Figure 2 represents Vollenweider's empirical relationship separating high growth conditions from low algal growth conditions, less than 20 ug/l chlorophyll a. However, this relationship is empirical and therefore subjective. Alternative phosphorus criteria can be compared relative to other options. For example, a criteria of 100 to 150 ug/l phosphorus would still be expected to result in high algal growth conditions. Levels near 70 ug/l would be expected to significantly reduce growth and prevent nuisance conditions.

Water quality in the Yamhill basin can be compared to that in other streams in the Willamette Valley. These streams all have low flows in the summer and residence times long enough to support algal growth. Based on eco-region studies conducted in Oregon, the trophic levels and productivity of Willamette valley streams tends to be similar. Water quality in streams that exceed 100 ug/l total phosphorus are overwhelmed by municipal point sources of pollution resulting in excessive algal growth and pH violations.

<u>Stream Name</u>	<u>Drainage Characteristics</u>	<u>Median Total Phosphorus Concentration</u>	<u>Trophic Level (Median - Max Chlorophyll a)</u>
Tualatin at Elsner	Agriculture Urban - STP	240	High Algal Growth 30 - 100+
Mary's River	Agriculture Urban	75	Moderate Algal Growth 7 - 15 ug/l
Calapooia	Agriculture	60	Moderate Algal Growth 5 - 15 ug/l
Luckiamute	Agriculture	40	Low Algal Growth 1 - 5 ug/l
So. Yamhill Above McMinnville STP	Agriculture	40	Low Algal Growth 1 - 10 ug/l
Yamhill River	Agriculture Urban - STP	210	High Algal Growth 13 - 50 (1987)

One algal assay was conducted on water quality samples collected from the Yamhill River. This assay indicated that phosphorus was in excess of algal growth requirements below the McMinnville STP. These results are consistent with the ambient results which indicate that extreme algal growth in the Yamhill River drives nitrogen concentration to low levels. Because of the high phosphorus load and low nitrogen to phosphorus ratio in municipal effluent, this imbalance is expected where municipal discharges overwhelm a stream system.

On the day the algal assay samples were collected, instream phosphorus concentrations were below 150 mg/l and nitrate concentrations were below 300 ug/l. These levels are below typical concentrations of 210 ug/l total phosphorus and 500 ug/l nitrogen. Maximum growth due to nutrient enrichment may not have been achieved in the assays. Samples collected from above McMinnville produced 40% of the algal growth produced by samples collected below McMinnville.

The pH violations in the Yamhill River are the result of photosynthesis. Photosynthesis is the process by which green plants use solar energy and nutrients to grow. It can be described simply as:

Nutrients + Carbon + Water -----> Cell growth + Oxygen

Photosynthesis results in:

- Increase in the Dissolved Oxygen Concentration
- Loss of CO₂
- Increase in the pH resulting from decreased inorganic carbon concentration.

The ability of a water to control pH change is a result of alkalinity. Alkalinity is a measurement of the ability to buffer changes in pH. Most of the Alkalinity in the Yamhill is provided by carbon. Excessive algal growth consumes the carbon in the buffer, causing the pH to increase. Since photosynthesis is the dominant sink for inorganic carbon, algal growth can be related stoichiometrically to changes in pH. At the peak pH level of 9.5 observed in the Yamhill River, photosynthesis would have to be reduced between 40 to 60% to maintain the standard pH of 8.5. The Department's analysis suggests that the 70 ug/l total phosphorus criteria would attain the required reduction.

TMDL-WLA-LA

The loading capacity of the Yamhill River for phosphorus is defined as 70 ug/l total phosphorus. The evaluation process used defines loads and allocations for a series of flow conditions. For the Yamhill, allocations are distributed by three subbasins: South Fork Yamhill, North Fork Yamhill, and the mainstem Yamhill.

Mass balance procedures were used to develop the allocations. Existing loads were compared to instream concentrations for various flow conditions.

This procedure allowed the estimation of nonpoint source loads, dilution from tributaries, and instream assimilation.

The water quality limited sections are defined as:

The South Fork below McMinnville,

The North Fork below Carlton, and

The mainstem Yamhill.

Point sources requiring waste load allocations include the three municipal treatment plants. In addition, the City of Yamhill has requested a waste load allocation in the event that future needs require discharge to the river.

Upstream load allocations for the North and South Yamhill Rivers are calculated using an existing instream concentration of 50 ug/l of total phosphorus. Additionally, the Department is holding in reserve 5 ug/l for each subbasin.

The allocations, in pounds per day of total phosphate as P, for each basin are presented below. Loads are calculated using the lower end of the presented ranges. For the lowest flow range the design flow is noted in parenthesis.

Total Phosphorus Loads (lbs/d) relative to Flow
Flow as Measured at Whiteson

South Fork Basin Allocation / Description	less than		Greater than	
	50 cfs (15)	50 -100	100 - 200	200 cfs
LA South Fork NPS	4.0	13.5	27.0	53.6
WLA McMinnville STP	3.5	6.7	10.8	19.2
LA Department Reserve	0.5	1.3	2.7	5.3
TMDL (basin)	8.0	21.5	40.5	78.1

Total Phosphorus Load (lbs/d)

North Fork Basin Allocation / Description	1 Estimated Flow North Fork			
	less than 15 cfs (7)	15 - 30	30 - 50	Greater than 50 cfs
LA North Fork NPS	1.8	3.9	8.0	13.4
WLA Carlton	0.3	0.7	1.3	2.1
WLA Yamhill	0.3	0.7	1.3	2.1
WLA Cove Orchard ²	----	---	----	----
LA Department Reserve	0.2	0.4	0.8	1.3
TMDL	2.6	5.7	11.4	18.9

Total Phosphorus Loads (lbs/d)

Mainstem Yamhill Allocation / Description	3 Estimated Flow Below Lafayette			
	less than 75 cfs (30)	75 - 145	145-275	Greater than 275 cfs
LA Upstream Input	10.6	26.9	51.4	96.7
Assimilation	1.5	3.2	5.2	6.5
Allocatable Load	2.2	4.4	8.2	13.0
WLA Lafayette	1.2	2.0	3.3	3.8
LA Mainstem NPS	0.5	1.3	3.1	6.9
LA Department Reserve	0.5	1.1	1.8	2.3
TMDL	11.3	28.1	54.4	103.2

Note: WLA: Portion of the assimilative capacity allocated to a point source.

LA: Portion of the assimilative capacity allocated to nonpoint sources, background, assimilation, or reserved for future growth and development.

TMDL: Sum of the WLAs and LAs.

1 Estimates are from USGS historical data from the North Yamhill at Pike, plus flow from Carlton STP and estimates of flow from the Panther/Backer Creek subbasin.

2 The City of Cove Orchard is in the planning phase for reviewing alternatives to fix a failing subsurface system. Options that are being considered include discharge. The Department would have to

provide an allocation for such a discharge. The amount allocated would depend on receiving stream flow, assimilation, and any reserves allocated.

- 3 Estimates are made by summing the flows from the South Fork, the North Fork and estimated flows entering the mainstem Yamhill for each flow range. Estimated inflows to the mainstem for each flow range in cfs are 1.34, 3.34, 8.35, and 18.3 respectively.

The LA represent existing conditions with an added reserve set aside by the Department for future growth and development. The basins have been further subdivided into several sub-basins, which are cross-referenced to land use and political entity. These refinements allow LAs to be further divided as needed, or requested by coordinating agencies.

The WLA assumes equal effort for point sources in each subbasin. The WLA for McMinnville utilizes the remaining assimilative capacity for the Yamhill after the Department has held its reserve. The WLA for Lafayette is dependent on the instream assimilation and dilution from tributary flows. The WLAs may be revised pending further work sessions with interested parties in the basin.

Effect of TMDLs and WLAs

Nonpoint sources do not appear to contribute excessive nutrient loads to the mainstem Yamhill River. The load allocations have been established to reflect existing conditions. Reserves have been allocated which provide for future growth and development.

Waste load allocations will directly affect the communities of Carlton, Yamhill, McMinnville, and Lafayette. The City of Carlton is in the process of planning a new wastewater facility. The WLA provides a required goal for the new plant. The WLA therefore provides the design criteria to assure the new plant will not result in water quality violations. No increased costs are expected to result for Carlton due to the WLA.

The WLA to Yamhill provides a requested reserve for the city. The City felt this was necessary to keep their options open for future needs. No direct impacts to the City of Yamhill are expected due to issuing the WLA.

The City of McMinnville's wastewater treatment plant is the major source of nutrients discharged to the Yamhill River. To achieve the WLA will require reducing existing loads by as much as 90% during low flow conditions. Several options are available for achieving the WLA. These options include beneficial reuse by irrigation on city owned or agricultural land, summer holding, advanced treatment with phosphorus removal, or a combination of these alternatives. Costs will also be dependent on the time frames required to achieve compliance. The City of McMinnville has hired a consultant to review potential options and submit a program plan to the Department.

The City of Lafayette provides a significant load of phosphorus to the Yamhill River. To achieve the 70 ug/l total phosphorus would require load

reductions from Lafayette under any circumstances. For example, 130 cfs of dilution flow, at upstream phosphorus levels, would be required for Lafayette to discharge its design flow and not exceed 70 ug/l. Minimum monthly average low flows below 130 cfs have been observed from June through November. Options for Lafayette may depend on the options selected by upstream dischargers. However, Lafayette needs to review options for limiting phosphorus loads during summer low flow conditions.

Existing Concerns:

Salt Creek.

The proposed rules derived from this study do not directly set a criteria for Salt Creek. Salt Creek drains into the South Yamhill above McMinnville. The load from Salt Creek is calculated into the IAs and target criteria for the South Yamhill. Salt Creek routinely violates the dissolved oxygen standard, falling below 1.5 mg/l in the late summer. Salt Creek also has high nutrient concentrations and elevated chlorophyll a levels. Since the IA for the South Yamhill is established on existing conditions, the load from Salt Creek is accounted for. However, the Department may assess water quality in Salt Creek and establish a specific load allocation in the future if this is determined to be appropriate.

Available Dilution.

Oregon Administrative Rules provide an index of dilution required to assimilate point source discharges. This rule states that the effluent biochemical oxygen demand divided by the dilution ratio shall not exceed one. For McMinnville, with its existing effluent quality, this rule suggests 80 cfs for dilution. Insufficient dilution flows occur on the average of over three months per year.

Dissolved Oxygen - NH₃.

Dissolved oxygen is seldom violated at sampling locations in the Yamhill River. One reason for this is the relatively low ammonia concentration discharged from McMinnville. As the Department reviews the control options, it is necessary to assure that the assimilative capacity for oxygen demanding wastes is not exceeded. Prior to evaluating control options, however, the Department may need to define the TMDL for BOD.



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: L
Division: Water Quality
Section: Industrial Waste

SUBJECT:

Approval of a Significant New Waste Discharge to the Columbia River--Proposed WTD Pulp Mill at Clatskanie, Oregon.

PURPOSE:

To present strategy alternatives to the Commission on allowing discharge to the Columbia River of additional quantities of TCDD (2,3,7,8-tetrachloro-dibenzo-p-dioxin).

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)

- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment ___
 - Rulemaking Statements Attachment ___
 - Fiscal and Economic Impact Statement Attachment ___
 - Public Notice Attachment ___

- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___

Meeting Date: July 21, 1989
Agenda Item: L
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- | | |
|---|------------------|
| <input type="checkbox"/> Approve Department Recommendation | |
| <input type="checkbox"/> Variance Request | Attachment _____ |
| <input type="checkbox"/> Exception to Rule | Attachment _____ |
| <input type="checkbox"/> Informational Report | Attachment _____ |
| <input checked="" type="checkbox"/> Other: Provide Policy Direction | Attachment _____ |

DESCRIPTION OF REQUESTED ACTION:

The Department of Environmental Quality (Department) has received application for a significant new discharge to the Columbia River. Pursuant to OAR 340-41-026(3), the Environmental Quality Commission (Commission) must approve any significant new discharge.

Upon evaluating the application, the Department finds that the discharge would not violate water quality standards, with the exception of TCDD. However, because of the discharges from pulp mills and other sources on the Columbia River, the TCDD standard may already be violated.

The Department is asking the Commission to provide policy direction on whether to allow new discharges of TCDD to receiving waters that may be water quality limited with respect to TCDD, and if so, under what circumstances.

AUTHORITY/NEED FOR ACTION:

- | | |
|--|---------------------|
| <input type="checkbox"/> Required by Statute: _____ | Attachment _____ |
| Enactment Date: _____ | |
| <input type="checkbox"/> Statutory Authority: _____ | Attachment _____ |
| <input type="checkbox"/> Pursuant to Rule: _____ | Attachment _____ |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment _____ |
| <input checked="" type="checkbox"/> Other: OAR 340-41-026(3) (a) | Attachment <u>A</u> |
| <input type="checkbox"/> Time Constraints: (explain) | |

DEVELOPMENTAL BACKGROUND:

- | | |
|---|------------------|
| <input type="checkbox"/> Advisory Committee Report/Recommendation | Attachment _____ |
| <input type="checkbox"/> Hearing Officer's Report/Recommendations | Attachment _____ |
| <input type="checkbox"/> Response to Testimony/Comments | Attachment _____ |
| <input type="checkbox"/> Prior EQC Agenda Items: (list) | |
| | Attachment _____ |

Meeting Date: July 21, 1989
Agenda Item: L
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X Other Related Reports/Rules/Statutes:

Permit Evaluation Report Attachment B

X Supplemental Background Information

Summary of Public Hearing Testimony Attachment C
Rules Findings Attachment D

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

This proposed pulp mill has raised considerable interest from industry, economic development and environmental protection groups. The primary environmental water-quality issue is the potential discharge of toxic TCDD and related chlorinated organic compounds.

TCDD was found in the effluent of pulp mills and in fish in their receiving streams during joint EPA/Paper Industry screening studies (the five(5)-mill and 104-mill studies).

The United States Environmental Protection Agency (EPA) issued the "Interim Strategy for the Regulation of Pulp and Paper Mill Discharges to the Waters of the United States" on August 9, 1988. EPA then followed with its "Guidance for Section 304(1) Listing and Permitting of Pulp and Paper Mills" on March 15, 1989, which directed the States to list pulp mills and their receiving streams, to develop numerical water-quality standards for TCDD, to develop individual control strategies for the mills and to include best professional judgement (BPJ) effluent limitations for each mill to meet the 1992 TCDD water-quality compliance deadline.

The Department listed the Columbia River (at the points of discharge of the Oregon pulp mills) as being water-quality limited with respect to TCDD. This proposed mill would discharge some amount of TCDD to a theoretically overloaded stream, although the amount could be expected to be minimal relative to older-technology mills.

Creation of a TCDD minimization/reduction program for the mills discharging to the Columbia River (an interstate waterway) and its tributaries would require the cooperative efforts of Oregon, Washington, and the EPA.

PROGRAM CONSIDERATIONS:

This source, if permitted and constructed, will be classed as a major discharger. As such there will be at least annual sampling inspections to verify compliance. The proposed permit is limited to a five-year life and must be renewed every five years. Oregon administrative rules (OAR 340-41-026(4)) provide that the Commission or Director may approve new discharges, subject to the criteria of -026(3).

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Deny approval of the new bleached kraft pulp mill effluent discharge load to the Columbia River at this time.

RATIONALE:

Based on available information from the EPA 104-mill study and best professional judgment in interpreting and applying results with respect to the bleached kraft mills discharging to the Columbia, TCDD levels in the Columbia River probably exceed the EPA Water Quality Criteria/EQC standard for TCDD.

Insufficient information is available to determine what actions and timetable may be necessary to achieve compliance with the standard, or to determine with certainty that the standard can be met with current technology.

Approval of a new bleached kraft pulp mill discharge, even if it will contribute only slightly to increasing the level of TCDD in the river, is not an acceptable public policy decision.

2. Authorize a new discharge from a bleached kraft pulp mill to the Columbia River subject to the following conditions:
 - a. State-of-the-art production and pollution control technology will be installed to minimize the production of TCDD and other chlorinated organic compounds to the greatest degree practicable.
 - b. Chlorine dioxide must be substituted 100 percent for chlorine in the bleaching operation unless the applicant can demonstrate to the Department that a lesser substitution amount is the highest possible.

- c. The applicant will agree to install such further equipment or make such further modifications as may be necessary to meet its wasteload allocation within 3 years after EPA has established a TMDL for TCDD for the Columbia River and allocated the load to the individual sources. The timetable for compliance may be subject to modification if the EQC determines that the 3 year time frame is not achievable.
- d. The applicant agrees to implement, or join in implementation, of a research and development program to develop additional means for reducing TCDD in the mill effluent.
- e. An approach is developed to require existing bleached kraft pulp mills in Oregon to proceed to install state-of-the-art production and pollution control technology to reduce present discharges of TCDD to the greatest extent practicable and eventually, to a level to meet water quality standards.
- f. EPA approves this overall approach for Oregon-- both for the existing mills and for a new mill.

The above conditions must be met before the Department can issue the NPDES permit dependent upon this discharge approval.

RATIONALE:

This overall approach should reduce current TCDD levels in the river, even with the small addition from a new state-of-the-art mill. The approach recognizes the lack of agreement on the appropriateness of the existing TCDD standard, that the standard is under review, and that direct determination of compliance with the standard is not possible through scientific measurement. The approach assumes that EPA will be responsible for assuring that the the approaches used for Washington, Idaho, and Oregon (and the rest of the Nation) will be compatible.

This approach fundamentally assumes that the concern for TCDD is shared by all the Columbia Basin states, that a diligent effort is underway to develop technology to reduce TCDD generation to the lowest possible levels, that an effective program will be developed and implemented for the Columbia River as soon as possible to achieve the desired standards, and that Oregon's

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citizens should not be unreasonably or unfairly deprived of an economic opportunity while an ultimate industry-wide program is being developed.

This approach finally assumes that the Commission can enter a finding that the proposed new mill will not act to cause the standard for TCDD to be exceeded, and further that such approval will most likely enhance the timetable for the changes that are necessary to achieve compliance with the ultimate standard for TCDD.

3. Adopt the conditions as set forth in Alternative 2 as a reasonable basis for allowing a discharge load to the Columbia River from a new bleached kraft mill, and require that the matter be returned to the EQC for a final decision at the September (or October) meeting. At that time, additional information may be available to indicate how the conditions will be met.

RATIONALE:

This delay in the Commission decision could, but is not likely to, delay the overall WTD project. The Air Contaminant Discharge Permit will not be ready for issuance sooner than the September Commission meeting.

Further, if the Commission finds acceptable the protective strategy embodied in the condition of Alternative 2, the Department would have more time to confer with EPA to better develop the details of how the conditions will be met and to have the Commission review that detail.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission choose Alternative 2.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The Department is committed to setting total maximum daily loads (TMDL's) for Oregon's rivers, streams and lakes as a means of protecting and improving beneficial uses (see for example, "Water Quality: Oregon's New Approach, DEQ pamphlet).

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ISSUES FOR COMMISSION TO RESOLVE:

Should this application be denied until the TCDD "overload" in the Columbia River is removed?

Should additional discharges be approved while a strategy is being developed that would eventually remove the "overload"?

If an additional discharge is approved, would the policy be extended to other streams that may be limited with respect to TCDD or other critical pollutants?

INTENDED FOLLOWUP ACTIONS:

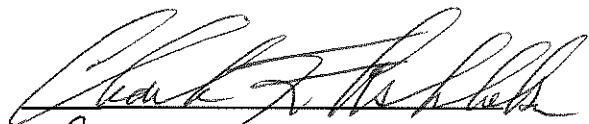
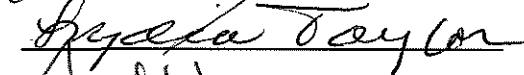

The Department will undertake the actions indicated in the various decision alternatives, depending upon which alternative the Commission chooses.

Approved:

Section:

Division:

Director:

Report Prepared By: Jerry E. Turnbaugh

Phone: (503) 229-5374

Date Prepared: July 17, 1989

JET:hs
IW/WC5202
6/30/89

OREGON ADMINISTRATIVE RULES 340-41-026
(As Amended 6/2/89)

NOTE: The underlined portions of text represent proposed additions made to the rules.

The ~~bracketed~~ portions of text represent proposed deletions made to the rules.

POLICIES AND GUIDELINES GENERALLY APPLICABLE TO ALL BASINS

340-41-026

- (1) (a) Existing high quality waters which exceed those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water shall be maintained and protected unless the Environmental Quality Commission chooses, after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process, to lower water quality for necessary and justifiable economic or social development. The Director or his designee may allow lower water quality on a short-term basis in order to respond to emergencies or to otherwise protect public health and welfare. In no event, however, may degradation of water quality interfere with or become injurious to the beneficial uses of water within surface waters of the following areas: "

- (A) National Parks;
- (B) National Wild and Scenic Rivers;
- (C) National Wildlife Refuges;
- (D) State Parks.

(b) Point source discharges shall follow policies and guidelines (2), (4) ~~{(3)}~~, and (5) ~~{(4)}~~, and nonpoint source activities shall follow guidelines (6), (7), (8), (9), and (10). ~~{(5)}, {(6)}, {(7)}, {(8)}, and {(9)}.~~

(2) In order to maintain the quality of waters in the State of Oregon, it is the general policy of the EQC to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharged loads except as provided in section (3). ~~{unless otherwise specifically approved by the EQC.}~~

(3) The Commission or Director may grant exceptions to sections (2) and (5) and approvals to section (4) for major dischargers and other dischargers, respectively. Major dischargers include those industrial and domestic sources that are classified as major sources for permit fee purposes in OAR 340-45-075(2).

(a) In allowing new or increased discharged loads, the Commission or Director shall make the following findings:

(A) The new or increased discharged load would not cause water quality standards to be violated;

(B) The new or increased discharged load would not threaten or impair any recognized beneficial uses;

(C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited unless the pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to be water quality limited; and

(D) The activity, expansion, or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency.

EVALUATION REPORT

for the

Application for
NPDES Wastewater Discharge Permit

Submitted by

Port Westward Pulp Company

for the

PROPOSED PORT WESTWARD PULP MILL

CLATSKANIE, OREGON

Jerry E. Turnbaugh, P.E.

Industrial Waste Section
Water Quality Division
Department of Environmental Quality
Portland, Oregon

June 5, 1989

INTRODUCTION

On December 1, 1988, Port Westward Pulp Co., P.O. Box 5805, Portland, Oregon 97228, filed an application with the Department of Environmental Quality for a National Pollutant Discharge Elimination System (NPDES) permit for a proposed bleached-kraft pulp mill to be known as the Port Westward mill, located near Clatskanie, Oregon.

Port Westward Pulp Company's representative in the permit process is SJO Consulting Engineers, Inc., 1500 S.W. 12th Avenue., Portland, Oregon.

The application was found to be complete and was filed on January 13, 1989. NPDES permits are issued by the Oregon Department of Environmental Quality (Department) pursuant to Section 402 of the Federal Clean Water Act, ORS 468.740, and rules adopted by the Environmental Quality Commission (EQC).

This report summarizes the application, presents the Department's evaluation relative to the project's compliance with applicable water quality standards and requirements, and gives the Department's recommendation regarding the application.

OVERVIEW OF THE PROPOSED PROJECT

Port Westward Pulp Company (PW) proposes to build and operate a bleached-softwood market-pulp mill at Port Westward, near Clatskanie, in Columbia County, Oregon.

Mill Site

The mill site occupies approximately 250-acres on the Oregon bank of the Columbia River, six miles north of Clatskanie. The site is 53 miles upriver from the Pacific Ocean and 65 miles downriver from Portland. PW has a two-year option to sublease this property from Portland General Electric Company for a period of 50 years with two consecutive 14-year renewal options. The Port of St. Helens owns the property.

Six-hundred feet of an existing 1,200-foot dock with 55 feet of natural channel depth at the berth is available for direct ocean shipping. The channel between the Pacific Ocean and Portland is maintained at 40 feet deep and 600 feet wide. The Columbia River is 1,600 feet wide at the berth, providing ample space for turning a vessel. Port Westward is three hours from the Pacific Ocean, allowing ships to make the trip in one tide.

Natural characteristics of the Port Westward site minimize adverse environmental impacts. It is relatively remote from population and industrial centers and there are good windflows along the

river. The large stream flow of the Columbia River will ensure adequate dilution of the treated effluent from the mill, as well as ample supplies of fresh water for mill operation.

Mill Technology

The new mill will incorporate up-to-date pulping and bleaching technologies including extended cooking, oxygen delignification chlorine-dioxide bleaching, chemical recovery and pollution control.

Pulp Raw Material

The principal raw material will be softwood chips which are a by-product of the sawmilling industry in the Pacific Northwest. WTD Industries owns 26 sawmills and veneer plants in the area and has a capacity to produce 750,000 B.D.U. (bone dry units) of chips per year.

Woodchip deliveries are planned to be made by barge, rail and truck. The site is six miles from U.S. Highway 30 via county roads, 33 miles from Interstate I-5 and is served by a spur track from the Burlington Northern Railroad Astoria-to-Portland branch line.

The pulp-mill chip requirement will initially be about 625,000 B.D.U. per year, consisting of a nominal blend of Douglas Fir (75%) and Northwest Whitewoods (25%). It is estimated that some 50 percent to 60 percent of the mill's needs will be met directly from WTD Industries' facilities within economical transportation distance, while the balance will be provided from sawmills owned by others.

Product

The product, bleached softwood kraft market pulp, will be dried in sheets in a combination Fourdrinier/airborne-sheet dryer, sheeted, baled, and shipped by ocean-going ship, barge, rail, or truck. More than 90 percent of the mills' production will be slated to serve the offshore markets. Total pulp output is estimated to be in the range of 950-ADT (air-dried short tons) initially to 1260-ADT per day ultimately.

Bleached market pulp is an industrial intermediate product used by paper mills worldwide for manufacture of a great variety of white paper grades. Bleached softwood kraft market pulp is a well-known pulp quality with well-developed market acceptance, recognition, and application.

Mill Water Supply

The mill water requirements for Phase I are approximately 10,000-gpm (14.4-MGD) and the water will be taken from the Columbia River. This water requirement is insignificant compared to the total flow of the Columbia River.

A conventional water-treatment facility consisting of chemical feed and mixing systems, a clarifier and a filtration system will be used to clean river water for mill use. Water will be pumped from a submerged, low-profile intake in Bradbury Slough through buried pipes to a clarifier at the mill. Traveling screens and trash racks at the pumphouse will divert debris from the intake back to the river, consistent with normal engineering and environmental practices. Water intake velocity will be designed to ensure that fish are not trapped. Solids from the clarifier will be dewatered and disposed with other plant solid waste in an off-site, permitted landfill.

Sources of Wastewater

There are six general sources of mill wastewater requiring treatment prior to discharge to the river. These sources are:

1. Acid effluent streams from the bleach plant and ancillary mill areas.
2. Alkaline effluent streams from the bleach plant, pulp mill and ancillary mill areas.
3. A sewer from the machine-room area.
4. Miscellaneous mill sewers collecting from the chemical recovery area, water treatment plant, and other areas.
5. Sanitary waste from the mill sanitary system.
6. Potentially-contaminated stormwater runoff from mill process areas.

The acid and alkaline waste streams, if required, will be neutralized with lime mud (calcium carbonate) prior to blending with the other process waste streams.

Some sewers from the brownstock area, bleach plant and machine room will be routed to a fiber recovery system consisting of a sump, drainer and chest. Recovered fiber will be pumped to the screen chest and the filtrate will be combined with the general sewer. This approach not only recovers fibers and increases the operating efficiency of the mill, but also minimizes the solids discharge to the wastewater primary clarifier and secondary treatment system.

Sanitary waste will be given complete secondary treatment separately in a packaged treatment plant. The applicant proposed to combine the sanitary plant discharge with the acid sewer from where it would eventually run through the ASB. The Department

recommended that the sanitary plant discharge be moved to a point in the process downstream of the ASB. This would avoid the possibility of regrowth of pathogens in the ASB and would remove sludge disposal requirements applicable to domestic-waste sludges. The applicant agreed to this recommendation.

Effluent discharges from the recovery, recausticizing and other sections of the mill will be collected in sumps and clarifiers in each area and returned to the process. Any excess will flow to the general process sewer.

Stormwater from process areas that may be contaminated by contact with process materials and chemicals will be collected and routed to the aerated stabilization basin (ASB) for treatment.

Wastewater Treatment

The major wastewater-treatment system components are a sanitary waste treatment unit, a spill-management basin (SMB), a primary clarifier, an ASB and an outfall diffuser.

Sanitary waste from the mill will be adequately treated with a packaged secondary-treatment plant prior to discharge.

The SMB provides for surge capacity to contain process effluent caused by malfunction or upset that cannot be contained by the in-plant control system. The SMB will be large enough to accept the total volume of the largest vessel in the mill. This will ensure that the rare spill event will not adversely affect the primary clarifier or ASB or cause a direct discharge to surface water. Effluent contained in the SMB will be metered into the effluent treatment system at flow rates that will not adversely impact the treatment process.

The SMB will be sealed with a double synthetic liner and monitored for leaks to reduce the possibility of untreated process spills leaking to the ground and reaching the groundwater.

A travelling screen will remove coarse solids from the raw wastewater before it is further treated in the 190-foot-diameter primary clarifier. Retention time in the clarifier will be adequate to permit removal of fine solids.

The ASB will hold approximately 450 acre-feet of wastewater, equivalent to approximately ten days' retention for Phase II production wastewater (18.7-MGD) and consists of:

1. An initial aerated zone to cool the effluent, reduce chemical oxygen demand and to begin biological treatment.
2. An active biological treatment zone employing floating aerators to reduce the BOD.

3. An equalizing zone prior to discharge from the ASB with aeration to maintain some dissolved oxygen in the final effluent.

Because the ASB will experience a range of climatic conditions during the year, it will be designed with floating motorized aerators to supply air (oxygen) for reduction of BOD, COD and toxicity and to provide sufficient cooling for optimum biological treatment during summer months.

Optimum temperatures for biological treatment typically vary between 75° and 98°F. Most of the basin will experience temperatures within this range, depending on the season, location within the ASB, detention time and aeration rate.

The ASB will be sealed to a minimum permeability of 1×10^{-7} cm/sec to prevent leakage of wastewater to the groundwater.

Treated effluent will be discharged into the Columbia River through a submerged diffuser outfall. Approximate location of the effluent outfall will be River-Mile 57 of the Columbia River. The outfall diffuser will be an engineered structure designed to rapidly distribute and dilute treated wastewater.

Solid Waste

The kraft-pulp process is relatively efficient at minimizing production of solid waste, compared to some other types of pulp processes.

