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12/17/1973

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS

DEQ

State of Oregon
Department of
Environmental
Quality

AGENDA

ENVIRONMENTAL QUALITY COMMISSION

meeting of

December 17, 1973

Harris Hall (Main Floor), East 8th and Oak
Eugene, Oregon

9:30 a.m.

A. Minutes of November 26, 1973 EQC Meeting

B. Proposed EQC 1974 Meeting Schedule -- O'Scannlain

C. November Activity Report -- Myles

D. Tax Credit Applications -- Burkitt

AIR QUALITY

E. Authorization for Public Hearing to Establish Criteria for Certification of Motor Vehicle Pollution Control Systems -- Householder

F. Adoption of Amendments to Rules Pertaining to Air Contaminant Discharge Permits --Burkitt

10-11 a.m.

PUBLIC FORUM

MIDWESTERN REGION

G. Plans for the Midwestern Region -- O'Scannlain

H. Woolley Enterprises, Inc.: Smith River Lumber Co., Drain--Variance Request --Burkitt

NORTHWESTERN REGION

I. Crown Zellerbach, Wauna (Clatsop County)--Variance Request -- Gilbert

Recess until 1:30 p.m.

LAND QUALITY

J. Adoption of Emergency Rules for Real Estate Disclosures Regarding Sewage Disposal --Jackman

K. Public Hearing on and Adoption of Rules Pertaining to the Subsurface Disposal of Sewage -- O'Gwinn for staff report, Guilbert for hearings summary

ENVIRONMENTAL QUALITY COMMISSION

Attendance Record

Meeting of December 17, 1973 in Eugene, Oregon

Name	Organization	Address
Roy Morrison	Woolley Enterp.	Drain Oregon
C.W. Brenden	Woolley Enterp (Coopers+Lybrand)	Eugene, Oregon
Ray Norris	Walsh & Wyman Realty	Creswell Ore
James J. Long		Springfield
[illegible]		Eugene
R.L. Rogers	Ore Assn. of Realtors	P.O. Box 123, SPRINGFIELD
David L. Simmons	LRAPA	EUGENE
D.K. NEFF	DEQ	ROSEBURG
R.E. Baker	D.E.Q.	Roseburg
R.B. Jones	REALTOR-	EUGENE-
E.J. MOORE	Real Estate	Eugene
Vern Atkinson	LRAPA	"
J.E. Brumgton	developer	Springfield
L.A. BERGERON	CROWN ZELLERBACH	WAUNA, ORE
Marlee Michel	Georgia-Pacific	Portland
Bruce N. Anderson	Attorney Walsh & Wyman Attorney at Law	Eugene
J. Wesley Morgan	Nils B. Hult & Assoc.	Eugene
Thomas Gilbert	DEQ	Portland
Craig Starr	DEQ	EUGENE
MILES KONTICH	WILLAMETTE GRAYSTONE	3700 FRANKLIN BLVD EUGENE
OWEN D. BROWN	EUGENE WATER & ELECTRIC BOARD	
Jerry Harper	Weyerhaeuser Co	Springfield
GARY W. MESSER	D.E.Q	SALEM

RAY A. WILEY	BREEDEN BROS	EUGENE
JIM BARKER	EUGENE SAND & GRAVEL	3000 NTH DELTA HWY EUGENE,

I wish to make a statement before the Environmental Quality Commission regarding

Re: Sewage

Question about relation of (1) prior obtaining of Subdividers approval letter, to (2) necessity for a duplicate approval based on transferee's statement of intended use.

Bruce H. Anderson
Name

Nils B. Hult & Assoc.
Representing

I wish to make a statement before the Environmental Quality Commission regarding

Washington County Landowners Assn
Concerned with Sewage disposal

Ronald H. McKichan
Name

James W. Taggart
Representing

I wish to make a statement before the Environmental Quality Commission regarding

Subsurface Disposal of Sewage

Speaker #1

Name

Wash Co. Landowners Assoc

Representing

I wish to make a statement before the Environmental Quality Commission regarding

SUBSURFACE SEWAGE DISPOSAL

Speaker #2

GEORGE D. WARD

Name

WASHINGTON COUNTY LAND OWNERS ASS'N.

Representing

MINUTES OF THE FIFTY-SECOND MEETING
of the
Oregon Environmental Quality Commission
December 17, 1973

Public notice having been given to the news media, other interested persons and the Commission members, as required by law, the fifty-second meeting of the Environmental Quality Commission was called to order by the Chairman at 9:30 a.m. on Monday, December 17, 1973, in Harris Hall, East Eighth and Oak Streets, Eugene, Oregon. The Commission members present were B. A. McPhillips, Chairman, Arnold M. Cogan, Dr. Morris K. Crothers, Dr. Grace S. Phinney, and Mrs. Jacklyn L. Hallock.

The Department was represented by Director Diarmuid F. O'Scannlain, Deputy Director Ronald L. Myles, Assistant Directors Wayne Hanson, Fred Bolton and Bob Jackman; staff members Ron Householder, Tom Guilbert, Harold Burkitt, Bob Gilbert, Dave O'Guinn, Rich Reiter, B. J. Seymour and Shirley Shay, and Chief Legal Counsel Ray P. Underwood.

MINUTES OF THE NOVEMBER 26-27, 1973 COMMISSION MEETING

It was MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that the minutes of the fifty-first meeting of the Commission held in Portland on November 26-27, 1973 be approved as prepared.

PROPOSED 1974 COMMISSION MEETING SCHEDULE

Director O'Scannlain presented a proposed 1974 meeting schedule for the Commission, explaining that it would accomplish two primary purposes--establish a regular meeting day and allocate meeting sites to cover each of the five regions of the Department at least once. Following a brief discussion, it was MOVED by Dr. Crothers and seconded by Dr. Phinney that meetings outside the Willamette Valley be held on Fridays rather than Mondays. Further discussion indicated that it would be more convenient to hold all meetings of the Commission on Fridays, and the motion was withdrawn.

It was then MOVED by Dr. Crothers, seconded by Dr. Phinney and carried that the Friday preceding the fourth Monday of each month be established as the regular meeting day for the Commission.

Dr. Crothers asked that the staff look into the feasibility of chartered bus service to meeting locations outside the Willamette Valley.

ACTIVITY REPORT FOR NOVEMBER 1973

Mr. Myles presented the memorandum report of actions taken by the Department during the month of November 1973, regarding the following 45 domestic sewerage, 3 industrial waste, 8 air quality control and 5 solid waste management projects:

Water Quality Control

Municipal Projects (45)

Date	Location	Project	Action
11-1-73	The Dalles	West Second Street sewer	Prov. approval
11-1-73	Sweet Home	Harding Street sewer	Prov. approval
11-2-73	Gresham	Pinebrook #2 Subd. sewer	Prov. approval
11-2-73	Salem (Willow Lake)	Sanitary sewer repairs, W.O. #6836-S	Prov. approval
11-7-73	Salem (Willow Lake)	Hayesville Estates Subd. #1 and 2 sewer	Prov. approval
11-7-73	Salem (Willow Lake)	Hilfiker Lane sewer	Prov. approval
11-7-73	Gresham	Powell Valley Road sewer	Prov. approval
11-7-73	Inverness	Change Order #3, Unit 5A-2, sewer	Approved
11-7-73	Clackamas County Service Dist. #1	Phase I, Schedule LK, Change Order No. 4; Phase II, Schedule MT, Change Order No. 2	Approved
11-7-73	Gladstone	Pump station modifications and force main	Prov. approval
11-7-73	Bear Creek Valley Sanitary Authority	West Medford trunk	Prov. approval
11-14-73	Black Butte Ranch	South Meadow First Addition and pump stations 10, 11 & 12	Prov. approval
11-14-73	East Salem Sewer & Drainage Dist. I	Phipps Lane N.E., sewers	Prov. approval
11-14-73	Deschutes County	Rimrock West Subd. sewers, sewage pump station, and subsurface disposal for Phase I - 24 lots	Prov. approval
11-14-73	Stayton	Change Order No. 1, sewage treatment plant contract	Approved
11-14-73	Ashland	Addendum No. 1, sewage treatment plant contract	Approved
11-14-73	Gresham	Change Order No. 1, sewage treatment plant contract #1	Approved
11-14-73	Springfield	Project SP-136 sanitary sewer	Prov. approval
11-14-73	Josephine County	Harbeck-Fruitdale Service District sewers (1) Sky Crest Drive (2) Drury Lane	Prov. approval
11-14-73	Linn County	Diamond Hill lagoon chlorination	Prov. approval

Municipal Projects (45) - continued

Date	Location	Project	Action
11-15-73	Lake Oswego	Westridge Subd. sewers	Prov. approval
11-15-73	Multnomah County (East)	Benn's Addition sewers	Prov. approval
11-15-73	USA (Aloha)	Digester roof rehabilitation	Prov. approval
11-15-73	Tualatin	S.W. 89th and 93rd sewers	Prov. approval
11-15-73	Depoe Bay San. Dist.	Sewage collection and treatment plant--0.80 MGD activated sludge plus chlorination	Prov. approval
11-16-73	Umatilla	Change Order No. 4, sewage treatment plant contract	Approved
11-16-73	Harrisburg	Bruner Subd. sewers	Prov. approval
11-19-73	Jefferson	Grice Acres Subd. First Addition sewers	Prov. approval
11-19-73	Corvallis	Human Resources Center sewer	Prov. approval
11-19-73	Ashland	Hunter Park Subd. sewers	Prov. approval
11-20-73	Keizer Sewer Dist.	Pleasant View Drive sewer	Prov. approval
11-20-73	Stayton	Wilmington Place sewers	Prov. approval
11-20-73	Dundee	Linden Lane sewers	Prov. approval
11-20-73	Hillsboro	Brookwood Avenue sewer	Prov. approval
11-23-73	Dunthorpe-Riverdale County Service Dist.	Lot 28, Abernathy Heights sewer	Prov. approval
11-23-73	Tualatin	Paul Schatz Property sewer	Prov. approval
11-26-73	Vernonia	Change Order No. 4, interceptor contract	Approved
11-26-73	Bend	Northeast Bend force main and gravity sewer	Prov. approval
11-26-73	Round Lake Estates	Sewage pumping station and force main	Prov. approval
11-27-73	North Bend	Liberty Street sewer	Prov. approval
11-28-73	Oak Lodge Sanitary District	Ina Terrace Subd. sewers	Prov. approval
11-28-73	Clackamas County Service District	Phase II, Change Order #5, and Phase III, Change Order #1, interceptors	Approved

Industrial Projects (3)

11-2-73	Tillamook	Publishers Paper Company waste water control facility improvements	Prov. approval
11-9-73	La Grande	R-D Mac, Inc., gravel plant waste water treatment system	Prov. approval
11-29-73	Portland	Oregon Steel Mills, Rivergate plant, Spill Prevention and Contingency Plan	Prov. approval

Air Quality Control (8)

11-6-73	Multnomah	North Pacific Lumber Company 60-space parking facility	Approved
11-9-73	Tillamook	Publishers Paper Company Installation of hog-fuel boiler blow-off noise control	Approved

Air Quality Control (8) - continued

Date	Location	Project	Action
11-9-73	Multnomah	Liberty House/Jantzen Beach 214-space parking facility	Req. add'l info.
11-14-73	Multnomah	Oregon Steel Mills 74-space parking facility	Req. add'l info.
11-14-73	Washington	Tektronix, Inc. 170-space and 590-space parking facilities	Req. add'l info.
11-15-73	Washington	General Telephone Company 90-space parking facility	Approved
11-19-73	Multnomah	Halsey Street Office Building and Restaurant 153-space parking facility	Cond. approval
11-19-73	Lincoln	Georgia-Pacific Corporation Installation of two smelt dissolving tank scrubbers	Approved

Solid Waste Management (5)

11-1-73	Josephine	Grants Pass Sanitary Landfill Existing Garbage Site Leachate Control Plan	Prov. approval
11-14-73	Multnomah	West Delta Park New Demolition Landfill Operational Plan	Approved
11-14-73	Marion	Woodburn Landfill Existing Garbage Site Operational Plan	Prov. appro
11-16-73	Klamath	Weyerhaeuser - Bly New Wood Waste Site Operational Plan	Approved
11-30-73	Harney	Edward Hines Lumber Existing Wood Waste Site Operational Plan (Letter Authorization)	Prov. approval

Mr. Cogan asked what procedures were followed by staff to incorporate provisions that there be some transit usage before determining need for parking facilities. Mr. Hanson replied that transit availability is always considered in connection with proposed parking facilities, particularly in the Portland core area where the Transportation Control Strategy applies.

It was MOVED by Dr. Phinney, seconded by Mr. Cogan and carried that Department actions as reported be approved.

TAX CREDIT APPLICATIONS

It was MOVED by Mr. Cogan, seconded by Dr. Crothers and carried that as recommended by the Director, Pollution Control Facility Tax Credit Certificates be issued to the following applicants for facilities claimed in the respective

2 applications with the costs listed being 80 percent or more allocable to pollution control:

Applicant	Appl. No.	Claimed Cost
Weyerhaeuser Company Raw Materials	T-479	$ 55,673.00
Barker Manufacturing Co.	T-491	44,094.63
Woolley Enterprises Inc. Smith River Lumber Co.	T-492	93,111.00
Woolley Enterprises Inc. Smith River Lumber Co.	T-493	20,499.00
Georgia-Pacific Corp. Eugene/Springfield Div.	T-499	24,289.71
Georgia-Pacific Corp. Eugene/Spring Div.	T-500	47,216.53
Woolley Enterprises, Inc. Mt. Baldy Mill	T-501	122,557.00
Woolley Enterprises, Inc. Drain Plywood Company	T-502	54,268.00
Woolley Enterprises, Inc. Drain Plywood Co.	T-503	207,321.00
Woolley Enterprises, Inc. Smith River Lumber Co.	T-504	67,013.00
Georgia-Pacific Corp. Eugene/Springfield Div.	T-494	36,912.45
Georgia-Pacific Corp. Eugene/Springfield Div.	T-495	23,002.79
Georgia-Pacific Corp. Eugene/Springfield Div.	T-497	46,976.20
Mazama Timber Products, Inc.	T-505	70,711.97
Georgia-Pacific Corp. Eugene/Springfield Div.	T-506	71,260.72
Georgia-Pacific Corp. Coos Bay Div.	T-507	106,648.19
Georgia-Pacific Corp. Coos Bay Div.	T-508	63,559.98
Georgia-Pacific Corp. Toledo Div.	T-510	33,500.00
Georgia-Pacific Corp. Toledo Div.	T-511	96,368.00
Bohemia, Inc. Cascade Fiber Div.	T-512	70,288.37
Bohemia, Inc. Cascade Fiber Div.	T-513	40,854.15
Bohemia, Inc. Cascade Fiber Div.	T-514	19,333.98
Bohemia, Inc. Culp Creek Div.	T-515	164,533.74
Bohemia, Inc. Culp Creek Div.	T-516	133,258.42
Bohemia, Inc. Culp Creek Div.	T-517	94,125.00
The Hervin Company	T-519	12,236.00

Tax Credit Applications (29) - cont.

Applicant	Appl. No.	Claimed Cost
Union Carbide Corp. Ferroalloys Div.	T-488	$38,220.00
Union Carbide Corp. Ferroalloys Div.	T-489	518,526.00
Georgia-Pacific Corp. Coos Bay Div.	T-509	18,391.92

AUTHORIZATION FOR PUBLIC HEARING TO ESTABLISH CRITERIA FOR CERTIFICATION OF MOTOR VEHICLE POLLUTION CONTROL SYSTEMS

Mr. Householder presented the Department's memorandum report and Director's recommendation dated December 10, 1973, requesting authorization to hold a public hearing to adopt criteria for certification of motor vehicle pollution control systems. Mr. Householder explained that the 1971 Legislative Assembly required that a motor vehicle emission control inspection program be established and directed the Commission to specify program criteria and standards based upon either the addition of pollution control equipment to motor vehicles (retrofit) or by engine adjustment or modification. The Portland Transportation Control Strategy includes a motor vehicle emission control program based on inspection and maintenance, but also contains a retrofit requirement for initiation in 1975 if the inspection/maintenance program does not achieve projected results. The purpose of the public hearing would be to provide the Commission with testimony for consideration in adopting criteria for an inspection/maintenance program, thus precluding approval of retrofit devices as certified systems during the first year of operation of the emission control program.

It was MOVED by Dr. Phinney, seconded by Mr. Cogan and carried that a public hearing be held before the Commission in Portland, Oregon on January 25, 1974, concerning proposed initial criteria for certification of motor vehicle pollution control systems.

PUBLIC FORUM

Mr. McPhillips invited members of the general public to voice any environmental concerns they might have directly to the Commission members.

Mr. Ezra Koch, President, Oregon Sanitary Services Institute, spoke on the proposed financing of the $15 million program contained in the MSD solid waste study. He commented that approximately $500,000 had been spent

in the last five years on four solid waste studies in the metropolitan area, and that the $325,000 MSD study contained nothing new. He felt that all available alternatives had not been presented and asked for an opportunity to present the expert views of the operators themselves. Mr. McPhillips asked Mr. Koch and his organization to submit comments and recommendations in writing.

Mr. Bob Bushnell, Springfield School District, requested the EQC to grant a postponement of the fee requirement for permits to operate the district's boilers. The original request for postponement had been made to the Lane Regional Air Pollution Authority which said it did not have authority to grant it. Director O'Scannlain stated that the law requires every polluter to pay a fee in order to get a permit, including public entities. He said that the Department would work with the school districts on this problem, and would investigate the possibility of deferred billing. He invited Mr. Bushnell to remain for the next agenda item in which this matter would be more fully discussed.

No other members of the public wished to testify.

ADOPTION OF AMENDMENTS TO RULES PERTAINING TO AIR CONTAMINANT DISCHARGE PERMITS

Mr. Burkitt presented the Department's memorandum report and Director's recommendations regarding the public hearing held by the Commission on November 27, 1973, for the purpose of receiving testimony on proposed amendments to OAR Chapter 340, Sections 20-033.02 through 20-033.20. The proposed amendments and the modification of Table A would clarify certain sections, add new source categories required to obtain a permit, and authorize permits and fees for new sources. Following the public hearing, the staff met with representatives of industry to resolve those areas where testimony indicated conflicts or where further clarification was needed.