Recovered lignin and other nonuseable components of the wood will be burned in the recovery boiler to generate steam for process use and to recover the processing chemicals in a form for recycling back into the pulping process.

Sawdust and oversized wood debris not suitable for pulping will be sent to an approved off-site landfill for disposal, as will solids removed from the wastewater primary clarifier.

Other wastes will include small amounts of screen-room debris, dregs and grit from the recausticizing process and other general plant refuse. While most of these solid wastes will be recirculated in the process or recycled, a small amount of residual waste will be disposed in an offsite contract landfill.

State Waters Affected by the Project

The project is located on the south bank of the Columbia River downriver from Longview, Washington. Known beneficial uses of the Columbia River in the project vicinity are transportation, water supply, anadromous and resident fish production, wildlife habitat, and recreation. Irrigation, livestock watering, and water source

withdrawals are known consumptive water uses. The major industrial uses are for pulp and paper industries, aluminum reduction mills, and cooling water at the Trojan Nuclear Power Plant.

The Columbia River supports diverse aquatic biota--phytoplankton, zooplankton, and fish. Diatoms are the principal phytoplankton found throughout the year. Zooplankton populations are mainly rotifers, copepods and cladocerans that fluctuate seasonally in density and species composition. Fisheries include the five species of Pacific salmon, Columbia River smelt, rainbow, cutthroat and steelhead trout, sturgeon and American shad. Freshwater clams and crayfish are found in abundance in certain areas, but the shifting sand bottom does not provide optimal biological habitat for most types of bottom organisms.

The extreme stream flows at the mouth of the Columbia River during 1929-1958 (Columbia-North Pacific Region Comprehensive Framework Study, Vol. 2, April, 1970) were 570,300-cfs (average maximum) and 120,595-cfs (average minimum). The average annual stream flow during the same period was 239,677-cfs.

Construction Schedule

The project is scheduled for completion approximately two years after all required permits, approvals, and licenses are obtained. Once commenced, construction activities will progress year-around.

The site is in an area zoned by the Columbia County Planning Department as "Resource Industrial-Planned Development". Under the existing county land-use plan, the proposed mill installation is consistent with statewide planning goals. PW has filed a completed Land-Use Compatibility Statement with the NPDES permit application.

Environmental Impacts During Construction

1. Surface Water--All construction activities will be carefully managed to minimize contaminated runoff. Unplanted areas will be seeded or covered for protection against erosion, and on-site drainage will be diverted from the river to low areas or ponds to settle sediment before discharge to the river or to the Beaver Diking District ditches.
2. Fish--Construction operations in the Columbia River or Bradbury Slough will not be conducted during critical fish migration periods.
3. Beneficial Uses--Recreational uses of the river and riverbank (boating, fishing, etc.) may be temporarily interrupted by construction activity in the river and Bradbury Slough. There

is no recreational activity in the construction areas away from the riverbank.

There are no other known water-related beneficial uses that would be affected by the project

Environmental Impacts After Construction

1. Surfacewater Quality--After dilution, the relatively small discharge flow of treated effluent is not expected to adversely affect water quality of the Columbia River. Within the allowed mixing zone, however, the discharge will have a measurable effect on receiving water quality, particularly with regard to color, suspended solids and oxygen demand. The effect of these discharges will be discussed at greater length.

2. Groundwater Quality--The mill facilities will be designed to prevent process chemicals and wastewater from leaking to the groundwater. The SMB and ASB will be sealed and thus it is not anticipated that groundwater will be contaminated.

3. Fish--A resident population of many wild-fish¹ species is present in the Columbia River. The proposed discharge pollutants are not expected to have a significant effect on fish spawning or feeding activities. Temperature changes in the river will be insignificant and unmeasurable more than a few feet from the outfall.

4. Recreation--Operation of the completed mill is not expected to have any adverse effect on boating, fishing or other river recreational activities.

5. Aesthetics--The plant facilities will be visibly apparent to recreational users of the Columbia River. The project site is the location of the former Beaver Military Reservation and the PGE Beaver Generating Plant is located on an adjacent part of the site.

Substituting a pulp mill for the facilities presently located on the site will make a difference in the aesthetic quality of the area but it would be difficult to judge whether it would be perceived by the public as better or worse.

Color contributed to the river by the wastewater outfall will be one visible water-quality related effect that could be of concern. Depending upon the ambient river color and turbidity, a color stain that people may find aesthetically displeasing will probably be seen extending downriver some distance from the outfall.

6. Wildlife Uses--It is expected that wildlife uses of the river area will not be adversely affected by the project.

APPLICATION EVALUATION

Oregon's water-quality protection program is based on water-quality standards, best-management design criteria for treatment and control of waste, special policies and guidelines, and policies and guidelines generally applicable statewide. These policies and standards are designed to protect all recognized beneficial uses of public waters.

In the following sections, the applicants' proposal will be reviewed against each applicable standard and policy.

Compliance with USEPA NSPS Guidelines

The proposed mill is subject to USEPA New Source Performance Standards (NSPS) found in 40 CFR Ch.1 Subpart G--Market Bleached Kraft Subcategory. The proposed discharges meet or exceed the NSPS standards (See the discussion of the proposed permit).

Compliance with Oregon Water Quality Standards

The proposed project has been reviewed against each of the standards in OAR 340-41 that are applicable. The general format for this review is:

1. The applicable standard is quoted.
2. The interpretation or application of the standard is discussed when appropriate.
3. The existing water quality and any unique influencing factors relative to the specific standard will be discussed.
4. The applicant's claims regarding the project's water quality impacts are summarized.
5. The DEQ's evaluation of the project impact relevant to the specific standard is presented.

The discussion will focus on receiving-water quality.

Antidegradation Policy

340-41-026(1)(a) Existing high quality waters which exceed those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water shall be maintained and protected unless the Environmental Quality Commission chooses, after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process, to lower water quality for necessary and justifiable economic or social development. The Director or his designee may allow lower water

quality on a short term basis in order to respond to emergencies or to otherwise protect public health and welfare. In no event, however, may degradation of water quality interfere with or become injurious to the beneficial uses of waters within surface waters of the following areas:

- (A) National Parks;
- (B) National Wild and Scenic Rivers;
- (C) National Wildlife Refuges;
- (D) State Parks.

340-41-026(3) For any new waste sources, alternatives which utilize reuse or disposal with no discharge to public waters shall be given highest priority for use wherever practicable. New source discharges may be approved by the Department if no measurable adverse impact on water quality or beneficial uses will occur. Significant or large new sources must be approved by the Environmental Quality Commission.

Application of the Standard

These sections require that existing high-quality waters, where quality exceeds the levels necessary to protect fish, shellfish, wildlife, and recreation, shall be maintained and protected unless the Environmental Quality Commission (EQC) chooses to allow lowered water quality for justifiable reasons, or unless the director allows lower water quality on a short term basis to respond to emergencies or otherwise protect public health and welfare. These sections further require the Department to minimize degradation of high quality waters and protect the recognized beneficial uses of such waters by requiring the highest and best practicable control of all waste discharges and activities. These sections, in conjunction with other provisions of the water quality standards contained in OAR 340-41-205(2), are intended to assure that water quality is not changed so as to impair recognized beneficial uses of the water.

The Department is required to interpret and apply the EQC water quality standards, including the antidegradation policy, in a manner consistent with the guiding federal rules. The Department has traditionally interpreted the antidegradation policy to allow approval of new discharges or activities that may have some theoretical or detectable impact on high quality waters provided that:

1. Adverse impact on water quality will not be significant,
2. Any change in water quality will not adversely affect recognized beneficial uses, and
3. Highest and best practicable treatment and control of waste

discharges and activities is employed to minimize any adverse effects on water quality.

Under ordinary circumstances, compliance with the water-quality standards in OAR 340-41-205(2) would be considered sufficient to assure that beneficial uses will be protected. However, if a standard has not been adopted for a pollutant parameter of concern, or if new information indicates that an existing standard is not adequate to prevent adverse water quality impact on a beneficial use in the particular situation, the Department is required to impose more stringent water quality protection measures to protect recognized beneficial use, including denial of project approval, if necessary.

Local Conditions

The "antidegradation" policy must be applied to this mill as it is to other dischargers to help determine, in the final analysis, whether the mill will adversely impact the beneficial uses of the Columbia River.

Applicant's Claim

The applicant claims that discharge of mill wastewater to the Columbia River will not have an adverse impact on water quality or beneficial uses. Alternative disposal of the large quantities of wastewater involved (14.4-MGD) is not practicable.

Evaluation

Effluent from this mill appears to meet the antidegradation tests that have been applied by the Department.

1. Adverse impact on water quality will not be significant.--The waste loads contributed to the river can be expected to have some effect, at least within the mixing zone, but outside the mixing zone, there is not expected to be any significant adverse impact.
2. Any change in water quality will not adversely affect recognized beneficial uses.--Any water-quality change caused by the mill is not expected to adversely affect the beneficial uses of the river with the exception, perhaps, that some people may object to the aesthetic impact of effluent color and perhaps occasional odor.
3. Highest and best practicable treatment and control of waste discharges and activities is employed to minimize any adverse effects on water quality.--Wastewater control and treatment measures proposed for this mill represent conventional technology that is employed by other currently-operating mills. Additional

processing could be employed to further minimize discharge of pollutants but would also add expense and may not be appropriate. The mill has the advantage of up-to-date pulp processing which reduces pollutant discharge relative to older mills.

Creation of new, or supply of existing, wetlands is an indirect-discharge alternative that might be feasible, depending upon the amount of suitable land available. The discharge would eventually find its way both to the groundwater and the river.

Groundwater Protection Policy

340-41-029(1)(c) For the purpose of making the best use of limited staff resources, the Department will concentrate its control strategy development and implementation efforts in areas where waste disposal practices and activities regulated by the Department have the greatest potential for degrading groundwater quality. These areas will be delineated from a statewide map outlining the boundaries of major water table aquifers prepared in 1980 by Sweet, Edwards & Associates, Inc. This map may be revised periodically by the Water Resources Department.

340-41-029(2)(a) Consistent with general policies for protection of surface water, highest and best practicable treatment and control of sewage, industrial wastes, and landfill leachates, shall be required so as to minimize potential pollutant loading to ground water. Among other factors, energy, economics, public health protection, potential value of the ground water resource to present and future generations, and time required for recovery of quality after elimination of pollutant loadings may be considered in arriving at a case-by-case determination of highest and best practicable treatment and control. For areas where urban density development is planned or is occurring and where rapidly draining soils overlay local groundwater flow systems and their associated water table aquifers, the collection, treatment and disposal of sewage, industrial wastes and leachates from landfills will be deemed highest and best practicable treatment and control unless otherwise approved by the EQC pursuant to subsections (b) or (c) of this section.

Application of the Standard

Selection of the highest and best practicable treatment and control methods should be influenced by the characteristics of the project area.

Waste activities conducted in an area identified to contain a major water-table aquifer are considered priority areas since the potential for ground water quality degradation is higher than for areas without a known major water-table aquifer.

Local Conditions

The proposed project is located in a water-table aquifer area that has been mapped by Sweet, Edwards & Associates, Inc., 1980.

The project site is a predominantly rural setting. The development density is very low with farms on large acreages. Accordingly, population density near the project is also very low. Clatskanie is the major population center that is located near the project site.

Applicant's Claim

Soil and groundwater conditions, combined with the rural environment, justify flexibility in determination of the highest and best practicable treatment and control of industrial waste associated with the project.

Evaluation

1. Groundwater Flow--Groundwater flow in the project area has not been determined by the applicant but he estimates that the shallow aquifer flow would follow the land surface contours and therefore would be toward the west. The community of Clatskanie is located at a higher elevation than the project site and takes its drinking water from tributaries on the uplands to the south. Public and private groundwater supply systems are assumed to be well outside the potential influence area of the project.

Review of USGS topographic maps indicates very few cultural features, such as dwellings, that are located in the downslope direction from the project. The map consulted was made in 1967 with supplemental field checks performed in 1969. It was photo-inspected again in 1975 resulting in a notation on the map that no major cultural or drainage changes were observed. These observations indicate that development of the general area has been insignificant with respect to public health concerns for high density development and population concentrations downslope from the project.

2. Potential Value of The Groundwater Resource--The value of the alluvial aquifers to present and future generations is significant. The chemical quality of water from these

aquifers is satisfactory for most uses and the groundwater is available for domestic use throughout the Clatskanie area.

The volume of water that can be developed from the older, consolidated sedimentary and volcanic rocks in the upland areas, and in deposits beneath the alluvium, is generally small in comparison to the alluvial aquifers. Groundwater from the sedimentary rocks is also more highly mineralized and has greater concentrations of sodium, calcium, and chloride than water from the alluvial aquifers. Therefore, the alluvial aquifers are the most suitable local systems for providing adequate, good quality groundwater to meet present and future demand.

3. Time Required for Quality Recovery--The time required for quality recovery depends on several factors which have not been locally determined, including flow velocity, dilution potential, and access to the aquifer for remedial actions.

The best defense against groundwater pollution is prevention through proper lining and sealing of wastewater holding basins which is the approach the Department will take with respect to the proposed project.

4. Urban Development--Development to urban-density levels is not expected to occur in the foreseeable future within at least two miles of the project site. The nearest urban density development area is the City of Clatskanie. Land use in the region surrounding Clatskanie and the site is agricultural with associated low-density, rural conditions. Growth, development and expansion of the Clatskanie urban area has been insignificant based on review of the USGS maps and update observations printed thereon. These conditions also indicate that future high-density development near and downslope of the project site is unlikely in the foreseeable future.

Nuisance Phytoplankton Growth

340-41-150 The following values and implementation program shall be applied to lakes, reservoirs, estuaries and streams, except for ponds and reservoirs less than 10 acres in surface area, marshes and saline lakes:

- (1) The following average Chlorophyll a values shall be used to identify water bodies where phytoplankton may impair the recognized beneficial uses:
 - (a) Natural lakes which thermally stratify:
10 ug/L

- (b) Natural lakes which do not thermally stratify, reservoirs, rivers and estuaries: 15 ug/L

Average Chlorophyll a values shall be based on the following methodology (or other methods approved by the Department): a minimum of three (3) samples collected over any three consecutive months at a minimum of one representative location (e.g. above the deepest point of a lake or reservoir or at a point mid-flow of a river) from samples integrated from the surface to a depth equal to twice the secchi depth or the bottom (the lesser of the two depths); analytical and quality assurance methods shall be in accordance with the most recent edition of Standard Methods for the Examination of Water and Wastewater.

- (2) Upon determination by the Department that the values in OAR 340-41-150(1) are exceeded, the Department shall:

- (a) In accordance with a schedule approved by the Commission, conduct such studies as are necessary to describe present water quality; determine the impacts on beneficial uses; determine the probable causes of the exceedance and beneficial use impact; and develop a proposed control strategy for attaining compliance where technically and economically practicable. Proposed strategies could include standards for additional pollutant parameters, pollutant discharge load limitations, and other such provisions as may be appropriate.

Where natural conditions are responsible for exceedance of the values in OAR 340-41-150(1) or beneficial uses are not impaired, the values in OAR 340-41-150(1) may be modified to an appropriate value for that water body;

- (b) Conduct necessary public hearings preliminary to adoption of a control strategy, standards or modified values after obtaining Commission authorization;
 - (c) Implement the strategy upon adoption by the Commission.
- (3) In cases where waters exceed the values in OAR 340-41-150(1) and the necessary studies are not completed, the Department may approve new activities (which require Department approval), new

or additional (above the current approved permit limits) discharge loadings from point sources provided that it is determined that beneficial uses would not be significantly impaired by the new activity or discharge.

Application of the Standard

Certain types of wastes in water, under proper ambient conditions, may stimulate nuisance algae growths. The magnitude of such growths is determined by measuring Chlorophyll a, the plant pigment of the algae colony.

340-41-150 sets forth a process for determining when phytoplankton growths may be reaching nuisance proportions. This rule is designed to trigger further study and control strategies if the Chlorophyll a values exceed specified levels in streams or lakes. Where natural conditions are responsible for the algae blooms, the existing level of Chlorophyll a is considered to be the upper level of acceptability.

Local Conditions

The Columbia River contains algae but the current concentration and its seasonal variation at the site is not known. Objectionable algae build-up has not been regarded as a problem in the Columbia River since secondary treatment was applied in the '70s to the sewage and pulp-mill wastes flowing into the river and its tributaries.

In 1970, the lower Columbia River was reported (Columbia-North Pacific Region comprehensive Framework Study, Vol. 2, April, 1970) to be adversely affected by slime growth which proliferated periodically. The slime was a biological mass, primarily composed of the bacterium Sphaerotilus, which served as a matrix for the attachment of microscopic plants and animals and debris. Commercial and sport fishing and water-contact recreation were adversely affected by the slime growths. Studies found this growth to be supported by biodegradable carbohydrates from untreated pulp and paper mill effluent. After the mills installed secondary treatment of their wastewater, the slime growths died out.

Discharge of nutrient-laden wastes can stimulate growth of fungi, bacterial slime, sulfur bacteria, stalked diatoms, or algae in receiving streams. Sewer-plant effluents are particularly rich in nutrients and have caused growths in their receiving streams.

Biologically-available nitrogen in the form of ammonia and organic nitrogen measured 0.2 to 0.5-mg/l at Warrendale, Oregon, from October 1985 to September 1986. Phosphorous concentration

ranged from less than 0.01 to 0.03-mg/l during the same period. ("Water Resources Data, Washington, Water Year 1986", US Geological Survey Water Data Report, WA-86-1)

The river contains biological material and nutrients collected over the entire basin from natural sources, sewage treatment plants and agricultural operations. The river does not support a sizeable algae population in suspension.

Applicant's Claim

The applicant claims that algae will not build up to a nuisance level as a result of the proposed mill's discharge.

Evaluation

The proposed effluent will be relatively low in nutrients. Some nutrient addition to the wastewater will be necessary to optimize treatment efficiency in the ASB.

The relatively small quantity of nutrients in the wastewater discharged to the river will be diluted and carried away quickly enough so that it is not expected to significantly increase the river's algae content. Effluent similar to that of this proposed mill from other pulp mills discharging to the Columbia River has not been identified as causing deleterious algae or other biological growth and no problems are expected at this site.

Compliance with Oregon Water Quality Standards

Highest and Best Practicable Treatment

340-41-205(1) Notwithstanding the water quality standards contained below, the highest and best practicable treatment and/or control of wastes, activities, and flows shall in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor and other deleterious factors at the lowest possible levels.

Application of the Standard

The goal of the standard is to provide the highest and best practicable effluent treatment and control to reduce pollutants to the lowest possible level. The requirement is a prerequisite regardless of basin standards or quality of the receiving waters,

and regardless of the impact the discharge will have on the receiving water.

Local Conditions

The mill is presently designed with up-to-date process features that reduce effluent pollutants, relative to older mills. The features include extended cooking, oxygen delignification, foul-condensate stripping, partial chlorine-dioxide bleaching and traditional primary and secondary wastewater treatment. These processing features produce less effluent BOD, color and chlorinated organic compounds than the older process technologies.

Condensates from the digesters and evaporators will be collected and air-or steam-stripped to reduce organic and reduced-sulfur volatile compounds. Removal and disposal of these compounds by burning will decrease the BOD and toxicant load to the process effluent but could add to odor from the mill while decreasing air emissions from the ASB. The stripped condensates can be reused in brownstock washing and make-up water for the causticizing systems. Thus, condensate stripping may also reduce the total mill-water demand.

Extended cooking and the oxygen delignification stage remove dissolved organics which older mills have to remove in their bleach plants. The additional dissolved organics removed by these new technologies are burned in the recovery boiler rather than leaving the bleach plant in effluent from the chlorine extraction and hypochlorite stages. Removal of more organics before the bleaching process also significantly reduces chlorine demand. Additionally, the remaining chlorine demand will be further reduced by partial substitution of chlorine dioxide for chlorine in the first bleaching stage. The hypochlorite stage is eliminated.

Applicant's Claim

The applicant claims that the proposed mill provides the highest and best practicable plant process and wastewater treatment facilities for minimal environmental impact.

Evaluation

The proposed wastewater treatment system is of conventional design. Other available processes could be added to enhance treatment such as coagulation to further reduce suspended solids in the effluent, oxygen addition to reduce BOD and COD and chemical bleaching, coagulation or filtration to reduce color. These treatment enhancements are available, although costly, to

the industry where receiving water quality or other considerations require their use.

BOD5 effluent limits will be set in the proposed permit on the assumption that the ASB will operate at 90 percent efficiency. Color will not be significantly reduced in the ASB but the environmental effect of color in pulp-mill effluent is not clearly understood and may be only aesthetic in nature. Deleterious biological and toxicological effects of color have not been scientifically demonstrated.

North Coast-Lower Columbia River Basin Standards

340-41-205(2) No wastes shall be discharged and no activities shall be conducted which either alone or in combination with other wastes or activities will cause violation of the following standards in the waters of the North Coast-Columbia River Basin:

Dissolved Oxygen

340-41-205(2) (a) (A) (B) (C)

- (A) Fresh waters: DO concentrations shall not be less than 90 percent of saturation at the seasonal low, or less than 95 percent of saturation in spawning areas during spawning, incubation, hatching and fry stages of salmonid fishes.
- (B) Marine and estuarine waters (outside of zones of upwelled marine waters naturally deficient in DO): DO concentrations shall not be less than 6 mg/l for estuarine waters, or less than saturation concentrations for marine waters.
- (C) Columbia River: DO concentrations shall not be less than 90 percent of saturation.

Application of the Standard

Dissolved oxygen (DO) is essential for maintaining aquatic life. Historically, the depletion of DO was one of the major water-pollution problems. The effect of oxygen depletion on aquatic organisms, has been studied extensively. Sensitivity of aquatic organisms to low DO concentration differs between species, between various life stages (egg, larvae, and adults), and between different life processes (feeding, growth, reproduction, and migration).

Oregon's current DO standard for the Columbia River was adopted in 1967 by the Oregon State Sanitary Authority (now the Environmental Quality Commission). In early 1977, the standard was recodified into its current form.

The standard was initially set on the basis of information provided by the Oregon Fish and Wildlife Department (OFWD) and the then US Federal Water Pollution Control Administration (FWPCA). OFWD recommended 95-percent of saturation to accommodate salmonid fish spawning and rearing of juveniles. FWPCA recommended full saturation as being ideal for salmonid spawning, but set a lower limit of 7.0-mg/l, which amounted to about 75-percent of saturation under summer ambient conditions. The Sanitary Authority noted that the lowest daytime DO concentration in July, August, and September for that river zone ranged from 87-91-percent of saturation. Consequently, they adopted 90-percent of saturation as the standard.

Local Conditions

Routine ambient water quality monitoring for DO in the project area is not performed by the Department, or by USEPA.

Because there were no problems in the lower Columbia River with DO and other conventional water-quality parameters, very little data were collected between 1950 and 1970, except for a 1959-1961 joint survey conducted by the states of Oregon and Washington and the Northwest Pulp & Paper Association (A Report on Lower Columbia River Basic Water Quality Data Analysis for the Year 1960--Prepared for the Participants Cooperative Water Quality Basic Data Program--Washington State Pollution Control Commission, Northwest Pulp & Paper Association, Oregon State Sanitary Authority--by The University of Washington, Department of Civil Engineering, October, 1961)

Dissolved-oxygen profiles were measured in the river at 11 different locations. The DO concentration ranged from a summer low of approximately 9-mg/l to a winter high of approximately 13-mg/l even as far down the river as RM 37, below the current discharge at Wauna.

The Pacific Northwest River Basins Commission (Columbia-North Pacific Region comprehensive Framework Study, Vol. 2, April, 1970) reported average DO concentration at the Beaver Terminal of 10.8-mg/l with a range of 8.1-13.5-mg/l.

STORET data is available for many other rivers in Oregon and Washington, but there is no data for the lower Columbia River since 1980. Data collected in 1979 at RM 45 showed summer DO concentrations between 7.4- and 8.2-mg/l.

Applicant's Claim

The applicant believes the proposed project will not significantly alter the existing DO regime in the river.

Evaluation

It is expected that the Columbia River can assimilate the mill's effluent oxygen demand without adverse effect. Dissolved oxygen will be reduced somewhat within the mixing zone since the wastewater effluent will not be saturated with oxygen. How much reduction might take place is difficult to predict as it depends upon many variables such as the relative rates of oxygen generation within the river and oxygen consumption by the effluent.

HMS Environmental, Inc. (HMS) has analytically estimated the expected extent of DO reduction (letter report to the Department dated April 14, 1989) in the river. Assuming a DO concentration in the river of 8-mg/l, the minimum DO concentration at the outfall diffuser would be 7.4-mg/l, rising to 7.9-mg/l some 200-ft away from the outfall diffuser. At the 400-ft mixing-zone boundary, river DO would be unchanged by the effluent.

There are no apparent oxygen-depletion problems identified with the effluent from other pulp mills on the Columbia River even though their current cumulative BOD5 discharge is more than 22 times that proposed by PW.

Temperature

340-41-205(2)(b)(A) Columbia River: No measurable increases shall be allowed outside of the assigned mixing zone, as measured relative to a control point immediately upstream from a discharge when stream temperatures are 68°F or greater; or more than 0.5°F increase due to a single source discharge when receiving water temperatures are 67.5°F or less; or more than 2°F increase due to all sources combined when stream temperatures are 66°F or less, except for specifically limited duration activities which may be authorized by DEQ under such conditions as and the Department of Fish and Wildlife may prescribe and which are necessary to accommodate legitimate uses or activities where temperatures in excess of this standard are unavoidable and all practical preventive techniques have been applied to minimize temperature rises. The Director shall hold a public hearing when a request for an exception to the temperature standard for a planned activity or discharge will in all probability adversely affect the beneficial uses.

Application of the Standard

Oregon's water-temperature standard for the Columbia River was adopted by the EQC on the basis of the following information and data:

1. The Oregon Fish and Wildlife Department provided information showing that a resident rainbow trout population lived and spawned in the river.
2. Water-quality criteria produced by national fishery experts, and provided by the Federal Water Pollution Control Administration, recommended a maximum not-to-be exceeded temperature of 68°F for salmonid (trout) growth and migration routes and 55°F for salmonid spawning and egg development waters. Because of the number of trout and salmon waters that had been destroyed or made marginal or non-productive nationwide, it was further recommended that the remaining trout and salmon waters, including the Columbia, be protected. "Inland trout streams and headwaters of salmon streams should not be warmed."

As temperatures increase above the optimal range, spawning and egg development become rapidly impaired, thus limiting reproduction. With increasing temperature, trout experience sublethal effects of impaired feeding, decreased growth rates, reduced resistance to disease and parasites, increased sensitivity to toxics, intolerance with migration, reduced ability to compete with more temperature-resistant species, and increased vulnerability to predation. If temperatures are high enough for sustained periods, mortality occurs.

Other water-quality parameters (such as dissolved oxygen) may also be adversely affected by elevated temperatures.

A maximum river temperature of 68°F was established for protection of the trout population. It was recognized that the natural river temperature may exceed 68°F, but no measurable temperature increase due to industrial discharge or other activity was allowed outside the mixing zone.

The standard implies that something less than 0.5°F is measurable. Variation in water temperature due to natural heating and cooling and convection make it difficult to determine small temperature rises due to effluent discharge. Modelling techniques can be used to evaluate temperature increases expected from proposed discharges or activities. The Department has typically assumed that a calculated temperature increase of less than 0.25°F would not be measurable in the stream.

Local Conditions

Water temperatures in the river are influenced by local meteorological conditions and vary daily and seasonally. A 1989 survey (unpublished) found summer temperatures at RM 66 to vary between 64°F and 72°F.

Applicant's Claim

No measurable increase in river temperature outside the mixing zone due to mill effluent is expected.

Evaluation

Mill effluent will enter the ASB at 100-110°F and after cooling during the ten-day retention time, will exit to the river at 61-81°F. During summer when river flow is minimal and water temperature is greatest, a cooling tower will be used to cool water in the central warm-water storage tank, which in turn will cool influent to the aeration lagoon.

At the 1929-1958 average minimum river flow of 120,595-cfs, the 15-MGD mill discharge is only 0.02% of the river flow. The calculated river-temperature increase due to effluent at 90°F mixing with river water at 70°F is less than 0.01°F.

No measurable increase in river temperature outside the mixing zone is expected.

Turbidity

OAR 340-41-205(2)(c)(A)(B)

(c) Turbidity (Jackson Turbidity Units, JTU): No more than a 10 percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all practicable turbidity control techniques have been applied and one of the following has been granted:

(c)(A) Emergency activities: Approval coordinated by with the Department of Fish and Wildlife under conditions they may prescribe to accommodate response to emergencies or to protect public health and welfare.

(c) (B) Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of Section 401 or 404 (Permits and Licenses, Federal Water Pollution Control Act) or OAR 141-85-100 et. seq. (Removal and Fill Permits, Division of State Lands), with limitations; and conditions governing the activity set forth in the permit or certificate.

Application of the Standard

Turbidity results from particulate matter held in suspension. The standard is designed to minimize the addition of particulate material that would cause significant increase in the river's normal, seasonal turbidity pattern; i.e., that would make the river "muddier".

Local Conditions

The Columbia River is slightly turbid at the Port Westward area. Suspended fragments of aquatic vegetation and algae are present through much of the year. During seasonal periods of heavy snow melt or rainfall there are surges of eroded soil and associated plant matter entering the river.

Turbidity at RM 66 varied between 1.6 and 7.6 during the summer of 1979. From October 1985 to September 1986, the turbidity at Warrendale, Oregon, ranged from a high of 16 NTU in March to 1.2 NTU in May. ("Water Resources Data, Washington, Water Year 1986", US Geological Survey Water Data Report, WA-86-1)

Applicant's Claim

During construction and after mill startup, stormwater sediment from excavation and erosion will be minimized by collection and settling of stormwater before release to the river.

Suspended solids in the effluent will be diluted and dispersed sufficiently so as to not contribute significantly to turbidity.

Evaluation

An increase in suspended solids in the river due to mill effluent is expected because the mill discharges some 12,000-lb of suspended solids per day. However, the added concentration of suspended solids at the 400-ft mixing zone boundary is only 0.7 mg/l. There should be no noticeable turbidity increase outside the mixing zone.

pH (Hydrogen Ion Concentration)

340-41-205(2)(d) pH (hydrogen ion concentration):
pH values shall not fall outside the following
ranges:

(A) Marine waters: 7.0 to 8.5.

(B) Estuarine and fresh waters: 6.5 to 8.5

Application of the Standard

pH values relate to the balance of acid and alkaline substances in the water. pH ranges from 1 (very acid) to 14 (very alkaline). Most streams in Oregon have pH values falling somewhere between 6.5 and 8.5. There may be seasonal fluctuations in the pH due to substances entering the water from land or biochemical activity in the water. Since fish and other aquatic life in a given stream have evolved under rather specific pH conditions, it is important to set a pH standard that reflects natural conditions and will prevent any intolerable acid/alkalinity imbalances. The Columbia River pH standard has been set at a tolerable range of 6.5 to 8.5 to coincide with the locally natural range.

Local Conditions

The pH of the Columbia River at the proposed Port Westward pulp mill effluent outfall is not known from recent data. Background pH values in the Columbia River are determined by the natural conditions of soils and upstream reservoir conditions, in addition to the effects of upstream permitted municipal dischargers to the river.

Applicant's Claim

The applicant contends that the operation of the proposed pulp mill at the Beaver area will not change any existing pH values in the Columbia River.

Evaluation

Effluent from the mill is relatively pH neutral. The pH of the discharge will be controlled within the range 6-9 at an average of 7 and the high dilution of the river will prevent any significant change in the river pH outside the mixing zone.

Dissolved Gases

OAR 340-41-205(2)(g) The liberation of dissolved gases, such as carbon dioxide, hydrogen sulfide, or other gases, in sufficient quantities to cause objectionable odors or to be deleterious to fish or other aquatic life, navigation, recreation, or other reasonable uses made of such waters shall not be allowed.

Application of the Standard

This rule refers to noxious gases that can result from decomposition of putrescible substances in the water. Putrescible substances may be contained in discharged wastes or in naturally occurring organic debris accumulated on stream bottoms. The generated gases can be chemically toxic or can consume dissolved oxygen causing mortality of aquatic organisms. Some of the decomposition gases are odorous, especially hydrogen sulfide and mercaptans.

Local Conditions

There are currently no apparent sites in the project zone where noxious gases are being liberated in quantities harmful to aquatic life.

Applicant's Claim

The applicant contends that conditions at the site will not change with respect to noxious gases with the construction of the proposed Port Westward Pulp mill.

Evaluation

Odors are released directly to the air by the mill process and indirectly by dissolution or vaporization from the wastewater. Odors can also be generated in and released from the ASB if it is not operated properly.

The relatively remote location of the proposed mill and the good windflows along the Columbia River should minimize any adverse impact due to odors.

Development of Fungi

OAR 340-41-205(2)(h) The development of fungi or other growths having a deleterious effect on stream bottoms, fish or other aquatic life, or which are

injurious to health, recreation, or industry shall not be allowed.

Application of the Standard

See discussion under 340-41-150 Nuisance Phytoplankton Growth

Creation of Tastes or Odors

OAR 340-41-205(2)(i) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish shall not be allowed.

Application of the Standard

This standard is self-explanatory in its purpose to prohibit the discharge of substances or creation of conditions that would be toxic to aquatic life, or impart unnatural tastes and odors to water or fish flesh.

Local Conditions

Objectionable odors or tastes in fish caught near pulp-mill outfalls in Oregon are not recognized as a problem. Similar mills have existed on the McKenzie, the Willamette and the Columbia River, and, even before secondary treatment systems were placed in use, fish and shellfish have not been regarded as tainted.

Applicant's Claim

The applicant contends that the mill effluent is not toxic and will not impart obnoxious taste or odor to the water or aquatic life.

Evaluation

The mill discharge is expected to have an acute toxicity LC50 of 100-percent or greater (non-toxic) and should not cause noticeable change in the palatability of fish or shellfish in the river.

Water drawn from the river for domestic use would have to be processed regardless of the proposed mill discharge.

Bottom or Sludge Deposits

OAR 340-41-205(2)(j) The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry shall not be allowed.

Application of the Standard

Sludge deposits in a stream may have several adverse effects including toxicity, blanketing and smothering of bottom-dwelling aquatic life, decimation of fish food organisms, and hindrance of the percolation of oxygen-bearing water to buried fish eggs.

Local Conditions

Sludge build-up has not been recognized as a problem from pulp-mill discharges in the Columbia River.

Applicant's Claim

The applicant contends that the proposed mill will not cause sludge build-up in the river.

Evaluation

Formation of river deposits by build-up of mill sediment is not expected to occur.

Some 12,000-lb per day of suspended solids will be discharged daily to the river. Sludge build-up could be expected in a small receiving stream with low current flow but as discussed previously, the high dilution and rapid current flows of the Columbia River are expected to dissipate the discharged solids and prevent build-up.

Some states have proposed limitations on "settleable solids" in industrial discharges as a means of further protecting against sludge build-up in the receiving waters. Oregon, however, has not yet deemed such a limitation necessary for pulp-mill effluent.

Discoloration, Scum, Oily Slick

340-41-205(2)(k) Objectionable discoloration, scum, oily slick or floating solids, or coating of aquatic life with oil films shall not be allowed.

Application of the Standard

The standard addresses important pollution considerations but does so subjectively rather than quantitatively. Both industrial and domestic wastes may cause one or more of the pollution conditions identified in the standard. Their impact on water quality may range from simple annoyance to humans and aquatic life to mortality of fish and aquatic life.

Local Conditions

Effluent from bleached-pulp and paper mills is normally brownish, caused by colored compounds that are removed from the wood pulp in order to produce a white paper product. All pulp and paper mills on the Columbia River discharge more or less color in their effluents.

The river is also naturally colored by the some of the same type of organic compounds as are contained in the mill effluent. Additionally, turbidity caused by suspended sediments adds to the typical brown, "muddy" color.

Oil or grease is not a normal effluent of pulp mills but foam can be carried out or created in the receiving water.

Applicant's Claim

The applicant acknowledges that even though the color level of the effluent will be significantly lower than that of a mill using older technology, some color may be noticeable that could affect the aesthetic qualities of the river in the mixing-zone area.

The applicant maintains that the aesthetic impact outside the mixing zone will not be significantly different from the present situation due to the very large flow in the Columbia River.

The applicant further maintains that oil, grease and foam will be controlled such that they will not be present in the effluent or create a problem in the river.

Evaluation

Pulp-mill discharges in the Columbia River typically produce a noticeably-colored plume that can extend downstream for some distance, depending on stream geometry and flow and the design of the outfall diffuser.

The color level of the proposed discharge is estimated at 3,000 color units which could be reduced through available wastewater treatment methods.

HMS has researched color-removal technology at our request and found that the process patented by Stone Container Corporation is the only actively-practiced wastewater color-removal process in the US. (Letter to the Department, April 21, 1989).

According to HMS, "Their polymer/DAF wastewater treatment technique to remove color was developed for total mill effluent after receiving traditional secondary treatment with either aeration ponds or activated sludge systems. According to the Stone Container patent, color is removed by a polyamine compound which coagulates lignins, degraded sugars, and other compounds. Growth of the coagulated color particle is enhanced by the addition of an acrylamide polymer. Removal of the coagulated color particle from water is effected by dissolved air floatation. The Stone Container process completes the treatment by combining the unthickened sludge with the kraft mill liquors and burning the sludge in the kraft recovery boiler. There is a great deal of concern that the higher chloride in DAF sludge from a fully bleached kraft mill cannot be burned in the recovery boiler without causing serious corrosion problems in the boiler."

The cost of color removal is considerable. HMS states, "Stone Container has published general descriptions of the process. From these descriptions an "order of magnitude" estimate of capital cost and annual operating costs may be made for this type of a system. This estimate will not include housing costs for the treatment system components. Operating costs will be for chemical addition costs, power requirements, annual repair and maintenance at 5% of capital cost and operating cost for 3 full time operators. For this general estimate, sludge disposal costs estimates will be based on offsite landfill costs for sludge thickened to 20%."

The following table summarizes these cost estimates.

TABLE I Estimated Cost of Color Removal

Item	Capital Cost	Annual Operating Costs
Color Removal System	\$ 7,500,000	
Maintenance		\$ 375,000
Operations		210,000
Power		200,000
Chemicals (\$500/million gallons)		3,250,000

TABLE I (cont'd.)

Sludge Disposal Thickeners	\$ 2,500,000	
Power		100,000
Maintenance		125,000
Disposal (500-ton/day @ \$50/ton)		<u>9,125,000</u>
Total	<u>\$10,000,000</u>	<u>\$13,385,000</u>

Lacking a quantitative water-quality color standard and given the fact that studies have not conclusively demonstrated any deleterious effect of mill effluent color on aquatic life, there is no compelling, objective reason to limit color. Wastewater color control is not currently required at other Columbia River pulp and paper mills.

Color removal by either chlorine bleaching of effluent or the Stone process also carries environmental problem trade-offs. Chlorine bleaching has been recognized by the Department as being potentially hazardous because of its potential for creating dioxins and other halogenated organics. The Stone process removes color (lignin) by adding flocculating chemicals that create large quantities of sludge that must be disposed of. Sludge incineration is expensive because the high chloride content of bleached-kraft sludge requires special boiler construction and perhaps air treatment. Landfilling has its added expense and siting difficulties.

In view of the potential environmental and economic problems of color removal, dilution and dissipation in the Columbia River appears to be an attractive solution.

HMS has estimated the extent and intensity of the color plume that might be expected from the mill. Their analysis shows that the mill discharge of 3000-CU, under low-flow river conditions, may increase the river color by 60-CU at the diffuser, by 30-CU at 200-ft and by 8-CU at 1000-feet.

An increase of 10-CU above background appears to be near the detection limit for most people. Research on the ability of trained people to detect changes in water color shows that a 10-CU increase in waters with low background color is difficult to detect ("A Study to Define Changes in Pulpmill Effluent-Contributed color in Receiving Waters Detectable by Human Observers", NCASI Technical Bulletin No. 283). It may be inferred that untrained observers, especially under conditions of poor lighting (cloudy, overcast weather) will have difficulty detecting a 10-CU increase.

Taking current and tidal effects into consideration, the best estimate is that the color plume will not be noticeable to most people beyond approximately 500-1000-ft from the discharge point.

PW's proposed color discharge to the river is about 23-percent of the 1979 upstream color contributed by other pulp mills on the Columbia

River. When PW comes on line, its actual contribution will probably be less than 23-percent because growth at the other mills since 1979 has increased their color discharges.

Aesthetic Conditions

340-41-205(2)(1) Aesthetic conditions offensive to the human senses of sight, tastes, smell, or touch shall not be allowed.

Application of the Standard

The standard emphasizes Oregon's high interest in protecting the aesthetic qualities of the state's water resources.

Evaluation

The aesthetic qualities of color, taste and smell related to the proposed mill effluents have been previously discussed under their related standards.

Radioisotopes

340-41-205(2)(m) Radioisotope concentrations shall not exceed maximum permissible concentrations (MPC's) in drinking water, edible fishes or shellfishes, wildlife, irrigated crops, livestock and dairy products, or pose an external radiation hazard.

Application of the Standard

Radioisotopes can be harmful to biological life. The purpose of the standard is to set a safe limit on their concentration in waters of the state to protect beneficial uses.

Local Conditions

This mill will not employ radioactive materials in its processing and the wastewater effluent will contains no radioactivity above natural background.

Applicant's Claims

The applicant does not propose to discharge any known radioactive substances from the project site. Construction and production materials used in the mill are not expected to contain levels of radioactivity greater than naturally-occurring background.

Evaluation

Radioactivity is not expected to be a problem with the proposed mill effluent.

Total Dissolved Gas

340-41-205(2)(n) The concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection shall not exceed one hundred and ten percent (110%) of saturation, except when stream flow exceeds the 10-year, 7-day average flood. However, for Hatchery receiving waters and waters of less than 2 feet in depth, the concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection shall not exceed one hundred and five percent (105%) of saturation.

Application of the Standard

The supersaturation of atmospheric gases in water, especially nitrogen, may cause either crippling or lethal gas bubbles to form in the tissues of fish. The standard, based on scientifically derived evidence, is designed to prohibit discharges or activities that will result in atmospheric gases reaching known harmful concentrations.

Local Conditions

There is no evidence of atmospheric gas supersaturation in the Columbia River near the proposed mill effluent outfall.
Applicant's Claim

Gas supersaturation in the river cannot logically be expected to occur as a result of the pulp mill operation. The applicant contends that the mill effluent will meet this standard.
Evaluation

Nitrogen supersaturation in the river caused by the mill effluent is not expected to be a problem. Mechanical aeration to supply oxygen to the ASB also supplies nitrogen since air is 79% nitrogen but is not expected to supersaturate the effluent.

The equilibrium solubility of nitrogen in water is 13-mg/l at 86°F and increases to 15-mg/l at 68°F. Even though the warmer ASB effluent might be supersaturated in nitrogen, it would be not necessarily be supersaturated with respect to the cooler river water because of its greater equilibrium solubility.

Dissolved Chemical Substances

340-41-205(2)(o) Dissolved Chemical Substances: Guide concentrations listed below shall not be exceeded unless otherwise specifically authorized by upon such conditions as it may deem necessary to carry out the general intent of this plan and to protect the beneficial uses set forth in rule 340-41-202:

(A) Arsenic	0.010 mg/l
(B) Barium	1.000 mg/l
(C) Boron	0.500 mg/l
(D) Cadmium	0.005 mg/l
(E) Chromium	0.020 mg/l
(F) Copper	0.005 mg/l
(G) Cyanide	0.005 mg/l
(H) Fluoride	1.000 mg/l
(I) Iron	0.100 mg/l
(J) Lead	0.050 mg/l
(K) Manganese	0.050 mg/l
(L) Phenols (total)	0.001 mg/l
(M) Total dissolved solids- Columbia River	500.000 mg/l
(N) Total dissolved solids- all other streams and tributaries thereto	100.000 mg/l
(O) Zinc	0.010 mg/l

Application of the Standard

Certain dissolved chemicals in water are known to be toxic to aquatic life and antagonistic to higher animals at low concentrations. Maximum allowable concentrations of the known toxic or offensive substances have been incorporated in the water-quality standards for the protection of both aquatic and human life.

Other, essentially non-toxic substances such as calcium, sodium, phosphorous and iron, may be individually or collectively adverse to domestic, industrial, or agricultural uses when present in excessive concentration.

Local Conditions

Detailed water analysis of the Columbia River is not available but measurement of total dissolved solids at Warrendale, Oregon, for the year October 1985 to September 1986 gave values from 95-to 110-mg/l, well below the river standard of 500-mg/l. ("Water Resources Data, Washington, Water Year 1986", US Geological Survey Water Data Report, WA-86-1)

Applicant's Claim

The applicant claims that the effluent from the proposed mill will not add significant quantities of the listed items or to adversely increase their concentration in the river.

Evaluation

The mill effluent is not expected to raise the concentration of the listed elements in the river water above the levels set by standard.

Iron is expected to be discharged at a concentration (5-mg/l) that is greater than the allowable maximum river water concentration of the standard (0.1-mg/l). The estimated dilution factor of 150 at the 400-ft mixing zone radius will reduce the iron concentration below the standard.

HMS has estimated from data on conventional bleached-kraft mills that this mill might discharge a maximum amount of total dissolved solids (TDS) of approximately 250-lb/ton of production. Sodium, sulfate and calcium used in pulping make up the majority of the inorganic solids at about 80-lbs/ton of product. Sodium and chloride, the major contributors from the bleaching process, add another 80 to 125 lb/ton. Other in-mill sources such as the wood and the intake water contribute another 15-lb/ton.

The proposed mill would discharge TDS at approximately 2,000-mg/l, measured in the effluent, at the Phase II discharge level. With a dilution factor of 150, the TDS level in the river at the mixing-zone boundary would be increased by approximately 13-mg/l to about 100-mg/l. This is roughly one-fifth of the allowable level of 500-mg/l.

The above estimate of TDS is based on effluent from conventional bleached-kraft mills. The proposed mill will wash the cooked pulp in an additional step after the added oxygen delignification stage and will return the wash water to the recovery system. It is expected that TDS losses from this mill will be lower than for existing Northwest bleached-kraft mills.

The other elements in this standard either are expected to be not present in the effluent or to be present at concentrations below the allowable limit of the standard.

Toxic Substances

340-41-205(2) (p) Toxic Substances:

- (A) Toxic substances shall not be introduced above natural background levels in the waters of the state in amounts, concentrations, or combinations which may be harmful, may chemically change to harmful forms in the environment, or may bioaccumulate to levels that adversely affect public health, safety, or welfare; aquatic life; or other designated beneficial uses.
- (B) Levels of toxic substances shall not exceed the most recent criteria values for organic and inorganic pollutants established by EPA and published in Quality Criteria for Water (1986). A list of the criteria is presented in Table 20. (not attached)
- (C) The criteria in paragraph (B) of this subsection shall apply unless data from scientifically valid studies demonstrate that the most sensitive designated beneficial uses will not be adversely affected by exceeding a criterion or that a more restrictive criterion is warranted to protect beneficial uses, as accepted by the Department on a site specific basis. Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.
- (D) Bio-assessment studies such as laboratory bioassays or instream measurements of indigenous biological communities, shall be conducted, as the Department deems necessary, to monitor the toxicity of complex effluents, other suspected discharges or chemical substances without numeric criteria, to aquatic life. These studies, properly conducted in accordance with standard testing procedures, may be considered as scientifically valid data for the purposes of paragraph (C) of this subsection. If toxicity occurs, the Department shall evaluate and implement measures necessary to reduce toxicity in a case-by-case basis.

Application of the Standard

This standard provides protection against specific toxic pollutants defined by the EPA Quality Criteria for Water and introduces bioassays as a means of determining whole-effluent toxicity.

In addition to the specific elements listed in "Quality Criteria for Water", pulp mill effluent contains small amounts of many

chemical compounds that are not listed and for which toxicity determinations have not been made. Bioassays are one way of determining the collective acute and chronic toxicity of the "whole effluent" without having to determine the toxicity of the individual constituents.

Local Conditions

The mill is designed with processing technologies that can significantly reduce formation of toxic compounds compared to older processes. Extended delignification in cooking and oxygen delignification between cooking and bleaching significantly reduce the lignin content (chlorine demand) of the pulp entering the bleach plant.

Less chlorine is used in the first bleaching stage and the number of bleaching stages needed is reduced. Organics removed in these processes are burned in the recovery system rather than discharged in the wastewater.

Chlorine dioxide will be used to replace some chlorine in the first bleaching stage and no chlorine is used in subsequent states.

Applicant's Claim

The applicant contends that the mill will use the highest and best production technologies currently proven for reducing effluent toxicity.

Evaluation

The mill effluent, while it may contain some of the elements and compounds listed in "Quality Criteria for Water", is not expected to contribute any of them in great enough quantity to cause the river water to exceed the standard outside the mixing zone.

The applicant is relying on up-to-date pulping and bleaching processes to minimize formation and discharge of toxic compounds. The proposed conventional wastewater treatment will destroy or remove many potentially toxic compounds but no wastewater treatment processes directed at removing specific toxics are included in the design.

The toxic substances of greatest concern produced by conventional pulp-mill bleach plants are dioxins and di-benzo furans, particularly 2,3,7,8-TCDD and 2,3,7,8-TCDF. Data from the USEPA/Paper Industry Cooperative Dioxin Screening Study (the Five-Mill Study), other limited industry data and native fish results from bioaccumulative pollutant studies clearly indicate that

discharges of 2,3,7,8-TCDD may occur at most bleached-kraft pulp and paper mills.

USEPA's interim strategy for regulation of pulp and paper mill dioxin discharges advises development of best management practices (BMP's) to reduce potential dioxin/furan discharges by chlorine minimization and improved suspended-solids control. The amount of dioxin generated by bleaching pulp mills is thought to be related to the amount of chlorine and chlorine derivatives used in the bleaching stages to remove lignin, and the effectiveness of process control. Dioxin precursors may also be present in defoaming chemicals used by some mills.

USEPA's bench-scale wastewater treatability study of pulp and paper-mill discharges of 2,3,7,8-TCDD and -TCDF found that after biological treatment, more than 90-percent of the 2,3,7,8-TCDD and -TCDF is associated with suspended solids and subsequently is transferred to the sludge or discharged with the suspended solids in the effluent. Minimization of suspended solids discharge would minimize discharge of any dioxins present to the river and would also potentially reduce discharged color. Retained solids must be disposed of, however, and this can present difficult environmental problems.

Because dioxin formation is not well understood, the applicant cannot guarantee that the proposed mill will produce no dioxins as a by-product of the bleached-kraft process. However, if the formation of dioxins is directly related to the production of total chlorinated organics, the technology that will be used in the proposed mill will be less likely to produce dioxins than that in some currently-operating bleached-kraft pulp mills.

There are no bleached-kraft mills operating in Oregon with the complete series of toxicity-reducing process technologies that have been designed into the Port Westward mill so there is no real data available to show the effectiveness of dioxin avoidance.

Mills are currently under construction in North America with these same technologies (such as Weyerhaeuser at Columbus, Mississippi and Daishowa at Peace River, Alberta). Others which may incorporate similar technologies are currently being designed.

Natural Quality

340-41-205(3) Where the natural quality parameters of waters of the Columbia River basin are outside the numerical limits of the above assigned water quality standards, the natural water quality shall be the standard.

Application of the Standard

Oregon recognized that the natural quality of streams may exceed the adopted standards. Lack of data made it impossible to identify and adopt special standards for each area. Therefore, language was included to establish natural quality as the standard in such instances.

The temperature standard for example, is written to recognize the potential for natural temperatures to exceed the standard and established a "no measurable increase" criterion.

Evaluation

This standard does not change the situation or introduce any new requirement for the proposed mill that has not already been addressed.

Mixing Zones

340-41-205(4) (a-f) Mixing Zones:

(a) The Department may allow a designated portion of a receiving water to serve as a zone of initial dilution for waste waters and receiving waters to mix thoroughly and this zone will be defined as a mixing zone.

(b) The Department may suspend all or part of the water quality standards, or set less restrictive standards, in the defined mixing zone, provided that the following conditions are met:

(A) The water within the mixing zone shall be free of:

- (i) Materials in concentrations that will cause acute (96HLC50) toxicity to aquatic life. Acute toxicity is measured as the lethal concentration that causes 50 percent mortality of organisms within a 96-hour test period.
- (ii) Materials that will settle to form objectionable deposits.
- (iii) Floating debris, oil, scum, or other materials that cause nuisance conditions.
- (iv) Substances in concentrations that produce deleterious amounts of fungal or bacterial growths.

- (B) The water outside the boundary of the mixing zone shall:
- (i) Be free of materials in concentrations that will cause chronic (sublethal) toxicity. Chronic toxicity is measured as the concentration that causes long-term sublethal effects, such as significantly impaired growth or reproduction in aquatic organisms, during a testing period based on test species life cycle. Procedures and end points will be specified by the Department in waste water discharge permits.
 - (ii) Meet all other water quality standards under normal annual low flow conditions.
- (c) The limits of the mixing zone shall be described in the waste water discharge permit. In determining the location, surface area, and volume of a mixing zone area, the Department may use appropriate mixing zone guidelines to assess the biological, physical, and chemical character of the receiving water, and effluent, and the most appropriate placement of the outfall, to protect instream water quality, public health, and other beneficial uses. Based on receiving water and effluent characteristics, the Department shall define a mixing zone in the immediate area of a waste water discharge to:
- (A) Be as small as feasible;
 - (B) Avoid overlap with other mixing zones to the extent possible and be less than the total stream width as necessary to allow passage of fish and other aquatic organisms;
 - (C) Minimize adverse effects on the indigenous biological community especially when species are present that warrant special protection for their economic importance, tribal significance, ecological uniqueness, or for other similar reasons as determined by the Department;
 - (D) Not threaten public health;
 - (E) Minimize adverse effects on other designated beneficial uses outside the mixing zone.
- (d) The Department may request the applicant of a permitted discharge for which a mixing zone is required, to submit

all information necessary to define a mixing zone, such as:

- (A) Type of operation to be conducted;
 - (B) Characteristics of effluent flow rates and composition;
 - (C) Characteristics of low flows of receiving waters;
 - (D) Description of potential environmental effects;
 - (E) Proposed design for outfall structures.
- (e) The Department may, as necessary require mixing zone monitoring studies and/or bioassays to be conducted to evaluate water quality or biological status within and outside the mixing zone boundary.
- (f) The Department may change mixing zone limits or require the relocation of an outfall if it determines that the water quality within the mixing zone adversely affects any existing beneficial uses in the receiving waters.

Application of the Standard

A mixing zone at the point of discharge is required to reduce the immediate impact of the permitted discharge of water that is different from the receiving water. By careful outfall design, the shape of the mixing zone can be controlled and the size minimized. Conditions of the standard are more easily met by careful siting of the discharge and effective outfall design.

Local Conditions

The proposed outfall is situated at river mile 57. Hydrologic conditions of the river at the outfall location have not been studied and so very little is known at this time of the necessary outfall design parameters.

Applicant's Claim

The outfall design will be based on a computer analysis of the effluent flow and the river conditions at extreme low flow and worst-case tidal conditions. The design goal will be minimization of the impact on the river of the discharge.

Evaluation

The ultimate wastewater environmental protection measure utilized by this mill will be the massive dilution capability of the

Columbia River. Its flow is so great relative to the mill's discharge that it can be expected to dilute and carry away the discharged pollutants without significant adverse effect.

The outfall design and placement will be critical in best utilizing the dilution and flushing features of the river. Local river-bottom and flow features that could re-circulate or stagnate effluent before it is carried away must be studied and taken into account in the outfall design.

An important consideration in regard to optimum outfall design and placement will be minimization of the aesthetic impact of color. It may be expected that pollutants in the effluent can be effectively diluted and dispersed without adverse effect. Color will probably be the most noticeable feature of the effluent plume.

HMS has analytically estimated the mixing zone, taking local river conditions into account. Estimated dilution factors range from 50 at the diffuser to 750, 1500-ft away. (See discussion under Dissolved Oxygen and Color.)

The permit defines two allowed mixing zones as circles centered on the diffuser with radii of 1000-ft for color and 400-ft for all other parameters.

A more detailed mixing-zone modelling based on measured stream currents will be required of PW before construction of the outfall to determine the appropriate design parameters.

Minimum Criteria for Treatment and Control of Wastes

340-41-215 Subject to the implementation program set forth in rule 340-41-120, prior to discharge of any wastes from any new or modified facility to any waters of the North Coast-Lower Columbia River Basin, such wastes shall be treated and controlled in facilities designed in accordance with the following minimum criteria (In designing treatment facilities, average conditions and a normal range of variability are generally used in establishing design criteria. A facility once completed and placed in operation should operate at or near the design limit most of the time, but may operate below the design criteria limit at times due to variables which are unpredictable or uncontrollable. This is particularly true for biological treatment facilities. The actual operating limits are intended to be established by permit pursuant to ORS 468.740 and recognize that the actual performance level may at times be less than the design criteria):

(2) Industrial wastes:

- (a) After maximum practicable inplant control, a minimum of secondary treatment or equivalent control (reduction of suspended solids and organic material where present in significant quantities, effective disinfection where bacterial organisms of public health significant are present, and control of toxic or other deleterious substances).
- (b) Specific industrial waste treatment requirements shall be determined on an individual basis in accordance with the provisions of this plan, applicable federal requirements, and the following:
 - (A) The uses which are or may likely be made of the receiving stream;
 - (B) The size and nature of flow of the receiving stream;
 - (C) The quantity and quality of wastes to be treated; and
 - (D) The presence or absence of other sources of pollution on the same watershed.
- (c) Where industrial, commercial, or agricultural effluents contain significant quantities of potentially toxic elements, treatment requirements shall be determined utilizing appropriate bioassays.
- (d) Industrial cooling waters containing significant heat loads shall be subjected to offstream cooling or heat recovery prior to discharge to public waters.
- (e) Positive protection shall be provided to prevent bypassing of raw or inadequately treated industrial wastes to any public waters.
- (f) Facilities shall be provided to prevent and contain spills of potentially toxic or hazardous materials and a positive program for containment and cleanup of such spills should they occur shall be developed and maintained.

Application of the Standard

An NPDES permit is based on information submitted by the applicant describing facilities both in the pulp mill production process and for treatment of wastewater leaving the plant. By accepting the permit and by operating the plant, the applicant has agreed to operate the entire plant, from receipt of raw wood chips to discharge of treatment effluent to the river, to minimize the release of contaminants to the environment.

Local Conditions

Since this is a new facility, the opportunity exists for incorporating the latest and best technology in wastewater control and treatment. The mill may be regarded as a model for other such facilities that may be sited in the future on the Columbia River.

Applicant's Claim

The proposed mill will treat its sanitary and process wastewater using conventional primary and secondary techniques. The sanitary wastewater will be treated by an activated sludge unit and discharged in the mill outfall, downstream of the rest of the wastewater treatment system. The mill wastewater will be routed through the large ASB for biological degradation of the organic matter. This process offers satisfactory secondary treatment of the effluent.

The proposed mill includes a SMB to capture unintentional losses of black liquor and other highly polluting wastes. The mill will also recycle the cooling waters for process uses. There are other operating pulp mills that discharge to the Columbia River and its tributaries, both upstream and downstream of the proposed new plant.

Applicant's Claim

The applicant is confident that the future mill will incorporate the highest and best technology to effect the maximum practicable in-plant control of water pollution.

Evaluation

Assuming that the conventional wastewater treatment proposed for the mill is regarded as "highest and best" treatment, it ought to be designed to operate as efficiently as possible. The proposed BOD discharge quantity is less than the USEPA NSPS standard but could be reduced further. To do so would require a commitment by PW to operate the ASB at greater than the proposed 85-percent efficiency with respect to BOD removal. The proposed NPDES permit

limit on BOD5 discharge will be based on operating the ASB at 90-percent efficiency.

NPDES PERMIT REQUIREMENTS

The following is a summary and discussion of the major provisions of the draft National Pollutant Discharge Elimination System permit for the Port Westward mill.

Permit Term

It is recommended that the permit be issued for the maximum term of five years. Construction of the mill is estimated to require at least two years from issuance of all the permits which would provide, at most, three years of run-in and operating experience before permit renewal.

The performance of the mill will be reviewed after five years and the permit will be modified, if necessary, to increase the level of protection for the river.

Schedule A--Discharge Limitations

1. Outfall Number 001 (effluent discharge to the Columbia River)

Pollutant	Mass Loadings	
	Monthly Ave. lb/day	Daily Max. lb/day
Phase I		
BOD5	6,000	12,850
TSS	12,000	24,000
Phase II		
BOD5	7,800	16,690
TSS	15,580	31,160

Other Parameters

Color Color at the color mixing-zone boundary shall not be more than 10-CU greater than the river background color.

Temperature Shall not exceed 90°F

pH Shall not be outside the range 5.0-9.0

2,3,7,8-TCDD* None detectable

*2,3,7,8-Tetrachloro-dibenzo-p-dioxin

Calculation of Effluent Mass Limits

The following data was used in calculating the mass discharge limits.