Discussion followed on the issue of the payment of permit fees by school districts. The Director recalled that in the Ways and Means subcommittee where this matter was briefly discussed, no differentiation was made between public and non-public polluters. He also encouraged school districts and other public bodies to try to bring the problem before the special session of the Legislative Assembly, and said that in addition, he would pursue through the Department's Attorney General staff, how much latitude the DEQ has in this matter.

Mr. Tom Donaca, Associated Oregon Industries, raised two points. First, he suggested that the 30-day notice requirement be adopted for all programs--air, water and solid waste management. The second had to do with the sulphur dioxide emission standard. Regarding the latter, he requested that the Commission, because of the energy situation, determine if it has variance authority. He said that industry might not be able to meet the July 1, 1974 date for the sulphur reduction requirement, that is, from 2.5% sulphur by weight to 1.75% sulphur by weight. If industry is not able to meet this sulphur reduction requirement, they might need to apply for permission to operate beyond the July 1, 1974 deadline at 2.5% sulphur by weight or even greater if it is decided that dirtier fuels are to be consumed in areas of the country that can tolerate more degradation. He asked that the Commission give the Director authority to grant variances for fuel burning equipment and suppliers to supply same under standards to be set by the Commission until the matter can be brought to the Commission for action.

Mr. O'Scannlain commented that the Department was seriously considering these problems and their far-reaching implications. He said the Department was looking closely at the non-degradation clause under Oregon law to determine what parts of the state would take more degradation. The staff was also trying to get a better handle on what the federal policy will be in terms of fuel allocations and the possibility that the dirtiest fuels might be sent to the cleanest parts of the country, which would include Oregon.

The Director and the Chairman reiterated that present standards will be maintained and that the Department and the Commission are aware of the sensitivity of the problem and the necessity for a case-by-case approach to its solution.

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that the Director's recommendation for adoption of the proposed amendments to OAR Chapter 340, Sections 20-033.02 through 20-033.20 be approved. A copy of the rules as amended by this motion is attached to and made a part of these minutes.

PROPOSED AGREEMENT BETWEEN LANE REGIONAL AIR POLLUTION AUTHORITY AND DEQ WITH REGARD TO DEQ'S MIDWEST REGION

Mr. O'Scannlain presented his report and recommendation concerning the proposed agreement between Lane Regional Air Pollution Authority (LRAPA) and the DEQ with regard to DEQ's Midwest Region. He explained the rationale for the agreement which provides for an effective, combined environmental program while maintaining the integrity of both organizations. He noted

that the field burning program would be retained at Headquarters. He explained the terms of the agreement and asked the Commission for permission to present the proposal to the Emergency Board for approval.

Mr. Verner Adkison, Administrator of LRAPA, and administrator-designate of the DEQ's Midwest Region, told the Commission that on December 13, 1973, LRAPA's Board of Directors had tentatively accepted the agreement as outlined. He said he had also received comments from industry and the public favorable to this integrated approach.

Discussion followed on employee relationships and jurisdictional authority. Joe Richards, LRAPA attorney, answered questions.

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that the Commission approve the proposal as described in the agreement and authorize the Director to proceed with the Emergency Board approval request.

VARIANCE REQUEST--WOOLLEY ENTERPRISES, INC.

Mr. Burkitt presented the Department's memorandum report and Director's recommendation dated December 7, 1973, regarding the request of Woolley Enterprises, Inc., Smith River Lumber Division, Drain, Oregon, to receive a variance from OAR Chapter 340, Section 25-020(1), Emission and Operation Standards for Wigwam Waste Burners, which specifies that emissions from a wigwam waste burner cannot exceed an opacity of 20 percent for a period or periods aggregating more than three minutes in any one hour. Smith River Lumber Company has been using diesel oil-fired auxiliary ignitors in its burner in order to comply with this standard, but because of the energy situation, fuel oil is no longer available for the auxiliary firing system. Without auxiliary fuel, the burner cannot be brought up to operating temperature in less than approximately seven minutes.

Mr. Morrison of Woolley Enterprises, Inc. was present to answer questions.

Mr. O'Scannlain noted that this was the first request for a variance directly attributable to the energy crisis.

It was MOVED by Dr. Phinney, seconded by Mr. Cogan and carried that Director's recommendation to grant Smith River Lumber Company's variance request subject to the conditions outlined be approved.

VARIANCE REQUEST--CROWN ZELLERBACH CORPORATION

Mr. Gilbert presented the Department's memorandum report and Director's recommendation dated December 5, 1973, concerning the request of Crown Zellerbach Corporation, Wauna Mill, Clatsop County, for a variance from OAR Chapter 340, Section 23-010(1)(a) to permit the open burning of non-reusable pallets and non-recyclable paper until June 1, 1975, in accordance with a program proposed by the company.

Mr. Gilbert explained that the company had open burned its waste until August 1973, when it applied for formal approval of its solid waste disposal program. The Department, however, did not find landfilling in the company's solid waste sites either feasible or desirable because of the nature and quantities of waste involved. While alternatives to open burning are immediately available, the company is actively studying three alternatives, all involving types of incineration. In a letter to the Department, the company stated that it would decide on an alternative to open burning and submit plans to the Department no later than July 1, 1974.

Mr. Larry Broeren, Assistant Resident Manager of the Wauna Plant, discussed the methods of waste disposal being considered by the company.

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that the Director's recommendation to grant the variance request with attached conditions be approved.

ADOPTION OF EMERGENCY RULES FOR REAL ESTATE DISCLOSURES REGARDING SEWAGE DISPOSAL

Mr. Jackman presented the Department's memorandum report and Director's recommendations dated December 7, 1973, proposing the adoption of temporary procedural rules to implement requirements of House Bill 2607 (Chapter 421, Oregon Laws 1973). This 1973 law, which becomes effective on January 1, 1974, will require land developers to register land developments with the Real Estate Commissioner and to obtain DEQ approval of the available or proposed method of sewage disposal.

Mr. O'Scannlain noted that under existing law there is no requirement that a fee be established by the Department for issuing a certificate of approval.

Mr. Klaus of Springfield asked for clarification of the 60-day time

period for issuance of a certificate. He also asked if existing subdivisions in which three or more lots remain unsold would be subject to the new law. Mr. O'Scannlain replied that the Real Estate Commissioner's office would have to determine that issue.

Mr. James Allison of Sherwood wanted to know if counties which had not contracted with the DEQ with respect to the statewide permit program for subsurface sewage disposal could charge a fee. Mr. O'Scannlain replied that the statute does not provide for a fee that could be charged either by a county or the Department. Mr. Ray Underwood, Chief Legal Counsel for the Department, confirmed Mr. O'Scannlain's statement, adding that certain other statutes may enable charging such a fee if locally authorized.

Mr. Bruce Anderson, Eugene attorney, inquired about the continuance of a feasibility letter and its application to single lot owners.

It was MOVED by Mr. Cogan, seconded by Dr. Phinney and carried that as recommended by the Director, the Commission adopt the proposed rules for real estate disclosures regarding sewage disposal as temporary rules of the Commission, to become effective January 1, 1974 (copy attached).

PUBLIC HEARING ON AND ADOPTION OF RULES PERTAINING TO THE SUBSURFACE DISPOSAL OF SEWAGE

Mr. O'Guinn presented the Department's memorandum report dated December 15, 1973, concerning rules pertaining to the subsurface disposal of sewage, noting that the temporary rules adopted by the Commission on October 5, 1973, would expire February 2, 1974. In order to prepare permanent rules for the Commission's consideration, the Department had requested and received authorization from the Commission at its November 26, 1973 meeting to hold public hearings before a hearings officer at ten locations in Oregon. Mr. O'Guinn said that the Hearings Officer's report was appended to the staff memorandum, together with a copy of the proposed permanent rules. He then discussed the nine major sections of the proposed rules--Definitions; Procedures for Issuance or Denial of Subsurface Sewage Disposal Permits; Subsurface Sewage Disposal Systems; Septic Tanks; Disposal Areas; Distribution Techniques; Nonwater-Carried Waste Disposal Facilities; Sewage Disposal Service; and Appendix--and indicated areas that needed further revision.

Following Mr. O'Guinn's report and prior to the presentation of the Director's recommendation, Mr. O'Scannlain called on Mr. Guilbert, DEQ Hearings Officer, for a summary of the information presented at the public hearings. Mr. Guilbert reported that he had attended all 17 hearings, and on the basis of the

considerable amount of technical material presented, recommended that the Commission defer action on the adoption of the rules until the Department's staff had had an opportunity to evaluate the information and incorporate it as appropriate.

Mr. O'Scannlain stated that the Department was not in a position to recommend adoption of final rules on this date, and proposed that the Commission hear additional testimony at the meeting and defer final consideration and adoption until January 4, 1974. He further proposed that the hearings be officially closed on December 21, 1973, with written testimony received until 5 p.m. that date, and the final proposed rules be circulated by December 28, 1973. He explained that deferring action until January 25, 1974, the next regularly scheduled meeting of the Commission, would delay the effective date of the rules until mid-February, thus leaving a period of time in which no rules would be applicable.

Before voting on the issue, Mr. McPhillips invited testimony from persons attending the meeting.

Senator Hector Macpherson of Albany commented on a philosophy of what subsurface sewage disposal ought to be, noting that there are three primarily false assumptions associated with this type of disposal:

1. urban sprawl should be stopped by stopping septic tank permits
2. septic tanks are considered to be environmentally polluting and therefore should be discouraged
3. subsurface sewage disposal is unreliable and therefore should be limited to good soils only.

He stated that Oregon now has the means to control urban sprawl, but that differences must be established between areas about to be sewered and those that would remain essentially rural. He read from a report published by the College of Engineering Sciences at Arizona State University that supported subsurface systems in low density areas. As to the unreliability of subsurface systems, he said that how people handle them determines their survival curve, and this factor should be considered as well as soil type. He also requested some type of public monitoring system of septic tanks. He urged further revision of the proposed rules and offered his assistance.

Mr. Ron McKeith of Portland, represented Mr. Taggart, a small subdivision owner and member of the Washington County Landowners Association, whose subdivision had been platted and approved and who was now concerned about additional procedural requirements.

Mr. James Allison, Sherwood, President of the Washington County Landowners Association, submitted prepared testimony and distributed amendments relating to the low density section of the proposed rules.

Mr. George Ward, an environmental consulting engineer from Portland, distributed copies of a letter which he read, supporting land disposal of sewage rather than mechanical treatment. He also objected to the requirements of the low density section of the proposed rules.

Dr. Crothers asked Mr. Ward if the 250-foot requirement was the major issue in the low density section. Mr. Ward replied that it wasn't just the distance, that the inequity came about because a property owner must have practically an ideal site in order to get a septic tank permit.

Mr. Jack Kephart, Springfield, President of the Eugene-Springfield Homebuilders Association, asked for clarification of the replacement area rule. Mr. O'Guinn said that this was a carryover from the rules adopted by the Health Division and that the staff retained it because they concurred that it was necessary to have a separate area in which to replace or repair a subsurface system. Mr. Kephart wanted to know the status of previously approved subdivisions. Mr. O'Scannlain replied that as regards the replacement area rule, if the Health Department had previously approved a subdivision, the DEQ would accept that approval.

Mr. Kenneth Reading of Beaverton also spoke against the low density provisions of the proposed rules.

Mr. Pat Gould of Banks discussed an 800-acre subdivision outside Roseburg for which he had received verbal but not written approval from the Health Division regarding septic tank installation. He stated that he did not feel he could secure approval for permits under the proposed Department rules.

Mr. Ward again spoke in support of Senator Macpherson's suggestion for monitoring the operation of subsurface systems and asked that the new rules include a preventive maintenance program requirement.

Mr. Bob Jones of Springfield wanted to know if section 7 on page 39 precluded the consideration of methods of disposal of human wastes that do not require water. Mr. O'Guinn replied that only flush toilets were permitted, and that this was in keeping with the internal plumbing systems available nationally and required for new buildings under the new Uniform Building Code.

Mr. Ray Walter of Eugene supported Mr. Ward's request for a preventive maintenance program for subsurface systems.

No other members of the public wished to testify, and Mr. McPhillips closed the hearing of December 17th.

Director O'Scannlain asked that his recommendation given orally following Mr. O'Guinn's presentation of the staff memorandum be substituted for the written recommendation; that is, that the Commission meet in special session in Portland on January 4, 1974, for the purpose of considering further revisions to and final adoption of the proposed rules. He said that if the Commission felt that more time was required, it would be possible to take action on January 25th on an emergency rule basis. Mr. Underwood explained that upon adoption, temporary rules would become effective immediately.

It was MOVED by Dr. Crothers, seconded by Mr. Cogan and carried that the final decision on this matter be set for January 25, 1974 in Portland.

There being no further business to come before the Commission, the Chairman adjourned the meeting at 3:35 p.m.

attachments

Proposed

Temporary Rules
Establishing Procedures for Processing of
Application for Approval Statement for Proposed Method of Sewage Disposal

(1) Definitions contained in Chapter 835, Oregon Laws 1973 (SB77) shall apply as applicable.

(2) Any person who is required under Chapter 421, Oregon Laws 1973, to furnish a disclosure statement pursuant to rules of the Real Estate Commissioner for the sale or transfer of interest in a land development and pertaining to the proposed method of sewage disposal may submit to the Department an application for approval of proposed sewage disposal on a form provided by the Department. Applications must be submitted at least 60 days before a statement is needed. All application forms shall be completed in full and signed by the applicant or his legally authorized representative.

(3) Applications which are obviously incomplete, unsigned or which do not contain the required exhibits will not be accepted by the Department and will be returned to the applicant for completion.

(4) If the Department determines that additional information is needed it will promptly request the needed information from the applicant. The application will not be considered complete for processing until the requested information is received. The application will be considered to be withdrawn if the applicant fails to submit the requested information within 90 days of the request.

(5) Applications which are complete will be processed by the Department and a statement will be furnished to the applicant indicating whether or not the proposed method of sewage disposal for each individual lot, parcel or unit is approved by the Department, and listing any condition or limitations placed on such approval, including, but not limited to, location or capacity of the proposed sewage disposal system.

AIR CONTAMINANT DISCHARGE PERMITS

20-033.02 PURPOSE. The purpose of these regulations is to prescribe the requirements and procedures for obtaining Air Contaminant Discharge Permits pursuant to ORS 449.727 to 449.739 and related statutes for stationary sources.

20-033.04 DEFINITIONS. As used in these regulations unless otherwise required by context:

(1) "Department" means Department of Environmental Quality.

(2) "Commission" means Environmental Quality Commission.

(3) "Person" means the United States Government and agencies thereof, any state, individual, public or private corporation, political subdivision, governmental agency, municipality, industry, co-partnership, association, firm, trust, estate, or any other legal entity whatever.

(4) "Permit" or "Air Contaminant Discharge Permit" means a written permit issued by the Department or Regional Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.

(5) "Regional Authority" means the Mid-Willamette Valley Air Pollution Authority or the Lane Regional Air Pollution Authority.

20-033.06 NOTICE POLICY. It shall be the policy of the Department of Environmental Quality and Regional Authority to issue public notice as to

the intent to issue an Air Contaminant Discharge Permit allowing at least thirty (30) days for written comment from the public, and from interested State and Federal agencies, prior to issuance of the permit.

20-033.08 PERMIT REQUIRED. (1) No person shall construct, install, establish, develop or operate any air contaminant source, including those processes and activities directly related or associated thereto which are listed in Table A, appended hereto and incorporated herein by reference, without first obtaining a permit from the Department or Regional Authority.

(2) No person shall, without first obtaining a permit from the Department or Regional Authority, construct, install, establish, develop or operate any new air contaminant source not listed in Table A which would emit:

(a) 10 tons or more per year, if the source were to operate uncontrolled, of any air contaminants including, but not limited to, particulates, SO_x, NO_x, or hydrocarbons; or

(b) malodorous emissions, as determined by Departmental or Regional Authority review of sources which are known to have similar air contaminant emissions.

(3) Any source listed in Table A may apply to the Department or Regional Authority for a special letter permit if operating a facility with no, or insignificant, air contaminant discharges. The determination of applicability of this special permit shall be made solely by the Department or Regional Authority having jurisdiction. If issued a special permit, the Application Investigation and Permit Issuing or Denying Fee and/or Annual

Permit Compliance Determination Fee, provided by Section 20-033.12, may be waived by the Department or Regional Authority.

20-033.10 MULTIPLE-SOURCE PERMIT. When a single site includes more than one of the air contaminant sources listed in Table A, a single permit may be issued including all sources located at the site. For uniformity such applications shall separately identify by subsection each air contaminant source included from Table A.

(1) When a single air contaminant source which is included in a multiple-source permit, is subject to permit modification, revocation, suspension or denial, such action by the Department or Regional Authority shall only affect that individual source without thereby affecting any other source subject to that permit.

(2) When a multiple-source permit includes air contaminant sources subject to the jurisdiction of the Department and a Regional Authority, the Department may require that it shall be the permit issuing agency. In such cases, the Department and the Regional Authority shall otherwise maintain and exercise all other aspects of their respective jurisdictions over the permittee.

20-033.12 FEES. (1) All persons required to obtain a permit shall be subject to a three-part fee consisting of a uniform non-refundable Filing Fee of $25.00, a variable Application Investigation and Permit Issuing or Denying Fee and a variable Annual Permit Compliance Determination Fee. The amount equal to the Filing Fee and the Application Investigation and Permit Issuing or Denying Fee shall be submitted as a required part of the application. The Annual Permit Compliance Determination Fee shall be paid prior to issuance of the actual permit.

(2) The fee schedule contained in the listing of air contaminant sources listed in Table A appended hereto shall be applied to determine the variable permit fees, on a Standard Industrial Classification (SIC) plant site basis, except that for multiple devices of fuel burning equipment, fees may be increased by twenty percent (20%).

(3) The Filing Fee and Application Investigation and Permit Issuing or Denying Fee shall be submitted with each application for a new permit, modified permit, or renewed permit.

(4) Modifications of existing, unexpired permits which are instituted by the Department or Regional Authority due to changing conditions or standards, receipts 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 Investigation and Permit Issuing or Denying Fee.

(5) Applications for multiple-source permits received pursuant to Section 20-003.10 shall be subject to a single $25.00 Filing Fee. The Application Investigation and Permit Issuing or Denying Fee and Annual Permit Compliance Determination Fee for multiple-source permits shall be equal to the total amounts required by the individual sources involved, as listed in Table A.