ASB Effluent Flow Rates--Flow rates were taken from the submitted Water & Effluent Flow Diagram (E-3823-300-2021). Design flow rate for Phase I (950-ADT/day) is 14.4-MGD and the winter flow rate for Phase II (1,260-ADT/day) is estimated at 18.7-MGD.

The BOD5 limits which were originally proposed by the applicant were based on 85-percent removal by the treatment process. The applicant subsequently committed to a treatment process that would achieve 90-percent BOD5 removal. The proposed effluent limits were then reduced by the ratio $(1-0.90)/(1-0.85)$ to reflect the higher removal rate.

Phase I (950 ADT/day, 14.4 mgd)

Permit Limits

BOD5

Average Monthly $14.4 \text{ mgd} \times 8.34 \text{ lb/g} \times 50 \text{ mg/l} = 6,000 \text{ lb/d}$
Daily Maximum $14.4 \text{ mgd} \times 8.34 \text{ lb/g} \times 107 \text{ mg/l} = 12,850 \text{ lb/d}$

TSS

Average Monthly $14.4 \text{ mgd} \times 8.34 \text{ lb/g} \times 100 \text{ mg/l} = 12,000 \text{ lb/d}$
Daily Maximum $14.4 \text{ mgd} \times 8.34 \text{ lb/g} \times 200 \text{ mg/l} = 24,000 \text{ lb/d}$

USEPA Effluent Guidelines (40CFR Part 430, Subpart G)

BOD5

Average Monthly $950 \text{ adt/d} \times 2 \text{ klb/t} \times 5.5 \text{ lb/klb} = 10,450 \text{ lb/d}$
Daily Maximum $950 \text{ adt/d} \times 2 \text{ klb/t} \times 10.3 \text{ lb/klb} = 19,570 \text{ lb/d}$

TSS

Average Monthly $950 \text{ adt/d} \times 2 \text{ klb/t} \times 9.5 \text{ lb/klb} = 18,050 \text{ lb/d}$
Daily Maximum $950 \text{ adt/d} \times 2 \text{ klb/t} \times 18.2 \text{ lb/klb} = 34,580 \text{ lb/d}$

Phase II (1260 adt/d, 18.7 mgd)

Permit Limits

BOD5

Average Monthly $18.7 \text{ mgd} \times 8.34 \text{ lb/g} \times 50 \text{ mg/l} = 7,800 \text{ lb/d}$
Daily Maximum $18.7 \text{ mgd} \times 8.34 \text{ lb/g} \times 107 \text{ mg/l} = 16,690 \text{ lb/d}$

TSS
 Average Monthly 18.7 mgd x 8.34 lb/g x 100 mg/l = 15,580 lb/d
 Daily Maximum 18.7 mgd x 8.34 lb/g x 200 mg/l = 31,160 lb/d

USEPA Effluent Guidelines (from 40CFR Part 430, Subpart G)

BOD5
 Average Monthly 1260 adt/d x 2 klb/t x 5.5 lb/klb = 13,860 lb/d
 Daily Maximum 1260 adt/d x 2 klb/t x 10.3 lb/klb = 25,960 lb/d

TSS
 Average Monthly 1260 adt/d x 2 klb/t x 9.5 lb/klb = 23,940 lb/d
 Daily Maximum 1260 adt/d x 2 klb/t x 18.2 lb/klb = 45,860 lb/d

Permit Limits Compared with USEPA Effluent Guidelines

	(1) Permit Limit (lb/d)	(2) USEPA Guideline (lb/d)	(1)/(2)
Phase I			
BOD5 Average Monthly	6,000	10,450	0.57
BOD5 Daily Maximum	12,850	19,570	0.66
TSS Average Monthly	12,000	18,050	0.67
TSS Daily Maximum	24,000	34,580	0.69
Phase II			
BOD5 Average Monthly	7,800	13,860	0.51
BOD5 Daily Maximum	16,690	25,960	0.64
TSS Average Monthly	15,580	23,940	0.65
TSS Daily Maximum	31,160	45,860	0.67

2. Effluent From Sanitary Treatment Plant

<u>Parameter</u>	<u>Limits</u>
Fecal Coliform	Shall not exceed a log mean of 200 fc per 100-ml based on a minimum of five samples in a 30-day period, with no more than 10 percent of the samples exceeding 400 fc per 100-ml.
BOD and TSS	Either parameter shall not exceed 20-mg/l from May 1 to October 31
BOD	Effluent concentration in the river at the mixing-zone boundary shall not exceed 1-mg/l from November 1 to April 30

3. Effluent From Bleach Plant Acid and Alkali Sewers Before Dilution

<u>Parameter</u>	<u>Limits</u>
2,3,7,8-TCDD	None detectable

Comment:

If dioxin is produced in the mill, it will most likely be produced in the chlorine/chlorine-dioxide bleaching stage of the bleach plant. Placing a dioxin discharge limitation of "none detectable" on the bleach-plant effluent adds a factor of safety to the limitation of "none detectable" on the outfall because the bleach-plant effluent is diluted as it flows to the outfall.

Any dioxin produced in the bleach plant will be diluted by a factor of approximately 1.3 (ratio of ASB influent flow to total flow of acid and alkali bleach-plant sewers) before it reaches the ASB. Some removal of dioxin may subsequently occur in the ASB by bio-degradation or combination with the sludge although the degree of removal is unknown and may not be significant.

If 2,3,7,8-TCDD is present at a concentration of approximately 3-ppq or less in the ASB effluent, enough additional dilution is available between the ASB and the mixing zone boundary to reduce the concentration in the river to meet Oregon's water-quality criterion of 0.013-ppq.

Dioxin analytical detectability is currently assumed to be approximately 10 ppq (10×10^{-15}) although it is recognized that "detectability" will change as analytic techniques change.

A dioxin "reopener" is included in the permit that allows reconsideration of the dioxin limits of "none detectable" if new information or circumstances cause the state to change its applicable dioxin regulations or regulatory policies.

4. Effluent From Sanitary Treatment Plant

PW initially proposed routing the wastewater from the sanitary treatment plant to the ASB. PW has agreed to reroute the wastewater to the mill outfall, downstream of the ASB because of concern for possible problems in disposing of ASB sludge that might contain pathogens.

5. Mixing Zones

Two mixing zones will be defined in the permit as circles centered on the outfall diffuser of 1000-ft radius for color and of 400-ft radius for all other parameters. For comparison, the

James River mill at Wauna also has a 400-ft radius mixing zone for all parameters except for color, which is not specified.

The total dilution factor at the 1000-ft radius will be approximately 400, enough to reduce the color increase to approximately 8-CU. The river DO should be almost fully recovered at a radius of 400-ft.

The applicant will be required to conduct stream measurements and modelling to verify the appropriateness of the defined mixing zones.

6. Dioxin Precursors

Limitation: No brownstock defoamers which contain recycled oils or which contain dioxin precursors may be used.

This provision was added to further limit the potential for dioxin formation.

7. Dioxin Limit Reopener

This permit may be reopened for modification of the dioxin effluent limitations of "none detectable" if the applicable state dioxin regulations or regulatory policies change.

This provision adds flexibility for appropriate changes to the permit during its term as the rapidly-moving technical and regulatory situation changes with respect to dioxins.

Schedule B--Monitoring and Reporting Requirements

1. Outfall Number 001 (effluent discharge to the Columbia River)

<u>Parameter</u>	<u>Minimum Frequency</u>	<u>Sample Type</u>
Flow Rate	Daily	Measurement
BOD5	Three per week	24-hr composite
TSS	Three per week	24-hr composite
Temperature	Three per week	Grab
pH	Three per week	Grab
Color	Weekly	24-hr composite
Acute Toxicity Bioassay	January & July	96-hr static using the agreed-upon test species.
Chronic Toxicity (During October) first summer of operation.)	Monthly (June to using two test	Chronic bioassay species.

Chronic Toxicity
(After approval of the final test species.)

Monthly (July to September)

Chronic bioassay using most appropriate test species.

2,3,7,8-TCDD

Quarterly

24-hr composite

Bioassay monitoring shall be conducted in accordance with procedures approved by the Laboratory.

Comment:

The bioassays are included because they are the best available method of testing for "whole-effluent" toxicity. Single-parameter testing is not sufficient to adequately characterize the toxicity of a complex wastestream.

USEPA has issued a policy (49 FR 9016, March 9, 1984), some major features of which are:

- a. To control toxics beyond BAT, an integrated strategy using both biological and chemical methods is to be followed.
- b. Paragraphs 308 and 402 of the Clean Water Act allow the States to require chemical, toxicity, and instream data to assure compliance with standards.
- c. Effluent toxicity can and should be used as a parameter for permit limits.

Because this mill has an internal sewage plant, it is appropriate to monitor the degree of treatment and disinfection.

2. Effluent From Bleach Plant Acid and Alkali Sewers Before Dilution

<u>Parameter</u>	<u>Minimum Frequency</u>	<u>Sample Type</u>
2,3,7,8-TCDD	Quarterly	24-hr composite
Adsorbable Organic Halides	Three per week	Grab

Potential dioxin formation will be monitored directly (measurement of 2,3,7,8-TCDD) and also indirectly through measurement of adsorbable organic halides (AOX).

3. Aerated Stabilization Basin Influent and Effluent

<u>Parameter</u>	<u>Minimum Frequency</u>	<u>Sample Type</u>
BOD5	Twice Weekly	24-hr composite
TSS	Twice Weekly	24-hr composite
Color	Twice Weekly	24-hr composite
pH	Daily	Grab
Temperature	Daily	Grab

Monitoring of both influent and effluent will be required as a means of checking the performance efficiency of the ASB to ensure that it is operating at "highest and best practicable" effectiveness.

4. Aerated Stabilization Basin Bottom Sludge

<u>Parameter</u>	<u>Minimum Frequency</u>	<u>Sample Type</u>
Sludge Depth	July & January	Measurement
Extractable Organic Halides	Monthly	Grab

Extractable organic halides will be monitored as a check against possible dioxin production.

Schedule C--Compliance Conditions and Schedules

1. Mixing Zone Confirmation and Outfall Diffuser Design

The permittee will be required to submit an engineering study for outfall diffuser design to verify the mixing-zone boundary based on chronic toxicity, dissolved oxygen, turbidity, temperature and observable color before starting construction of the wastewater treatment system. The study must include modelling and calibration of the model to local stream hydrology.

Comment:

The major environmental protection mechanism employed by the proposed mill is the dilution capability of the Columbia River; however, the facility will not be allowed to utilize the entire river flow for dilution. A limited mixing zone is defined for the discharge. The dilution capability within the mixing zone will be best utilized by optimizing the design of the outfall diffuser to provide the least impact.

SCHEDULE D--Special Conditions

1. The total discharge shall be controlled to maintain a reasonably constant flow rate throughout each 24-hour operating period unless a temporary or short-term flow variation is necessary to meet other provisions of this permit.

Comment:

This condition maintains consistency in the mixing zone, minimizes the environmental impact on the river and allows the outfall diffuser to perform as designed.

There may be periods however, when it would be advisable to alter flow rate. For example, withholding flow during temporary slow-current periods would improve compliance with the color increase limitation at the boundary of the mixing zone.

2. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.

Comment:

Spilled black liquor or other in-plant toxics must be routed to the spill basin and recovered or processed in such a manner so as not to disrupt the operating efficiency of the aerated stabilization basin.

3. If a SMB is installed, it must be double-lined with full-membrane liners and between-the-liner leak detection must be provided.

Comment:

Plans submitted with the permit application incorporate an open spill-management basin. A closed-tank system could be a more protective alternative which would also help contain discharge of volatiles to the air. If the permittee constructs the basin, it must be fully sealed to prevent contamination of soil and groundwater.

A double synthetic liner with leak-detection capability is deemed an appropriate level of containment for spills of potentially very toxic substances.

4. The ASB must be fully lined with an engineered liner providing a minimum permeability of 1×10^{-7} cm/sec.

Comment:

Leakage from the ASB must be minimized to protect local groundwater by installation of a liner. The ASB does not require as high a level of containment as does the SMB.

PORT WESTWARD PULP MILL -- Summary of Public Comment

Commenter/Issue	More Study	Water Toxics	Pilings	Solid Waste	Surface Water	Color	Econ. Devel.	Ground-Water	AirTox Odors	River Slime
ASP	x	x								
Axon, Jammie	x	x								
Bell, Nina (NWEA)	x	x						x		
Carlough, Matthew		x								
Carver, Carol									x	
City of Clatskanie							x			
Cox, John							x			
Crocker, Larry									x	
Dahlgren, Eric (PStH)							x			
Dillard, Max (CCBC)							x			
Erickson, Kenneth							x			
Griffith, Robert P.	x	x		x	x	x			x	
Grove, Kathleen	x									
Haas, Stuart							x			
Higgins, Dennis		x								
Kaakinen, John		x								
Keyser, Robert							x			
Kiser, Andrew		x		x						
Korhonen, Fred							x			
Larson, Rich (CPC)							x			
Lillich, M.							x			
Martin, Irene (CRFPU)										x
McDonald, Bill (CofC)							x			
NWEDC		x								
OSC	x		x							
O'Brien, Mary (NCAP)	x	x								
Riswick, Donald (CRFPU)		x								
Rosenzweig, Charlie	x	x								
Rosolie, Eugene		x								
Soter, Chris		x								
Steel Hazen, Deborah (CC)										
Sutter, Fred							x			
Thompson, Rick	x	x								
USF&WS	x									

ATTACHMENT C

WSDE			x								
Counts	33	9	15	2	1	1	1	12	1	3	1

Organizations Represented:

ASP = Audubon Society of Portland
 CC = The Clatskanie Chief
 CCBC = Columbia County Board of Commissioners
 CofC = City of Clatskanie
 CPC = Clatskanie Planning Commission
 CRFPU = Columbia River Fishermans Protective Union
 NCAP = Northwest Coalition for Alternatives to Pesticides
 NWEA = Northwest Environmental Advocates
 NWEDC = Northwest Environmental Defense Center
 OSC = Oregon Salmon Commission
 PStH = Port of St. Helens
 USF&WS = US Fish and Wildlife Service
 WSDE = Washington State Department of Ecology

Issues/Concerns:

More Study = Need more time for EIS, further study
 Water Toxics = Concern for toxics (particular dioxin) being discharged in the effluent
 Pilings = Concern for effect of wood preservatives in pilings on aquatic life
 Solid Waste = Concern for disposal of solid wastes
 Color = Concern for effect of discharge color on beneficial uses
 Econ. Devel. = Support for economic development with DEQ oversight
 Groundwater = Concern for contamination of groundwater by effluent
 AirTox/Odors = Concern for airborne toxics and odors
 River Slime = Concern for effluent promotion of algal growths in river

Prepared by: Jerry E. Turnbaugh, Water Quality Division
 July 13, 1989

STATE OF OREGONDEPARTMENT OF ENVIRONMENTAL QUALITYINTEROFFICE MEMORANDUM

DATE: July 17, 1989

TO: Environmental Quality Commission

FROM: Jerry Turnbaugh, Waster Quality Div.

SUBJECT: Findings Pursuant to Rules for New or Increased Discharges

Oregon rules (OAR 340-41-026(3)) require the Commission or Director to make certain findings when allowing new or increased wasteload discharges.

-026(3) The Commission ... may grant exceptions to sections (2) and (5) and approvals to section (4) for major discharges Major dischargers include those industrial and domestic sources that are classified as major sources for permit fee purposes in OAR 340-45-075(2).

- (3)(a) In allowing new or increased discharged loads, the Commission ... shall make the following findings:
- (A) The new or increased discharged load would not cause water quality standards to be violated;

Findings:

No violation of water-quality standards by the discharged pollutants identified in the permit application and permit evaluation report is expected, with the possible exception of TCDD (2,3,7,8-tetrachloro-dibenzo-p-dioxin). A detailed discussion of each of the requested wasteloads and their effect on water quality is found in the permit evaluation report.

TCDD has been found in the effluent from bleached kraft pulp mills throughout the nation. Oregon has established a water quality standard of 0.013 parts per quadrillion for TCDD. The water quality standard is based upon criteria developed and recommended by the US Environmental Protection Agency. The level of detection of TCDD with current technology is only 10 parts per quadrillion; consequently, the water quality standard is substantial below the level of detection.

TCDD has been found in the effluent of the two Oregon bleached kraft pulp mills located on the Columbia River. Based upon dilution calculations, the Department has determined that water quality standard for TCDD will be violated outside the allowable

Memo to: Environmental Quality Commission
July 17, 1989
Page 2

mixing zones for these two mills. Because the levels are below the detection level for TCDD, the violations cannot be verified from samples taken in the river. TCDD has also been found in fish tissue taken from the river.

Based upon the dilution calculations, the Department has listed portions of the Columbia River as violating water quality standards due to TCDD.

The Commission is required to make a finding that the proposed discharge would not violate water quality standards. The Department has no information about the levels of TCDD in the Columbia River adjacent to the site of the proposed pulp mill. The applicant has proposed to provide production facilities, substantially different from conventional bleached kraft mills, that will significantly reduce TCDD concentrations in the effluent. The Department has calculated necessary effluent TCDD concentrations to meet water quality standards at the edge of the mixing zone. The levels in the effluent would have to be less than detectability. These calculations were based on background river concentrations being zero.

- (B) The new or increased discharged load would not threaten or impair any recognized beneficial uses;

Findings:

Based on information provided by the applicant, the effluent from the proposed mill meets water quality standards outside a 400 foot mixing zone (with the possible exception of TCDD) and is not expected to impair the recognized beneficial uses of the Columbia River. A 1000 foot mixing zone has been defined, beyond which color should not be visible.

- (C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited unless the pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to be water quality limited; and

Findings:

The proposed Port Westward mill will be using state of the art production processes that should minimize the formation of TCDD

Memo to: Environmental Quality Commission
July 17, 1989
Page 3

and a denial of the permit on the basis that some small amount of TCDD will be discharged may be unwarranted because of the uncertainty as to whether the Columbia River is actually water quality limited with respect to TCDD.

- (D) The activity, expansion, or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency.

Findings:

Columbia County has issued a land-use compatibility statement, approving the siting of the proposed mill.

- (b) Oregon's water quality management policies and programs recognize that Oregon's water bodies have a finite capacity to assimilate waste. The strategy that has been followed in stream management has hastened the development and application of treatment technology that would not have otherwise occurred. As a result, some waters in Oregon have assimilative capacity above that which would exist if only the minimum level of waste treatment was achieved. This unused assimilative capacity is an exceedingly valuable resource that enhances in-stream values specifically, and environmental quality generally. Allocation of any unused assimilative capacity should be based on explicit criteria. In addition to the conditions in subsection (a) of this section, the Commission or Director shall consider the following:

- (A) Environmental Effects Criteria

Findings:

Non-discharge alternatives such as land application of wastewater were not investigated by the Department because it was judged that the investigative cost of evaluating soil and groundwater impact would be unreasonably burdensome relative to the benefit. The Department felt that the high dilution capacity of the Columbia River made it a logical choice for discharge.

Memo to: Environmental Quality Commission
July 17, 1989
Page 4

(B) Economic Effects Criteria.

Findings:

To our knowledge, no other Oregon economic development projects are currently being proposed for the Columbia River that would be competing for the assimilative capacity.

Port Westward claims that the new mill will bring 230 direct jobs and some 1,000 spin-off jobs to the area and a payroll of \$10 million as well as \$10.5 million in new state and local taxes.

The total cost of the facility is estimated at \$450 million, and is scheduled to begin operation in 1992. The mill will produce 300,000 dry metric tons of pulp per year with a value of approximately \$200 million.



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: M
Division: Hazardous & Solid Waste
Section: Underground Storage Tanks

SUBJECT:

Underground Storage Tank Annual Permit Fee

PURPOSE:

Continue the Annual Permit Fee of \$25 per tank after July 1, 1989.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules (Temporary) Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment ___
 - Public Notice Attachment ___
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___
- Approve Department Recommendation
 - ___ Variance Request Attachment ___
 - ___ Exception to Rule Attachment ___
 - ___ Informational Report Attachment ___
 - ___ Other: (specify) Attachment ___



Environmental Quality Commission

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- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___

- Approve Department Recommendation
 - ___ Variance Request Attachment ___
 - ___ Exception to Rule Attachment ___
 - ___ Informational Report Attachment ___
 - ___ Other: (specify) Attachment ___

DESCRIPTION OF REQUESTED ACTION:

The proposed temporary rule amends the existing EQC rule to continue the \$25 fee that was in effect during the 1989 biennium after July 1, 1989.

The statute enacted in 1987 provided for a fee not to exceed \$25 prior to July 1, 1989 and a fee not to exceed \$20 after July 1, 1989. The rules enacted by the Commission were consistent with this legislative direction.

The 1989 legislature amended the statute to provide for a maximum fee after July 1, 1989 of \$25. Continued collection of the \$25 fee requires amendment of the existing EQC rule.

AUTHORITY/NEED FOR ACTION:

- | | |
|--|---------------------|
| <input type="checkbox"/> Required by Statute: _____ | Attachment _____ |
| Enactment Date: _____ | |
| <input checked="" type="checkbox"/> Statutory Authority: <u>ORS 466.705 - .995</u> | |
| Amended by SB 167, 1989 Session | Attachment <u>C</u> |
| <input type="checkbox"/> Pursuant to Rule: _____ | Attachment _____ |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment _____ |
| <input type="checkbox"/> Other: _____ | Attachment _____ |
| <input checked="" type="checkbox"/> Time Constraints: (explain) | |

Adoption of a temporary rule is necessary to assure that sufficient revenue is collected to operate the program.

DEVELOPMENTAL BACKGROUND:

- | | |
|---|------------------|
| <input type="checkbox"/> Advisory Committee Report/Recommendation | Attachment _____ |
| <input type="checkbox"/> Hearing Officer's Report/Recommendations | Attachment _____ |
| <input type="checkbox"/> Response to Testimony/Comments | Attachment _____ |
| <input type="checkbox"/> Prior EQC Agenda Items: (list) | Attachment _____ |
| <input type="checkbox"/> Other Related Reports/Rules/Statutes: | Attachment _____ |
| <input type="checkbox"/> Supplemental Background Information | Attachment _____ |

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The regulated community has been paying the \$25 fee up to this point. It is likely that most were not aware of the

statute that provided for reduction in the maximum fee. Similarly, most are probably not aware of the statutory change to continue the \$25 per tank maximum fee.

The regulated community has been very supportive of the technical assistance provided by the Department.

The Underground Storage Tank Advisory Committee was aware of the Department's proposal for continuing the \$25 fee and supported the request. The proposed temporary rule will be presented to the Advisory Committee on July 13, 1989.

PROGRAM CONSIDERATIONS:

The Department requested the statutory change because the \$20 fee was insufficient to continue the existing level of technical assistance to the regulated community. By enactment of the amendment to establish the maximum fee at \$25, the legislature supported continuation of the existing program.

However, the legislative intent cannot be implemented without amending the existing EQC rule to be consistent with the amended statute. Without the immediate rule change, the Department can only collect a \$20 fee. Collection of a reduced fee will leave the Department short of revenue to maintain existing staff and adversely affect the program, and will not be consistent with the intent of the legislature.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Propose EQC adoption of a Temporary Rule.

This alternative will continue the existing fee and prevent loss of essential revenues to support the program.

2. Undertake normal rulemaking to amend the existing rule.

The normal rulemaking process takes a minimum of 90-120 days to accomplish (Commission authorization for hearing, notice publication in the Secretary of State's Bulletin, Hearing, Evaluation, return to EQC for adoption).

The delay in being able to continue collection of the \$25 fee that is associated with this alternative would adversely affect the program.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the Commission:

1. Adopt the Findings of Need for adoption of a temporary rule as presented in Attachment B.
2. Adopt the Temporary Rule as presented in Attachment A.
3. Authorize the Department to proceed to hearing to adopt the rule amendment as a permanent rule.

Rationale for this action is presented in the discussion of alternatives above.

The Department expects to return to the Commission in the next few months for authorization for hearing on additional rules to implement new legislation regarding underground tanks. Since final rules may not be ready for adoption within 6 months, it is necessary to proceed to adopt the fee increase as a permanent rule prior to expiration of the temporary rule (180 days after adoption).

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The recommended action is consistent with legislative policy and with the Department's understanding of EQC direction.

ISSUES FOR COMMISSION TO RESOLVE:

None

INTENDED FOLLOWUP ACTIONS:

File the Temporary Rule with the Secretary of State immediately upon EQC adoption.

Proceed to give notice of hearing for permanent rule adoption.

Meeting Date: July 21, 1989
Agenda Item: M
Page 5

Approved:

Section:

Division:

Director:

Richard P. Pitt

Stephanie Hallock

Jyscia Taylor

Report Prepared By: Larry Frost

Phone: 229-5769

Date Prepared: July 12, 1989

LDF:lf
STAFF721.RPT
July 12, 1989

Meeting Date: July 21, 1989
Agenda Item: M
Page 5

Approved:

Section:

Division:

Director:

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Phone: 229-5769

Date Prepared: July 12, 1989

LDF:lf
STAFF721.RPT
July 12, 1989

**MODIFICATIONS TO OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 150 - DEPARTMENT OF ENVIRONMENTAL QUALITY**

**UNDERGROUND STORAGE TANK PERMIT COMPLIANCE FEE
ORS 466.705 through ORS 466.995
EFFECTIVE JULY 21, 1989**

Underground Storage Tank Permit Compliance Fee

340-150-110 (1) Beginning March 1, 1989, and annually thereafter, the permittee shall pay an underground storage tank permit compliance fee of \$25 per tank per year.

(2) The underground storage tank permit compliance fee shall be paid for each calendar year (January 1 through December 30) or part of a calendar year that an underground storage tank is in operation.

(3) The compliance fee shall be made payable to the Department of Environmental Quality.

[(4) Prior to July 1, 1989 the permit compliance fee shall be \$25 per tank per year.

(5) Any compliance fee invoiced after July 1, 1989 shall not exceed \$20 per tank per year.]

July 12, 1989

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY
811 S. W. 4th AVENUE
PORTLAND, OREGON 97204

STATEMENT OF NEED AND EMERGENCY JUSTIFICATION STATEMENT
TEMPORARY RULE ESTABLISHING UNDERGROUND STORAGE TANK PERMIT FEE

FINDINGS AND DECLARATIONS:

- (a) ORS 466.785, as enacted by the 1987 legislature, authorizes the Commission to establish underground storage tank fees in an amount adequate to carry on the duties of the Department or the duties of a state agency or local unit of government that has contracted with the department under ORS 466.730. Such fees shall not exceed \$25 per tank per year. After July 1, 1989 these fees shall not exceed \$20 per tank per year.
- (b) The Commission adopted OAR 340-150-110, thereby establishing the underground storage tank fee at \$25 through June 30, 1989, and at \$20 after June 30, 1989.
- (c) An underground storage tank fee of \$25 per tank per year is required to carry on the duties of the underground storage tank program within the Department. Tank population has reduced from 22,500 in 1987 to 19,000 in July 1989. Reducing the fee to \$20 per tank per year combined with the reduced tank population will require the Department to limit technical support to owners of underground storage tanks.
- (d) Senate Bill 167 enacted by the 1989 legislature and effective July 1, 1989 modifies ORS 466.705 through ORS 466.995. In particular ORS 466.785 is modified to authorize the Commission to establish underground storage tank permit fees in an amount up to \$25 per tank per year.
- (e) Failure to continue the underground storage tank fee at \$25 per tank per year will result in serious prejudice to the public interest, and particularly to the interests of owners of underground storage tanks, because reduced technical support could cause significant financial hardship to the tank owner.

July 12, 1989

B-Engrossed
Senate Bill 167

Ordered by the Senate July 2
Including Senate Amendments dated February 23 and July 2

Printed pursuant to Senate Interim Rule 213.28 by order of the President of the Senate in conformance with pre-session filing rules, indicating neither advocacy nor opposition on the part of the President (at the request of Department of Environmental Quality)

SUMMARY

The following summary is not prepared by the sponsors of the measure and is not a part of the body thereof subject to consideration by the Legislative Assembly. It is an editor's brief statement of the essential features of the measure.

Establishes limit on amount Department of Environmental Quality may recover for administrative costs for management of state insurance fund for underground storage tank owners. Establishes maximum permit fee of [~~\$30~~] **\$25** per underground storage tank per year. Establishes **\$1 expenditure limitation on moneys received by the Department of Environmental Quality for purposes of Act.**

Declares emergency, effective July 1, 1989.

A BILL FOR AN ACT

1
2 Relating to underground storage tanks; creating new provisions; amending ORS 466.785 and 466.795;
3 limiting expenditures; and declaring an emergency.

4 **Be It Enacted by the People of the State of Oregon:**

5 **SECTION 1.** ORS 466.785, as amended by section 50, chapter 539, Oregon Laws 1987, is further
6 amended to read:

7 466.785. (1) Fees may be required of every permittee of an underground storage tank. Fees shall
8 be in an amount determined by the commission to be adequate to carry on the duties of the de-
9 partment or the duties of a state agency or local unit of government that has contracted with the
10 department under ORS 466.730. Such fees shall not exceed [~~\$20~~] **\$25** per tank per year.

11 (2) Fees collected by the department under this section shall be deposited in the State Treasury
12 to the credit of an account of the department. All fees paid to the department shall be continuously
13 appropriated to the department to carry out the provisions of ORS 466.705 to 466.835 and 466.895.

14 **SECTION 2.** ORS 466.795 is amended to read:

15 466.795. (1) The Underground Storage Tank Insurance Fund is established separate and distinct
16 from the General Fund in the State Treasury to be used solely for the purpose of satisfying the fi-
17 nancial responsibility requirements of ORS 466.815.

18 (2) Fees received by the department pursuant to subsection (6) of this section, shall be deposited
19 into the State Treasury and credited to the Underground Storage Tank Insurance Fund.

20 (3) The State Treasurer may invest and reinvest moneys in the Underground Storage Tank In-
21 surance Fund in the manner provided by law.

22 (4) The moneys in the Underground Storage Tank Insurance Fund are appropriated continuously
23 to the department to be used as provided for in subsection (5) of this section.

24 (5) Moneys in the Underground Storage Tank Insurance Fund may be used by the department
25 for the following purposes, as they pertain to underground storage tanks:

NOTE: Matter in bold face in an amended section is new; matter [*italic and bracketed*] is existing law to be omitted.