(6) At least one Annual Permit Compliance Determination Fee shall be paid prior to final issuance of a permit. Thereafter, the Annual Permit Compliance Determination Fee shall be paid at least thirty (30) days prior to the start of each subsequent permit year. Failure to timely remit the Annual Permit Compliance Determination

Fee in accordance with the above shall be considered grounds for not issuing a permit or revoking an existing permit.

(7) If a permit is issued for a period less than one (1) year, the applicable Annual Permit Compliance Determination Fee shall be equal to the full annual fee. If a permit is issued for a period greater than twelve (12) months, the applicable Annual Permit Compliance Determination Fee shall be prorated by multiplying the Annual Permit Compliance Determination Fee by the number of months covered by the permit and dividing by twelve (12).

(8) In no case shall a permit be issued for more than five (5) years.

(9) Upon accepting an application for filing, the Filing Fee shall be considered as non-refundable.

(10) The Application Investigation and Permit Issuing or Denying Fee need not be submitted upon notice in writing by the permit issuing agency or shall be refunded when submitted with applications for modified or renewed permits if the following conditions exist:

(a) The modified or renewed permit is essentially the same as the previous permit.

(b) The source or sources included are in compliance with all conditions of the modified or renewed permit.

(11) When an air contaminant source which is in compliance with the rules of a permit issuing agency relocates or proposes to relocate its operation to a site in the jurisdiction of another permit issuing agency having comparable control requirements, application may be made and approval may be given for an exemption of the Application Investigation and Permit Issuing or

Denying Fee. The permit application and the request for such fee reduction shall be accompanied by (1) a copy of the permit issued for the previous location, and (2) certification that the permittee proposes to operate with the same equipment, at the same production rate, and under similar conditions at the new or proposed location. Certification by the agency previously having jurisdiction that the source was operated in compliance with all rules and regulations will be acceptable should the previous permit not indicate such compliance.

(12) If a temporary or conditional permit is issued in accordance with adopted procedures, fees submitted with the application for an air contaminant discharge permit shall be retained and be applicable to the regular permit when it is granted or denied.

(13) Sources required to obtain a permit under Section 20-033.08(2) not included in Table A shall be subject to, in addition to the Filing Fee of $25.00, the following fee schedule to be applied in each case by the Department based upon the anticipated cost of issuing or denying the permit, and of compliance inspections:

Schedule	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
if low cost	$ 25.00	$ 25.00
if medium cost	$150.00	$100.00
if high cost	$450.00	$325.00

As nearly as possible, applicable fees shall be consistent with sources of similar complexity as listed in Table A.

(14) All fees shall be made payable to the permit issuing agency.

20-033.14 PROCEDURES FOR OBTAINING PERMITS. Submission and processing of applications for permits and issuance, denial, modification, and revocation of permits shall be in accordance with duly adopted procedures of the permit issuing agency.

20-033.16 OTHER REQUIREMENTS. (1) No person shall construct, install, establish, modify or enlarge any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A without notifying the permit issuing agency as required by ORS 449.712 and rules promulgated thereunder.

(2) Prior to construction, installation, establishment, modification or enlargement of any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A, detailed plans and specifications shall be submitted to and approved in writing by the Department or Regional Authority upon request as required by ORS 449.712 and rules promulgated thereunder.

20-033.18 REGISTRATION EXEMPTION. Air contaminant sources constructed and operated under a permit issued pursuant to these regulations may be exempted from registration as required by rules adopted pursuant to ORS 449.707.

20-033.20 PERMIT PROGRAMS FOR REGIONAL AIR POLLUTION AUTHORITIES. Subject to the provisions of this section 20-033.20, the Environmental Quality Commission authorizes each Regional Authority to issue air contaminant discharge permits for air contamination sources within its jurisdiction.

(1) A Regional Authority's permit program, including proposed permits

and proposed revised permits, shall be submitted to the Environmental Quality Commission for review and approval prior to final adoption by the Regional Authority. Each permit issued by a Regional Authority shall by its conditions authorize the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.

(2) Each permit proposed to be issued or revised by a Regional Authority shall be submitted to the Department of Environmental Quality at least fourteen (14) days prior to the proposed issuance date. Within the fourteen (14) day period, the Department shall give written notice to the Regional Authority of any objection the Department has to the proposed permit or revised permit or its issuance. No permit shall be issued by a Regional Authority unless all objections thereto by the Department shall be resolved prior to its issuance. If the Department does not make any such objection, the proposed permit or revised permit may be issued by the Regional Authority.

(3) If there is an objection by the Department regarding a proposed or revised permit, the Department shall present its objection before the Board of the Regional Authority in question prior to the issuance of a final permit.

(4) If as a result of objection by the Department regarding a proposed or revised permit, the Regional Authority is unable to meet the time provisions of either this regulation or those contained in an existing permit, the Regional Authority shall issue a temporary permit for a period not to exceed ninety (90) days.

(5) The Regional Authority shall give written notice to the Department of its intention to deny an application for a permit, not to renew a permit, or to revoke or suspend any existing permit.

(6) A copy of each permit issued or revised by a Regional Authority pursuant to this section shall be promptly submitted to the Department.

TABLE A - AIR CONTAMINANT SOURCES AND

ASSOCIATED FEE SCHEDULE

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
1.	Seed cleaning located in Special Control Areas (not elsewhere included)	0723	$ 0	$ 0
2.	Minerals, earth and rock ground or otherwise treated	1442 3273 3295	100	75
3.	Smoke houses with 5 or more employees	2013	75	50
4.	Flour and other grain mill products in Special Control Areas	2041		
	a. 10,000 or more T/yr.		250	150
	b. Less than 10,000 T/yr.		50	50
5.	Prepared feeds for animals and fowls in Special Control Areas.	2048		
	a. 10,000 or more T/yr.		250	150
	b. Less than 10,000 T/yr.		50	50
6.	Cereal preparations in Special Control Areas.	2043	250	150
7.	Blended and prepared flour in Special Control Areas.	2045		
	a. 10,000 or more T/yr.		250	150
	b. Less than 10,000 T/yr.		50	50
8.	Beet sugar manufacturing	2063	150	100
9.	Rendering plants	2077	150	100
10.	Coffee roasting	2095	100	75
11.	Sawmill and planing	2421		
	a. 25,000 or more bd.ft./shift		75	50
	b. Less than 25,000 bd.ft./shift		25	25

Table A (continued)

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
12.	Hardwood mills	2426	$ 50	$ 25
13.	Shake and shingle mills	2429	50	25
14.	Mill work with 10 employees or more	2431	75	50
15.	Plywood manufacturing	2435 2436	150	100
16.	Veneer manufacturing only (not elsewhere included)	2435 2436	75	75
17.	Wood preserving	2491	75	50
18.	Particleboard manufacturing	2492	300	150
20.	Hardboard manufacturing	2499	200	100
21.	Battery separator manufacturing	2499	75	50
22.	Furniture and fixtures	2511		
	a. 100 or more employees	2512	125	100
	b. 10 employees or more but less than 100 employees		75	50
23.	Sulfite pulp and paper production	2611 2621 2631	300	175
24.	Kraft pulp and paper production	2611 2621 2631	300	175
25.	Building paper and building board mills	2661	150	100
26.	Alkalies and chlorine manufacturing	2812	225	175
27.	Calcium carbide manufacturing	2819	225	150
28.	Nitric acid manufacturing	2819	100	75
29.	Ammonia manufacturing	2819	200	125
30.	Industrial inorganic and organic chemicals manufacturing (not elsewhere included)	2819	250	125

Table A (continued)

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
31.	Synthetic resin manufacturing	2821	100	100
32.	Charcoal manufacturing	2861	200	100
33.	Herbicide manufacturing	2879	225	175
34.	Petroleum refining	2911 2992	450 100	325 75
35.	Asphalt production by distillation	2951	75	50
36.	Asphalt blowing plants	2951	100	75
37.	Asphaltic concrete paving plants	2951	100	100
38.	Asphalt felts and coating	2952	150	100
39.	Glass manufacturing	3231	100	75
40.	Cement manufacturing	3241	300	150
41.	Redimix concrete	3273	75	50
42.	Lime manufacturing	3274	150	100
43.	Gypsum products	3275	100	75
44.	Steel works, rolling and and finishing mills	3312	300	175
45.	Incinerators	3312		
	a. 2,000 lbs/hr. and greater capacity		100	100
	b. 40 lbs/hr. to 2,000 lbs/hr. capacity		75	50
46.	Primary smelting and refining of ferrous and nonferrous metals not elsewhere classified	3313 3339		
	a. 2,000 or more tons per year production		300	175
	b. Less than 2,000 tons per year production		100	75
47.	Gray iron and steel foundries	3321		
	a. 3,500 or more tons per year production	3322 3324	300	150
	b. Less than 3,500 tons per year production	3325	100	100

Table A (continued)

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
48.	Primary aluminum production	3334	$ 300	$ 175
49.	Secondary lead smelting	3341	225	175
50.	Aluminum foundries (not elsewhere included)	3361	75	50
51.	Brass and bronze foundries	3362	75	50
52.	Electroplating, polishing and anodizing with 5 or more employees	3471	75	50
53.	Galvanizing and pipe coating --exclude all other activities	3479	75	50
54.	Battery manufacturing	3691	100	75
55.	Grain elevators - storage only located in Special Control Areas	4221		
	a. 20,000 or more T/yr.		150	100
	b. Less than 20,000 T/yr.		50	50
56.	Electric power generation	4911*	350	225
57.	Gas production and/or manufacturing	4925	350	225
58.	Fuel burning equipment	4961**		
	a. Residual oil			
	1) 250 million or more btu/hr. (heat input)		150	100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
	3) Less than 5 million btu/hr. (heat input)		25	25
	b. Distillate oil			
	1) 250 million or more btu/hr. (heat input)		150	100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		25	25

* Excluding hydroelectric and nuclear generating projects, and limited to utilities.

** Not limited to fuel burning equipment generating steam for sale but excluding power generation (SIC 4911)

Table A (continued)

Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
c. Wood fired	4961		
1) 250 million or more btu/hr. (heat input)		$ 150	$ 100
2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
3) Less than 5 million btu/hr. (heat input)		25	25
d. Coal fired			
1) 250 million or more btu/hr. (heat input)		150	100
2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
3) Less than 5 million btu/hr. (heat input)		25	25
59. Grain elevators - primarily engaged in buying and/or marketing grain--in Special Control Areas.	5153		
a. 20,000 or more T/yr.		300	225
b. Less than 20,000 T/yr.		50	50

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

TO : Environmental Quality Commission

FROM : Director

SUBJECT: Agenda Item No. B, December 17, 1973 EQC Meeting
1974 EQC Meeting Schedule

Attached is a proposed 1974 schedule for regular meetings of the Environmental Quality Commission. The primary consideration in selecting locations was to cover the Department's five regions in a proportionately representative manner, and to provide Commissioners and staff with opportunities to inspect programs of continuing interest and concern to the Department. All meeting dates occur on the fourth Monday of each month.

It is the Director's recommendation that the schedule be approved as prepared.

DIARMUID F. O'SCANNLAIN

attachment

ss: 12/10/73

ENVIRONMENTAL QUALITY COMMISSION

1974 Meeting Schedule

	January 28	Portland (Northwestern Region)
	February 25	Corvallis (Midwestern Region)
	March 25	Salem (Northwestern Region)
	April 22	La Grande (Eastern Region)
	May 27	Portland (Northwestern Region)
	June 24	Coos Bay (Southwestern Region)
	July 22	Salem (Northwestern Region)
	August 26	Bend (Central Region)
	September 23	Portland (Northwestern Region)
	October 28	Ontario (Eastern Region)
	November 25	Salem (Northwestern Region)
*	December 16	Albany (Midwestern Region)

* 3rd Monday

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

TO : Environmental Quality Commission

FROM : Director

SUBJECT: Agenda Item No. C, December 17, 1973 EQC Meeting
November 1973 Activity Report

During the month of November, staff action was taken relative to the attached itemized list of plans and specifications. These actions are summarized as follows:

Water Quality Control

1. Forty-five (45) domestic sewage projects were reviewed:
   a. Provisional approval was given to:
      32 plans for sewer extensions
      3 plans for sewage treatment works improvements
   b. Approval without conditions was given to:
      10 change orders and addenda for sewage treatment plant projects.
2. Three (3) industrial waste treatment plans were reviewed:
   a. Provisional approval was given to:
      3 miscellaneous projects
      1) Publishers Paper Company, Tillamook
         (waste water control facility improvements)
      2) R-D Mac, Inc., La Grande
         (gravel plant waste water treatment system)
      3) Oregon Steel Mills, Rivergate Plant, Portland
         (spill prevention and contingency plan)

Air Quality Control

1. Eight (8) project plans or proposals were reviewed:
   a. Approval was given to:
      2 Parking Space Facilities
      1) North Pacific Lumber Co., Multnomah County
         (60-space parking facility)
      2) General Telephone Company, Washington County
         (90-space parking facility)

2 Miscellaneous Projects
1) Publishers Paper Company, Tillamook County
(installation of hog-fuel boiler blow-off noise control)
2) Georgia-Pacific Corporation, Lincoln County
(installation of two smelt dissolving tank scrubbers)

b. Conditional approval was given to:
1 Parking Space Facility
1) Halsey Street Office Bldg. and Restaurant, Multnomah County
(153-space parking facility)

c. Additional information was requested from:
3 Parking Space Facilities
1) Liberty House/Jantzen Beach
(214-space parking facility)
2) Oregon Steel Mills, Multnomah County
(74-space parking facility)
3) Tektronix, Inc., Washington County
(170-space and 590-space parking facilities)

Solid Waste Disposal

1. Five (5) project plans were reviewed:
a. Approval was given to:
2 Miscellaneous Projects
1) West Delta Park, Multnomah County
(new demolition landfill, Operational Plan)
2) Weyerhaeuser-Bly, Klamath County
(new wood site, Operational Plan)

b. Conditional approval was given to:
3 Miscellaneous Projects
1) Grants Pass Sanitary Landfill, Josephine County
(existing garbage site leachate, Control Plan)
2) Woodburn Landfill, Marion County
(existing garbage site, Operational Plan)
3) Edward Hines Lumber, Harney County
(existing wood waste site, Operational Plan)

Director's Recommendation

It is recommended that the Commission give its confirming approval to staff action on project plans for the month of November.

DIARMUID F. O'SCANNLAIN

attachments

ss: 12/10/73

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

To: Environmental Quality Commission

From: Director

Subject: Agenda Item D, December 17, 1973, EQC Meeting

Tax Credit Applications

Attached are review reports on ten (10) Tax Credit Applications. These applications and the recommendations of the Director are summarized on the attached table.

DIARMUID F. O'SCANNLAIN

WEG:ahe

December 10, 1973

Attachment

1. Tax Credit Application Review Reports and Synopsis

TAX CREDIT APPLICATIONS

Applicant	Appl. No.	Facility	Claimed Cost	% Allocable to Pollution Control	Director's Recommendation
Weyerhaeuser Company Raw Materials	T-479	Self-propelled barge	$ 55,673	80% or more	Issue
Barker Manufacturing Co.	T-491	Suspension-fired sanderdust incineration cell	44,094.63	80% or more	Issue
Woolley Enterprises, Inc. Smith River Lumber Co.	T-492	Wood-waste residue installation	93,111	80% or more	Issue
Woolley Enterprises, Inc. Smith River Lumber Co.	T-493	Sawdust collection, transfer & storage system	20,499	80% or more	Issue
Georgia-Pacific Corp. Eugene/Springfield Div.	T-499	Wigwam waste burner modification	24,289.71	80% or more	Issue
Georgia-Pacific Corp. Eugene/Springfield Div.	T-500	Wigwam waste burner modification	47,216.53	80% or more	Issue
Woolley Enterprises, Inc. Mt. Baldy Mill	T-501	Wood-waste residue installation	122,557	80% or more	Issue
Woolley Enterprises, Inc. Drain Plywood Company	T-502	"Lily pad" chipper system	54,268	80% or more	Issue
Woolley Enterprises, Inc. Drain Plywood Company	T-503	Wood-waste residue installation	207,321	80% or more	Issue
Woolley Enterprises, Inc. Smith River Lumber Co.	T-504	Wigwam waste burner modification	67,013	80% or more	Issue

December 17, 1973 TOTALS

	2,439,077.75
Air Quality	~~$680,369.87~~
Water Quality	55,673
	~~$736,042.87~~
	2,494,750.75

Calendar Year TOTALS

	12,691,053.20
Air Quality	~~$10,932,345.32~~
Water Quality	13,218,123.82
	~~$24,150,469.14~~
	25,909,177.02

Date 11-26-73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

T-479

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1. Applicant

Weyerhaeuser Company
Raw Materials
P.O. Box 389
North Bend, Oregon 97459

The applicant utilizes the Coos and Millacoma Rivers for log storage and for transport of logs from Weyerhaeuser Company's log dumps at Dellwood and Allegany to their wood manufacturing complex at North Bend in Coos County.

2. Description of Claimed Facility

The claimed facility is a 46.5 foot self-propelled barge with machinery and equipment which allows the craft to sweep the rivers and bay for floating bark, wood debris and stray logs.

The claimed facility (The barge) was placed in operation January 15, 1973.

Certification is claimed under the 1969 Act with 100% allocated to pollution control.

Facility cost: $55,673 (Accountant's certification was submitted).

3. Evaluation of Application

Prior to the construction and implementation of the claimed facility, wood debris and stray logs lost in the company's log handling activities would remain in the river affecting water quality in the two rivers and the bay and creating undesirable, aesthetic problems. With the claimed facility, the company is able to periodically sweep the rivers and bays to remove the floating debris.

The main problem faced by this operation is finding a suitable means for disposing of the reclaimed debris. Investigation reveals the facility is well constructed and maintained. Since the device is the first of its kind, however, the company is continually modifying the craft to improve its abilities.

It is concluded that this facility was acquired and is used for pollution control. It should be noted that the degree of debris control achieved with the claimed facility is not sufficient to fully solve the wood debris problem. However, additional improvements will require time to implement.

Therefore, the claimed facility is considered to be an interim control facility.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $55,673 with 80% or more of the cost allocated to pollution control be issued for the facilities claimed in Tax Application No. T-479.

R. J. Nichols
ak

Appl T-491

Date 10/29/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Barker Manufacturing Company
1100 N. E. 28th
Portland, OR 97232

The applicant operates a furniture manufacturing plant in Portland, Oregon.

2. Description of Claimed Facility

The claimed facility is described as a suspension-fired sanderdust incineration cell installed in the front wall of an existing steam generating boiler. It is used to incinerate wood-waste dust generated during the manufacturing process and consists of the following items:

1. Refractory-lined cyclone combustion tube.
2. High-pressure pneumatic conveyor.
3. Fine-dust storage silo.
4. Variable-speed silo unloading system.
5. Wood-dust shredder.

The facility was completed and placed in operation in August, 1968.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $44,094.63 (Accountant's certification was provided).

3. Evaluation of Application

This system was installed for the purpose of improving the combustion conditions for the incineration of the fine wood dust. Suspension of the wood dust particles in the combustion air above the fire zone results in increased combustion efficiency and decreases the particulate emissions. According to the applicant, the previous practice of mixing the wood dust with larger wood wastes created a significant visible emission problem when this mixture was incinerated.

The subject facility was under the jurisdiction of the Columbia Willamette Air Pollution Authority (CWAPA) until July 1, 1973, and is now under the jurisdiction of the Northwest Regional Office of the Department of Environmental Quality. The Northwest Office reports that the subject facility was not required by CWAPA nor were the plans and specifications reviewed prior to construction. The Northwest Office did inspect the facility, however, and reports that it appears to be achieving its intended purpose of providing an improved wood combustion incineration system in order to comply with emission limitation regulations.

It is concluded that this installation does operate satisfactorily and did reduce air pollution because of more efficient incineration of the wood waste dusts. The facility was constructed solely for the purpose of meeting air emission standards and will not result in any monetary return to the company for its investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $44,094.63 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-491.

PJJ:sb
10/29/73

Appl T-492

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Smith River Lumber Co. a division of
P. O. Box 578
Drain, Oregon 97435

The applicant operates a sawmill and planing mill in Drain, Douglas County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a wood-waste residue processing, handling, and storage system installed for the purpose of eliminating or curtailing the operation of the company's wigwam waste burners. It consists of the following equipment items:

1. A Jeffrey wood and bark hog, Model No. 56 WB.
2. A thirty (30) unit storage bin.
3. Conveyor and metal detector.
4. Electrical control system.
5. Necessary foundations, structural supports, housing, etc.

The facility was completed in January, 1973, and placed into operation in March, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $93,111.00 (Accountant's certification was provided.)

3. Evaluation of Application

This installation enables the company to collect the mill's wood-waste residues, process them in the hog, and transfer them to the storage bin where they are held for eventual truck shipment to the company's Drain Plywood plant for utilization as boiler fuel.

This installation and the installations described in Tax Relief Application Review Reports T-492, T-493, T-501, T-502, T-503, T-504 were constructed as part of a comprehensive plan, proposed by the company in 1971, to enable the phase-out of four wigwam waste burners at the company's three Douglas County plants (Smith River Lumber, Mt. Baldy Mill, and Drain Plywood). The wood-waste residues formerly sent to the wigwam waste burners would be sold or transported to the company's Drain Plywood plant to be used as fuel for a new hog fuel boiler. This plan was approved by the Environmental Quality Commission on August 13, 1971, and became entirely operational in early 1973. Because more wood-wast residues were generated at the three plants than could be sold or consumed by the hog fuel boiler, it was found necessary to modify the burner at the Smith River Lumber mill and continue its operation to dispose of these excess wood wastes.

This installation does operate satisfactorily and did reduce air pollution by being an instrumental factor in the company's phase-out of three of its Douglas County wigwam waste burners. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $93,111.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-492.

PJJ:kok

Appl T-493

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Smith River Lumber Company
P. O. Box 578
Drain, Oregon 97435

The applicant operates a sawmill and planing mill in Drain, Douglas County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a sawdust collection, transfer, and storage system installed for the purpose of eliminating or curtailing the operation of the company's wigwam waste burners. It consists of the following equipment items:

1. Collection ducts and pneumatic transfer system.
2. A thirty (30) unit storage bin.
3. Necessary fundations and structural supports.

The facility was completed and placed into operation in November, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $20,499.00. (Accountant's certification was provided).

3. Evaluation of Application

This installation enables the company to separate the wet sawdust from the other wood-waste residues at the plant. Wet sawdust does not burn efficiently and causes excessive emissions when disposed of in the company's wigwam waste burner. The sawdust is held in the storage bin and eventually sold.

This installation was constructed as part of a comprehensive company plan (see Tax Relief Application Review Report T-492) which resulted in the phase-out of three of the company's Douglas County wigwam waste burners. The installation was required by the Department of Environmental Quality as specified in Stipulation and Order No. 72-0710033, and the Department reviewed and approved the installation plans and specifications prior to construction.

This installation does operate satisfactorily and did reduce air pollution by enabling the company to sell instead of burn its wet sawdust residues. The company, in accordance with cost data submitted in this application, will not be able to earn any net return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $20,499.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-493.

PJJ:kok

Appl T-499

Date 11-16-73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a green veneer plant at Rogue River, Oregon.

2. Description of Claimed Facility

The facility claimed in this application is described as a modification of a wigwam waste burner and consists of the following:

1. Top Damper
2. Screened Dome
3. Rees Memphis No. 36 jet fire auxiliary burner system
4. Partlow temperature recorder

The claimed facility was completed and put into service in May, 1972.

Certification is claimed under the 1969 act, and the percentage claimed for pollution control is 100%.

Facility Costs: $24,289.71 (cost verification was provided).

3. Evaluation of Application

This facility was installed in accordance with an approved compliance program and approved plans and specifications.

The completed modified wigwam waste burner was demonstrated to the Department as being capable of continuous operation in compliance with OAR, Chapter 340, Section 25-020. and

This modification to the wigwam waste burner has reduced emissions of particulate matter by an estimated 758 tons/year and CO emissions by 1840 tons/year.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certification bearing the cost of $24,289.71 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-499.

DDF:mh

Appl T-500

Date 11/16/73

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a green veneer plant at ~~Rogue River~~ Sutherlin, Oregon.

2. Description of Claimed Facility

The facility claimed in this applciation is described as a modification of a wigwam waste burner and consists of the following:

1. Top damper
2. Under-fire and over-fire air systems
3. Ignition system
4. Temperature recording system
5. Automatic control system.

The claimed facility was completed and put into service in January, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

3. Facility Costs: $47,216.53 (Accountant's cost verification was provided).

3. Evaluation of Application

This facility was installed in accordance with an approved compliance program and approved plans and specifications.

The completed modified wigwam waste burner was demonstrated to the Department as being capable of continuous operation in compliance with OAR, Chapter 340, Section 25-020. and

This modification to the wigwam waste burner has reduced emissions of particulate matter by an estimated 112 tons a year and CO emissions by 270 tons a year.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certification bearing the cost of $47,216.53 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-500.

DDF:kok

Appl T-501

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Mt. Baldy Mill a division of
Yoncalla, Oregon 97499

The applicant operates a sawmill and planing mill in Yoncalla, Douglas County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a wood-waste residue processing, handling, and storage system installed for the purpose of eliminating the company's wigwam waste burners. It consists of the following equipment items:

1. A Jeffrey wood and bark hog, Model No. 56WB.
2. Two thirty (30) unit storage bins.
3. Transfer systems and drive motor.
4. Electrical control system.
5. Necessary foundation, structural supports, housing, etc.

The facility was completed and placed into operation in April, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $122,557.00 (Accountant's certification was provided.)

3. Evaluation of Application

This installation enables the company to separate the sawdust from the other wood-waste residues generated at the sawmill. The sawdust is transferred to a storage bin and eventually sold. The other wood-waste residues are processed in the hog, transferred to the second storage bin and either sold or shipped to the company's Drain Plywood plant for utilization as boiler fuel. Any excess residues are disposed of in the modified wigwam waste burner at the company's Smith River Lumber mill.

This installation was constructed as part of a comprehensive company plan (see Tax Relief Application Review Report T-492) which resulted in the phase-out of three of the company's Douglas County wigwam waste burners. This installation was required by the Department of Environmental Quality as specified in Stipulation and Order No. 72-0710032, and the Department reviewed and approved the installation plans and specifications prior to construction.

The annual income derived from the claimed facility is $1,950.00, while the annual operating expenses are $20,900. The net yearly loss is thus $18,950.

This installation does operate satisfactorily and did reduce air pollution by being an instrumental factor in the company's phase-out of three of its Douglas County wigwam waste burners. The company, in accordance with cost data submitted in this application, will not be able to earn any net return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $122,557.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-501.

PJJ:kok

Appl T-502

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Drain Plywood Company
P. O. Box 578
Drain, Oregon 97435

The applicant operates a plywood plant in Drain, Douglas County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a "lily pad" chipper system installed for the purpose fo eliminating or curtailing the operation of the company's wigwam waste burners. It consists of the following equipment items:

1. An Arasmith Model No. 50 "lily pad" chipper.
2. Feed and discharge ducting.
3. Necessary electrical system, foundation, structural supports, etc.

The facility was completed and placed into operation in January, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $54,268.00 (Accountant's certification was provided.)

3. Evaluation of Application

This installation enables the company to convert the "lily-pad" residues (generated in the plywood manufacturing process) into chip-sized pieces. These chips are either sold or disposed of in the plant's hog fuel boiler.

This installation was constructed as part of a comprehensive company plan (see Tax Relief Application Review Report T-492) which resulted in the phase-out of three of the company's Douglas County wigwam waste burners. The Department of Environmental Quality specified in Stipulation and Order No. 72-0710034 that operation of the wigwam waste burner and all open burning at this plant site be discontinued, thereby necessitating this installation in order to convert the "lily pads" (which were formerly burned) into disposable chips.

The annual income derived from the claimed facility is $12,500.00 while the annual operating expenses are $24,950.00. The net yearly loss is thus $12,450.00.

This installation does operate satisfactorily and did reduce air pollution by being an instrumental factor in the company's phase-out of three of its Douglas County wigwam waste burners. The company, in accordance with cost data submitted in this application, will not be able to earn any net return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $54,268.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-502.

PJJ:kok

Appl T-503

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Drain Plywood Company
P. O. Box 578
Drain, Oregon 97435

The applicant operates a plywood plant in Drain, Douglas County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a wood-waste residue processing, handling, and storage system installed for the purpose of eliminating or curtailing the operation of the company's wigwam waste burners. It consists of the following equipment items:

1. A Jeffrey wood and bark hog, Model No. 56WB.
2. A 159 unit Wellons Posi-flo storage silo.
3. Transfer systems and drive motors.
4. Electrical control system.
5. Necessary foundations, structural supports, housing, etc.

The facility was completed in October, 1972, and placed into operation in November, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $207,321.00 (Accountant's certification was provided.)

3. Evaluation of Application

This installation enables the company to collect the plant's wood-waste residues, process them in the hog, and transfer them to the storage silo, which is also used to store the processed wood residues from the company's other two Douglas County plants. From this silo the wood residues are metered as fuel to the hog fuel boiler.

This installation was constructed as part of a comprehensive company plan (see Tax Relief Application Review Report T-492) which resulted in the phase-out of three of the company's Douglas County wigwam waste burners. The Department of Environmental Quality specified in Stipulation and Order No. 72-0710034 that operation of the wigwam waste burner and all open burning at this plant site be discontinued, thereby necessitating this installation to prepare and store hog fuel.

This installation does operate satisfactorily and did reduce air pollution by being an instrumental factor in the company's phase-out of three of its Douglas County wigwam waste burners. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the costs of $207,321.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-503.

PJJ:kok

Appl T-504

Date December 4, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Woolley Enterprises, Incorporated
Smith River Lumber Co.
P. O. Box 578
Drain, Oregon 97435

The applicant operates a sawmill and planning mill at Drain, Douglas County, Oregon.

2. Description of Claimed Facility

The facility claimed in this application is described as a wigwam waste burner modification and feed system and consists of the following:

1. Top damper.
2. Under-fire and over-fire air systems.
3. Ignition system.
4. Temperature recording system.
5. Automatic control system.
6. Reclaim and feed conveyors.

The facility was completed in March, 1973, and placed into operation in April, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $67,013.00 (Accountant's cost certification was provided.)

3. Evaluation of Application

This facility was installed in accordance with a compliance program approved by the Department of Environmental Quality (see Tax Relief Application Review Report T-492). The Department reviewed and approved the installation plans and specifications prior to construction.

The modified wigwam waste burner was demonstrated to the Department as being capable of operating in continuous compliance with OAR, Chapter 340, Section 25-020.

This facility did reduce emissions of particulate matter by an estimated 111 tons a year and CO emissions by an estimated 270 tons a year.

It is concluded that this facility does operate in a satisfactory manner and has reduced emissions of particulate matter and CO by an estimated 381 tons a year.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $67,013.00 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-504.

PJJ:kok

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

To : Environmental Quality Commission

From : Director

Subject: Supplement to Agenda Item No. D, December 17, 1973 EQC Meeting

Tax Credit Applications

Attached are review reports on nineteen (19) additional Tax Credit Applications. These applications and the recommendations of the Director are summarized on the attached table.

for DIARMUID F. O'SCANNLAIN

kok

December 14, 1973

attachments

TAX CREDIT APPLICATIONS

Applicant	Appl. No.	Facility	Claimed Cost	% Allocable to Pollution Control	Director's Recommendation
Georgia-Pacific Corp. Eugene/Springfield Div.	T-494	Sawdust and sanderdust control system	$ 36,912.45	80% or more	Issue
Georgia-Pacific Corp. Eugene/Springfield Div.	T-495	Sanderdust control system	23,002.79	80% or more	Issue
Georgia-Pacific Corp. Eugene/Springfield Div.	T-497	Sawdust and sanderdust control system	46,976.20	80% or more	Issue
Mazama Timber Products, Inc.	T-505	Wood-waste residue system (wigwam waste burner phaseout)	70,711.97	80% or more	Issue
Georgia-Pacific Corp. Eugene/Springfield Div.	T-506	Sawdust and sanderdust suspension incinerator	71,260.72	80% or more	Issue
Georgia-Pacific Corp. Coos Bay Div.	T-507	Sawdust and sanderdust control system	106,648.19	80% or more	Issue
Georgia-Pacific Corp. Coos Bay Div.	T-508	Sanderdust control system	63,559.98	80% or more	Issue
Georgia-Pacific Corp. Toledo Div.	T-510	Revision of Lime kiln system to burn noncondensibles	33,500.00	80% or more	Issue
Georgia-Pacific Corp. Toledo Div.	T-511	non-condensible gas collection system	96,368.00	80% or more	Issue
Bohemia, Inc. Cascade Fiber Div.	T-512	Mechanical Conveyors	70,288.37	80% or more	Issue
Bohemia, Inc. Cascade Fiber Div.	T-513	Baghouses in Bldgs #2 & #3	40,854.15	80% or more	Issue
Bohemia, Inc. Cascade Fiber Div.	T-514	Sanderdust control system	19,333.98	80% or more	Issue
Bohemia, Inc. Culp Creek Div.	T-515	Wood-waste residue bulk storage silo and reclaim system	164,533.74	80% or more	Issue

TAX CREDIT APPLICATIONS

Applicant	Appl. No.	Facility	Claimed Cost	% Allocable to Pollution Control	Director's Recommendatio
Bohemia, Inc. Culp Creek Div.	T-516	Wood-waste residue system (wigwam waste burner phaseout)	$133,258.42	80% or more	Issue
Bohemia, Inc. Culp Creek Div.	T-517	Sawdust and sanderdust control system	94,125.00	80% or more	Issue
The Hervin Company Tualatin, Oregon	T-519	Odor emission control system	12,236.00	80% or more	Issue
Union Carbide Corp. Ferroalloys Div.	T-488	Fume control system for furnace No. 1	138.220.00	80% or more	Issue
Union Carbide Corp. Ferroalloys Div.	T-489	Fume control system for furnace No. 3 & Nol 4	518,526.00	100%	Issue
Georgia-Pacific Corp. Coos Bay Div.	T-509	Wood-waste residue system (wigwam waste burner phaseout)	18,391.92	80% or more	Issue

1,758,707.88

Appl T-494

Date December 12, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a decorative wall paneling plant on Irving Road in Eugene, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sawdust and sanderdust particles to the atmosphere and is described to consist of the following:

1. One (1) Carborundum Model 360 M10 baghouse filter unit.
2. One (1) Carborundum Model 60 M10 baghouse filter unit.
3. Collection and handling ducts.
4. Necessary fans, motors and electrical controls.

The facility was completed and placed in operation in December, 1971.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $36,912.45 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carborundum filter units. The plant manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size, and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carborundum baghouse filters can be expected to have collection efficiencies of 99+% and therefore greatly reduce particulate emissions.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected and tested the completed facility and has confirmed that the installation does operate as planned and does reduce emissions of sawdust and sanderdust particulates to the atmosphere.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $36,912.45 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-494.

PJJ:kok

Appl T-495

Date December 12, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a plywood plant in Springfield, Lane County, Oregon

2. Description of Facility

The facility claimed in the application controls the emission of sanderdust particles to the atmosphere and is described to consist of the following:

1. A Carter-Day 72 RJ 60 baghouse filter unit.
2. Sanderdust collection and handling ducts.
3. Necessary foundations, fans, motors and electrical controls.

The facility was completed and placed in operation in December, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $23,002.79 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carter-Day filter unit. The plywood plant manufacturing processes create considerable quantities of sanderdust of very small particle size, and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filter can be expected to have a collection efficiency of 99+% and therefore greatly reduce particulate emissions.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected and tested the completed facility and has confirmed that the installation does operate as planned and does reduce emissions of sanderdust particulates to the atmosphere.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $23,002.79 with 80% or more of the costs allcoated to pollution control be issued for the facility claimed in Tax Application T-495.

PJJ:kok

Appl T-497

Date December 12, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a plywood plant on Prairie Road, in Eugene, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sawdust and sanderdust particles to the atmosphere and is described to consist of the following:

1. A Carter-Day 144 RJ 72 baghouse filter unit.
2. A 30-unit Peerless storage bin.
3. Collection and handling ducts.
4. Necessary foundations, fans, motors and electrical controls.

The facility was completed and placed in operation in June, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $46,976.20 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carter-Day filter unit. The plywood plant manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size, and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filter can be expected to have a collection efficiency of 99+% and therefore greatly reduce particulate emissions.