- 1 (a) Compensation to the department or any other person, for taking corrective actions; *[and]*
2 (b) Compensation to a third party for bodily injury and property damage caused by a release;
3 **and [.]**
4 **(c) Payment of the department's costs in administering the Underground Storage Tank**
5 **Insurance Fund, which shall be limited to 15 percent of the premium collected.**

6 (6) The commission may establish an annual financial responsibility fee to be collected from an
7 owner or permittee of an underground storage tank. The fee shall be in an amount determined by
8 the commission to be adequate to meet the financial responsibility requirements established under
9 ORS 466.815 and any applicable federal law.

10 (7) Before the effective date of any regulations relating to financial responsibility adopted by the
11 United States Environmental Protection Act pursuant to P.L. 98-616 and P.L. 99-499, the department
12 shall formulate a plan of action to be followed if it becomes necessary for the Underground Storage
13 Tank Insurance Fund to become operative in order to satisfy the financial responsibility require-
14 ments of ORS 466.815. In formulating the plan of action, the department shall consult with the Di-
15 rector of the Department of Insurance and Finance, owners and permittees of underground storage
16 tanks and any other interested party. The plan of action must be reviewed by the Legislative As-
17 sembly or the Emergency Board before implementation.

18 **SECTION 3.** If House Bill 3515 becomes law, ORS 466.795, as amended by section 2 of this Act,
19 is further amended to read:

20 466.795. (1) The Underground Storage Tank Insurance Fund is established separate and distinct
21 from the General Fund in the State Treasury to be used solely for the purpose of satisfying the fi-
22 nancial responsibility requirements of ORS 466.815.

23 (2) *[Fees received by the department pursuant to subsection (6) of this section,]* **Moneys received**
24 **by the department under section 147, chapter _____, 1989 Oregon Laws (Enrolled House**
25 **Bill 3515), shall be deposited into the State Treasury and credited to the Underground Storage Tank**
26 **Insurance Fund.**

27 (3) The State Treasurer may invest and reinvest moneys in the Underground Storage Tank In-
28 surance Fund in the manner provided by law.

29 (4) The moneys in the Underground Storage Tank Insurance Fund are appropriated continuously
30 to the department to be used as provided for in subsection (5) of this section.

31 (5) Moneys in the Underground Storage Tank Insurance Fund may be used by the department
32 for the following purposes, as they pertain to underground storage tanks:

- 33 (a) Compensation to the department or any other person, for taking corrective actions; and
34 (b) Compensation to a third party for bodily injury and property damage caused by a release;
35 **and**
36 (c) **Payment of the department's costs in administering the Underground Storage Tank Insurance**
37 **Fund, which shall be limited to 15 percent of the premium collected.**

38 *[(6) The commission may establish an annual financial responsibility fee to be collected from an*
39 *owner or permittee of an underground storage tank. The fee shall be in an amount determined by the*
40 *commission to be adequate to meet the financial responsibility requirements established under ORS*
41 *466.815 and any applicable federal law.]*

42 *[(7)]* (6) Before the effective date of any regulations relating to financial responsibility adopted
43 by the United States Environmental Protection Act pursuant to P.L. 98-616 and P.L. 99-499, the
44 department shall formulate a plan of action to be followed if it becomes necessary for the Under-

1 ground Storage Tank Insurance Fund to become operative in order to satisfy the financial respon-
2 sibility requirements of ORS 466.815. In formulating the plan of action, the department shall consult
3 with the Director of the Department of Insurance and Finance, owners and permittees of under-
4 ground storage tanks and any other interested party. The plan of action must be reviewed by the
5 Legislative Assembly or the Emergency Board before implementation.

6 **SECTION 4.** Section 147, chapter _____, Oregon Laws 1989 (House Bill 3515), is amended to
7 read:

8 **Sec. 147. (1)** All moneys received by the Department of Revenue under sections 139 to 148 of
9 this Act shall be deposited in the State Treasury and credited to a suspense account established
10 under ORS 293.445. After payment of administration expenses incurred by the department in the
11 administration of sections 139 to 148 of this Act and of refunds or credits arising from erroneous
12 overpayments, the balance of the money shall be credited to the appropriate accounts as approved
13 by the Legislative Assembly to:

14 (a) Carry out the state's oil, hazardous material and hazardous substance emergency response
15 program; *[and to]*

16 (b) Provide up to \$1 million each year to fund the Orphan Site Account; and *[.]*

17 (c) **To provide funds for the Underground Storage Tank Insurance Fund in an amount**
18 **adequate to establish a program to enable owners and permittees of underground storage**
19 **tanks to satisfy the financial responsibility requirements established under ORS 466.815 and**
20 **any applicable federal law.**

21 (2) If the balance of the money is less than that approved by the Legislative Assembly, the de-
22 partment shall distribute the money to the accounts in a ratio equal to the ratio of the amounts
23 approved by the Legislative Assembly.

24 **SECTION 5.** If the Supreme Court declares that section 147, chapter _____, Oregon Laws
25 1989 (House Bill 3515), imposes a tax or excise levied on, with respect to or measured by the ex-
26 tractions, production, storage, use, sale, distribution or receipt of oil or natural gas or levied on the
27 ownership of oil or natural gas, that is subject to the provisions of section 2, Article VIII, or section
28 3a, Article IX of the Oregon Constitution, section 4 of this Act is repealed and ORS 466.795, as
29 amended by section 3 of this Act, is further amended to read:

30 466.795. (1) The Underground Storage Tank Insurance Fund is established separate and distinct
31 from the General Fund in the State Treasury to be used solely for the purpose of satisfying the fi-
32 nancial responsibility requirements of ORS 466.815.

33 (2) **Fees received by the department pursuant to subsection (6) of this section, *[Moneys***
34 ***received by the department under section 147, chapter _____, 1989 Oregon Laws (Enrolled House***
35 ***Bill 3515),]* shall be deposited into the State Treasury and credited to the Underground Storage Tank
36 Insurance Fund.**

37 (3) The State Treasurer may invest and reinvest moneys in the Underground Storage Tank In-
38 surance Fund in the manner provided by law.

39 (4) The moneys in the Underground Storage Tank Insurance Fund are appropriated continuously
40 to the department to be used as provided for in subsection (5) of this section.

41 (5) Moneys in the Underground Storage Tank Insurance Fund may be used by the department
42 for the following purposes, as they pertain to underground storage tanks:

43 (a) Compensation to the department or any other person, for taking corrective actions; and

44 (b) Compensation to a third party for bodily injury and property damage caused by a release;

1 and

2 (c) Payment of the department's costs in administering the Underground Storage Tank Insurance
3 Fund, which shall be limited to 15 percent of the premium collected.

4 (6) The commission may establish an annual financial responsibility fee to be collected
5 from an owner or permittee of an underground storage tank. The fee shall be in an amount
6 determined by the commission to be adequate to meet the financial responsibility require-
7 ments established under ORS 466.815 and any applicable federal law.

8 ~~[(6)]~~ (7) Before the effective date of any regulations relating to financial responsibility adopted
9 by the United States Environmental Protection Act pursuant to P.L. 98-616 and P.L. 99-499, the
10 department shall formulate a plan of action to be followed if it becomes necessary for the Under-
11 ground Storage Tank Insurance Fund to become operative in order to satisfy the financial respon-
12 sibility requirements of ORS 466.815. In formulating the plan of action, the department shall consult
13 with the Director of the Department of Insurance and Finance, owners and permittees of under-
14 ground storage tanks and any other interested party. The plan of action must be reviewed by the
15 Legislative Assembly or the Emergency Board before implementation.

16 SECTION 6. Notwithstanding any other law, the amount of \$1 is established for the biennium
17 beginning July 1, 1989, as the maximum limit for payment of expenses from fees, moneys or other
18 revenues, including Miscellaneous Receipts, excluding federal funds, collected or received by the
19 Department of Environmental Quality for the purposes of this Act.

20 SECTION 7. This Act being necessary for the immediate preservation of the public peace,
21 health and safety, an emergency is declared to exist, and this Act takes effect on July 1, 1989.

22

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: June 28, 1989

TO: Environmental Quality Commission

FROM: Steve Greenwood, Solid Waste Section Manager

SUBJECT: Bacona Road potential landfill site

Purpose

At its June 1 work session, the Commission discussed the Bacona Road landfill site, and decided not to abandon the wells at the site until the Commission's September meeting, when a more formal decision could be made on the ultimate fate of the Bacona Road landfill. However, the Commission requested an update on the status of the wells at the Bacona Road site, some of which were reported by local residents to be damaged.

Background

In 1985 the Oregon legislature passed SB 662, which gave the Commission the authority and responsibility to order the establishment of a solid waste disposal site to serve the Portland metropolitan area. In June of 1987, the Commission ordered the establishment of the Bacona Road site, a 700-acre landfill site in Washington County that had been one of three finalist sites identified during the Department's landfill siting process.

This order was made subject to a contested case hearing, held in July of 1987. The hearings officer, Judge Edward Howell, recommended to the EQC in September 1987 that three issues be resolved or given further study before the order be made final: 1) landslide potential, 2) groundwater characterization, and 3) leachate treatment options.

Further work on landslide potential was authorized by the Department in the fall of 1987. However, in spring of 1988, the Metropolitan Service District (Metro) signed a contract with Oregon Waste Systems, Inc. to dispose of metro area garbage at the regional landfill in Gilliam County over a 20-year period. Metro advised the EQC at that time that it was no longer interested in development of the Bacona Road site. Since that time, the Department has issued a solid waste disposal permit for the regional landfill in Gilliam County and for another proposed regional landfill in Morrow County. Construction on the Gilliam county site is underway and due to be completed by the fall of 1989.

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EQC Action Required

In 1987, the Oregon Legislature amended chapter 679, Oregon Laws 1985 to read:

Notwithstanding any other provision of law, any order of the Environmental Quality Commission requiring the Department of Environmental Quality to establish a disposal site at the location selected by the commission under this section shall not expire before July 1, 1989.

It is the Department's opinion that the Bacona Road site is no longer needed and that the Bacona Road site should be "cut loose" by having the EQC rescind its order for the establishment of the Bacona Road landfill. This opinion is based upon the signing of a 20-year contract for the Gilliam County site, the permitting of a separate regional landfill in Morrow County which could potentially serve the Portland metropolitan area, and the decision by Metro to transport waste to eastern Oregon rather than utilize the Bacona Road site.

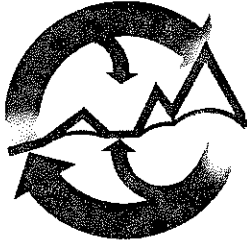
If the EQC wishes to rescind the order, the wells drilled at the site for the purposes of geologic and groundwater characterization must be properly abandoned. The Department has a contract with CH2M Hill consultants to perform this work and has recently extended the contract to December 1, 1989. In addition, the Department was informed at the June 2, 1989 meeting that some of the wells at the site were vandalized. The Department has asked its contractor, CH2M Hill, to inspect the site and provide a report on the status of the wells.

In November of 1987 the Department repaired more than 12 wells that had been vandalized. The vandalism involved someone breaking off the well locks and caps, probably with a truck and chain. One well had several bullet holes. To prevent further vandalism, these wells were cut and capped just below ground level and covered with 1-4 feet of dirt.

Next Steps

The Department intends to make a formal recommendation to the Commission at the September meeting to rescind the order to establish the Bacona Road site.

In the interim, the Department is taking immediate action to follow the recommendations of the contractor to secure the damaged wells at the Bacona Road site to ensure that they do not serve as a conduit for contaminants into the groundwater.



Sweet-Edwards/EMCON, Inc.

Ground Water, Engineering, Waste Management, & Drilling Services

7504 S.W. Bridgeport Road • Portland, OR 97224

Office (503) 624-7200 • FAX (503) 620-7658

July 12, 1989

Mr. Steve Greenwood
Solid Waste Manager
Department of Environmental Quality
811 S. W. Sixth Avenue
Portland, OR 97204

Hazardous & Solid Waste Division
Dept. of Environmental Quality

RECEIVED
JUL 12 1989

RE: STATUS OF BACONA ROAD MONITORING WELLS

Dear Steve:

At your request, a Sweet-Edwards/EMCON, Inc. (SE/E) hydrogeologist recently visited the proposed Bacona Road Landfill site to assess the condition of the monitoring wells on that property. In general, it appears that most of the wells are in satisfactory condition, although some vandalism has occurred and some repair work is required.

Seventeen ground water monitoring wells have been constructed at the Bacona Road site. Of these, one (B-6) was destroyed by vandals during the early stages of the investigation. Eleven of the wells were temporarily abandoned in December of 1988. The abandonment procedures consisted of cutting off and capping the well casings below ground surface and covering the capped casings with dirt. As of July 7, 1989, all 11 of these wells appeared to be in good shape with no signs of vandalism.

Five of the original monitoring wells were temporarily abandoned in December of 1988 by welding the steel security casing caps in place. Three of these wells (B-7, AR-2, and AR-8) have been vandalized and are in need of attention. The security casings on all three of these wells have been removed, and the PVC well casings have been broken off at or just below ground surface. The broken well casings appeared to be open to at least the water table, and there was no evidence that any objects or substances had been put into the casings. The two remaining wells appeared to be in good shape with their security casings and caps in place.

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DEQ
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If the Bacona Road site is not to be developed, and if no further site characterization is required, all of these wells should eventually be permanently abandoned. However, until the decision to permanently abandon is made, the three vandalized wells and one of the remaining unvandalized wells (AR-7) should be temporarily abandoned by cutting off, capping, and burying the PVC casings. Well AR-6 (the production well) is not as susceptible to damage from vandalism as the other wells since it has 90 feet of 8-inch steel casing and a welded-on steel security cap.

The temporary abandonment of B-7, AR-2, AR-7, and AR-8, as described above, would cost \$1,500 to \$2,000 and could be completed within 10 days of receiving notice to proceed. The cost of permanent abandonment will depend on the method of abandonment selected by the contractor and approved by the Water Resources Department (WRD). If DEQ believes that permanent abandonment should take place this year, it would be advisable to begin the process as soon as possible. This would allow time for getting WRD approval, selecting a contractor, and completing the work before the winter rains begin.

Please let me know if you have any questions or need additional information.

Respectfully submitted,

SWEET-EDWARDS/EMCON, INC.



KENT MATHIOT
Project Geologist

KM/pe

cc: Mike Kennedy, CH₂M Hill

BACONA-L.712 PE

TESTIMONY

by

Morton I. Michelson

President

Cascade Steel Rolling Mills (CSRM)

McMinnville, Oregon

July 21, 1989

My name is Al Arguedas of Cascade Steel Rolling Mills (CSRM) in McMinnville, Oregon. I am here today to present testimony prepared by Morton I. Michelson, President, Cascade Steel Rolling Mills in his absence, to state his opposition to the proposed rule adoption before the Environmental Quality Commission, to permanently increase the base fee increase and the one time only surcharge rate changes which were adopted last year.

General Background

By way of general background, I have been involved in commercial and industrial development activities on the West Coast for the past 20 years, having previously been President of the Schnitzer Investment Corp., President of Union Ice and Cold Storage in California, Manager of Real Estate at the Port of Portland, Director of Economic Development for the City of Portland, and Manager of Real Estate for the City of Salem.

These varied experiences have given me a real appreciation of Oregon's strengths and weaknesses in putting forward development opportunities.

CSRM is located in McMinnville, Oregon and recently celebrated its 20th birthday. It has been part of Schnitzer Steel Industries since 1984. CSRM is one of two steel "mini-mills" in Oregon that manufacture a variety of steel products, using electric arc furnaces, with 100% recyclable scrap metal as our primary raw material.

We are a major market user for recycled scrap metal in Oregon. The reason we are able to exist here, and not near iron ore deposits, or population market centers, is due to our industry's ability to utilize 100% scrap for our production. Nationwide, mini-mills now account for almost 37% of all steel produced in the U.S.

There are a number of positive objectives being met with this process of recycling scrap metal. First of all, it reduces the demand and depletion of virgin natural resources. Second, through this process significant energy savings are achieved. Third, it provides real markets for recycled products and without markets any mandated percentage of recycling is meaningless. Fourth, without this process, unquestionably higher levels of scrap metals would find their way into our landfills and onto vacant lots. And, fifth, the steel manufacturing industry

provides a high wage sector to our economy. They are real jobs, in basic industry -- which is the key to Oregon's diviersification.

What Does CSRM Make?

CSRM manufactures a variety of high quality steel products for both industrial and agricultural applications, including reinforcing bar, merchant flats and rounds, studded T fence posts, and grape stakes for vineyards.

Although CSRM markets in eleven western U.S. states, our primary market is California. It is a highly competitive market, due to heavy overseas competition which now claims in excess 20% of the U.S. market. Success is often measured in terms of pennies, not dollars.

Hazardous Waste

At CSRM we are a generator of a hazardous waste as a function of recycling. It is called "K061", which is electric arc furnace dust which is efficiently collected in our state-of-the-art baghouse.

After the scrap metal is melted down in our furnace, the oxidized dust collected from our air emission control is defined as a hazardous waste because of the small amounts of trace

elements in the dust. In terms of toxicity tests K061 is not corrosive, reactive, or explosive. However, it would be of concern from a leachate standpoint. It should be pointed out that with the addition of acids to the dust it can be legally used as agricultural fertilizer under federal EPA rules.

Generation of K061 at CSRM

Annually at CSRM we recycle over 300,000 tons of scrap metal and last year produced 300,000 tons of finished product. From this effort we generated approximately 4,000²⁵ tons of K061 dust.

\$ 100,000

That makes us a large generator of hazardous waste, in terms of tonnage.

The irony is that we are generating this level of waste from scrap that is not of itself "hazardous" and, in fact, would cause a monumental landfill and litter problem if there were no markets for recycled scrap metal. Try to envision the abandoned cars, the old appliances, and other rusting hulks littered on the streets, vacant lots, and landscape.

What Happens to the K061?

The treatment, storage, and disposal of K061 is regulated under EPA rules. K061 is a hazardous waste that was included by EPA under its so-called "first third land ban". The land ban

requires pre-treatment, either by chemical stabilization or high temperature thermal recovery, depending on the level of zinc content in the dust, prior to land disposal at an approved hazardous waste landfill, such as the one at Arlington, Oregon.

That is, prior to any disposal at Arlington, for example, it first must undergo expensive treatment sufficient to pass the EP toxicity test. Under existing EPA regulations by August, 1990, K061 will have to also meet new high temperature thermal recovery requirements. This is the mandated method of treatment if the dust ends its use cycle in a certified landfill.

CSRM Concerns with Fee Increase

From a general DEQ perspective, although a major recycler, CSRM could be seen as one of the largest single sources of revenue under the proposed rule. We believe that should not be the case, for the following reasons:

- o Cascade is no longer terminally disposing of its dust in landfills in Oregon. We have systematically altered our recyclable scrap mix and have created a K061 which is high in zinc. This in turn has created a market for our bi-product and currently we are exporting our dust to Zinc Nationale in Mexico. They resmelt and produce high grade zinc and lead for commercial applications. The state fee as it applies to Cascade is really no

longer warranted in our opinion. In fact it

constitutes a selective sales tax on a product that we make that is being held as goods in progress for value added resale. This reason in and of itself is sufficient enough to correct the current and proposed sales tax in equity.

- o None of the revenues derived from this fee collection would provide any benefits associated with treatment, storage, or disposal of our K061 bi-product.
- o It would serve as a disincentive to seeking increased recycling of scrap metal. It certainly does not send a message that the EQC is supportive of any firms recycling efforts. The more you recycle the more you are taxed. This approach is hardly incentive directed.
- o It makes permanent the additional fee costs to our products, which have at least 80-85% of its market outside of Oregon (our competitors are not bearing similar costs).
- o It absolutely flies in the face of what we were told when you adopted the fee increase last year -- as a one time only increase.
- o There is nothing in your written agenda material that

would indicate to the regulated community that the Department has looked at various "real world" ways to deal with any budget shortfalls. In the "real world", budget shortfalls are often dealt with by either cutting costs or coming up with improved management and building a better mouse trap. The proposed rule only appears to really consider "increased" fees.

Summary

There is a need for the hazardous waste fees being developed to be sensitive to:

- o Oregon based recyclers;
- o the progress Oregon industries have made in their use and care of hazardous materials (in terms of K061, the cooperative efforts now being made by the West Coast steel mills is seen as a positive example for other parts of the country);
- o the impact additional fees have on the competitiveness of Oregon products, particularly those marketed outside of Oregon;
- o impacts fees on hazardous wastes which independently are being regulated under the "first third" land ban and

facing substantial costs associated with the treatment mandated; and

- o that the EQC should consider exempting fees for those like Cascade which has sought a customer to recycle its hazardous wastes which result from recycling efforts. We have actually done something highly beneficial for Oregon's environment only to sustain greater penalty.

- o If the goal of the EQC/DEQ programs is to reduce or recycle wastes the entire funding mechanism for the program must be rethought. As wastes reduce or are recycled as in our case, fees should shrink. Therefore the program has less funds with which to operate. To continually charge higher and higher fees to those that remain is unfair and illogical. New program funding sources must be sought and approved by the legislature.

In any event, there should be incentives encouraging additional recycling, and assisting new markets and the creation of additional demand for recycled materials. Also, the State should be assisting in the disposal of the final residue which results from recycling, not adding disincentives. In other states there are now active proposals to provide such

encouragement and I would urge Oregon to do likewise.

CSRM is committed to providing a quality product, at competitive prices, manufactured from a safe work force and an environmentally concerned facility. We believe it is possible to have both jobs and a safe environment, and we would be pleased to work with you to achieve this.

ADDITIONS TO PROPOSED RULE: SUBMITTED BY NORTHWEST ENVIRONMENTAL DEFENSE CENTER AND TUALATIN RIVERKEEPERS. JULY 21, 1989

DELETE PROPOSED SUBSECTIONS (c) AND (d) AND ADD THE FOLLOWING:

(c) For land development, no preliminary plat, site plan, permit or public works project shall be approved by any jurisdiction in these subbasins unless the conditions of the plat permit or plan approval include a requirement for permanent control of phosphorus and sediment loadings associated with stormwater runoff from the development site. Permanent phosphorus and sediment control requirements shall include the following:

(A) The site plan and stormwater quality control facilities shall be designed to achieve a combined 65% removal of phosphorus and 85% removal of sediment from the respective phosphorus and sediment loads that would otherwise be associated with the runoff from a mean summertime storm event totaling 0.36 inches of precipitation with an average return period of 96 hours and an average site runoff coefficient of 0.85. Criteria specified in APPENDIX II shall be used for sizing of stormwater quality control facilities.

(i) For the purpose of this rule, the combined site plan and stormwater quality control facilities removal of phosphorus or sediment is expressed:

$$[100-R_T] = [100-R_C][100-R_Q]/100$$

or: $[100-R_T] = [100-R_C]R_V/0.85$

where:

R_T = combined phosphorus or sediment removal, %
 R_Q = reduction of runoff volume from site, %
 R_C = reduction of phosphorus or sediment concentration in site runoff, %
 R_V = runoff coefficient for site plan design.

The runoff coefficient for the site plan design is calculated as:

$$R_V = C_s[f_s + C_1 f_1 f_c] + C_p[1 - f_s - f_1(1 - C_1\{1 - f_c\})]$$

where:

C_s = runoff coefficient for roads and streets,
 C_1 = runoff coefficient for impervious areas other than roads and streets,
 C_p = runoff coefficient for pervious areas,
 f_p^s = fraction of development area in streets,
 f_1^s = impervious area fraction of development,
 f_c = fraction of impervious area runoff connected to street drainage system.

For the purpose of this calculation:

$C_s = 0.95$ for paved streets, curbs and storm sewers,

$C_s = 0.80$ for paved streets, open ditch drainage,

$C_s = 0.70$ for graveled roads, open ditch drainage,

$C_I = 0.95$ for building roofs and paved parking areas,

$C_p = 0.20$ for grass, trees and marsh areas.

(ii) The developer or jurisdiction may choose an alternative design criteria for permanent control of phosphorus and sediment loadings not found in APPENDIX II or in subsection (i) of this paragraph. When doing so the applicant shall provide the necessary technical documentation, certified by a professional engineer registered in Oregon, which supports that the proposed alternative system has been designed to provide phosphorus and sediment removal efficiencies at least equivalent to those required by this rule.

(B) No final plat or final site plan shall be approved in these subbasins unless the following conditions are met:

(i) The final plat or site plan proposed by the developer shall include plans and a certification prepared by a professional engineer registered in Oregon that the proposed site plan design and stormwater quality control facilities have met the design criteria for phosphorus and sediment removal in paragraph (A) of this rule.

(ii) A financial assurance, or equivalent security acceptable to the jurisdiction, shall be provided by the developer to the jurisdiction that assures that the site plan design and stormwater quality control facilities are constructed according to the plans established in the final plat or site plan approval.

(iii) Each jurisdiction that constructs or authorizes construction of permanent stormwater quality control facilities shall have approved by the Department an operation and maintenance plan for the stormwater quality control facilities under its jurisdiction and shall operate and maintain such facilities in accordance with the approved plan.

(d) Any stormwater quality control facilities required under subsection (c) of this rule may be provided on the development site or at an off-site location. If the jurisdiction chooses to authorize or provide off-site stormwater quality control facilities for the development, the jurisdiction shall designate and have approved by the Department the necessary off-site land area and stormwater transmission route from the development site to the off-site location of the stormwater quality control facilities.

(i) If the off-site land area and transmission route rights-of-way have not been acquired and dedicated by the jurisdiction or the developer for the purpose of this rule, before any approval of final plat or final site plan, the jurisdiction shall cause to have placed in a reserve stormwater quality control trust account the funds necessary and sufficient for acquisition of the off-site land area and transmission route rights-of-way.

(ii) As a condition of approval of final plat or final site plan, the jurisdiction may assess the developer for a one time in-lieu-of fee for off-site stormwater quality control facilities to be provided by the jurisdiction. The in-lieu-of fee shall be at least equivalent to the total present value of the estimated costs of off-site land and rights-of-way acquisition, engineering design, construction, and annual operation and maintenance of the necessary off-site stormwater quality control facilities. Costs of construction, operation and maintenance shall be estimated in accordance with procedures provided in APPENDIX II, or equivalent procedures submitted by the jurisdiction and approved by the Department.

(e) Construction of one (1) and two (2) family dwellings on existing Lots of Record are exempt from the requirements of subsection (c) of this rule.

(f) As each jurisdiction adopts a Department approved program plan, as required under OAR 340-41-470(3)(g), the requirements of this rule will be replaced by specific stormwater quality control permit conditions for new developments in that jurisdiction.

(g) The program plans submitted by each jurisdiction to the Department under OAR 340-41-470(3)(g) shall include ordinances adopted by the jurisdiction to implement this rule.

(h) The Director may modify APPENDIX I as necessary for clarification and to provide additional information without approval from the Environmental Quality Commission. The Director may add or delete Best Management Practices (BMPs) and associated design and cost estimating criteria to and from APPENDIX II, after providing an opportunity for review and comment by the public and affected jurisdictions.



U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

JUL 10 1989

REPLY TO
ATTN OF: WD-139

Charles K. Ashbaker
Oregon Department of Environmental Quality
Water Quality Control Division
811 S.W. Sixth Avenue
Portland, Oregon 97204

Dear Mr. Ashbaker:

Thank you for the opportunity to comment on the proposed regulations for controlling stormwater runoff from new developments in the Tualatin River sub-basin.

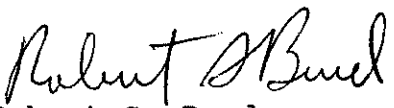
I compliment you and the Water Quality Division staff for your excellent work in preparing this proposed regulation. It is a major step in controlling a serious, complex water quality problem.

I have only one significant concern. The authorization of "in-lieu-of" fees as an alternative to providing on-site controls may encourage many developers to forego potentially effective site-specific controls. I recognize that some area-wide treatment systems will be needed. However, it seems that the best way of minimizing the size (and hence, the cost) of those larger systems is to require developers to reduce run-off from their sites to the absolute minimum.

For your information, I have enclosed the just-released proceedings, Design of Urban Runoff Quality Controls, from a recent EPA-sponsored conference on this topic. Additional copies will be sent to the state through normal channels.

Again, my compliments on your work to date. If you wish to discuss the above recommendation in more detail, please call Tom Wilson at (206) 442-1354.

Sincerely,


Robert S. Burd
Director, Water Division

Enclosure



**NORTHWEST COALITION for
ALTERNATIVES to PESTICIDES**
P.O. BOX 1393 EUGENE, OREGON 97440 (503) 344-5044

TESTIMONY OF THE NORTHWEST COALITION FOR
ALTERNATIVES TO PESTICIDES BEFORE THE
ENVIRONMENTAL QUALITY COMMISSION

July 21, 1989
Corvallis, Oregon

Presented by: Norma Grier, Executive Director

My name is Norma Grier and I am the executive director of the Northwest Coalition for Alternatives to Pesticides. NCAP has submitted two sets of preliminary comments on the wastewater discharge permit application at the Port Westward chlorine-based pulp mill. Our comments are still preliminary because we are waiting for the DEQ to provide vital information before we can make our comments.

I am here today to request that you reject the recommendation of the DEQ staff to adopt alternative #2 and support alternative #1 which is to deny the effluent discharge permit at this time. Alternative #1 is the only option available to you if you intend to maintain a shred of integrity in the permit process.

On July 15, NCAP was notified in writing that the deadline for written comments on the permit application was extended until August 1. Today, eleven days before the public comment period is even closed, the DEQ is asking you to make a decision on the permit. A vote today to approve a permit process would be a slap in the public's face and a blatant disregard of your responsibility to ensure that a proper process is followed.

There is another major shortfall in the public comment process. Attachment C from the agenda materials prepared on this issue is the summary of public input from the July 6 hearing in Clatskanie. The summary is woefully inadequate. It lists the names of 33 commenters and identifies their concerns by placing "x"s in ten separate columns of issues. So if a commenter raised concerns about toxic substances in the water, she got a check mark in the water toxics column.

DEQ staff has made no attempt to convey to you the substantive issues raised by commenters and to indicate the validity or lack of validity of those concerns. NCAP submitted

detailed comments that raise serious concerns about the permit application. Apparently those comments were thrown to the wind.

I will highlight four points from NCAP's comments. First, 2,3,7,8-TCDD is not the only chlorinated compound of concern. There are numerous dioxins and furans that potentially can be produced and discharged in the wastewater. Although not as exquisitely toxic as 2,3,7,8-TCDD, all of the dioxins and furans are highly toxic.

Second, EPA uses an approach to assign toxic equivalencies to the various dioxins and furans so that their toxicity can be expressed relative to the toxicity of 2,3,7,8-TCDD. The permit application does not use this EPA method, nor does DEQ request that the applicant comply with this method.

Third, until the DEQ requires Port Westward Pulp to reveal the total amount of chlorine (including chlorine dioxide) that will be used in the mill as well as a mass balance of that chlorine, tracing its movement and permutations into organochlorine compounds and release from the mill in receiving water effluent, landfill waste and ash, atmospheric emissions, and pulp, neither the public nor the DEQ can know the potential toxicity problems with this site. NCAP has requested this information of DEQ in order to make our comments on the permit application. None of the information has been provided.

Fourth, there has been and will be no assessment of the cumulative impact of these persistent organochlorines. The permit process allows Port Westward Pulp and DEQ to act as if the dioxins in wastewater are a separate issue from dioxins that will spew into the air from the stack, are separate from the dioxins that end up in the ash at the landfill or in bleached paper products. As commissioners, you are not even considering the various permits as a package at one time.

Jerry Turnbaugh's July 17 memo on the subject of findings for the new discharge (attachment D) conveys several illogical messages. The DEQ's established water quality standard for TCDD is below the level of detection. In other words, science does not have the technology to identify levels of contamination that would violate the standard. Even though dioxin contamination has been documented in the Columbia and portions of the Columbia are listed as violating water quality standards due to TCDD, Mr. Turnbaugh writes that the DEQ has calculated that the new mill will not violate the standard because the background levels of TCDD are assumed to be zero. How can you assume zero when it is impossible to measure the minute amount that is a violation? *How can you assume zero when no testing has been done at that site?*

He further argues that the wastewater permit should be approved because of the uncertainty as to whether the Columbia River is water quality limited with respect to TCDD. This is absurd. A prudent person would argue that the uncertainty warrants denial of the permit until there is knowledge that the

Columbia is not limited. It is clear that the Commission cannot make the findings required in the June 2 amendments to the major discharge provisions for new or expanded wastewater permits.

There is a growing market for unbleached paper, and current supply cannot keep up with the demand. Oregon could provide a needed product, create jobs, and protect the environment by looking at alternatives to bleached paper.

I urge you to adopt alternative #1, because that is the only alternative that retains some integrity in the permit process.

OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 16 - DEPARTMENT OF ENVIRONMENTAL QUALITY

Stat. Auth.: ORS Ch. 468

Hist.: DEQ 12-1984, f. & ef. 7-13-84; DEQ 5-1985, f. & ef. 3-12-85; DEQ 20-1987, f. & ef. 12-16-87

(A) If the cost to replace or reconstruct the facility is greater than the like-for-like replacement cost of the original facility due to a requirement imposed by the Department, the Federal Environmental Protection Agency or a regional air pollution authority, then the facility may be eligible for tax credit certification up to an amount equal to the difference between the cost of the new facility and the like-for-like replacement cost of the original facility; or

(B) If a facility is replaced or reconstructed before the end of its useful life then the facility may be eligible for the remainder of the tax credit certified to the original facility.

(g) Property or facilities installed, constructed or used for cleanup of emergency spills or unauthorized releases. This includes any facility installed, constructed or used for cleanup after a spill or unauthorized release has occurred.

(4) Any person may apply to the Commission for certification under ORS 468.170 of a pollution control facility or portion thereof erected, constructed or installed by the person in Oregon if:

(A) The facility was erected, constructed or installed on or after January 1, 1967.

(b) The noise pollution control facility was erected, constructed or installed on or after January 1, 1977.

(c) The solid waste facility was under construction on or after January 1, 1973, or the hazardous waste, used oil, material recovery, or recycling facility was under construction on or after October 3, 1979, and if:

(A) The facility's principal or sole purpose conforms to the requirements of ORS 468.155(1);

(B) The facility will utilize material that would otherwise be solid waste as defined in ORS 459.005, hazardous waste as defined in ORS 466.005 or used oil as defined in ORS 468.850:

(i) By mechanical processing or chemical processing; or
(ii) Through the production, processing, presegregation, or use of:

(I) Materials which have useful chemical or physical properties and which may be used for the same or other purposes; or

(II) Materials which may be used in the same kind of application as its prior use without change in identity;

(C) The end product of the utilization is an item of real economic value;

(D) The end product of the utilization, is competitive with an end product produced in another state; and

(E) The Oregon law regulating solid waste imposes standards at least substantially equivalent to the federal law.

(d) The hazardous waste control facility was erected, constructed or installed on or after January 1, 1984 and if:

(A) The facility's principal or sole purpose conforms to the requirements of ORS 468.155(1); and

(B) The facility is designed to treat, substantially reduce or eliminate hazardous waste as defined in ORS 466.005.

(5) The Commission shall certify a pollution control, solid waste, hazardous waste or used oil facility or portion thereof, for which an application has been made under ORS 468.165, if the Commission finds that the facility:

(A) Was erected, constructed or installed in accordance with the requirements of ORS 468.165(1) and 468.175;

(B) Is designed for, and is being operated or will operate in accordance with the requirements of ORS 468.155; and

(C) Is necessary to satisfy the intents and purposes of and is in accordance with the applicable Department statutes, rules and standards.

Determination of Percentage of Certified Facility Cost Allocable to Pollution Control

340-16-030 (1) Definitions:

(a) "Annual operating expenses" means the estimated costs of operating the claimed facility including labor, utilities, property taxes, insurance, and other cash expenses, less any savings in expenses attributable to installation of the claimed facility. Depreciation, interest expenses, and state and federal taxes are not included.

(b) "Average annual cash flow" means the estimated average annual cash flow from the claimed facility for the first five full years of operation calculated as follows:

(A) Calculate the annual cash flow for each of the first five full years of operation by subtracting the annual operating expenses from the gross annual income for each year, and

(B) Sum the five annual cash flows and divide the total by five. Where the useful life of the claimed facility is less than five years, sum the annual cash flows for the useful life of the facility and divide by the useful life.

(c) "Claimed facility cost" means the actual cost of the claimed facility minus the salvage value of any facilities removed from service.

(d) "Gross annual income" means the estimated total annual income from the claimed facility derived from sale or reuse of recovered materials or energy or any other means.

(e) "Salvage value" means the value of a facility at the end of its useful life minus what it costs to remove it from service. Salvage value can never be less than zero.

(2) In establishing the portion of costs properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil for facilities qualifying for certification under ORS 468.170, the Commission shall consider the following factors and make appropriate findings regarding their applicability:

(a) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity;

(b) The estimated annual percent return on the investment in the facility;

(c) The alternative methods, equipment and costs for achieving the same pollution control objective;

(d) Related savings or increase in costs which occur or may occur as a result of the installation of the facility; or

(e) Other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

(3) The portion of actual costs properly allocable shall be from zero to 100 percent in increments of one percent. If zero percent, the Commission shall issue an order denying certification.

(4) In considering the factors listed in OAR 340-16-030, the Commission may determine in its findings that one or more factors are more important than others and may assign different weights to the factors when determining the portion of costs properly allocable to pollution control.

tion, construction or installation of the facility was completed before December 31, 1990.

(E) Certification of a pollution control facility qualifying under ORS 468.165(1) shall be granted for a period of 10 consecutive years. The 10-year period shall begin with the tax year of the person in which the facility is certified under this section. However, if ad valorem tax relief is utilized by a corporation organized under ORS Chapter 61 or 62 the facility shall be exempt from ad valorem taxation, to the extent of the portion allocable, for a period of 20 consecutive years, or 10 years if construction is commenced after June 30, 1989 and completed before December 31, 1990, from the date of its first certification by the Commission.

(F) Portions of a facility qualifying under ORS 468.165(1)(c) may be certified separately under this section if ownership of the portions is in more than one person. Certification of such portions of a facility shall include certification of the actual cost of the portion of the facility to the person receiving the certification. The actual cost certified for all portions of a facility separately certified under this subsection shall not exceed the total cost of the facility that would have been certified under one certificate. The provisions of ORS 316.097(8) or 317.116 whichever is applicable, shall apply to any sale, exchange or other disposition of a certified portion of a facility.

(c) Rejection: If the Commission rejects an application for certification, or certifies a lesser actual cost of the facility or a lesser portion of the actual cost properly allocable to pollution control, material recovery or recycling than was claimed in the application for certification, the Commission shall cause written notice of its action, and a concise statement of the findings and reasons therefore, to be sent by registered or certified mail to the applicant.

(3) Appeal: If the application is rejected for any reason, or if the applicant is dissatisfied with the certification of actual cost or portion of the actual cost properly allocable to pollution control, resource recovery or recycling, the applicant may appeal from the rejection as provided in ORS 468.110. The rejection of the certification is final and conclusive on all parties unless the applicant takes an appeal therefrom as provided in ORS 468.110 before the 30th day after notice was mailed by the Commission.

Stat. Auth.: ORS Ch. 468
Hist.: DEQ 12-1984, f. & ef. 7-13-84; DEQ 5-1985, f. & ef. 3-12-85; DEQ 20-1987, f. & ef. 12-16-87

Qualification of Facility for Tax Credits

340-16-025 (1) "Pollution control facility" or "facility" shall include any land, structure, building, installation, excavation, machinery, equipment or device, or alternative methods for field sanitation and straw utilization and disposal as approved by the Field Burning Advisory Committee and the Department, or any addition to, reconstruction of or improvement of, land or an existing structure, building, installation, excavation, machinery, equipment or device reasonably used, erected, constructed or installed by any person, which will achieve compliance with Department statutes and rules or Commission orders or permit conditions, where applicable, if:

(a) The principal purpose of the facility is to comply with a requirement imposed by the Department, the Federal Environmental Protection Agency or regional air pollution

authority to prevent, control or reduce air, water or noise pollution or solid or hazardous waste or to recycle or provide for the appropriate disposal of used oil; or

(b) The sole purpose of the facility is to prevent, control or reduce a substantial quantity of air, water or noise pollution or solid or hazardous waste or to recycle or provide for the appropriate disposal of used oil.

(2) Such prevention, control or reduction required by this section shall be accomplished by:

(a) The disposal or elimination of or redesign to eliminate industrial waste and the use of treatment works for industrial waste as defined in ORS 468.700;

(b) The disposal or elimination of or redesign to eliminate air contaminants or air pollution or air contamination sources and the use of air cleaning devices as defined in ORS 468.275;

(c) The substantial reduction or elimination of or redesign to eliminate noise pollution or noise emission sources as defined by rule of the Commission;

(d) The use of a material recovery process which obtains useful material from material that would otherwise be solid waste as defined in ORS 459.005, hazardous waste as defined in ORS 466.005, or used oil as defined in ORS 468.850;

(e) The treatment, substantial reduction or elimination of or redesign to treat, substantially reduce or eliminate hazardous waste as defined in ORS 466.005; or

(f) Approved alternative field burning methods and facilities which shall be limited to:

(A) Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning;

(B) Propane flammers or mobile field sanitizers which are alternatives to open field burning and reduce air quality impacts; and

(C) Drainage tile installations which will result in a reduction of grass seed acreage under production.

(g) Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases.

(3) "Pollution control facility" or "facility" does not include:

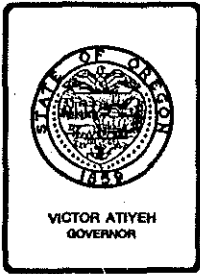
(a) Air conditioners;
(b) Septic tanks or other facilities for human waste;
(c) Property installed, constructed or used for moving sewage to the collecting facilities of a public or quasi-public sewerage system;

(d) Any distinct portion of a solid waste, hazardous waste or used oil facility that makes an insignificant contribution to the purpose of utilization of solid waste, hazardous waste or used oil including the following specific items:

(A) Office buildings and furnishings;
(B) Parking lots and road improvements;
(C) Landscaping;
(D) External lighting;
(E) Company signs;
(F) Artwork; and
(G) Automobiles.

(e) Facilities not directly related to the operation of the industry or enterprise seeking the tax credit;

(f) Replacement or reconstruction of all or a part of any facility for which a pollution control facility certificate has previously been issued under ORS 468.170, except:



Department of Environmental Quality
WILLAMETTE VALLEY REGION

895 SUMMER, N.E., SALEM, OR 97310, PHONE (503) 378-8240

July 22, 1986

Mr. Scott Forrest
Forrest Paints
P.O. Box 2768
Eugene, OR 97402

RE: New Dates for
Closure Activity

As discussed on July 16, 1986, the following dates are proposed for activities and submittals concerning the closure action at your facility:

Filing of a Part A notification	September 1, 1986
Submittal of preliminary groundwater monitoring plan to DEQ to be reviewed for adequacy.	October 1, 1986
Submittal of finalized groundwater monitoring plan to DEQ, (based on DEQ and Water Resources comments).	December 1, 1986
Completion of installation of groundwater monitoring wells and assess gradient (and judge adequacy of gradient determination).	February 1, 1987
Submittal of analytical results of groundwater sampling (1st quarter).	May 1, 1987
Submittal of groundwater analytical results again for:	
Second quarter	August 1, 1987
Third quarter	November 1, 1987
Fourth quarter	February 1, 1988
Submittal of closure plan (including past practices and identification of waste management unit).	May 1, 1988

These dates are negotiable at this time. Please review them and any completion dates you feel are unrealistic to the project, please send me an alternative.

The agreed upon dates will be used in the Stipulated Consent Order signed by you and by the Director of DEQ.

Sincerely,

Cynthia Parker
Cynthia Parker FOR
Hazardous Waste Consultant

CLP/wr

cc: Stan Sturges, CH2M-Hill, Corvallis
cc: Dick Bach, Stoles, Rives, et al
cc: HW-SW Division
cc: Regional Operations Division

5

This document provides a work plan for implementing a groundwater monitoring program at the Forrest Paint Company in Eugene, Oregon. Figure 1 is a location map. The objectives of this groundwater monitoring plan are to: 1) identify potential contaminant pathways, 2) support the placement of wells capable of determining the facility's impact on the uppermost aquifer, and 3) establish appropriate techniques for installing wells, collecting and analyzing samples, and interpreting monitoring data.

This groundwater detection monitoring plan has been prepared in response to the DEQ's proposed schedule of "closure actions" for Forrest Paint (attached in Appendix A) and in accordance with EPA guidance for preparing groundwater monitoring plans (EPA, 1985).

NATURE AND EXTENT

The focus of this plan is the assessment of groundwater contamination from the Forrest Paint facility. Figure 2 is a site map. In February 1986, the Forrest Paint Company initiated a site investigation with the objective of identifying and characterizing soil contamination onsite.

EXTENT OF CONTAMINATION

The site investigation included eight soil borings with interval sampling. Phase II of the site investigation was completed in April 1986 with the results described in a report entitled "Forrest Paint Co. Site Investigation: Phases I & II, April 1986." The findings were:

FROM REVISED GROUNDWATER MONITORING
PLAN SUBMITTED TO DEQ SEPTEMBER
1986 BY CH2M HILL.

FORREST PAINT COMPANY
GROUNDWATER MONITORING PLAN SUPPLEMENT
January 22, 1987

INTRODUCTION

In September 1986, Forrest Paint submitted a groundwater monitoring plan to:

- o Further characterize site hydrogeology to determine well placement and screening intervals
- o Install downgradient wells to detect any releases of hazardous waste constituents into the uppermost aquifer
- o Install an upgradient well to characterize background water quality
- o Determine the groundwater flowrate and direction in the uppermost aquifer

A two-phase approach was proposed. Phase I was to include the installation of three monitoring wells with the primary objective of determining the groundwater gradient. Phase II was to include additional monitoring wells necessary to meet the above objectives.

This supplement presents a proposal to proceed with Phase I of the monitoring plan, with some modifications. These modifications include well locations, well installation methods, soil sampling methods, laboratory analysis, and project schedule.

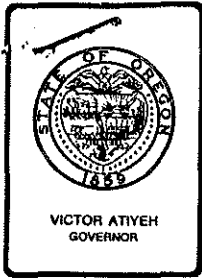
SITE CONTAMINATION

Site contamination is characterized in Figure 1 (this characterization includes information from the Phase III sampling effort, December 1986). These contaminant zones are only estimates based on limited data, but represent the current understanding of contaminant distribution. They provide the basis for placement of the groundwater monitoring wells.

WELL LOCATION

Proposed locations for Phase I monitoring wells are also shown in Figure 1. The triangular orientation is optimum for groundwater gradient determination. Rationale for specific well locations is summarized in Table 1.

From BEAN SUBMITTER TO Ms. Cynthia PARKER
OF Willamette Valley REGION, DEQ. 1/22/87
By STAN STURGES OF CH2M HILL. 4



Department of Environmental Quality

522 S.W. FIFTH AVENUE, BOX 1760, PORTLAND, OREGON 97207 PHONE (503) 229-5696
Willamette Valley Region Office
895 Summer St. N.E., Salem, OR 97310

December 17, 1986

Scott Forrest
Forrest Paint Company
1011 McKinley West
P.O. Box 2768
Eugene, OR 97402

RE: HW-Forrest Paints
Tentative Compliance dates

Mr. Forrest:

In regards to our conversation of December 8, 1986, and your communication of November 27, 1986, I see no problem with the delay of the submittal of the final groundwater monitoring plan until January 6, 1987, as you verbally requested.

However, this may cause some problems with subsequent dates, in particular the February 1, 1987, date for completion of installation of the wells.

May I suggest the following:

		<u>Revise to be:</u>
Submittal of finalized groundwater monitoring plan to DEQ, (based on DEQ and Water Resources comments).	Dec. 1, 1986	Jan. 15, 1987
Completion of installation of groundwater monitoring wells and assess gradient (and judge adequacy of gradient determination).	Feb. 1, 1987	Mar. 1, 1987

And the others to remain as:

Submittal of analytical results of groundwater sampling (1st quarter).	May 1, 1987
Submittal of groundwater analytical results again for:	
Second quarter	Aug. 1, 1987
Third quarter	Nov. 1, 1987
Fourth quarter	Feb. 1, 1988
Submittal of closure plan (including past practices and identification of waste management unit).	May 1, 1988

6

Forrest Paint Company
December 17, 1986
Page 2

This would allow your consultant some time to review issues resulting from our proposed January 6, 1987 meeting, and give you a more reasonable time to install the wells.

Please notify me if you have problems with this.

Sincerely,

Cynthia Parker

Cynthia Parker
Hazardous Waste Consultant

CLP/fh

cc: Hazardous Waste Section
cc: Regional Operations

Forrest
8/1/1977
2 hazardous wells
11/81

6A



Engineers
Planners
Economists
Scientists

February 23, 1987

C20400.B0

Ms. Cynthia Parker
Department of Environmental Quality
Willamette Valley Region
895 Summer St. NE
Salem, Oregon 97310

Dear Cynthia:

Subject: Response to Comments on Groundwater Monitoring Plan Supplement

In follow-up to my February 9 telephone conversation with you and Bill Robertson/Water Resource Department, I am responding to your comments in a Question:Answer format:

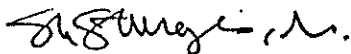
- Q: Will the proposed EPA analytical methods (8015/8020) identify the naphtha constituents identified in the site investigation work?
- A: Groundwater samples will be analyzed for total organic carbon (TOC) by EPA Method 9060. The TOC concentration, with the target constituent (carbon) concentrations subtracted, will give a good semiquantitative indication of the presence of naphtha constituents.
- Q: Will the naphthalene, dibutyl phthalate, and butylbenzyl phthalate identified in borehole BH8 of the Phase II site investigation be analyzed?
- A: The listed contaminants are base neutral compounds identified in the paint layer found in the old paint pit (BH8). Well 3 will be sampled and analyzed for base neutrals and acid extractable contaminants by EPA Method 8250.
- Q: How will the wells be screened to monitor both light (S.G. <1) and heavy (S.G. >1) contaminants? Some of the naphtha constituents are heavier than water and may sink.

Ms. Cythia Parker
Page 2
February 23, 1987
C20500.B0

A: Scott Forrest has identified naphtha products commonly used in the paint industry (ref: February 12, 1987, letter from Scott Forrest). These products are lighter than water. However, as a contingency, our objective will be to monitor the full depth of the aquifer. We anticipate that this can be accomplished with a single screening interval starting at the water table and extending down to the confining layer at the bottom of the aquifer. We will not exceed a screening interval of 15 feet.

Please call me if you have further questions. Formal comments at the completion of your review should be addressed to Scott Forrest.

Sincerely,



Stan Sturges, Jr., P.E.
Project Manager

SS:lw/PC1/015
cc: Scott Forrest
Dick Bach

7A

STATE OF OREGONDEPARTMENT OF ENVIRONMENTAL QUALITYINTEROFFICE MEMORANDUM

DATE: March 13, 1989

TO: Jerry Turnbaugh, Engineer
Water Quality Division

FROM: Sandra Anderson, Project Manager
Environmental Cleanup Division

SUBJECT: Pollution Tax Credit for Forrest Paint

RECEIVED
MAR 14 1989

Water Quality Division
Dept. of Environmental Quality

At your request I am responding to a letter of February 28, 1989 from Forrest Paint appealing denial of Forrest Paint's Pollution Tax Credit application.

Soils and ground water at Forrest Paint have been contaminated with hazardous substances as a result of past disposal practices and spills from underground lines and tanks. A copy of the history of the site is attached. The site history indicates solvents were disposed in an unpermitted pond from 1973 to 1979. Spills from tanks and underground lines also occurred during this time.

To address remediation of the contamination, Forrest Paint is subject to a Stipulation and Consent Decree signed August 8, 1988 pursuant to ORS 466.540 through 466.590. The Decree requires a Remedial Investigation, Feasibility Study, Selection of Remedial Action by DEQ, and selection and implementation of remedial design. All these activities and terms are defined in ORS 466.540. All these activities, and those remedial investigation activities occurring prior to the Consent Decree, including installation of monitoring wells, were and will be carried out to acquire enough information about the release to design and implement a remedial action. None of these wells or activities were designed as preventive measures or early detection measures, which is what I understand is the intended meaning of OAR 340-16-025(2)(g) allowing a tax credit. These wells were installed to assess the extent of releases which occurred years before the wells were installed, and to collect information leading to a cleanup. This use is what I understand is the intended meaning of OAR 340-16-025(3)(g) which excludes the facility from a tax credit.

I suggest you obtain a legal interpretation of OAR 340-16-025 from the Department of Justice. I will gladly provide any additional technical or historical information at your request.

Summary

The approval/denial of Forrest Paint's application for tax credit is to be based on an EQC determination of whether the proposed facilities are intended for prevention of environmental damage by early detections of spills/leaks, or, intended to assess the extent of impact of known unauthorized releases from past practices in conjunction with a clean up project.

The Director recommends that the Commission deny Forrest Paint's application T-2191 for tax credit certification in that state law does not authorize tax credit for facilities associated with the cleanup of unauthorized releases which has been substantiated by the above findings.

PROPERTY NOT ELIGIBLE:

(g) Property or facilities installed, constructed or used for cleanup of emergency spills or unauthorized releases. This includes any facility installed, constructed or used for cleanup after a spill or unauthorized release has occurred.

PROPERTY THAT IS ELIGIBLE:

(g) Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases.

State of Oregon
Department of Environmental Quality

Supplemental Information to Final Tax Credit
Application Review Report for Forrest Paint

1. Additional Information:

At the April 14th EQC meeting, the Department was directed by the EQC to provide information on whether there was a difference of opinion or judgment between the Salem Region and Portland offices as to the question and conditions of eligibility. Mr. Forrest was requested to provide a cost breakdown of the 2" and 4" wells.

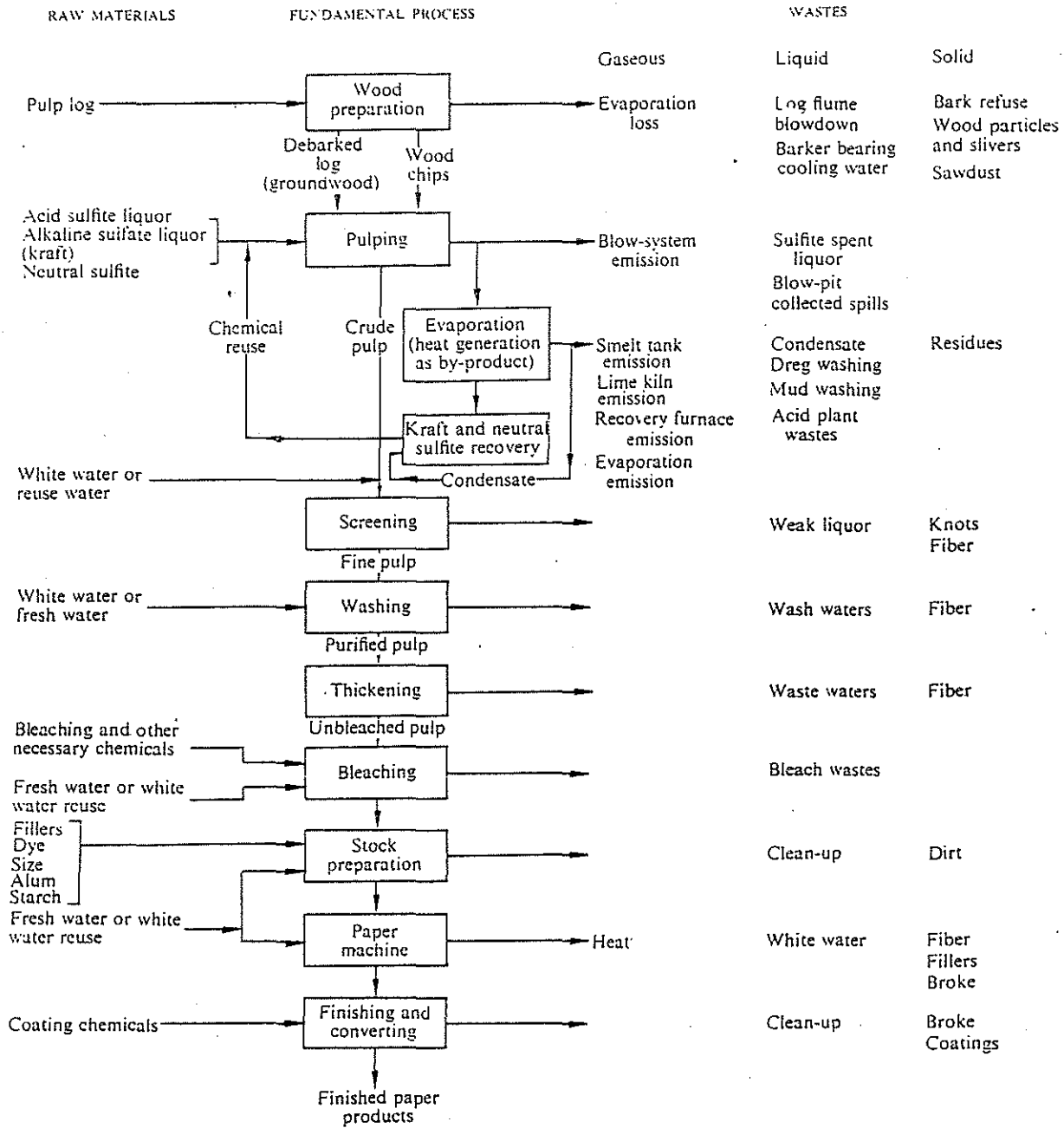
- a. Forrest Paint received preliminary approval for groundwater monitoring wells 2/2/87 by the Water Quality Division in Portland. The applicant believes that region staff stated the monitoring wells would be eligible for tax credit, depending on whether contaminants were found.

Salem region staff recall providing general tax credit information to Forrest Paint as they routinely provide to all business/industries contacts, and informing Mr. Forrest that monitoring wells at the time could be eligible. Staff could not recollect any conversation relative to the size of the wells, or eligibility being based on whether contamination was found. (Dave St. Louis telephone conversation 4/18/89).

- b. Forrest Paint applied for final tax credit certification, 4/8/88, for groundwater monitoring wells under the premise the wells were for detection purposes. Applicant believes credit should be approved under OAR 340-16-025 (2)(g) which authorizes tax credit for "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases".

* All of the wells installed by Forrest Paint were required by DEQ through its Hazardous Waste Program. None of the wells or activities required were designed as preventative or early detection measures. The wells were required to assess the extent of releases which occurred before the wells were installed. (Sandra Anderson, ECD, memo 3/13/89)

Monitoring wells may be eligible for tax credit if they are installed to detect, deter or prevent releases. The Pollution Control Tax Credit statute however, states that property for the cleanup of emergency spills or unauthorized releases as defined by the Commission, are not eligible. Consequently, the above rule provision does not apply to the cleanup of unauthorized releases.



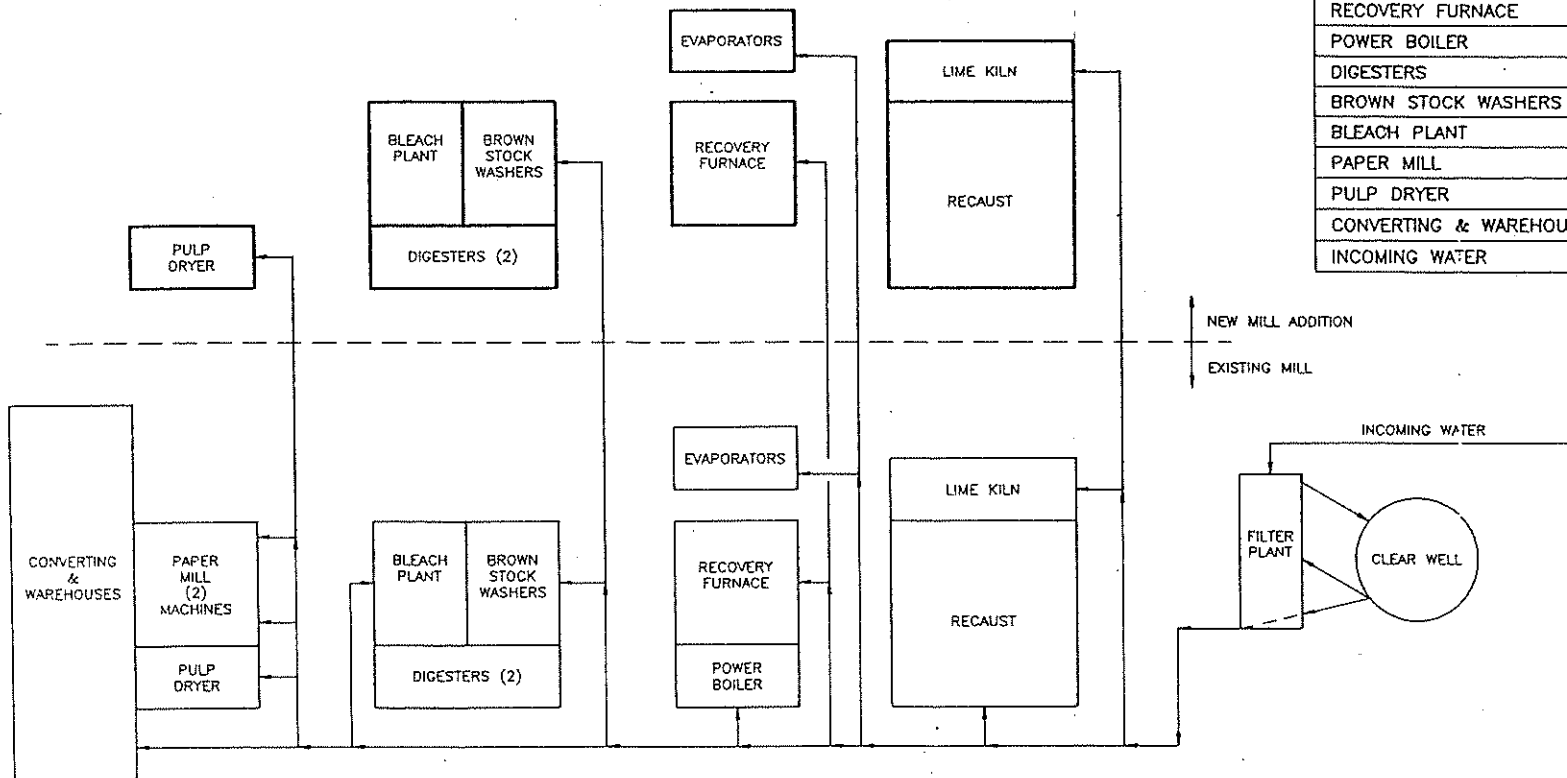
Simplified diagram of fundamental pulp and paper processes. (Prepared for the F.W.P.C.A.)