The collected particulates are sent to the Peerless storage bin and eventually destroyed in a high-temperature burner (see Tax Credit Application Review Report T-506).

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected and tested the completed facility and has confirmed that the installation does operate as planned and does reduce emissions of sawdust and sanderdust particulates to the atmosphere.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $46,476.20 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-497.

PJJ:kok

Appl T-505

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Mazama Timber Products, Incorporated
33662 E. Park Drive
Creswell, Oregon 97426

The applicant operates a veneer plant at Creswell, Lane County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a wood-waste residue processing, handling, and storage system installed for the purpose of eliminating the operation of the plant's wigwam waste burner. It consists of the following equipment items:

1. An Apache hammer-head hog.
2. A hog fuel storage bin.
3. Conveyors and associated drive systems.
4. Electrical control system and panel.
5. Necessary foundations, structural supports, housing, etc.

The facility was completed in December, 1971, and placed into operation in January, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $70,711.97 (Accountant's certification was provided).

3. Evaluation of Application

This installation enables the company to collect the mill's wood-waste residues, process them in the shredding equipment and convey them to the storage bin where they are held for eventual shipment and utilization as hogged fuel.

The facility was installed with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected the completed facility and has confirmed that the installation does operate as planned and has resulted in the phase-out of the plant's wigwam waste burner.

It is concluded that this installation does operate satisfactorily and did reduce air pollution by enabling the company to phase-out all operation of the wigwam waste burner. The company, in accordance with cost data submitted in this application, will not be able to earn a return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $70,711.97 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-505.

PJJ:kok

Appl T-506

Date December 12, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Eugene/Springfield Division
P. O. Box 789
Eugene, Oregon 97401

The applicant operates a plywood plant on Prairie Road in Eugene, Lane County Oregon.

2. Description of Facility

The claimed facility is a sawdust and sanderdust suspension-fired incinerator and consists of the following items:

1. A Wasteco CF 1500 furnace and firing tube.
2. A 400-cubic foot metering feed bin.
3. High-pressure pneumatic feed conveyor.
4. Necessary foundations, fans, motors, and electrical controls.

The facility was completed in September, 1972, and placed into operation in December, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $71,260.72 (Accountant's certification was provided).

3. Evaluation of Application

This facility is utilized to incinerate the small particle size sawdust and sanderdust wood residues which are generated in the manufacture of plywood. Suspension of these wood dust particles in the combustion air above the fire zone results in increased combustion efficiency and decreased particulate emissions. These residues were formerly disposed of in either a wigwam waste burner or a sanitary land fill, both of which are now inoperative.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected this installation and reports that the incinerator emissions comply with the Authority's opacity standards, but tests have not vet been conducted to determine compliance with the applicable grain-loading regulations.

It is concluded that this installation does operate satisfactorily and did reduce air pollution by being an instrumental factor in the phase-out of the plant's wigwam waste burner. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $71,260.72 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-506.

PJJ:kok

T-307

Date December 10, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Georgia-Pacific Corporation
Coos Bay Division
P. O. Box 869
Coos Bay, Oregon 97420

The applicant operates a hardboard manufacturing plant in Coos Bay, Coos County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sawdust and sanderdust to the atmosphere and is described to consist of the following:

1. Two (2) Carter-Day Model 144RJ72 baghouse filter units.
2. One (1) Carter-Day Model 144RJ96 baghouse filter unit.
3. Collection and handling ducts.
4. Necessary foundations, fans, motors and electrical controls.

The facility was completed in June, 1972 and placed in operation in August, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $106,648.19 (Accountant's certification was provided).

3. Evaluation of Application

The company was required to reduce the particulate emissions from the hardboard plant in order to attain compliance with OAR, Chapter 340, Section 25-325 (2). The Department reviewed and approved plans and specifications for this installation.

This installation enabled the company to remove five (5) cyclones and replace them with the Carter-Day filter units. The hardboard plant manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size, and the previously existing cyclones were not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filters can be expected to have collection efficiencies of 99+% and therefore greatly reduce particulate emissions.

This installation decreased particulate emissions to the atmosphere by about 35 lb/hr. or 147 tons a year.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $106,648.19 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-507.

PJJ:kok

Appl 1-308

Date December 10, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Coos Bay Division
P. O. Box 869
Coos Day, Oregon 97420

The applicant operates a plywood plant in Coos Bay, Coos County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sanderdust to the atmosphere and is described to consist of the following:

1. Two (2) Carter-Day 144 RJ 96 baghouse filter units.
2. Sanderdust collection and handling ducts.
3. Necessary foundations, fans, motors and electrical controls.

The facility was completed and placed in operation in September, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $63,559.98 (Accountant's certification was provided).

3. Evaluation of Application

The company was required to reduce the particulate emissions from the plywood plant in order to attain compliance with OAR, Chapter 340, Section 25-315 (2). The Department reviewed and approved plans and specifications for this installation

This installation enabled the company to remove four (4) cyclones and replace them with the Carter-Day filter units. The plywood plant manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size, and the previously existing cyclones were not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filters can be expected to have collection efficiencies of 99+% and therefore greatly reduce particulate emissions.

This installation decreased particulate emissions to the atmosphere by about 77 lb/hr. or 240 tons a year.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $63,559.98 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-508.

PJJ:kok

Appl T-510

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Georgia-Pacific Corporation
Toledo Division
P. O. Box 580
Toledo, Oregon 97321

The applicant owns and operates an unbleached Kraft pulp and paper mill in Toledo, Oregon.

2. Description of Facility

The claimed facility is described as those modifications to the lime kilns which were necessary for incinerating non-condensible , odorous gases from the digester blow heat system, the turpentine system,and the evaporator sump tanks.

Facility Cost: $33,500.00 (Accountant's certification was provided).

The remaining portion of the non-condensible incineration system is on Tax Relief Application No. T-511.

The facility was placed in operation in January, 1971. Certification is claimed under the 1969 Act. The percentage claimed is 100%.

3. Evaluation of Application

This facility was installed in response to the 1969 Kraft Mill Emission Regulation which required the collection and treatment of non-condensible gases from digesters and multiple-effect evaporators by incineration in a lime Kiln or equivalent treatment. The Department reviewed and approved plans and specifications for this installation.

This facility is currently operating satisfactorily. There is no economic return from this installation. It is concluded that the installation was installed solely for pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $33,500.00 be issued for the facility claimed in Tax Application T-510 with more than 80% allocated to pollution control.

CRC:kok

Appl T-511

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Georgia-Pacific Corporation
Toledo Division
P. O. Box 580
Toledo, Oregon 97321

The applicant owns and operates an unbleached Kraft pulp and paper mill in Toledo, Oregon.

2. Description of Facility

The facility is described to be a system for collecting and ducting to the lime kilns the non-condensible, odorous gases from the digester blow heat system, the terpentine system and the evaporator sump tanks for thermal incineration, but not including equipment associated with the lime kilns.

Facility Cost: $96,368.00 (Accountant's certificate was provided).

The remaining portion of the non-condensible incineration system is contained in Tax Relief Application No. T-510.

The facility was placed in operation in January, 1971. Certification is claimed under the 1969 Act. The percentage claimed is 100%.

3. Evaluation of Application

This facility was installed in response to the 1969 Kraft Mill Emission Regulation which required the collection and treatment of non-condensible gases from digesters and multiple-effect evaporators by incineration in a lime kiln or equivalent treatment. The Department reviewed and approved plans and specifications for this installation.

This facility is currently operating satisfactorily. There is no economic return from this installation.

It is concluded that the installation was installed solely for pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $96,368.00 be issued for the facility claimed in Tax Application T-511 with more than 80% allocated to pollution control.

CRC:kok

Appl T-512

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Bohemia, Incorporated
Cascade Fiber Division
P. O. Box 1819
Eugene, Oregon 97401

The applicant operates a particleboard plant in Eugene, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application is a wood-residue mechanical conveying system installed for the purpose of replacing a pneumatic transfer system. It consists of the following equipment items:

1. Five (5) screw conveyors and drive systems.
2. Six (6) belt conveyors and drive systems.
3. One (1) bucket elevator.
4. Screeners and blenders.
5. Necessary foundations, structural supports, motors and electrical control systems.

The facility was completed and placed into operation in December, 1971.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $70,288.37 (Accountant's certification was provided).

3. Evaluation of Application

Prior to the installation of this facility, wood-waste residues utilized to produce particleboard were transferred through the plant by a pneumatic-type system, including several cyclones. The pneumatic system resulted in air emissions in excess of regulatory standards. In order to bring these emissions into compliance, the company opted to phase-out the pneumatic system and install a mechanical system and thus eliminate all air emission points.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected the completed facility and has confirmed that the installation does operate as planned and does reduce particulate emissions to the atmosphere.

This installation reduced particulate emissions to the atmosphere by an estimated 20 lb/hr or 84 tons/year.

It is concluded that this facility does operate satisfactorily and does reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn a return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $70,288.37 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-512.

PJJ;kok

Appl T-513

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Bohemia, Incorporated
Cascade Fiber Division
P. O. Box 1819
Eugene, Oregon 97401

The applicant operates a particleboard plant in Eugene, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sawdust and sanderdust particles to the atmosphere and is described to consist of the following:

1. Two (2) Carter-Day 72 RJ 96 baghouse filter units.
2. Collection and handling ducts.
3. Necessary foundations, structural supports, blowers, motors and electrical controls.

The facility was completed and placed in operation in January, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $40,854.15 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carter-Day filter units. The particleboard manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size , and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filters can be expected to have collection efficiencies of 99+% and therefore greatly reduce particulate emissions.

This installation decreased particulate emissions to the atmosphere by about 41 lb/hr or 180 tons/year.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected and tested the completed facility and has confirmed that the installation does operate as planned and does reduce emissions of sawdust and sanderdust particulates to the atmosphere.

It is concluded that this facility does operate satisfactorily and does reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $40,854.15 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-513.

PJJ:kok

Appl T-514

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Bohemia, Incorporated
Cascade Fiber Division
P. O. Box 1819
Eugene, Oregon 97401

The applicant operates a particleboard plant in Eugene, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sanderdust particles to the atmosphere and is described to consist of the following:

1. A Carter-Day 144 RJ 72 baghouse filter unit.
2. Collection and handling ducts.
3. Necessary foundations, structural supports, blowers, motors and electrical controls.

The facility was completed and placed in operation in February, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $19,333.98 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carter-Day filter unit. The particleboard manufacturing processes create considerable quantities of sanderdust of very small particle size, and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filter can be expected to have a collection efficiency of 99+% and therefore greatly reduce particulate emissions.

This installation decreased particulate emissions to the atmosphere by about 5 lb/hr or 10 tons/year.

It is concluded that this facility does operate satisfactorily and does reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $19,333.98 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-514.

PJJ:kok

Appl T-515

Date December 12, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Bohemia Incorporated
Culp Creek Division
P. O. Box 1819
Eugene, Oregon 97401

The applicant operates a sawmill and plywood plant in Culp Creek, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application is described to be a wood-waste residue bulk storage silo and reclaim system. It consists of the following items:

1. One 300-unit Atlas wood-residue storage silo.
2. In-feed belt conveyor and drive system.
2. Reclaim drag-chain conveyor and drive system.
4. Necessary foundation, electrical control panel, etc.

The facility was completed and placed into operation in November, 1972.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $164,533.74 (Accountant's certification was provided).

3. Evaluation of Application

Prior to the installation of this facility the plant's wood-waste residues were stored in an outdoor, unenclosed pile before being sent to the plant's hog fuel boiler. This open storage resulted in inefficient boiler operation and excessive stack emissions because the wood fuel became water soaked and also because a good fuel mixture could not be obtained. In addition, the open storage caused excessive airborne emissions during windy periods. This facility enabled a dry, well-controlled fuel mixtrue to be fed to the boiler resulting in substantially decreased boiler emissions. It also resulted in increased storage capacity for the plant's wood-waste residues and was thus an instrumental factor in the phase-out of the plant's wigwam waste burner.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected the completed facility and reports that it was constructed in accordance with the approved plans and is achieving its intended purpose. A recent stack test conducted on the hog fuel boiler indicates that this boiler is now operating in compliance with all emission regulations.

It is concluded that this facility does operate satisfactorily and did reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn a return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $164,533.74 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-515.

PJJ:kok

Appl T-516

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Bohemia, Incorporated
Culp Creek Division
P. O. Box 1819
Eugene, Oregon 97401

The applicant operates a sawmill and plywood plant in Culp Creek, Lane County, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a wood-waste residue processing, handling, and storage system installed for the purpose of eliminating the operation of the plant's wigwam waste burner. It consists of the following equipment items:

1. A Jeffrey, Model 56 WB, swing hammer shredder (hog).
2. Three (3) 20-unit Peerless hog fuel storage bins.
3. Two (2) conveyors and associated drive systems.
4. Electrical control system and panel.
5. Necessary foundations, structural supports, housing, etc.

The facility was completed and placed into operation in January, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $133,258.42 (Accountant's certification was provided).

3. Evaluation of Application

This installation enables the company to collect the mill's wood-waste residues, process them in the shredding equipment and convey them to the storage binswhere they are held for eventual utilization as hogged fuel.

The facility was installed with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected the completed facility and has confirmed that the installation does operate as planned and has resulted in the phase-out of the plant's wigwam waste burner.

It is concluded that this installation does operate satisfactorily and did reduce air pollution by enabling the company to phase-out all operation of the wigwam waste burner. The company, in accordance with cost data submitted in this application, will not be able to earn a return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $133,258.42 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-516.

PJJ:kok

Appl T-517

Date December 13, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

Bohemia, Incorporated
Culp Creek Division
P. O . Box 1819
Eugene, Oregon 97401

The applicant operates a sawmill and plywood plant in Culp Creek, Lane County, Oregon.

2. Description of Facility

The facility claimed in the application controls the emission of sawdust and sanderdust particles to the atmosphere and is described to consist of the following:

1. Two (2) Carter-Day 144 RJ 96 baghouse filter units.
2. One (1) Carter-Day 24 RJ 48 baghouse filter unit.
3. Collection and handling ducts.
4. Necessary foundations, structural supports, blowers, and electrical controls.

The facility was completed and placed in operation in January, 1973.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility Costs: $94,125.00 (Accountant's certification was provided).

3. Evaluation of Application

This installation enabled the company to replace a cyclone collection system with the Carter-Day filter units. The plywood plant manufacturing processes create considerable quantities of sawdust and sanderdust of very small particle size, and the previously existing cyclone system was not very effective in controlling these particulate emissions to the atmosphere. The Carter-Day baghouse filters can be expected to have collection efficiencies of 99+% and therefore greatly reduce particulate emissions.

The collected particulates are sent to a storage silo and eventually utilized for boiler fuel.

This facility was installed in accordance with plans and specifications approved by the Lane Regional Air Pollution Authority. The Authority has inspected and tested the completed facility and has confirmed that the installation does operate as planned and does reduce emissions of sawdust and sanderdust particulates to the atmosphere.

It is concluded that this facility does operate satisfactorily and does reduce particulate emissions to the atmosphere. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $94,125.00 with 80% or more of the costs allocated to pollution control be issued for the facility claimed in Tax Application T-517.

PJJ:kok

Appl T-519

Date December 14, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

---

1. Applicant

The Hervin Company
P. O. Box 168
Tualatin, Oregon 97062

The applicant operates a pet food manufacturing facility at Tualatin, Oregon.

2. Description of Claimed Facility

The facility claimed in this application is described as an odor emission control system for the pet food baking ovens and consists of the following:

1. Turco fume incinerator-Drawing No. ORE-273.
2. American Sheet Metal #407 blower.
3. Necessary ducts, supports, electrical controls, etc.

The claimed facility was completed and put into service in July, 1972.

Certification must be made under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $12,236.00 (Accountant's certification was provided.)

3. Evaluation of Application

This facility was installed to control odor emissions to the atmosphere from the pet food baking ovens. The former Columbia Willamette Air Pollution Control Authority approved the program, and the plans and specifications for this installation. The Authority has inspected the completed installation and has determined that it does satisfactorily control odor from the baking ovens.

It is concluded that the facility was installed solely for pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $12,236.00 be issued for the facility claimed in Tax Application No. T-519 with more than 80% allocated to pollution control.

CRC:kok

Appl T-488

Date December 14, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Union Carbide Corporation
Ferroalloys Division
270 Park Avenue
New York, New York 10017

The applicant owns and operates a calcium carbide and ferroalloys production facility at 11920 North Burgard Road, Portland, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a fume control system on the tap hole of No. 1 Furnace consisting of a hood, ductwork, fan, baghouse and associated platforms and instrumentation.

The claimed facility was completed and put into service in May, 1970.

Certification is claimed under the 1969 Act with the percentage allocable to pollution control equalling 100%.

Facility cost: $138,220.00 (Accountant's cost certification was provided).

3. Evaluation of Application

The claimed facility was installed in accordance with a program and plans which were reviewed and approved by the Columbia-Willamette Air Pollution Authority. The claimed facility operates in compliance with applicable air quality regulations.

A portion of this system, the fan, was an existing piece of equipment which was relocated. No capital cost is claimed for the fan.

The material collected by the claimed facility does not provide any economic return.

It is concluded that this facility was installed and is operated to control air pollution and that 100% of its cost is allocable to pollution control.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $138,220.00, with 80% or more allocable to pollution control, be issued for the facility claimed in Tax Application T-488.

FAS:kok

Appl T-489

Date December 14, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Union Carbide Corporation
Ferroalloys Division
270 Park Avenue
New York, New York 10017

The applicant owns and operates a calcium carbide and ferroalloys production facility at 11920 North Burgard Road, Portland, Oregon.

2. Description of Claimed Facility

The claimed facility is described to be a fume control system for Furnace No. 3 and the tap holes on both Furnace No. 3 and Furnace No. 4. The facility consists of hoods, ducts, three fans, a six compartment baghouse, and associated power supply, dust removal, supports and instrumentation.

The facility was completed and put into service in July, 1969.

Certification is claimed under the 1967 Act. (Information provided in the application indicates that the facility is eligible for certification under the 1967 Act).

Facility Cost: $518,526.00 (Accountant's cost certification was provided).

3. Evaluation of Application

The claimed facility was installed in accordance with a program and plans which were reviewed and approved by the Columbia-Willamette Air Pollution Authority. The claimed facility operates in compliance with applicable air quality regulations.

The material collected which is slurried and disposed of at the plant site does not yield an economic return.

It is concluded that the principal purpose for installing and operating the claimed facility is to control air pollution.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $518,526.00, be issued for the facility claimed in Tax Application T-489.

FAS:kok

Appl T-509

Date December 10, 1973

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

TAX RELIEF APPLICATION REVIEW REPORT

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1. Applicant

Georgia-Pacific Corporation
Coos Bay Division
P. O. Box 869
Coos Bay, Oregon 97420

The applicant operates a plywood manufacturing plant in Coquille, Coos County, Oregon.

2. Description of Claimed Facility

The claimed facility is a wood waste residue processing system installed for the purpose of eliminating the operation of the plant's wigwam waste burner. It consists of the following equipment items:

1. A 28-knife, 36" Penninsela hog.
2. Hopper infeed chute.
3. Outfeed conveyor.
4. Necessary foundations, structural supports, housing, etc.

The facility was completed and placed into operation in August, 1971.

Certification is claimed under the 1969 Act and the percentage claimed for pollution control is 100%.

Facility costs: $18,391.92

3. Evaluation of Application

This installation enables the company to collect the plant's wood-waste residues, process them in the Knife hog, and transfer them to a storage bin where they are held for eventual utilization as hogged fuel.

This installation was constructed in order to phase-out operation of the plant's wigwam waste burner. The Department reviewed and approved this burner phase-out plan prior to construction.

It is concluded that this installation does operate satisfactorily and did reduce air pollution by enabling the company to phase-out all operation of the wigwam waste burner. The company, in accordance with cost data submitted in this application, will not be able to earn any return on this investment.

4. Director's Recommendation

It is recommended that a Pollution Control Facility Certificate bearing the cost of $18,391.92 with 80% or more of the cost allocated to pollution control be issued for the facility claimed in Tax Application T-509.

PJJ:kok

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To : Environmental Quality Commission

From : Director

Subject : Agenda Item No. E, December 17, 1973 EQC Meeting
Authorization for Public Hearing to Adopt Criteria for Certification of Motor Vehicle Pollution Control Systems.

Background

The 1971 Oregon Legislative assembly enacted a series of laws which established requirements for a motor vehicle emission control inspection program. This legislation does not set detailed requirements upon program criteria and standards, but rather authorizes and directs the commission to establish these specific requirements. Detail changes to this series of laws were enacted during the last Legislative Assembly by means of Senate Bill 77. Additional changes are being sought.

Basically, legislation currently requires that vehicles registered in counties designated by the commission must obtain a completed Certificate of Compliance prior to registration renewal. The commission has, under provision of ORS 481.190, designated the counties of Clackamas, Multnomah, and Washington. Amongst vehicles exempt from this registration requirement are those for which a certified system has not been designated. The commission is directed by ORS 449.953 to issue Certificates of Approval for classes of motor vehicle pollution control systems which meet the criteria adopted by the commission. The commission is also to designate those classifications of motor vehicles for which certified systems are available.

Oregon revised statute 449.949 (4) reads as follows: " 'Motor vehicle pollution control system' means equipment designed for installation on a motor vehicle for the purpose of reducing the pollutants emitted from the vehicle, or a system or engine adjustment or modification which causes a reduction of pollutants emitted from the vehicle, ~~or a system or engine adjustment or modification which causes a reduction of pollutants emitted from the vehicle.~~"

Oregon's transportation control strategy, as submitted by Governor McCall, has been approved by the Environmental Protection Agency. Included as part of this control plan is a vehicle emission control program based upon inspection and emission maintenance of motor vehicles. A retrofit requirement, that is, a requirement for addition of pollution control equipment to motor vehicles, is included in the control plan for initiation during 1975 if it is determined that the inspection/maintenance program is not achieving projected results.

Discussion

There appears to be considerable public interest in the question of retroffiting pollution control equipment to older cars. The vehicle emission control program approved by the commission, submitted to Environmental Protection Agency by the Governor, and approved by EPA, does not necessitate retrofit unless the inspection/maintenance program is unable to achieve projected results.

It is proposed that the commission initially adopt criteria which would preclude approval of retrofit devices as certified systems. Commission action on additional proposed criteria, and for designations of motor vehicle classes, will be sought during the first quarter of 1974. If it is determined that a retrofit program is required to comply with the requirements of the Implementation Plan, then commission action will be sought during 1975.

The Department has prepared proposed initial criteria for certification of motor vehicle pollution control systems under provisions of ORS 449.953 (1).

Recommendation

It is the Director's recommendation that public testimony be heard concerning this proposed initial criteria for certification of motor vehicle pollution control systems at a public hearing in Portland on January 28, 1974, and that appropriate action be taken on this proposal after giving consideration to the testimony received.

DIARMUID F. O'SCANNLAIN
Director

RCH:pf
12/10/73

PROPOSED CRITERIA FOR CERTIFICATION OF

MOTOR VEHICLE POLLUTION CONTROL SYSTEMS

Pursuant to the requirements of ORS 449.953(1), the following criteria are hereby adopted by the Environmental Quality Commission for certification of motor vehicle pollution control systems as defined by ORS 449.949.

1. A motor vehicle pollution control system which necessitates equipment designed for installation on a motor vehicle for the purpose of reducing the pollutants emitted from the vehicle shall not be certified.

2. A motor vehicle pollution control system which necessitates modifications, other than adjustments, to the original design of the motor vehicle shall not be certified.

RCH:pf
12/10/73

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5359

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. F. December 17, 1973, EQC Meeting

Public Hearing to Amend the Air Contaminant Discharge Permit Rules, OAR, 340, Sections 20-033.02 through 20-033.20

Background:

On November 27, 1973, the Environmental Quality Commission conducted a Public Hearing for the purposes of collecting testimony regarding proposed amendments to OAR, 340, Sections 20-033.02 through 20-033.20. The proposed amendments to the rules and the modification of Table A attached thereto will clarify certain sections, add new source categories required to obtain a permit, and authorize permits and fees for new sources not included in Table A with emissions of ten (10) tons or more annually.

Six (6) witnesses presented oral testimony at the Hearing. Copies of the respective written statements submitted are attached. A copy of the minutes of the meeting is also attached.

The following is a summary of the testimony presented:

1. Mr. Cleo Hicks, representing the Salem School Board, expressed great concern for the amount of fees that the school district would be required to pay. These expenditures were not budgeted by the Board. The Board does employ its own engineer, and the Board felt that he would be capable of handling the necessary functions of the Department and Regional Authorities in inspecting, preparing and issuing the permits.

2. Mr. Charles D. Schmidt, representing the Oregon School Boards Association, reiterated points raised by Mr. Hicks, and presented a resolution signed by ten (10) school boards as opposed to the requirement to obtain an Air Contaminant Discharge Permit since this represented a form of double taxation. A copy of his statement is attached.

3. Mr. Wayne Foster, Superintendent-Clerk for the St. Helens Public Schools, read a prepared statement opposing a tax on schools for air pollution. A copy of his statement is attached.

4. Mr. Tom Donaca, representing Associated Oregon Industries, expressed specific concern for the "Notice" provision, Sections 20-033.06; the intent of Section 20-033.08 (2) which should refer to "new" sources; the method used to determine the fee schedule for sources not included under Table A, Section 20-033.12 (13); the increase by 20% in the fee schedule for multiple combustion source installations; the meaning of the electric power generation exclusion under the fuel burning equipment category; the meaning of the Petrolium Refining classifications; and in general the methods used by the Department to set the fee schedules.

5. Mr. J. Ronald Miner, Associate Professor, Department of Agricultural Engineering, OSU, who, by letter dated November 16, 1973, attached, expressed concern as to the requirement to obtain a permit if "malodorous" odors were to be emitted (Section 20-033.08 (2) (b). Mr. Miner offered his assistance to the Department to assist in defining parameters for determining who would be required to obtain a permit since odors are very difficult to define, both in nature and concentration.

6. Mr. Don Erickson, representing Erickson Lumber Company, supported the Department amendment regarding Section 20-033.08 (3) in that there are no emissions from his sawmill. Mr. Erickson had exerted extreme efforts to revamp his facility to preclude any sources with emissions to the atmosphere. Therefore, the assessment of fees for an Air Contaminant Discharge Permit did not appear to be fair treatment.

   In addition the Department received a letter dated November 26, 1973, from the Corvallis School District #509 J opposing the necessity for fuel burning permits for the District on a fee basis, a copy of which is attached.

The staff met with Mr. Donaca of AOI and other representatives of Industry on December 4, 1973, to resolve those areas where testimony indicated conflicts or where further clarification was needed. A copy of the minutes of this meeting are attached. It should be noted that two policies were proposed which should be followed in the implementation of the amended rules. These policies are included in the Director's recommendations.

Recommendations:

It is recommended by the Director that the following amendments be made to OAR, 340, Sections 20-033.02 through 20-033.20:

1. Section 20-033.06 Notice Policy: Adopt as proposed by the Department. At some future date the Department should amend Permit Procedure Rules applicable to all Divisions, Sections 14-025 (2) and (3) changing the 14-day period to 30 days to be consistent with the time frame for processing permits.

2. Section 20-033.08 Permit Required: Amend as proposed by the Department except that the word "new" should be inserted after "any" and before "air" under paragraph (2) and sub-paragraph (2) (b) should be changed to read as follows:

   "(b) malodorous emissions, as determined by Departmental or Regional Authority review of sources which are known to have similar air contaminant emissions."

3. Section 20-033.12 (2): After the word "fees" add ", on a Standard Industrial Classification (SIC) plant site basis, except that for multiple devices of fuel burning equipment, fees may be increased by twenty percent (20%)."

4. Section 20-033.12 (13): Add the following new sentence at the end of this section:

   "As nearly as possible applicable fees shall be consistent with sources of similar complexity as listed in Table A."

5. That Table A be reorganized numerically by SIC classification to include those modifications and additions as proposed at the public hearing.

6. That the SIC classifications be corrected as noted at the public hearing.

   (Attached is a copy of Table A with all noted changes.)

7. The "Note" on page 8J of Table A should be removed.

8. The incinerator classification should be changed to read:

33.	Incinerators		
a.	2,000 lbs/hr. and greater capacity	$100	$100
b.	40 lbs/hr to 2,000 lbs/hr capacity	75	50

9. That the amended rules be implemented with the following policies:

    a. The fee schedule in this rule shall be effective upon filing, but in no case shall a permittee be required to submit additional fees if an acceptable application was filed under the old rule and schedule.

    b. On permits issued, the fees collected shall be those included in the permit, until the permit is modified, renewed or revoked.

Director

HHB/mh

Attachments (7)

12/7/73

PERMITS

[ED. NOTE: Unless otherwise specified, sections 20-033.02 through 20-033.20 of this chapter of the Oregon Administrative Rules Compilation were adopted by the Department of Environmental Quality July 28, 1972, and filed with the Secretary of State August 31, 1972 as DEQ 47.]

20-033.02 PURPOSE. The purpose of these regulations is to prescribe the requirements and procedures for obtaining Air Contaminant Discharge Permits pursuant to [Chapter 406, Oregon Laws 1971] ORS 449.727 to 449.739 and related statutes for stationary sources.

20-033.04 DEFINITIONS. As used in these regulations unless otherwise required by context:

(1) "Department" means the Department of Environmental Quality.

(2) "Commission" means the Environmental Quality Commission.

(3) "Person" means the United States Government and agencies thereof, any state, individual, public or private corporation, political subdivision, governmental agency, municipality, industry, co-partnership, association, firm, trust, estate, or any other legal entity whatever.

(4) "Permit" or "Air Contaminant Discharge Permit" means a written permit issued by the Department or Regional Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.

(5) "Regional Authority" means the [Columbia-Willamette Air Pollution Authority,] Mid-Willamette Valley Air Pollution Authority [,] or the Lane Regional Air Pollution Authority.

[20-033.06 NOTICE POLICY. It shall be the policy of the Department of Environmental Quality and the Regional Authorities to issue public notice as to the receipt of an application within 15 days after the application is accepted for filing. The public notice shall allow 30 days for written comment from the public and from interested State and Federal agencies.]

20-033.06 NOTICE POLICY. It shall be the policy of the Department of Environmental Quality and Regional Authority to issue public notice as to the intent to issue an Air Contaminant Discharge Permit allowing at least 30 days for written comment from the public, and from interested State and Federal agencies, prior to issuance of the permit.

[20-033.08 PERMIT REQUIRED. (1) Air contaminant discharge permits shall be obtained for the air contaminant sources, including those processes and activities directly related or associated thereto which are listed in Table A, appended hereto and incorporated therein by reference, in accordance with the schedules set forth in subsections (2), (3), (4), and (5) of this section.

(2) No person shall construct, install, establish develop or operate any new air contaminant source listed in Table A appended hereto without first obtaining a permit from the Department or Regional Authority.

(3) After January 1, 1973, no person shall operate any air contaminant source (a) through (l) as listed in Table A appended hereto, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Department or Regional Authority.

(4) After July 1, 1973, no person shall operate any air contaminant source (m) through (hh) as listed in Table A appended hereto, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Department or Regional Authority.

(5) After January 1, 1974, no person shall operate any air contaminant source (ii) through (uu) as listed in Table A appended hereto, or discharge, emit or allow any air contaminant from said source except as may be authorized by a currently valid permit from the Department or Regional Authority.]

20-033.08 PERMIT REQUIRED. (1) No person shall construct, install, establish, develop or operate any air contaminant source, including those processes and activities directly related or associated thereto which are listed in Table A, appended hereto and incorporated herein by reference, without first obtaining a permit from the Department or Regional Authority.

(2) No person shall, without first obtaining a permit from the Department or Regional Authority, construct, install, establish, develop or operate any new air contaminant source not listed in Table A which would emit:

(a) 10 tons or more per year, if the source were to operate uncontrolled, of any air contaminants including, but not limited to, particulates, SO_x, NO_x, or hydrocarbons; or

~~(b) At the discretion of the Department or Regional Authority, any malodorous odors.~~

Delete

Add

(b) Upon request, sources known by the Department or Regional Authority to have malodorous emissions.

(3) Any source listed in Table A may apply to the Department or Regional Authority for a special letter permit if operating a facility with no, or insignificant, air contaminant discharges. The determination of applicability of this special permit shall be made solely by the Department or Regional Authority having jurisdication. If issued a special permit, the Application Investigation and Permit Issuing or Denying Fee and/or Annual Permit Compliance Determination Fee, provided by Section 20-033.12, may be waived by the Department or Regional Authority.

20-033.10 MULTIPLE-SOURCE PERMIT. When a single site includes more than one of the air contaminant sources listed in Table A, a single permit may be issued including all sources located at the site. [Such] For uniformity such [permits] applications shall separately identify by subsection each air contaminant source included from Table A. [Applications for multiple-source permits will not be received by the Department or Regional Authority for processing without

prior written agreement between the permit issuing agency and the applicant concerning the overall merit of issuing a multiple-source permit for the site under consideration.

(1) When a single air contaminant source which is included in a multiple-source permit, is subject to permit modification, revocation, suspension or denial, such action by the Department or Regional Authority shall only affect that individual source without thereby affecting any other source subject to that permit.

(2) When a multiple-source permit includes air contaminant sources subject to the jurisdiction of the Department and a Regional Authority, the Department may require that it shall be the permit issuing agency. In such cases, the Department and the Regional Authority shall otherwise maintain and exercise all other aspects of their respective jurisdictions over the permittee.

20-033.12 FEES. (1) All persons required to obtain a permit shall be subject to a three-part fee consisting of a uniform non-refundable Filing Fee of $25.00, a variable Application Investigation and Permit Issuing or Denying Fee and a variable Annual Permit Compliance Determination Fee. The amount equal to the Filing Fee and the Application Investigation and Permit Issuing or Denying Fee shall be submitted as a required part of the application. The Annual Permit Compliance Determination Fee shall be paid prior to issuance of the actual permit.

(2) The fee schedule contained in the listing of air contaminant sources listed in Table A appended hereto shall be applied to determine the variable permit fees, (Added new phrase)

(3) The Filing Fee and Application Investigation and Permit Issuing or Denying Fee shall be submitted with each appliction for a new permit, modified permit, or renewed permit.

(4) Modifications of existing, unexpired permits which are instituted by the Department or Regional Authority due to changing conditions or standards, receipts 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 Investigation and Permit Issuing or Denying Fee.

(5) Applications for multiple-source permits received pursuant to Section 20-003.10 shall be subject to a single $25.00 Filing Fee. The application Investigation and Permit Issuing or Denying Fee and Annual Permit Compliance Determination Fee for multiple-source permits shall be equal to the total amounts required by the individual sources involved, as listed in Table A.

(6) At least one Annual Permit Compliance Determination Fee shall be paid prior to final issuance of a permit. Thereafter, the Annual Permit Compliance Determination Fee shall be paid at least 30 days prior to the start of each subsequent permit year. Failure to timely remit the Annual Permit Compliance Determination Fee in accordance with the above shall be considered grounds for not issuing a permit or revoking an existing permit.

(7) If a permit is issued for a period less than one (1) year, the applicable Annual Permit Compliance Determination Fee shall be equal to the full annual fee. If a permit is issued for a period greater than 12 months, the applicable annual Permit Compliance Determination Fee shall be prorated by multiplying the Annual Permit Compliance Determination Fee by the number of months covered by the permit and dividing by twelve(12).

(8) In no case shall a permit be issued for more than five (5) years.

(9) Upon accepting an application for filing, the Filing Fee shall be considered as non-refundable.

(10) The Application Investigation and Permit Issuing or Denying Fee need not be submitted upon notice in writing by the permit issuing agency or shall be refunded when submitted with applications for modified or renewed permits if the following conditions exist:

(a) The modified or renewed permit is essentially the same as the previous permit.

(b) The source or sources included are in compliance with all conditions of the modified or renewed permit.

(11) When an air contaminant source which is in compliance with the rules of a permit issuing agency relocates or pro-

poses to relocate its operation to a site in the jurisdiction of another permit issuing agency having comparable control requirements, application may be made and approval may be given for an exemption of the Application Investigation and Permit Issuing or Denying Fee. The permit application and the request for such fee reduction shall be accompanied by (1) a copy of the permit issued for the previous location, and (2) certification that the permittee proposes to operate with the same equipment, at the same production rate, and under similar conditions at the new or proposed location. Certification by the agency previously having jurisdiction that the source was operated in compliance with all rules and regulations will be acceptable should the previous permit not indicate such compliance.