POPE & TALBOT'S HALSEY PULP MILL WATER USAGE



NOT TO SCALE

OPERATION	PRESENT USAGE MGD	FUTURE USAGE MGD
FILTER PLANT	.7	1.4
LIME KILN	.3	.6
RECAUST	.3	.6
EVAPORATORS	3.75	8.0
RECOVERY FURNACE	.5	1.0
POWER BOILER	.5	1.0
DIGESTERS	1.8	3.6
BROWN STOCK WASHERS	2.0	4.0
BLEACH PLANT	2.0	4.0
PAPER MILL	3.8	3.8
PULP DRYER	.2	1.5
CONVERTING & WAREHOUSES	.5	.5
INCOMING WATER	16.35	30.0



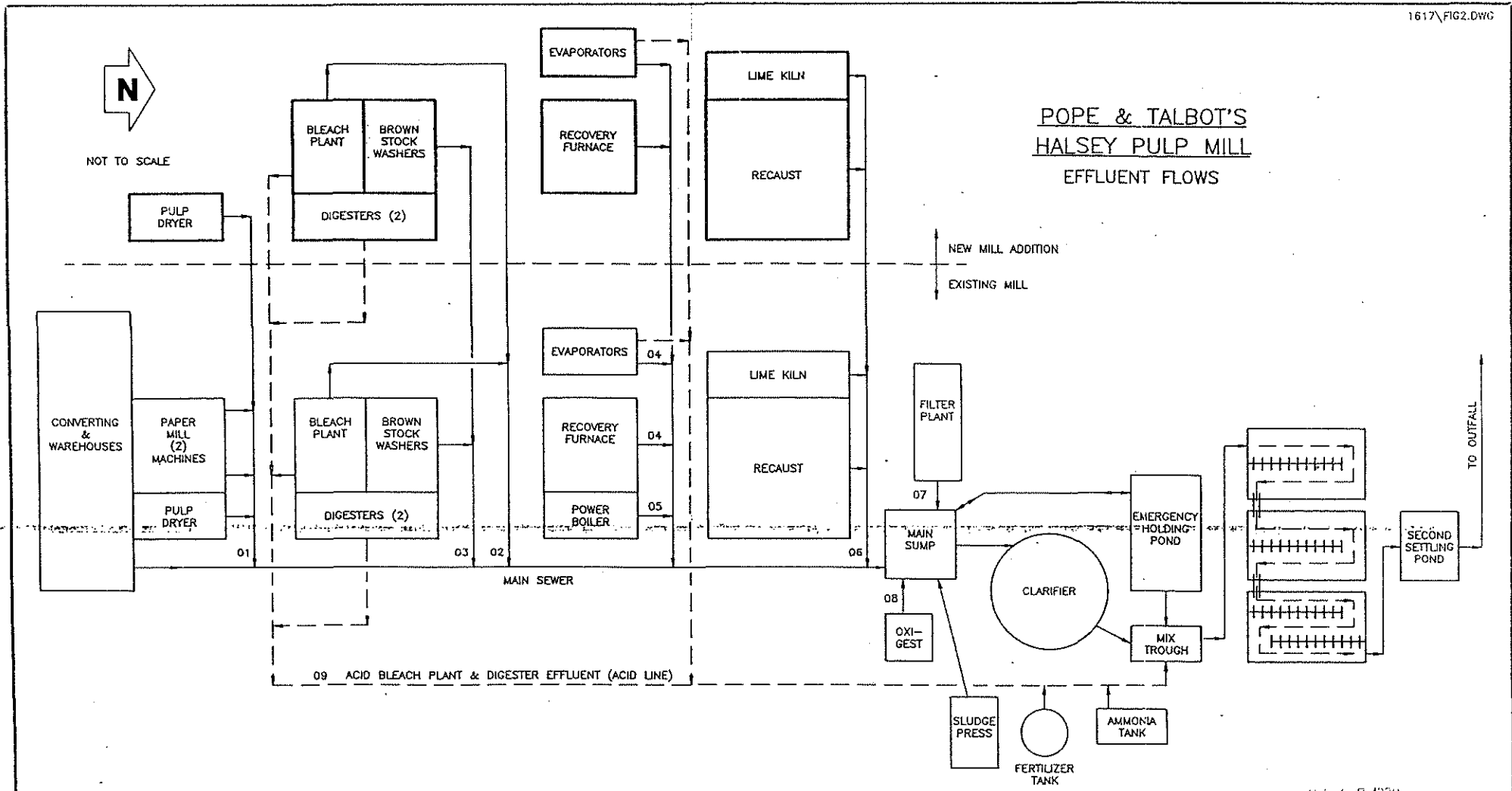
NEW MILL ADDITION

EXISTING MILL

INCOMING WATER

JUL 0 7 1988

FIGURE 1



**POPE & TALBOT'S
HALSEY PULP MILL
EFFLUENT FLOWS**

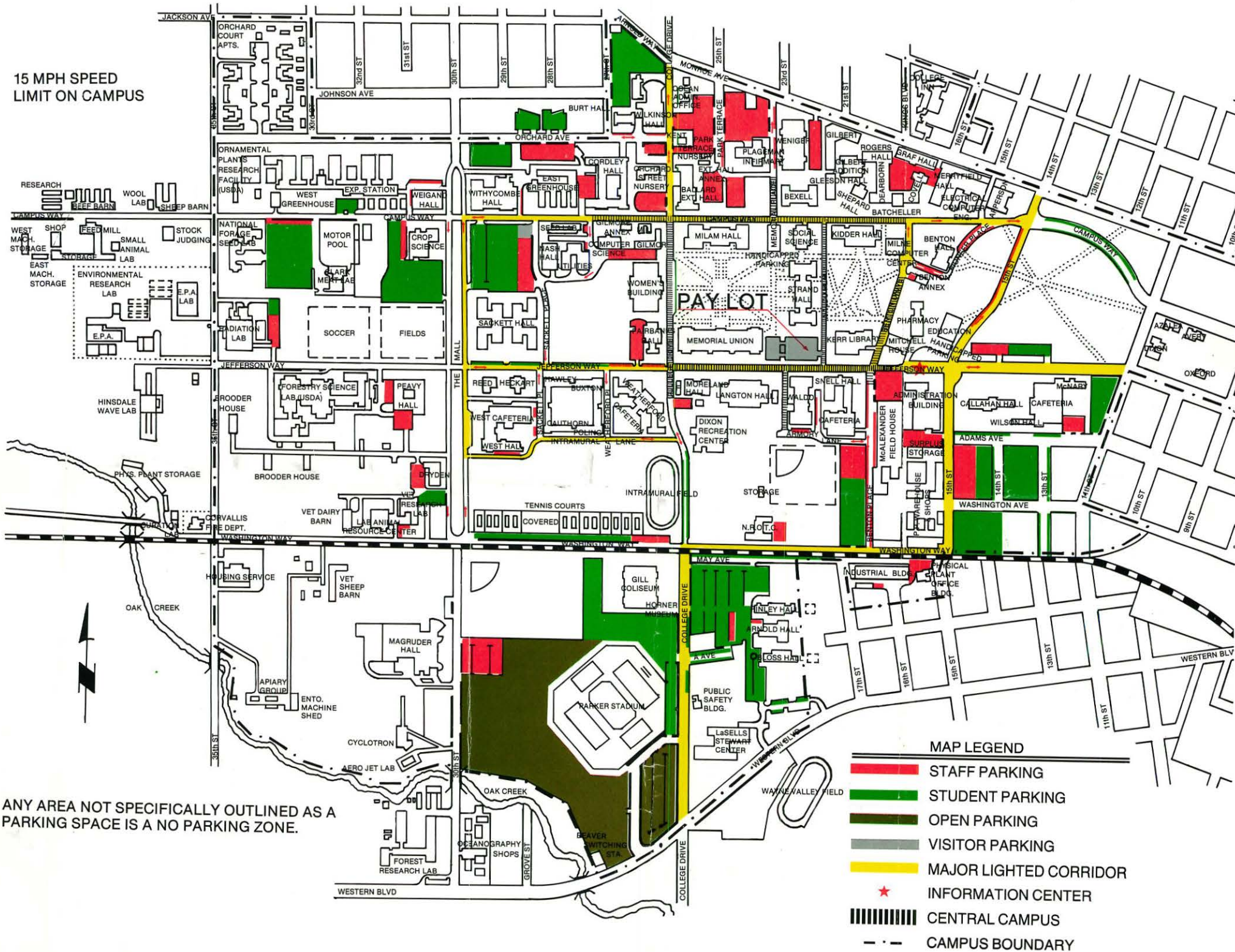
OUTFALL NO.	OPERATION	PRESENT FLOW, MGD	FUTURE FLOW, MGD	OUTFALL NO.	OPERATION	PRESENT FLOW, MGD	FUTURE FLOW, MGD
01	PAPER MILL, PULP DRYER, CONVERTING	4.0	5.5	06	LIME KILN & RECAUST	.6	1.2
02	ALKALINE BLEACH	3.5	6.5	07	FILTER PLANT	.7	1.4
03	BROWNSTOCK WASHERS	.8	1.6	08	SANITARY SEWER	.05	.05
04	RECOVERY & EVAPORATORS	1.0	2.0	09	BLEACH PLANT (ACID LINE)	3.5	6.5
05	POWER HOUSE	.5	1.0	N/A	TOTAL EFFLUENT FLOW	14.65	25.75

LEGEND
 NEW EXISTING
 - - - - - ACID SEWER (BYPASSES CLARIFIER)
 ——— MAIN SEWER (TO CLARIFIER)
 H H H H BASIN CURTAIN

JUL 07 1988

FIGURE 2

15 MPH SPEED
LIMIT ON CAMPUS



ANY AREA NOT SPECIFICALLY OUTLINED AS A
PARKING SPACE IS A NO PARKING ZONE.

MAP LEGEND

- STAFF PARKING
- STUDENT PARKING
- OPEN PARKING
- VISITOR PARKING
- MAJOR LIGHTED CORRIDOR
- INFORMATION CENTER
- CENTRAL CAMPUS
- CAMPUS BOUNDARY



The Ins and Outs of OSU Parking

The Facts

- The parking program at OSU is self-supporting: All revenue from permits and fines goes toward maintaining, upgrading, and lighting parking lots, installing signs, administering the Traffic Office, and future improvements.
- The University is always trying to make improvements.
- A permit is not a guarantee of a parking space; the number of permit parking spaces at OSU is less than the number of permits issued.

Did you Know?

- It cost \$114,000 to pave a single 189-space parking lot in 1987.
- It costs \$100 to install one new sign.
- It costs \$64 to replace one sign.
- It is easier to find parking on the south side of campus.
- OSU has 1,100 spaces of free parking!!

Free Parking?

That's right . . . OSU has FREE PARKING!! It is available to you at all times and is located at Parker Stadium.

- The lot is color coded brown on your campus map. (See reverse.)
- No permit or pass of any kind is required.

Where to Park

Special campus lots are reserved for students and staff with permits. Each is color coded for easy identification. (See reverse.)

- **Students:** Green only
- **Faculty/Staff:** Green or Red
- **Handicap:** Green, Red or Blue
- **Motorcycles:** Gold
- Visitor permits are free and available at the information booth at the intersection of 15th and Jefferson streets.

Permit Costs

Permits are available at registration or at the OSU Traffic Office. Fees for permits are as follows:

Annual Permit	Students	Staff
Car	\$27	\$40
Motorcycle, Scooter	\$ 9	\$ 9
Summer Term Permit Only		
Car	\$ 7	\$10
Motorcycle, Scooter	\$ 3	\$ 3

Alternatives

- Bike racks can be found in front of all campus buildings. Bike registration is free.
- "Rideshare" commuter service. Call 753-CARS for information.
- "Saferide," women's transport service. Call 754-5000.
- Corvallis Transit System. For route information call 757-6998.

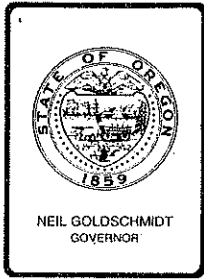
Looking Ahead

Future improvements include:

- More lighted lots
- Paving gravel lots
- More parking spaces
- Improved visitor parking
- Possible parking structure
- Campus shuttle from Gill parking lot



For more information please contact the OSU Traffic Office at 754-2583.



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

July 27, 1989

Oregon Environmental Council
Attn: John Charles, Executive Director
2637 SW Water Avenue
Portland, OR 97201

Dear Mr. ^{John} Charles:

Thank you for taking interest with regard to the Smoke Management Program contract between the Department of Environmental Quality and the Oregon Seed Council.

This issue was discussed at the July 21, 1989, Environmental Quality Commission meeting. At that meeting it was decided that for this current year, the OSC contract will only include operation and maintenance of the communications network and coordination assistance between the Smoke Management Program and the Grass Seed Growers. The Department's Field Burning Office will perform communications relay to some of the North Valley Fire Districts, which was previously performed through a contract with OSC and DEQ. In addition, the Oregon Department of Agriculture's Smoke Management Office will contract directly with the Field Coordinators.

Also, during this current year, the Department of Environmental Quality and the Oregon Department of Agriculture will be looking at opportunities to consolidate the Smoke Management Program, making it more efficient and manageable, so that the availability of any and all research monies can be maximized.

If the Department can be of any further assistance, please don't hesitate to call or write. A good source of information on this specific matter would be Nick Nikkila, Administrator, Air Quality Division. Mr. Nikkila has personally been involved in contract negotiations between the Department and the Oregon Seed Council. His number is 229-5397.

Once again, thank you for your interest in this matter.

Sincerely,

Fred Hansen
Director

FH:LJ:r
AR789

cc: Jim Britton, Field Burning Manager, DEQ
Environmental Quality Commission



OREGON ENVIRONMENTAL COUNCIL

2637 S.W. Water Avenue • Portland, Oregon 97201 • 222-1963

DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED

JUL 11 1989

July 11, 1989

OFFICE OF THE DIRECTOR

Mr. Fred Hansen
Director, Department of Environmental
Quality
811 SW Sixth Avenue
Portland, OR 97204

RE: OREGON SEED COUNCIL CONTRACT

Dear Fred,

It is my understanding that you are about to sign another contract with the Oregon Seed Council for continued services in administering the field burning program. OEC objects to the ongoing relationship between DEQ and the OSC and urges you to sever all formal ties with the industry.

The executive department raised similar concerns last year in their review of the program. We supported your subsequent decision to terminate certain aspects of the DEQ-OSC contract and shift some administrative functions to the Department of Agriculture. We simply feel that those actions did not go far enough and that you need to cut all ties with the Seed Council. In light of the destructive role the OSC played in the field burning debate during the recent legislative session, it's almost incomprehensible to us that you would consider signing another contract with them.

This is an issue that goes beyond that of field burning. We feel that it is inappropriate for a state agency to contract with a lobbying organization to fulfill administrative or management functions that the agency is required to carry out. DEQ should either staff up to do the work itself or contract out with private parties who are not engaged in lobbying activities on behalf of the regulated industry.

OFFICERS

Allen Johnson
PRESIDENT

Mary Kyle McCurdy
VICE PRESIDENT

Jim Owens
SECRETARY

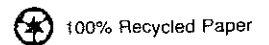
Allen Shelby
TREASURER

James S. Coon
Nancy E. Duhnkrack
Jock Mills
AT LARGE

BOARD OF DIRECTORS

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Ethan Seltzer
Gil Sharp
Bob Stacey
Alice Weatherford-Harper
Paul Wilson

EXECUTIVE DIRECTOR
John A. Charles



If you continue to feel that it is necessary to maintain a contractual relationship between DEQ and outside trade associations, I hope you will, at the very least, bring this up as a discussion item at the July 21 EQC meeting so that it can be discussed by the Commission in a public forum.

Sincerely,



John A. Charles
Executive Director

cc: Bill Hutchison
Gail Achterman
Sen. Springer
Rep. Cease

Graduate School
University Graduate
Faculty of Economics



Corvallis, Oregon 97331-3607

(503) 754-3621

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 10 1989

OFFICE OF THE DIRECTOR

MEMORANDUM

DATE: July 7, 1989
TO: Bill Hutchison
Fred Hansen
FROM: Emery Castle *Emery Castle*
SUBJECT: Social Hour and Dinner, July 20.

My wife and I cordially invite Council members, DEQ staff and certain OSU Deans and their spouses to be our guests at a garden tour at our home and a social hour at the Black Swan prior to the dinner on July 20. Of course, spouses or friends accompanying members and staff are welcome as well.

Harold Sawyer and I have agreed to the following schedule:

1. **6:00 - 7:00 pm A brief tour of our rose garden at 1112 NW Solar Place.** For those who have not been to Solar Place, it is best found by going to the intersection of Highland Way and Walnut Boulevard. Proceed north on Highland and take the first left on Angelica. The first right off Angelica is Solar Place. Our home is the last house on Solar Place, at the end of a driveway from a cul de sac. It will simplify your departure and reduce congestion if some of those driving will park on Solar Place and walk the driveway to our house.
2. **6:00 - 7:30 pm There will be a social hour at the Black Swan.** Those who do not wish to take the garden tour may proceed directly to the Black Swan. Our garden is not a large one so all should be able to get to the Black Swan for "socializing" prior to 7:30 pm.

Page 2

3. **7:30 - 8:00 pm We expect to begin dinner at the Black Swan. Our chair, Bill Hutchison, will preside. No doubt he will want to have dialogue with our OSU guests as well as conduct other CEQ business.**

It would be helpful if the DEQ could convey this invitation to Council members and DEQ staff.

cc: Black Swan

dm2672



MEMORANDUM

DATE: July 7, 1989

TO: Deans

Roy Arnold - *Ag Sciences*
Fred Burgess - *Engineering*
Carl Stoltenberg - *Forestry*
Bill Wilkins - *Liberal Arts*

FROM: Emery Castle *Emery*

SUBJECT: Dinner with Council on Environmental Quality.

On July 20 and 21 the CEQ will hold a work session and meeting in Corvallis. As a former CEQ member, Fred Burgess and Ms. Burgess will be our honored guests and are expected to provide oodles of sage advise. In addition, selected Deans and their spouses have been invited to the dinner and social hour to be held Thursday, July 20.

The schedule will be as follows:

1. **6:00 - 7:00 pm** A brief tour of our rose garden at 1112 NW Solar Place. For those who have not been to Solar Place, it is best found by going to the intersection of Highland Way and Walnut Boulevard. Proceed north on Highland and take the first left on Angelica. The first right off Angelica is Solar Place. Our home is the last house on Solar Place, at the end of a driveway from a cul de sac. It will simplify your departure and reduce congestion if some of those driving will park on Solar Place and walk the driveway to our house.
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You are cordially invited.

cc: Bill Hutchison
Fred Hansen
Harold Sawyer

dm2670

ITINERARY

Environmental Quality Commission
July 20 and 21, 1989
Work Session and Regular Meeting

Corvallis, Oregon

Thursday, July 21

- 7:30 a.m. EQC and director leave for Corvallis.
- 9:30 a.m. EQC and director arrive Corvallis; proceed to Nendel's for work session.
- 10:00 a.m. Work Session.
- Noon EQC and DEQ staff - BBQ Lunch at Nendel's.
- 1:00 p.m. EQC departs for field tour of the Pope & Talbot Mill, Halsey, Oregon.
- 5:00 p.m. EQC returns to Corvallis; check in at Nendel's. (check in time for staff after 4:00 p.m.)
- 6:00 p.m.
- 7:00 p.m. EQC and DEQ staff - Tour of Dr. Castle's rose garden.
- 6:00 p.m.
- 7:30 p.m. EQC and DEQ staff - Social hour at the Black Swan Restaurant, Corvallis.
- 7:30 p.m.
- 8:00 p.m. EQC and DEQ staff - Begin dinner (Black Swan Restaurant; order and pay separately).

Friday, July 21

- 8:30 a.m. EQC meeting (no breakfast planned).
- Noon EQC departs for Portland (no lunch planned).

deqstaff

ITINERARY

Environmental Quality Commission
July 20 and 21, 1989
Work Session and Regular Meeting

Corvallis, Oregon

Thursday, July 21

7:30 a.m. Leave for Corvallis. Van can be boarded at Yamhill Street turnout.

9:30 a.m. Arrive Corvallis; proceed to Nendel's for work session.

10:00 a.m. Work Session.

Noon BBQ Lunch at Nendel's.

1:00 p.m. Depart for field tour of the Pope & Talbot Mill, Halsey, Oregon.

5:00 p.m. Return to Corvallis; check in at Nendel's.

6:00 p.m. Tour of Dr. Castle's rose garden.
- 7:00 p.m.

6:00 p.m. Social hour at the Black Swan Restaurant,
- 7:30 p.m. Corvallis.

7:30 p.m. Expect to begin dinner (Black Swan Restaurant).
- 8:00 p.m.

Friday, July 21

8:30 a.m. EQC meeting (no breakfast planned).

Noon Depart to Portland (no lunch planned).

July 20

Graduate School
University Graduate
Faculty of Economics



Corvallis, Oregon 97331-3607

(503) 754-3621

*Julia,
FYI*

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 10 1989

OFFICE OF THE DIRECTOR

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dm2672



M E M O R A N D U M

DATE: July 7, 1989

TO: Deans

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Fred Burgess
Carl Stoltenberg
Bill Wilkins

FROM: Emery Castle *Emery Castle*

SUBJECT: Dinner with Council on Environmental Quality.

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You are cordially invited.

cc: Bill Hutchison
Fred Hansen
Harold Sawyer

dm2670

Proposed EQC Agenda Item

July 19-21, 1989 Meeting

This form will be the basis for discussion at the Agenda Topic Review Meeting. Responses to the questions should be in "talking point" or outline form. Responses may be hand written (in black ink) or typed. A copy will be provided to each participant at the review meeting.

What title do you assign to the proposed item?

Hazardous Waste Fee Schedule

What action do you want the EQC to take?

Approve Emergency Rule

OR

Approve for hearing Authorization (if held to current rule for biennium)
(Depending on what comes out of legislature)

What policy issues are involved that require EQC direction?

- Should the state continue with authorization -- what are the costs and benefits in the long run?
- The fee schedule will not fund the fully authorized program over the long term; more funding will be necessary.
- Should a regulatory program be so disproportionately funded by the community it regulates?
- Is there a better funding approach -- this is a large complex regulatory program that regulates many small marginally economic businesses and a few large businesses. The funding comes from only a relatively small number of businesses.

What are the other potential alternatives for dealing with the issue?

- Determine if authorization really meets state priorities and needs.
- Shift general fund support from other environmental programs that historically get larger other fund and federal fund support.
- DEQ should have a fee program that is across the board on all programs and internally manage the fees according to agency priorities instead of each program having their own fee structure and revenue base.

Are there Technical Issues that people should be aware of?

The schedule based on generation rates and TSD status.

1. Hard to get good data.
2. Waste reduction lowers revenue.

Are there any Legal Issues that people should be aware of?

None

What is the proposed schedule for actions related to the item? Any deadlines or contingent items?

Hearing; rule adoption; Fee collection Fall 1990 and Fee collection Summer 1990.

Who will be the Author? (name, phone number)

Debi Sturdevant, Hazardous Waste Program Management Section, 229-6590

Proposed EQC Agenda Item

July 19-21, 1989 Meeting

This form will be the basis for discussion at the Agenda Topic Review Meeting. Responses to the questions should be in "talking point" or outline form. Responses may be hand written (in black ink) or typed. A copy will be provided to each participant at the review meeting.

What title do you assign to the proposed item?

Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil.

What action do you want the EQC to take?

Adopt Rules.

What policy issues are involved that require EQC direction?

The proposed rules would establish a protective yet expeditious process for cleaning up soil that has been contaminated with motor fuel or heating oil. The EQC should be aware that these rules apply to relatively simple sites and allow the responsible party to clean up contaminated soils with little Department oversight.

What are the other potential alternatives for dealing with the issue?

- 1) Continue all cleanups with the current Leaking Petroleum UST rules and adopt no numeric standards.
- 2) Adopt less stringent standards.

Are there Technical Issues that people should be aware of?

- 1) The Petroleum Marketers and Oil Heat Institute feel that the current cleanup standards are too stringent.
- 2) There is still some concern about which analytical methods are best suited for the proposed rules.

Are there any Legal Issues that people should be aware of?

No

What is the proposed schedule for actions related to the item? Any deadlines or contingent items?

None

Who will be the Author? (name, phone number)

Michael R. Anderson, Environmental Cleanup Division, 229-6764

Proposed EQC Agenda Item

July 19-21, 1989 Meeting

This form will be the basis for discussion at the Agenda Topic Review Meeting. Responses to the questions should be in "talking point" or outline form. Responses may be hand written (in black ink) or typed. A copy will be provided to each participant at the review meeting.

What title do you assign to the proposed item?

Criteria for total phosphorus, ammonia, and biochemical oxygen demand (BOD) for Bear Creek, a tributary of the Rouge River. Establishment of total maximum daily loads (TMDLs) for Bear Creek.

What action do you want the EQC to take?

Adopting additions to OAR special policies and guidelines that describe the water quality management plan for Bear Creek. The proposed rule would:

- Establish instream water quality criteria for Ammonia, BOD, and total phosphorus in Bear Creek.
- Require the Department to distribute interim waste load allocations (WLA) and load allocations (LA) for the development of program plans.
- Require the City of Ashland to develop and submit a program plan to the Department describing a strategy for controlling phosphorus, ammonia, and BOD loads to Bear Creek. Ashland STP is the major source of phosphorus ammonia and BOD to Bear Creek. Achieving the WLA for Ashland will require significant changes in treatment plant operations and result in increased costs.
- Require industries with log pond permits to develop and submit to the Department program plans describing strategies to achieve allocations for phosphorus, BOD and ammonia. In practice these allocations will require no summer discharge with a winter discharge dependent on available flow.
- Require program plans from urban, agricultural, and forestry nonpoint source agencies. For urban nonpoint sources the program plans may be submitted by individual cities, and the County or be coordinated by the Rouge Valley Council of Governments (RVCOG) water quality coordinator. The degree of control and costs associated with the nonpoint source controls is not well described.

What policy issues are involved that require EQC direction?

- 1) "Hobby Farm Loads": The local community advisory group feels that small "hobby farms" provide significant nonpoint pollution loads. These "hobby farms" receive a disproportionate amount of irrigation water and do not necessarily follow BMPs. No local entity appears to have regulatory authority over "hobby farms". Local entities are looking to the Department to provide guidance on who to allocate the hobby farm loads to and how to regulate the hobby farms for achieving their allocation.
- 2) Basin Treatment Requirements: Existing treatment requirements for the Rouge basin are identified in OAR's. Ashland will be required to review alternatives for achieving existing basin standards as well as the TMDL requirements. The existing basin requirements, especially for dilution, may be more restrictive than the TMDL requirements. The Commission may be asked to waive basin requirements since site specific TMDL requirements would protect the identified beneficial uses.

What are the other potential alternatives for dealing with the issue?

Bear Creek has been identified as being water quality limited and the Department has agreed to establish a TMDL on Bear Creek. Alternatives may exist as to when and how the TMDLs are established. For example:

Option 1 [current]

- 1.1 propose criteria
- 1.2 conduct study
- 1.3 propose rules
- 1.4 adopt rules with requirements for:
 - establishing interim allocations
 - evaluating options
 - evaluating costs
 - develop and submit program plans
- 1.5 Submit TMDL to EPA for approval
- 1.6 open existing permits to include program plan requirements
- 1.7 review and EQC approve program plans
- 1.8 change in compliance dates/allocation/ etc. based on information presented in program plans.

Option 2 [alternative]

- 2.1 propose criteria
- 2.2 conduct study
- 2.3 establish interim allocations
- 2.4 submit allocations to EPA
- 2.5 develop program plans
 - review options
 - evaluate options
 - evaluate costs
- 2.6 review program plans
- 2.7 develop final TMDL based on above information
- 2.8 propose rule
- 2.9 adopt rule

The advantages of option one is that the Departments expectations and requirements are described in rule form. This method provides authority and the assurance that the water quality management plan described by the TMDL will be carried out.

The disadvantage of option one is that changes may occur in the TMDL, such as compliance dates or shifting of allocations. Depending on the initial rules it may be necessary to change the rules to change dates or shift allocations.

The primary advantage with option two is additional flexibility. Rules are not adopted until options and costs have been further reviewed.

Disadvantages with option two include the Departments expectations and authority are not defined in rule form. It is not known how the Department can require and adequate review of available options or guarantee timely action.

Are there Technical Issues that people should be aware of?

- 1) "Hobby Farm" Allocations: Allocations need to be made for all sources of pollution. As yet it is not clear what the appropriate entity is for assuring the Hobby Farms achieve their allocation.

- 2) Assimilation in allocations: Assimilation of phosphorus occurs in Bear Creek. The amount of assimilation in Bear Creek or its tributaries is not well described. Assimilation has not been included in the existing proposed allocations. However, a method for including assimilation is included in the allocation procedure. As described below, as information becomes available for estimating assimilation this can be included in the nonpoint source allocation. The assimilation is equivalent to a negative allocation. Although the available allocation is increased the load allocation remains constant.

allocation	100	150
assimilation	---	-50
load allocation	100	100

The conservative approach would be to not estimate assimilation and refine the allocations as additional information becomes available. The local advisory group has requested that the Department include some estimate of assimilation in the interim load allocations. The advisory group feels that estimates of allocation would prevent the initial interim allocations from being overly conservative.