(12) If a temporary or conditional permit is issued in accordance with adopted procedures, fees submitted with the application for an air contaminant discharge permit shall be retained and be applicable to the regular permit when it is granted or denied.

(13) Sources required to obtain a permit under Section 20-033.08 (2) not included in Table A shall be subject to, in addition to the Filing Fee of $25.00, the following fee schedule to be applied in each case by the Department based upon the anticipated cost of issuing or denying the permit, and of compliance inspections:

Schedule	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
if low cost	$ 25	$ 25
if medium cost	150	100
if high cost	450	325

(14) [(13)] All fees shall be made payable to the permit issuing agency. [and shall be deposited in the State Treasury by the Department of Environmental Quality to the credit of the Department of Environmental Quality Air Emission Permit Account which is continuously appropriated for the purpose of funding the air contaminant discharge permit program covered by these regulations.]

20-033.14 PROCEDURES FOR OBTAINING PERMITS. Submission and processing of applications for permits and issuance, denial, modification, and revocation of permits shall be in accorda with duly adopted procedures of the permit issuing agency.

20-033.16 OTHER REQUIREMENTS. (1) No person shall construct, install, establish, modify or enlarge any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A without notifing the permit issuing agency as required by ORS 449.712 and rules promulgated thereunder.

(2) Prior to construction, installation, establishment, modification or enlargement of any air contaminant source listed in Table A or facilities for controlling, treating, or otherwise limiting air contaminant emissions from air contaminant sources listed in Table A, detailed plans and specifications shall be submitted to and approved in writing by the Department or Regional Authority upon request as required by ORS 449.712 and rules promulgated thereunder.

20-033.18 REGISTRATION EXEMPTION. Air contaminant sources constructed and operated under a permit issued pursuant to these regulations may be exempted from Registration as required by rules adopted pursuant to ORS 449.707.

20-033.20 PERMIT PROGRAMS FOR REGIONAL AIR POLLUTION AUTHORITIES. Subject to the provisions of this section 20-033.20, the Environmental Quality Commission authorizes each Regional Authority to issue air contaminant discharge permits for air contamination sources within its jurisdiction.

(1) A Regional Authority's permit program, including proposed permits and proposed revised permits, shall be submitted to the Environmental Quality Commission for review and approval prio to final adoption by the Regional Authority. Each permit issued by a Regional Authority shall by its conditions authoriz the permittee to construct, install, modif or operate specified facilities, conduc specified activities, or emit, discharg or dispose of air contaminants in accordance with specified practices, limitations or prohibitions.

(2) Each permit proposed to be issued or revised by a Regional Authority shall be submitted to the Department of Environmental Quality at least fourteen (14) days prior to the proposed issuance date. Within the fourteen (14) day period, the Department shall give written notice to the Regional Authority of any objection the Department has to the proposed permit or revised permit or its issuance. No permit shall be issued by a Regional Authority unless all objections thereto by the Department shall be resolved prior to its issuance. If the Department does not make any such objection, the proposed permit or revised permit may be issued by the Regional Authority.

(3) If there is an objection by the Department regarding a proposed or revised permit, the Department shall present its objection before the Board of the Regional Authority in question prior to the issuance of a final permit.

(4) If as a result of objection by the Department regarding a proposed or revised permit, the Regional Authority is unable to meet the time provisions of either this regulation or those contained in an existing permit, the Regional Authority shall issue a temporary permit for a period not to exceed 90 days.

(5) The Regional Authority shall give written notice to the Department of its intention to deny an application for a permit, not to renew a permit, or to revoke or suspend any existing permit.

(6) A copy of each permit issued or revised by a Regional Authority pursuant to this section shall be promptly submitted to the Department.

[(7) The Regional Authority shall prepare and submit to the Department a summary listing of air contaminant sources currently in violation of issued permits. These reports shall be made on a quarterly basis commencing April 1, 1973.]

PROPOSED CHANGES TO

TABLE A - AIR CONTAMINANT SOURCES AND

ASSOCIATED FEE SCHEDULE

		Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
1.	[a]	Asphalt production by distillation	2951	$ 75	$ 50
2.	[b]	Asphalt blowing plants	2951	100	75
3.	[c]	Asphaltic concrete paving plants	2951	100	100
4.	[d]	Asphalt felts and coating	2952	150	100
5.	[e]	Calcium carbide manufacturing	2819	225	150
6.	[f]	Alkalies and chlorine manufacturing	2812	225	175
7.	[g]	Nitric acid manufacturing	2819	100	75
8.	[h]	Ammonia manufacturing	2819	200	125
9.	[i]	Secondary lead smelting	3341	225	175
10.	[j]	Rendering plants	~~2094~~ 2077	150	100
11.	[k]	Coffee roasting	2095	100	75
12.	[l]	Sulfite pulp and paper production	2611 2621 2631	300	175
	[m]	[Grain mill products located in Special Control Areas]	[2041] [2042]		
		[10,000 or more T/yr.]		[250]	[150]
		[less than 10,000 T/yr.]		[50]	[50]
13.		Flour and other grain mill products in Special Control Areas	2041		
		a. 10,000 or more T/yr.		250	150
		b. Less than 10,000 T/yr.		50	50

		Air Contaminant Source	Standard Industrial Classification Number	Investigation and Permit Issuing or Denying Fee	Compliance Determination Fee
14.		Prepared feeds for animals and fowls in Special Control Areas.	~~2042~~ 2043		
		a. 10,000 or more T/yr.		$ 250	$ 150
		b. Less than 10,000 T/yr.		50	50
15.		Cereal preparations in Special Control Areas.	2043	250	150
16.		Blended and prepared flour in Special Control Areas.	2045		
		a. 10,000 or more T/yr.		250	150
		b. Less than 10,000 T/yr.		50	50
	[n]	[Grain elevators located in Special Control Areas]	[4221]		
		[20,000 or more T/yr.]		[150]	[100]
		[Less than 20,000 T/yr.]		[50]	[50]
17.		Grain elevators - storage only located in Special Control Areas.	4221		
		a. 20,000 or more T/yr.		150	100
		b. Less than 20,000 T/yr.		50	50
18.		Grain elevators - primarily engaged in buying and/or marketing grain - in Special Control Areas.	~~5053~~ 5153		
		a. 20,000 or more T/yr.		300	225
		b. Less than 20,000 T/yr.		50	50
19.	[o]	Redimix concrete	3273	75	50
20.	[p]	Plywood manufacturing	~~2432~~ 2435 2436	150	100
21.	[q]	Veneer manufacturing only (not elsewhere included)	~~2434~~ 2435 2436	75	75
22.	[r]	Particleboard manufacturing	2492	300	150
23.	[s]	Hardboard manufacturing	~~2493~~ 2499	200	100
24.	[t]	Charcoal manufacturing	2861	200	100
25.	[u]	Battery separator manufacturing	2499	75	50
	[v]	[Furniture and fixtures 100 or more employees]	[2511]	[125]	[100]
26.		Battery manufacturing	3691	100	75

		Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
27.		Furniture and fixtures	2511 ~~2512~~		
		a. 100 or more employees		$ 125	$ 100
		b. 10 employees or more but less than 100 employees		75	50
28.	[w]	Glass manufacturing	3231	100	75
29.	[x]	Cement manufacturing	3241	300	150
30.	[y]	Lime manufacturing	3274	150	100
31.	[z]	Gray iron and steel foundries	3321 ~~3323~~ 3322 3324 3325		
		a. 3,500 or more tons per year production		300	150
		b. Less than 3,500 tons per year production		100	100
32.	[aa]	Steel works, rolling and finishing mills	3312	300	175
	[bb]	[Incinerators (not elsewhere included) more than 2,000 lb/hr. capacity]		[100]	[100]
33.		Incinerators			
		a. [Greater than 4,000 lbs/hr capacity]	3,000 lbs/hr and greater	100	100
		b. [40 lb/hr to 4,000 lb/hr capacity]	40 lbs/hr to 3,000 lbs/hr	75	75 50
	[cc]	[Fuel burning equipment (not elsewhere included)	[4961]		
		Residual oil 5 million or more btu per hour (heat input)		[100]	[50]
		Wood fired 5 million or more btu per hour (heat input)]		[100]	[50]

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
34.	Fuel burning equipment	4961*		
	a. Residual oil			
	1) 250 million or more btu/hr. (heat input)		$ 150	$ 100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
	3) Less than 5 million btu/hr. (heat input)		25	25
	b. Distillate oil			
	1) 250 million or more btu/hr. (heat input)		150	100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		25	25
	c. Wood fired			
	1) 250 million or more btu/hr. (heat input)		150	100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
	3) Less than 5 million btu/hr. (heat input)		25	25
	d. Coal fired			
	1) 250 million or more btu/hr. (heat input)		150	100
	2) 5 million or more but less than 250 million btu/hr. (heat input)		100	50
	3) Less than 5 million btu/hr. (heat input)		25	25

DELETE

[NOTE:] [The above fees shall be increased by 20% to cover costs of multiple device installations.]

*Not limited to fuel burning equipment generating steam for sale but excluding power generation (SIC 4911)

Table A continued

		Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
35.	[dd]	Primary smelting and refining of ferrous and nonferrous metals not elsewhere classified	3313 3339		
		a. 2,000 or more tons per year production		$ 300	$ 175
		b. Less than 2,000 tons per year production		100	75
36.	[ee]	Synthetic resin manufacturing	2821[2831]	100	100
37.	[ff]	Seed cleaning located in Special Control Areas (not elsewhere included)	~~0719~~ 0723	0	0
38.	[gg]	Kraft pulp and paper production	2611 2621 2631	300	175
39.	[hh]	Primary aluminum production	3334	300	175
40.	[ii]	Industrial inorganic and organic chemicals manufacturing (not elsewhere included)	~~2810~~ 2819	250	125
41.	[jj]	Sawmill and planing	2421		
		a. 25,000 or more bd.ft./shift		75	50
		b. Less than 25,000 bd.ft/shift		25	25
	[kk]	[Mill work]	[2431]	[75]	[50]
42.		Mill work with 10 employees or more	2431	75	50
	[ll]	[Furniture and fixtures less than 100 employees]	[2511]	[75]	[50]
43.	[mm]	Minerals, earth and rock ground or otherwise treated [(not elsewhere included)]	3295 1442 3273	100	75

		Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
44.	[nn]	Brass and bronze foundries	3362	$ 75	$ 50
45.	[oo]	Aluminum foundries (not elsewhere included)	3361	75	50
46.	[pp]	Galvanizing and pipe coating - exclude all other activities	3479	75	50
47.	[qq]	Smoke houses with 5 or more employees	2013	75	50
48.	[rr]	Herbicide manufacturing	2879	225	175
49.	[ss]	Building paper and building board mills [(not elsewhere included)]	2661	150	100
	[tt]	[Incinerators (not elsewhere included) 2,000 to 4,000 pounds per hour capacity)]		[75]	[75]
	[uu]	Fuel burning equipment (not elsewhere included)	[4961]		
		Residual oil less than 5 million btu/hr (heat input)		[25]	[25]
		Distillate oil 5 million or more btu/hr (heat input)		[25]	[25]
		Wood fired less than 5 million btu/hr (heat input)]		[25]	[25]
50.		Hardwood mills	2426	50	25
51.		Shake and shingle mills	2429	50	25
52.		Beet sugar manufacturing	2063	150	100
53.		Electroplating, polishing and anodizing with 5 or more employees	3471	75	50

Table A continued

	Air Contaminant Source	Standard Industrial Classification Number	Application Investigation and Permit Issuing or Denying Fee	Annual Permit Compliance Determination Fee
54.	Electric power generation *	4911	$350	$225
55.	Gas production and/or manufacturing	4925	350	225
56.	Petroleum refining	2911	450	325
		~~2992~~	~~100~~	~~75~~
57.	Wood Preserving	2491	75	50
58.	Gypsum Products	3275	100	75

*Excluding hydroelectric and nuclear generating projects, and limited to utilities.

RESOLUTION

We would like to go on record as opposing the actions of the Willamette Valley Air Pollution Board in requiring permits of the public schools. This appears to be an unfair action that is double taxation. All schools have their burners checked on an annual basis, and are cooperating in all ways to help in the fight against pollution.

We feel the permits are simply a fund raising activity. Because districts were not notified of this new regulation, funds were not budgeted.

It is the feeling of this group that public schools should be exempt from this requirement.

Yamhill County I.E.D. ______________________

McMinnville District #40 ______________________

Amity District #4J ______________________

Carlton District #11 ______________________

Dayton District #8 ______________________

Newberg District #29J ______________________

Sheridan District #48J ______________________

Willamina District #30J ______________________

Yamhill District #16 ______________________

Yamhill-Carlton District #UH-1 ______________________

WAYNE FOSTER, SUPERINTENDENT-CLERK
WILLIAM G. WILSON, DIRECTOR OF INSTRUCTION
DONALD L. CRESCIENTI, BUSINESS ASSISTANT
MARGARET B. STARKBURY, DEPUTY CLERK

St. Helens Public Schools

SCHOOL DISTRICT NO. 502
218 S. 2ND STREET
ST. HELENS, OREGON 97051
PHONE 397-3085

November 27, 1973

To: Hearings Officer For
Department of Environmental Quality
State of Oregon

(1) Public Hearing for the purpose of amending portions of the Air Contaminant Discharge Rule, OAR 340, Sections 20-033.02 through 20-033.20.

(2) Date of Hearing: November 27, 1973; Time: 10:00 a.m. ; Place: Auditorium Public Service Building, 920 S.W. Sixth Avenue, Portland, Oregon.

(3) STATEMENT: By St. Helens School District No. 502, St. Helens, Oregon 97051

We petition that school districts be exempted from the payment of any fees under these or other regulations of the Department of Environmental Quality. Financial support of school districts is derived basically from local taxes and state revenue as authorized by the Oregon legislature.

Assessment of these fees upon school districts is in effect a form of taxation. It is not good governmental fiscal practice for one state agency to tax another agency of the state. This is like taking money out of one pocket and placing it in another of the same coat. Taxing school districts for this purpose will create an unequal tax burden on citizens throughout a given area.

Long ago the United States Supreme Court issued the: " State Instrumentalities" Doctrine." The court held: " that the basic division of power between federal and state governments required that each level of government be prevented from taxing the "instrumentalities" - the property, securities, and activities - of the other, to insure that the taxing power would not be used to weaken the powers of the other level of government."

The taxing of one state agency by another state agency has the effect to weaken the powers of the one that is taxed. To the local tax payer this becomes an added tax. To the local school district this is a direct loss of financial resources. The 1973 legislature granted additional state revenue to school districts for the purpose of lowering local property taxes. Is then, another state agency to be authorized to make assessments which will in turn raise to a degree these same taxes?

We strongly protest to any fee assessment upon school districts, it is a tax, because such agency financing is unsound governmental policy, and is contrary to the public interest.

Respectfully yours,

Wayne Foster, Superintendent-Clerk

TESTIMONY ON THE PROPOSED

AMENDMENTS TO THE RULES ON

AIR CONTAMINANT DISCHARGE PERMITS

November 27, 1973

I am Thomas C. Donaca representing the Air Quality Committee of Associated Oregon Industries. The following are our comments on the proposed rules:

1. 20-033.06. We understand the difficulty the Department was having with the time frames of having to give public notice 15 days after an application was accepted for filing, but before any form of permit was prepared. However, the proposed language has no time frame, at least from the applicant's standpoint. This seems in conflict with Rule 14-025 (Issuance of Permit). Subsection (2) of the rule states "If the Department proposes to issue a permit, proposed provisions prepared by the Department will be forwarded to the applicant and other interested persons at the discretion of the Department for comment. All comments must be submitted in writing within 14 days of mailing of the proposed provisions if such comments are to receive consideration prior to final action on the application."

Perhaps changing 14 days to 30 days in Rule 14-025(2) would solve this problem and you could delete proposed Rule 23-033.06 from further consideration.

2. 20-033.03(2). We would suggest that in line four of Subsection (2) after "any" the word "new" be inserted. This would confine this new language only to new operations of a type not otherwise listed in Table A, probably because no such type of operation currently exists in the State.

If you should adopt this language, we ask -- what sources are included that you want to cover that aren't included in Table A? Wouldn't this bring a number of small sources under permit and require of them sophisticated and expensive testing? Why can't Table A be expanded? This has the advantage of putting the source on notice as well as your staff that permits are required. You have started out with

a program certain in its application, and we suggest it be continued as started.

(3) 20-033.12(13). We urge you to put more certainty into the method of determining fees. Low cost, medium cost and high cost is too subjective. It could be based on the cost of the installation, a number of hours of work performed by the agency or other methods. We are also concerned that the proposed high cost fees are above all current fees except those proposed for a new classification in this proposal, and we wonder in what basis it is proposed?

(4) Table A. There are several questions regarding the proposed permit fees.

(a) We note that for (1) Incinerators (formerly bb and tt); fuel burning equipment (formerly cc/; and minerals, earth and rock ground or otherwise (formerly mm) (and uu) that the words "not elsewhere included" have been eliminated. Does this mean that separate permits and fees will be charged to each type of installation? If so, this is contradictory to the language of 20-033.08(1) which states "air contaminant discharge permits shall be obtained for the air contaminant sources, including those processes and activities directly related or associated thereto which are listed in Table A." When the permit regulations were first adopted it was clearly understood that the major source was to get the permit which would include all subsidiary sources even though they had an SIC number and were listed in Table A. The three categories most often subject to the question were those for which the language "not elsewhere included" is now deleted. For example a large asphaltic concrete paving plant (Table A(3) might well have a boiler for process heat or steam, an incinerator for disposing of solid waste and a crushing operation. Under prior policy the asphaltic concrete paving plant was the operation receiving the permit because all three other operations were "associated or related". We believe that adoption of these new

categories as written may not be consistent with the stated policy of the Commission at the time of adoption of the permit regulations. We therefore request the reinsertion of "not elsewhere included" where deleted for both clarification sake and policy consistency.

(b) On page 8j there is a note discussing a 20% increase in costs for multiple device installations. We wonder if this is justifiably confined bo boilers and further whether the "Annual Permit Compliance Determination Fee" justifies the increase? We assume that applications for permits have now been received for the January 1 and July 1, 1973 permits and we are within the 60-day period for the January 1, 1974 group of permits. If adopted this change would appear to apply to all fuel burning equipment because of the change in the rule which places under Table A, 34 what was in Sections (cc) and (ww) of Table A. We would request at least that these be applicable only to new operations; that it not affect any existing permittees.