- 3) Mixing Zones: Ashland Creek may not be an appropriate mixing zone. The appropriateness of Ashland Creek as a mixing zone will need to be reviewed as the strategies and options for Ashland are defined evaluated.
- 4) Conduits for effluent: Existing general permits for log ponds require 50:1 dilution for discharge. Industry representatives feel that this condition can not be met in some of the streams they discharge to. In one example, the log pond forms the headwaters of the stream during overflow conditions. The industry sees the receiving streams as conduits for discharge to Bear Creek.
- 5) Seasonal Limits: The proposed rule defines the summer low flow season as approximately April 1 through November 30. The coupled reactions which control the effect on pollution loads on water quality are dependent on physical conditions such as temperature and streamflow. Actual dates for complying with the proposed rule may be conditioned on these physical conditions as options and strategies are renewed.

Are there any Legal Issues that people should be aware of?

Federal Judge James Burns has signed a consent decree between the Environmental Protection Agency and the Northwest Environmental Defense Center. This decree require the Department to establish TMDLS on identified water quality limited streams. Bear Creek is identified as water quality limited.

What is the proposed schedule for actions related to the item? Any deadlines or contingent items?

Adoption + 60 days: Department distribute initial allocations
 Adoption + 90 days: Submit of program plans by:
 Ashland STP
 Boise Cascade
 Kogap
 Medford Corporation

Adoption + 18 months Program plans for NPS from
Jackson County
Incorporated cities within Bear Creek basin
Memorandums of agreement with state Departments of Forestry and agriculture

All program plans shall be reviewed by the Commission. Final program plans shall be subject to public comment and hearing prior to consideration by the Commission.

Who will be the Author? (name, phone number)

Bob Baumgartner, Planning Section, Water Quality 229-5877

Proposed EQC Agenda Item

July 19-21, 1989 Meeting

This form will be the basis for discussion at the Agenda Topic Review Meeting. Responses to the questions should be in "talking point" or outline form. Responses may be hand written (in black ink) or typed. A copy will be provided to each participant at the review meeting.

What title do you assign to the proposed item?

Adoption of Interim Stormwater Rules for the Tualatin and Oswego Lake sub-basins.

What action do you want the EQC to take?

Adoption of Interim Rules. The rules required construction projects to provide control of site runoff during construction. They also require the construction of permanent stormwater treatment systems for new developments or the payment of an in-lieu-of fee to the local jurisdiction to help pay for area-wide stormwater treatment systems.

What policy issues are involved that require EQC direction?

- What should be the implementation date of the rules?
- Should local jurisdictions be given additional time to get prepared to implement? Local jurisdictions will be required to pass local ordinances in order to implement an in-lieu-of-fee program.

What are the other potential alternatives for dealing with the issue?

Warn the communities now that they should be ready to implement the rules upon adoption.

Are there Technical Issues that people should be aware of?

Some consultants are concerned with the design criteria of 65% removal of phosphorus and 85% removal of sediment required by the rules. They are concerned it will be a performance standard rather than a design standard.

Are there any Legal Issues that people should be aware of?

Local ordinances need to be changed in order for local jurisdictions to implement the rules.

What is the proposed schedule for actions related to the item? Any deadlines or contingent items?

Public Hearings are scheduled for June 20, 1989.

Who will be the Author? (name, phone number)

Kent Ashbaker, Industrial Waste Section, Water Quality Division 229-5325.

Proposed EQC Agenda Item

July 19-21, 1989 Meeting

This form will be the basis for discussion at the Agenda Topic Review Meeting. Responses to the questions should be in "talking point" or outline form. Responses may be hand written (in black ink) or typed. A copy will be provided to each participant at the review meeting.

What title do you assign to the proposed item?

Port Westward Pulp Mill

What action do you want the EQC to take?

Authorize a "significant or large" new wastewater discharge to the Columbia River (pursuant to OAR 340-41-026(3)).

What policy issues are involved that require EQC direction?

- Decide whether the proposed color-control measure (separate mixing zone with a numeric standard at the boundary is acceptable.
- Related issues are, "should a color standard for the Columbia be established?" "Should color removal be required?" "Is color removal practicable?"

What are the other potential alternatives for dealing with the issue?

Color removal by additional wastewater treatment. This alternative has other environmental ramifications, depending on type of removal.

Are there Technical Issues that people should be aware of?

People should be aware that this mill represents the latest processing technology, using extended cooking, oxygen delignification, foul condensate stripping and chlorine substitution. Pollution is reduced, relative to older technologies and dioxin creation should be at a minimum.

Are there any Legal Issues that people should be aware of?

None Anticipated.

What is the proposed schedule for actions related to the item? Any deadlines or contingent items?

Port Westward needs its permits ASAP so it can finalize its financing.

Who will be the Author? (name, phone number)

Jerry Turnbaugh, Industrial Waste Section, Water Quality Division 229-5374.

July 19-21. Corvallis, OR

June 12, 1989

SCHEDULE OF FUTURE EQC AGENDA TOPICS

Page 1

Date Div Type Topic

July 19, 1989 RETREAT

Corvallis, beginning 1:00 p.m.

07-19-89 EQC RETREAT TOPIC: New Legislation Implementation
EQC Retreat with Senior Staff to Brainstorm New Legislation and develop implementation strategies.

July 20, 1989 Work Session and Field Trip Corvallis

07-20-89 EQC Work Session (Continue Retreat topic if necessary)

1. 07-20-89 WQ Work Session Discussion of Significant New Waste Discharge to Columbia River: Proposed WTD Pulp Mill
Background on proposed new WTD Pulp Mill to be located at the old Beaver Army Terminal Site.

2. 07-20-89 WQ Work Session Halsey Pulp Mill Expansion
Background Discussion on Proposed Expansion of Pope & Talbot's Halsey Pulp Mill and the issue of color removal from the effluent.

07-20-89 OD Field Trip Halsey Pulp Mill Area
Field Trip to view Pope & Talbot Pulp Mill Area in relation to proposed expansion.

July 21, 1989 Regular Meeting

Corvallis

F. 07-21-89 AQ Hearing Auth. New Source Performance Standards (NSPS) and New National Emission Standards for Hazardous Air Pollutants (NESHAPS): Proposed Adoption of New Federal rules

G. 07-21-89 HSW Hearing Auth. Hazardous Waste Fee Rules: Modification to Continue existing fee schedule
Existing fee schedule contains a surcharge which sunsets unless extended. This item will remove the sunset provision.

H. 07-21-89 HSW Hearing Auth. Waste Tire Rules: Addition of Provisions Relating to Denial of Waste Tire Carrier Permits
Issue raised by Hearings Officer because existing rules do not specifically deal with denials.

I. 07-21-89 ECD Rule Adoption Leaking Underground Storage Tanks: Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil

J. 07-21-89 WQ Rule Adoption Bear Creek: Establishment of Total Maximum Daily Loads

K. 07-21-89 WQ Rule Adoption Tualatin Basin: Interim Stormwater Control Rules
Previous rulemaking requires the Department to propose such rules by March 1989. Hearing Authorized in March.

L. 07-21-89 WQ Approval Approval of Significant New Waste Discharge to Columbia River: Proposed WTD Pulp Mill at Port Westward
Approval of Proposed new discharge pursuant to policy that requires EQC approval of significant new waste discharges.

Date: 7-18-89 12:58pm
From: Harold Sawyer:OD:DEQ
To: Bill Hutchison:OD
cc: Fred Hansen:OD, Division Administrators:DEQ, Hals:OD,
Tina Payne:OD, Julie Schmitt:OD
Subj: EQC Dinner, Thursday Evening

The following guests are expected to be present on Thursday Evening:

ROY ARNOLD, Dean of the College of Agriculture, OSU. (2)
-- Roy received his PhD from OSU in Food Technology.
-- He came to OSU from the University of Nebraska a little more than a year ago.
-- He brings a fresh approach to the OSU College of Agriculture.
-- His wife () is expected to attend.

CARL STOLTENBERG, Dean of the College of Forestry, OSU. (2)
-- Carl will be retiring at the end of this year.
-- He is a Forest Economist and has been at OSU for 22-23 years.
-- He has served as a member/chairman of the State Board of Forestry.
-- His wife (Rosemary) is expected to attend.

BILL WILKINS, Dean of the College of Liberal Arts, OSU (2)
-- Bill is an Economist.
-- The Department of Economics is in the College of Liberal Arts.
-- Bill is very interested in expanding the ability of the College of Liberal Arts to serve the state.
-- His wife (Caroline) is expected to attend.

Unfortunately, Fred Burgess, Dean of the College of Engineering will not be attending. Fred elected to go salmon fishing instead. Fred also will be retiring sometime later this year. Fred at one time was an employee of the State Sanitary Authority, and later served as a member of the Environmental Quality Commission.

Dr. Castle expects to bring his wife (Merab) providing her health permits. He would like to have the opportunity to start "break the ice" for discussions on the relationship of the University to DEQ by telling a story from his past. (2)

Potential Discussion Notes:

-- OSU prides itself on its credibility. The various colleges make an effort to be close to their related industries, but to remain objective in their research and teaching missions.

Potential topic areas for questions or discussion:

Field Burning

How does the University view the future of field burning in light of the legislature's failure to agree on legislation and the prospect for an initiative measure?

Are there any fresh ideas for research that may shed new light on the issue?

Slash Burning (Forest issues in general)

With the reductions on timber harvest that we are seeing as a result of lawsuits, what is the potential for greater salvage of residues (eg chips for the pulp industry, etc.) rather than burning?

What research efforts are underway to reduce the reliance on burning or reduce the visual and air quality impact on burning?

Explain a little about COPE (Coastal Oregon Productivity Enhancement) -- an effort of federal, state, local, and private agencies to improve the productivity and economy of Oregon's Coastal Forests through the conduct of carefully targeted research and the transfer of technology for application in the field.

Groundwater Protection

How do we get the most bang for the limited bucks available to develop needed information on groundwater quality and quality protection opportunities?

What are the most effective mechanisms for working with the agricultural community on this issue?

Food Processing Industry

What do you see as the environmental issues related to the food processing industry, and what role should DEQ be playing?

Economic Impact assessment for proposed regulatory actions and control programs.

Attention is increasingly being directed to the economic impact of regulatory actions on business in general but small business in particular. Do you have any advice for us regarding how we do a better job in this area?

Wendel's
1550 N.W. 9th
Corvallis, OR.
753-9151
1-800-547-0106

Business Manager: Fran
Booking: Debbie
Meeting Rooms and Meals: Mary Bacon
(O'Callahan's - 757-3305)

Rooms List:

- 1) Fred Hansen - single, non-smoking
- 2) Bill Hutchison - single, non-smoking
- 3) Wally Brill - single, non-smoking
- 4) Genevieve Pizariski Sage - single, non-smoking
- 5) William Wessinger - single, non-smoking
- 6) Harold Sawyer - single, non-smoking
- 7) John Loewy - single, non-smoking
- 8) Carolyn Young - single, non-smoking
- 9) Linda Zucker - single, smoking
- 10) Michael Huston - single, smoking, handicapped
- 11) Tina Payne / Julie Schmitt - double, non-smoking
- 12) Hold open - single, non-smoking (May cancel week before)

Date: 6-23-89 11:30am
From: Tina Payne:OD:DEQ
To: Julie Schmitt:od
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
Forwarded: Message from Fred Hansen:OD:DEQ of 6-23-89

For your information.

----- Forwarded Message Body -----
Date: 6-23-89 11:25am
From: Fred Hansen:OD:DEQ
To: Richard Nichols:WQ:DEQ
cc: fjhansen:od, division administrators:DEQ, lrtaylor:msd,
Richard Nichols:WQ:DEQ
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
In-Reply-To: Message from Richard Nichols:WQ:DEQ of 6-22-89

Yet to be decided, should be included if directly involved. We will need to resolve soon. By copy of this to HLS I am asking him to get me a list from all of you of candidates. I do not want to get so large so as to be unwieldy but my view always is to involve those who have been or will be directly involved.

----- Replied Message Body -----
Date: 6-22-89 6:59am
From: Richard Nichols:WQ:DEQ
To: fjhansen:od, division administrators:DEQ
cc: lrtaylor:msd, Richard Nichols:WQ:DEQ
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
Forwarded: Message from Harold Sawyer:OD:DEQ of 6-21-89

Fred, to what extent will members of staff participate in the discussion on legislation?

----- Forwarded Message Body -----
Date: 6-21-89 8:19am
From: Harold Sawyer:OD:DEQ
To: Richard Nichols:WQ:DEQ
cc: Harold Sawyer:OD:DEQ, LRTaylor:MSD
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
In-Reply-To: Message from Richard Nichols:WQ:DEQ of 6-21-89

No decision has been made at this time relative to the extent, if any, of division staff participation in the "retreat".

----- Replied Message Body -----
Date: 6-21-89 7:59am
From: Richard Nichols:WQ:DEQ
To: Harold Sawyer:OD:DEQ

cc: Richard Nichols:WQ:DEQ,lrtaylor:msd
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
In-Reply-To: Message from Harold Sawyer:OD:DEQ of 6-19-89

Are we free to bring division staff as we feel appropriate or is this strictly upper level management stuff?

Lydia, let's talk about how we (you?) would like to do this. thanks.

----- Replied Message Body -----

Date: 6-19-89 12:06pm
From: Harold Sawyer:OD:DEQ
To: Division Administrators:DEQ
cc: Fred Hansen:OD, John Loewy:OD, Hals:OD
Subj: EQC Retreat on New Legislation Implementation (7/19/89)

There will be an EQC "RETREAT" in Corvallis on July 19, 1989, to discuss implementation of new legislation. This retreat will begin at 1:00 p.m. and will continue into the evening as necessary. Some time has also been allocated on the morning of July 20 (before the regular work session) to continue if necessary.

The specific agenda for the retreat has not been finalized. However, the following gives an idea of what may occur:

1. Prior to the retreat, each participant will receive a package which contains "briefing papers" on each bill (see below). Distribution may be only a few days before the retreat, depending on when the legislature adjourns and how fast material can be developed.
2. John Loewy will begin the retreat session with a report on the Legislative Session -- the bills that passed, and the ones that didn't.
3. The remainder of the retreat will be a more detailed discussion of the most significant bills affecting DEQ, including what they require and how they will be implemented.

A more detailed agenda will be provided as soon as the session ends. In the meantime, please do what you can to get started on the following assignments to prepare for the retreat:

1. PREPARE BRIEFING PAPERS

Fred has asked that Division Administrators be responsible for preparation of a "briefing paper" on each new bill that is finally enacted by the 1989 legislature. The Division responsible for implementation or followup on the new legislation should prepare the briefing paper.

The "briefing paper" for each bill should do the following in 1-2 pages:

- Summarize what the new legislation does.
- Describe the Environmental Quality impact of the new legislation.
- Clearly outline significant implementation steps and deadlines.
- Identify alternative implementation strategies (if appropriate).
- Identify required or expected EQC actions.
- Identify resources that are provided for implementation.
- Identify Policy Issues that require EQC Discussion.

PLEASE COMPLETE THE BRIEVING PAPER FOR EACH BILL by JULY 5, 1989, or within a week after the session ends, which ever occurs first.

This will assist John in preparing his overall report, and is necessary to assure time for EQC review before the retreat.

2. REQUESTED ADDITIONAL MATERIALS

Bill Hutchison has asked for two additional things to aid in retreat discussions:

- a. What remains to be done to follow up on 1987 legislation? Bill wants the Commission to better understand where 1989 legislation fits in relation to 1987.
- b. What new federal requirements or deadlines are anticipated? Again, this information is requested to add perspective to implementation on 1989 legislation.

Please prepare a brief memo on these topics as appropriate, and come prepared to expand on the topics at the retreat.

Thanks for your help.

Date: 6-19-89 1:15pm
From: Harold Sawyer:OD:DEQ
To: Tina Payne:OD, Julie Schmitt:OD
cc: Hals:OD
Subj: EQC Retreat on New Legislation Implementation (7/19/89)
Forwarded: Message from Harold Sawyer:OD:DEQ of 6-19-89

I forgot to include you on the distribution.

----- Forwarded Message Body -----
Date: 6-19-89 12:06pm
From: Harold Sawyer:OD:DEQ
To: Division Administrators:DEQ
cc: Fred Hansen:OD, John Loewy:OD, Hals:OD
Subj: EQC Retreat on New Legislation Implementation (7/19/89)

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Please prepare a brief memo on these topics as appropriate, and come prepared to expand on the topics at the retreat.

Thanks for your help.

Date: 6-12-89 2:57pm
From: Stephanie Hallock:HSW:DEQ
To: jmwhitworth,kfutornick
cc: hlsawyer:od
Subj: EQC

Want to be sure I've got it straight - we are going for an emergency rule, no public hearing, right? This means we bill in August or Sept. I will call Deaver and Donaca to let them know what is going on and either have them come to the EQC or send a letter of support. Do you think we ought to make some kind of broader attempt to inform anyone, since there will not be a public hearing?

*Julie -
FYI*

Date: 6-19-89 10:17am
From: Deanna Mueller-Crispin:HSW:DEQ
To: hlSawyer:od
cc: sHallock:hsw, spGreenwood:hsw, dmCrispin:hsw
Subj: EQC Agenda Item G: Waste Tires

Agenda Item G, Addition of Provisions Relating to Denial of Waste Tire Carrier Permits, will be expanded: will also include provisions for revocation of waste tire storage and carrier permits. We don't have criteria for revocation, and it seemed a good time to add them too. I am also proposing to add one criterion for denial to our existing rule for waste tire storage sites to make it consistent with the new language proposed for carrier permit denial criteria.

Date: 5-24-89 5:42pm
From: Fred Hansen:OD:DEQ
To: Harold Sawyer:OD:DEQ
cc: Tina Payne:OD, Hals:OD
Subj: F & W Youth Commission
In-Reply-To: Message from Harold Sawyer:OD:DEQ of 5-24-89

No one for June. Just fine as you outline for July.

----- Replied Message Body -----

Date: 5-24-89 4:02pm
From: Harold Sawyer:OD:DEQ
To: Fred Hansen:OD
cc: Tina Payne:OD, Hals:OD
Subj: F & W Youth Commission

I called Barbara Hutchison about having the F&W Youth Commission make a report to the Commission at the June Meeting.

She indicated that June 2 would not be realistic. The kids would not be able to miss school at that time (nearing end of year exams, and they have missed too much school already).

She will line up a presentation for the July Meeting. She indicated the kids had identified a number of issues of concern that were appropriate for discussion with the EQC/DEQ. She thought 30 minutes was about right for the amount of time they would take.

Should we try to line someone else up for a presentation in June? My assumption is "no" unless you say otherwise. Given the Governor's meeting and the legislature, etc, I assume other natural resource agency directors would have some difficulty trying to be available for June 2.

Public Forum item : 30 mins.

- Fish and Wildlife Youth Commission ~~Report~~

Date: 5-17-89 3:01pm
From: Fred Hansen:OD:DEQ
To: Bill Hutchison:od
cc: Fred Hansen:OD:DEQ, CYoung:od, Tina Payne:od
Subj: Wally's Last Meeting

The June 2 meeting will be Wally's last meeting. Usually we do up a plaque and have a cake for our leaving commissioners. What say?

Do you know if Wally will continue until his replacement is named?

Thanks.

EXC meeting, July 19-21, 1989

Nendel's
1550 N.W. 9th
Corvallis, OR. 97330
753-9151
1-800-547-0106

~~Sales Director~~
~~Business Manager~~: Fran
Booking: Debbie
Meeting Rooms and Meals: Mary Bacon
(O'Callahan's - 757-3305)

19 dinner
meeting San Miguel Room
La Mancha
20th Valencia
meeting
12-1:30 San Miguel
Corey or
Mary B.
19 dinner
pm meeting
20 am meeting
Valencia
lunch
San Miguel

Rooms List:

- 1) Fred Hansen - single, non-smoking
- 2) Bill Hutchison - single, non-smoking
- 3) Wally Brill - single, non-smoking
- 4) Genevieve Pizariski Sage - single, non-smoking
- 5) William Wessinger - single, non-smoking
- 6) Harold Sawyer - single, non-smoking
- 7) John Loewy - single, non-smoking
- 8) Carolyn Young - single, non-smoking
- ~~9) Linda Zucker - single, smoking~~
- 10) Michael Huston - single, smoking, handicapped
- 11) Tina Payne / Julie Schmitt - double, non-smoking
- ~~12) Hold open - single, non-smoking (May cancel week before)
Henry Lorenzen~~

Check-in time: Between 4:00 and 6:00 p.m.

7-19-89 : Check in to Nendel's at meeting recess, before dinner.
Dinner, 6:00-6:30 starting time
Meeting continued at 7:30 p.m. until 10:30 or 11:00 pm

7-20-89 : 8:00 am - noon work session meeting and lunch
at Nendel's.
1:00 or so.. field trip - Pope and Talbot Pulp Mill
Evening : Dr. Castle's home for punch & garden tour
Dinner at the Black Swan restaurant (# of
people to be called in week of meeting.. 758-4266

OVER →

5- EQC.
8- OD?
7- DAs
↓?

ROOMS
BLOCKS
117

From: Harold Sawyer:OD:DEQ
To: Tina Payne:OD
cc: Hals:OD
Subj: July Meeting Arrangements (preliminary)

Following are the preliminary arrangements (to date) for the July Retreat/Work Session/Meeting in Corvallis (July 19-21, 1989):

Operating Base -- Nendel's in Corvallis (Phone 753-9151)
(The concensus is this is the best place to stay, food is good, and meeting rooms are available.)

WE NEED TO MAKE PRELIMINARY ARRANGEMENTS -- FOR MEALS, MEETING ROOMS, AND STAFF/COMMISSION ACCOMODATIONS.

Wednesday, July 19, 1989, (Check in to Motel ^{between 4-6} before noon.)

Legislative Discussion (Retreat Topic) July 19, 1989

Time: 1:00 p.m. - 5:00 p.m.

Place: Council Room at the Memorial Union Building,
on the OSU Campus (Dr. Castle has arranged for the room)
(This room is not available in the evening -- they close at 5:00 during the summer.)

Dinner: (No arrangements have been made yet.)

Reconvene for evening session on Legislation:
(Arrangements not made yet.)

6 staff
PRED
EQC
DAs
JHL
OD
CT
LZ
No PA system
Up to 30
7:30 meeting
till 10:30 or 11:00
on 25
5:00-6:30 20 people 5:00

WE NEED TO MAKE ARRANGEMENTS FOR DINNER AND AN EVENING MEETING.
NENDEL'S IS PROBABLY THE BEST PLACE TO TRY THIS.

Thursday, July 20, 1989 Work Session/Field Trip

Morning:

Continue Legislative discussion (as appropriate) and then proceed to the Work Session.

Time: 8:00 a.m. to Noon.

Place: (Arrangements not made yet.)

meeting - 35
lunch - 25

WE NEED TO MAKE ARRANGEMENTS FOR A MEETING ROOM AND FOR LUNCH.
NENDEL'S IS PROBABLY THE BEST PLACE TO TRY THIS.

Afternoon:

Field trip to Pope & Talbot Pulp Mill 1:00 to 5:00 p.m.

Thursday Evening

Assemble at Dr. Castle's Home for punch and a garden tour.

Dinner at the Black Swan (private room, continue discussions after dinner) (Emory's suggestion as the best place in Corvallis to eat)

Invited guests (in addition to Commission and Staff) would include the Deans of the Schools of Agriculture, Forestry, and Engineering. (invitations to be handled by Dr. Castle and HLS.)

A reservation has been made at the Black Swan, Phone 758-4256. (We will have to confirm the number when we have a handle on it.)

Friday Morning July 21, 1989 Regular EQC Meeting

Meet at the LaSalle Stewart Conference Center on the OSU Campus (Phone 754-2402) (Room has been reserved by HLS.)

Meet from 8:30 -- conclude by 3:30

Meeting room will hold 50-60 (all on one level) [If a bigger room is desired, we will probably have to go to Nendel's -- the larger meeting room at the conference center holds 250, has fixed seats, and would require the Commission to be on the stage.]

Please advise of any desired modifications in schedule or arrangements as soon as possible.

From: Julie Schmitt:OD:DEQ
To: Barbara Michels:WQ:DEQ
cc: Julie Schmitt:OD:DEQ
Subj: JULY EQC MEETING
In-Reply-To: Message from Barbara Michels:WQ:DEQ of 6-13-89

I just talked with Dick; I wasn't sure from our conversation if he plans on being in on the retreat too (a discussion of new legislative implementation). If so, he will need to make his own arrangements for lodging. I have addresses and rates on a couple of places if Dick needs to check with me, and I'll be sending out an agenda via e-mail soon.

----- Replied Message Body -----

Date: 6-13-89 4:01pm
From: Barbara Michels:WQ:DEQ
To: JLSchmitt:OD
cc: Barbara Michels:WQ
Subj: JULY EQC MEETING
Forwarded: Message from Barbara Michels:WQ:DEQ of 6-13-89

Julie: Nichols will be going; I'll let you know about the rest when I hear...
.
Barb

----- Forwarded Message Body -----

Date: 6-13-89 3:59pm
From: Barbara Michels:WQ:DEQ
To: Managers:WQ
cc: JLSchmitt:OD, Barbara Michels:WQ:DEQ
Subj: JULY EQC MEETING

THE JULY EQC MEETING WILL BE HELD IN CORVALLIS, JULY 20 & 21.

PLEASE ADVISE ME (AT 6493) SOONEST, IF YOU PLAN TO ATTEND EITHER THE WORK SESSION OR THE REGULAR SESSION -- OR BOTH,-- SO WE CAN MAKE ARRANGEMENTS.

QUESTIONS? PLEASE CHECK WITH NICHOLS.

THANK YOU KINDLY FOR YOUR PROMPT RESPONSE!

Date: 6-16-89 10:26am
From: Robert Danko:HSW:DEQ
To: Julie Schmitt:OD:DEQ
Subj: July EQC meeting arrangements
In-Reply-To: Message from Julie Schmitt:OD:DEQ of 6-13-89

No matter what others say, I think you're a-ok!!!!

----- Replied Message Body -----

Date: 6-13-89 5:15pm
From: Julie Schmitt:OD:DEQ
To: Robert Danko:HSW:DEQ
cc: JLSchmitt:od
Subj: July EQC meeting arrangements
In-Reply-To: Message from Robert Danko:HSW:DEQ of 6-9-89

Bob:

I am, as we speak, working on the agenda for July's EQC meeting. As soon as it passes inspection, I'll be e-mailing it to DA's for circulation.

But, because you're the special person you are, I'll be happy to give you advance notice that: 1)The Work Session Thursday will be at Nendel's in the morning, lunch at Nendel's (staff included), and a field trip to Pope & Talbot Pulp Mill from 1:00 - 5:00. 2)There will be punch served and a garden tour at Dr. Castle's home for OD, EQC, DAs and staff followed by Dinner at the Black Swan restaurant. 3)Regular EQC meeting will be at the LaSells Stewart Conference Center on the OSU campus from 8:30 am - 3:30 pm.

Staff people will be responsible for any meals other than the ones I've mentioned here.

Please keep in mind that these arrangements are tentative; I'm waiting to hear back from the divisions how many staff people can be expected to attend the Thursday session. If staff people remain a small number, arrangements will stand as I've listed above.

Hope this helps ... look for the exciting conclusion to this e-mail in an agenda coming to your neighborhood soon!

Julie
Director's Assistants Assistant

----- Replied Message Body -----

Date: 6-9-89 5:28pm
From: Robert Danko:HSW:DEQ
To: Julie Schmitt:OD:DEQ
Subj: July EQC meeting arrangements
In-Reply-To: Message from Julie Schmitt:OD:DEQ of 6-9-89

is the group supposed to meal together...or are folks on their own?
Also, where are the EQC meetings...at nendel's?

thanks!!

----- Replied Message Body -----
Date: 6-9-89 4:27pm
From: Julie Schmitt:OD:DEQ
To: TRBispham:RO, Lydia Taylor:MSD, MJDowns:ECD, SShallock:HSW,
NNikkila:AQ, AWHose:LAB, Roberta Young:MSD, PADalke:MSD,
DMCrispin:HSW, JMWhitworth:HSW, KFutornick:HSW,
RLDanko:HSW, JFKowalczyk:AQ, GAPettit:WQ, SPGreenwood:HSW
cc: FJHansen:OD, Tina Payne:OD, HLSawyer:OD, JHLoewy:OD,
CYoung:OD, LKZucker:OD
Subj: July EQC meeting arrangements

The next meeting of the Environmental Quality Commission, as well as a retreat and work session, are scheduled for July 19 - 21, 1989 in Corvallis.

I will be coordinating rooming and meal accomodations for the EQC and Office of the Director. Rooming arrangements for Division Administrators and attending staff will be the responsibility of these individuals.

Arrangements have been made for the EQC, OD and DAs at Nendel's for dinner on Wednesday, July 19, lunch at Nendel's on Thursday, July 20, and dinner at the Black Swan restaurant Thursday evening.

I have done some research on available rooms in the Corvallis area.

Rates quoted are Government rates, and are as follows:

Nendel's
1550 N.W. 9th
Corvallis, OR
1-800-547-0106

Single occupancy - \$34 + tax
Double occupancy - \$43 + tax

The best rates and nicest accomodations in the area close to Nendel's appear to be at the Jason Inn. It's about half a mile from Nendel's.

Jason Inn
800 N.W. 9th
Corvallis, OR
753-7326

Single occupancy - \$28 + tax

Double occupancy - \$36 + tax

More later when plans are firmed up.

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Vendel's
1550 N.W. 9th
Corvallis, OR.
753-9151
1-800-547-0106

Business Manager: Fran
Booking: Debbie
Meeting Rooms and Meals: Mary Bacon
(O'Callahan's - 757-3305)

Rooms List:

- 1) Fred Hansen - single, non-smoking
- 2) Bill Hutchison - single, non-smoking
- 3) Wally Brill - single, non-smoking
- 4) Genevieve Pizariski Sage - single, non-smoking
- 5) William Wessinger - single, non-smoking
- 6) Harold Sawyer - single, non-smoking
- 7) John Loewy - single, non-smoking
- 8) Carolyn Young - single, non-smoking
- 9) Linda Zucker - single, smoking
- 10) Michael Huston - single, smoking, handicapped
- 11) Tina Payne / Julie Schmitt - double, non-smoking
- 12) Hold open - single, non-smoking (May cancel week before)