(c) Again on page 8j there is a * . The language "not limited to fuel burning equipment generating steam for sale but excluding power generation." Does this mean that if a wood products plant generates electric power, and a number do, that they are no longer classed as fuel burning equipment at those fees? If not they will be automatically subject to Table A, 54 "Electric Power Generation" at fees which exceed any fees now being charged for any permit. We request a review of this classification and elimination of any possibility that power generation under these conditions be subject to the fees proposed for electric power generation.

(c) Table A, 56 "Petroleum refining. Oregon does not now have a major oil refinery but it does have some rerefiners. We suggest the fee is too

high for rerefiners. Further we question the new higher fees and wonder how they were justified. ORS 449.733(2) states "The permit fees contained in the schedule shall be based upon the anticipated cost of filing and investigating the application, of issuing or denying the requested permit, and of an inspection program to determine compliance or non-compliance with the permit. The permit fees are to cover only certain aspects of your permit program and not of your general operational program. We believe there should be adequate justification of the amounts of these proposed new and changed permit fees, particularly where they are higher than other existing classifications.

Agriculture - 754-2331
Ag. Engr. - -2041

OSU

OREGON STATE UNIVERSITY
DEPARTMENT OF AGRICULTURAL ENGINEERING

CORVALLIS, OREGON 97331

November 16, 1973

Department of Environmental Quality
Air Quality Control Division
1234 S.W. Morrison Street
Portland, Oregon 97205

Gentlemen:

RE: Proposed Ammendments to the Air Contaminant Discharge Rule.

In reading the proposed changes to the Air Contaminant Discharge Rule, OAR 340, Sections 20-033.02 through 20-033.20, I note that you have included odor sources as among those requiring a permit. The statement that is indicated to be added is as follows, "No person shall, without first obtaining a permit from the Department or Regional Authority, construct, install, establish, develop or operate any air contaminant source not listed in Table A which would emit, at the discretion of the Department or Regional Authority, any malodorous odors".

The wording of this proposed regulation has some confusing aspects, however. I interpret this to say that a permit is required for anyone operating an odor producing enterprise if such a permit is requested by the Department or Regional Authority. Without some additional thought, this would not seem to be an appropriate manner to begin controlling odors in the environment.

The criteria of any "malodorous" odors is in marked contrast to the other criteria of ten tons or more per year of various specific measurable pollutants. There is no definition included of "malodorous odors". This would lead to a great number of complaints from residents who may have on a single occasion smelled an odor which they found objectionable. With this loose wording, it should be anticipated that the regulation would be difficult to administer. Unless you have information not available to me, the wording of a permit to an acknowledged odor source would further seem difficult to compose.

Although agricultural operations, including livestock production, are specifically exempt from the air quality regulation, it is important that livestock producers look forward to meeting the same regulatory requirements as other commercial and industrial operations. The definition included in your proposed regulation would be extremely difficult if it were applied to agricultural pursuits, and it therefore creates some uncertainty in the livestock industry's wishes to move toward compliance procedures. Unless further study is planned and can be reflected in the regulation, it would be my recommendation that Section b of 20-033.08 (2) should be eliminated.

If you feel that is is important to include some coverage of odor sources in this regulation, I would be pleased to share what information I have concerning

the emission of odorous compounds. By considering the technology currently available, I believe a more suitable regulatory statement can be written which will be more easily administered and which would lead to a more orderly control procedure. Please feel free to call upon me if I may be helpful.

Very truly yours,

J. Ronald Miner

J. Ronald Miner, Associate Professor
Department of Agricultural Engineering

JRM:jt

cc; W. T. Cooney
J. R. Davis
T. L. Willrich

COMMISSIONER COGAN

509J CORVALLIS SCHOOL DISTRICT
1555 S.W. 35th Street
Corvallis, Oregon 97330-752-5141

November 26, 1973

THOMAS D. WOGAMAN, Ed.D.
SUPERINTENDENT

Mr. Diarmuid F. O'Scannlain, Director
Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205

Dear Sir:

The Board of Directors of Corvallis School District 509J has instructed me to transmit the following information to your department for inclusion in the testimony at the public hearing on November 27, 1973 concerning the proposed rule changes of the Air Contaminant Discharge Rule, OAR 340, Sections 20-033.02 through 20-033.20.

By its motion no. 81 at its meeting held on November 13, 1973, the Board of Directors of Corvallis School District 509J did go on record as opposing the necessity for fuel burning permits for the District on a fee basis.

Very truly yours,

Thomas D. Wogaman

Thomas D. Wogaman
Superintendent-Clerk

RWR:djg

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: AQCD Files

Date: December 5, 1973

From: H. M. Patterson

Subject: Proposed Air Contaminant Discharge Permit Rule
Meeting at request of AOI Following Public Hearing - Held 12-4-73

Meeting Attendees: Tom Donaca, Vince Tretter, R. B. Snyder, Doug McGowan, PW, EWH, HHB, VJA, MDR, JK and HMP

The above meeting was held to clarify both intent and actual wording of the proposed rule and establish some policy as a result of the public hearing on the proposed rule revision.

Summary:

(1) 20-033.06: The intent and projected practice related to this section was explained. Decision: The Department should revise Subdivision 4 relating to rules for procedures for Issuance, Denial, Modification and Revocation of Permits, i.e. change 14 days to 30 days. This will have to be done in consultation with WQC and SW.

(2) 20-033.08 2(b) See proposed changed on attached sheet.

(3) 20-033.12 (2): This section to be modified to clarify that fees are collected on a plant site basis for each SIC except fuel burning equipment. See attached modified section.

(4) 20-033.12 (13) Add language to provide additional criteria for fee to be charged. See page 8e.

(5) The "Note" on page 8J would be removed, see attached.

(6) The incinerator classification would be changed, see page 8i.

In addition policies were developed to assure that all permittees or applicants were treated alike, to minimize administrative procedures, and requirements to modify issued or proposed permits, and to allow collection of fees from new sources as follows:

Policy I: The fee schedule in this rule shall be effective upon filing, but in no case shall a permittee be required to submit additional fees if an acceptable application was filed under the old rule and schedule.

Policy II: On permits issued, the fees collected shall be those included in the permit, until the permit is modified, renewed or revoked.

cc: NWRO; LRAPA, MWVAPA
EWH, HHB, RU, KHS

DEQ 4

State of Oregon

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

To: HHB

Date: December 14, 1973

From: HMP

Subject: Air Contaminant Discharge Permit Rule Revision Report

Tom Donaca of AOI conferred with me this a.m. (14 Dec.'73) concerning the staff report to the EQC (Agenda Item F, dated 17 Dec. '73). He made the following suggestions to further modify the Director's Recommendations:

1. Section 20-033.06, Notice Policy: A date should be established in this recommendation to be more positive about when the Department would amend Sections 14-025(2) and (3) changing the 14-day period to 30 days.

2. Item 9. a.: The language used should be modified to define in a legal manner the "old rule", i.e., "the rule in effect prior to this revision and adopted by the EQC on 28 July 1972."

Ray Underwood of the AG office telephoned regarding the proposed amendment suggested by FAS. In summary, he feels that the Department already has authority to carry out the suggested procedure without any further rule making authority. He felt that this procedure should be followed for portable plants to simplify Department efforts and should be explained to the EQC at the meeting in Eugene on 17 December '73 so as to be a part of the record of the Department as to policy matters.

HMP:mh

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. G, December 17, 1973, EQC Meeting

Proposed Agreement Between Lane Regional Air Pollution Authority and DEQ with regard to DEQ's Midwestern Region

Background:

As plans for the regionalization of DEQ were developed, two major considerations were the appropriateness for a region based in Eugene, and the awareness of a highly respected, efficient, and effective environmental quality control unit already present in Eugene -- the Lane Regional Air Pollution Authority (LRAPA).

Were DEQ to set up separate operations headquartered in Eugene on a magnitude greater than its existing field office there, a number of concerns would present themselves. DEQ air quality personnel would, of course, restrict themselves to those air quality control assignments not delegated by the Commission to LRAPA and the Mid-Willamette Valley Air Pollution Authority. Aside from thereby justifying only the smallest staff support to

air quality considerations in the region, there would be considerable difficulty for the people in the Region, as well as LRAPA and DEQ, in separating interrelated environmental programs. For example, a company seeking a permit covering air, water, and solid waste authorities would find itself working with two distinct governmental units, physically and operationally separated from each other.

If, perchance, the two units could work closely together, a decided improvement in service to the public would be achieved. Furthermore, a sharing of the expert staffs and accommodations could enlarge environmental control capabilities, avoid duplicate efforts, and might even achieve mutual economies of operation.

Discussions of the possibility of some form of alliance began. A principal concern of both LRAPA and DEQ was the desirability of maintaining separate and distinct identities. But the potential of such a liaison was readily recognized.

Over the past several weeks, LRAPA and DEQ staff personnel, and their respective counsels, have worked on drafting an agreement which, while maintaining the separate integrities of both units, nonetheless provides for an effective, combined environmental program.

Essentially, the negotiated agreement appoints Verner J. Adkison, the director of LRAPA, as regional administrator of DEQ's Midwestern Region, consisting of Benton, Lane, Lincoln, and Linn Counties. LRAPA would

provide administrative services to the DEQ technical staff assigned to the Midwestern Region.

Through the agreement, Adkison would have the full authority and responsibility assigned other DEQ regional administrators. Time allocations in the agreement are designed to insure Adkison, and other members of the LRAPA staff assigned to the DEQ program, will nonetheless be able to meet their LRAPA obligations.

Personnel, budgeting, and accounting items are covered in exhibits attached to the proposed agreement. DEQ would, of course, pay for its share of the services and facilities involved.

The agreement specifically provides for DEQ Headquarters to retain its direct jurisdiction over agricultural field burning.

With the approval of the Environmental Quality Commission and the board of directors of LRAPA, DEQ would seek the approval of the Legislature's Emergency Board before formal commitment to the agreement. The negotiated agreement has all the appropriate provisions for reconsideration, change, or dissolution needed to protect both parties to it.

Recommendation:

It is the Director's recommendation that the Environmental Quality Commission approve the proposal as described in the agreement and authorize the Director

to seek Emergency Board approval leading to the signing and implementing of the agreement itself.

DIARMUID F. O'SCANNLAIN
Director

Attachment

A G R E E M E N T

THIS AGREEMENT, made and entered into this ____ day of _____, 197__ by and between the Department of Environmental Quality of the State of Oregon, hereinafter referred to as "DEQ," and the Lane Regional Air Pollution Authority, hereinafter referred to as "LRAPA,"

W I T N E S S E T H :

RECITALS:

A. It is the desire of DEQ to create a Midwestern Region (Region) of the DEQ, consisting of Benton, Lane, Lincoln, and Linn Counties, and to appoint Verner J. Adkison (Adkison) its regional administrator. Adkison is presently the director of LRAPA.

B. DEQ further desires to contract with LRAPA pursuant to ORS Chapter 190 to furnish the services of Adkison as regional administrator to the extent consistent with his duties as director of LRAPA. DEQ desires, at its expense, to provide DEQ professional, technical staff to perform the obligations of DEQ within the Region in the areas of control of air pollution, to the extent that such control is not under the jurisdiction of LRAPA, and control of water pollution, solid waste, subsurface sewage and noise, pursuant to the requirements placed upon DEQ by law. LRAPA, under contract, would hire and provide all secretarial and clerical support to the Region, along with providing housing and facilities for the Region offices, at the

expense of DEQ. All of the foregoing personnel would report to, and be subject to, the direction of Adkison with regard to DEQ operations, duties and responsibilities.

C. The parties hereto recognize that, notwithstanding any other provision of this agreement, it is their intention to preserve and in no manner diminish the identify, integrity and jurisdiction of LRAPA in the field of air pollution within its jurisdictional boundaries, nor DEQ in the fields of air pollution to the extent it has retained jurisdiction thereof, water pollution, noise pollution, solid waste and subsurface sewage control. The parties further recognize that it is in the interest of the people of the state of Oregon, and in particular, the residents of the counties within the Region, that LRAPA and Adkison perform certain functions and duties on behalf of DEQ, to the extent expressly provided by this agreement.

D. The parties understand that pursuant to ORS Chapter 190, 449 and 459, or otherwise, LRAPA and DEQ are fully empowered and authorized to enter into this agreement subject to necessary funding authorization for DEQ.

AGREEMENTS:

In consideration of the agreements, recitals and conditions herein contained, the parties agree as follows:

1. LRAPA, pursuant to Oregon Revised Statutes, agrees to furnish the services of Adkison as regional administrator of the Region, consistent with his duties as director of LRAPA.

2. DEQ hereby appoints Adkison as regional administrator of the Region, to serve until his death, resignation or discharge by DEQ for cause, upon 30 days prior written notice to Adkison and LRAPA. If LRAPA and DEQ fail to agree upon a successor regional director for the Region within 30 days after the termination of Adkison for any reason, either party may terminate this agreement by written notice of termination.

3. DEQ shall hire, retain and pay for DEQ personnel in the number and manner described in Exhibit A attached hereto. There shall each month be paid by DEQ to LRAPA for the services of Adkison or his successor and the additional LRAPA positions, the fee sums shown on Exhibit B attached hereto. DEQ shall further furnish the equipment specified on Exhibit C attached hereto and pay to LRAPA the sums shown on such exhibit as DEQ's share of the acquisition of equipment and payment of expenses necessary for providing the facilities maintained and activities conducted at 16 Oakway Mall, Eugene, Lane County, Oregon. The funds specified on Exhibit B and C to be paid to LRAPA shall be paid directly and in a sufficiency to insure the integrity of the regional administrator's operations on DEQ's behalf. Funds furnished to LRAPA by DEQ shall be furnished in monthly payments with the express understanding that for any part of any month any one or more of such designated positions are vacant, a sum equal to the prorata salary during the period of such vacancy shall be credited to DEQ against the obligation imposed by this paragraph.

All sums due and owing under this agreement shall be paid on or before the 20th day of each month this agreement is in effect. The amounts set forth in Exhibits A, B and C shall be reviewed by the parties annually and increased or decreased to reflect the amount that the respective parties are paying for similar services apart from this agreement.

4. Adkison shall have the right to require DEQ to initiate and pursue the discipline and/or removal from the Region of any and all DEQ employees, to reject those DEQ employees tendered to him for service in the Region, to recommend to DEQ the hiring by DEQ or employees through normal procedures, and to hire, discipline, and/or discharge any and all employees provided by LRAPA for work in the Region. Such actions will be taken in accord with LRAPA's usual personnel policies, upon the express provision that the recommendations of DEQ in each such action shall be solicited and shall be reasonably considered.

5. When it becomes prudent and reasonable to employ LRAPA personnel in the performance of DEQ tasks or to employ Region personnel in the performance of LRAPA tasks, Adkison may so employ such personnel and a proper record of accounting and activity shall be kept to insure proper funding or offsets in compensation.

6. Without the prior written authorization of the Board of Directors of LRAPA, none of the following LRAPA employees shall spend more than the following annual percentage

of their respective time performing the duties imposed upon such persons solely by virtue of this agreement:

ADKISON 25%, PROGRAM ADMINISTRATOR, 50%; CHIEF OF ENGINEERING AND TECHNICAL SERVICES, 30%; TECHNICAL SERVICES SUPERVISOR, 20%; ADMINISTRATIVE ASSISTANT FOR FINANCE, 50%; and PUBLIC INFORMATION REPRESENTATIVE, 15%.

7. It is specifically agreed by the parties that DEQ retains the right to determine the dates and times of agricultural field burning without the direction of the regional administrator, provided, however, that the regional administrator, under the direction of DEQ, shall enforce DEQ regulations and directives relating to agricultural field burning.

8. Except as otherwise provided in this agreement with respect to personnel, DEQ retains all of its powers and obligations to administer the water pollution, solid waste, subsurface sewage, and noise control programs, as imposed upon it by statute and its own regulations, as well as those powers and duties imposed with respect to air pollution that have been expressly retained by DEQ in the geographical territory within the Region.

9. Nothing contained in this paragraph shall diminish or limit the jurisdiction or authority of LRAPA as the same shall now exist by virtue of Oregon Revised Statutes and the regulations of DEQ and LRAPA.

10. Except as provided in Paragraph 2, this agreement shall be in effect from and after _____, 197__, except that it may be terminated by (a) mutual consent of the parties, (b) by either party by reason of the enacting of a

law or a budgetary limitation imposed by the Oregon legislature, when effective, that renders performance under this agreement impossible, or (c) by either party giving the other written notice of termination not less than 90 days prior to March 1 of any subsequent calendar year.

DATED and signed on behalf of and pursuant to the authorization of the Environmental Quality Commission and the Board of Directors of Lane Regional Air Pollution Authority this _____ day of _____, 197__.

LANE REGIONAL AIR POLLUTION AUTHORITY

By: _____

DEPARTMENT OF ENVIRONMENTAL QUALITY

By: _____

EXHIBIT A

PERSONNEL SCHEDULE

DEPARTMENT OF ENVIRONMENTAL QUALITY

The following job classification openings are at the rate and effective date indicated:

JOB CLASS	POSITION	FUNCTION	BASE MONTHLY RATE	EFFECTIVE
PHE 3	Dist. Engineer	Dist. Program Control	Existing Eugene Rate	Date of Agreement
PHE 2	Assist. Dist. Engr.	Linn-Benton Field Rep. (WQ, NP, & LQ)	Existing Eugene Rate	Date of Agreement
PHE 2	Assist. Dist. Engr.	Lincoln Field Rep. (WQ, AQ, NP, & LQ)	1056	Date of Agreement
SUP SAN	Regional Sanitarian	Subsurface Sewage & Solid Waste	1007	Date of Agreement
SEC 33	Dist. Secretary	Dist. Prog. Control	Existing Eugene Rate	Date of Agreement
PHE 3	Permit Supervisor	Permit Program	1225	3-1-74
PHE 2	Permits & Plan Review	(WQ & AQ)	1056	Date of Agreement
SEN SAN	Permits & Plan Review	(LQ) - subsurface sewage	913	3-1-74
ET 4	Area Operation	Compliance Insp. for WQ, AQ, & LQ.	913	Date of Agreement

EXHIBIT B

PERSONNEL SCHEDULE

LANE REGIONAL AIR POLLUTION AUTHORITY

The Department of Environmental Quality shall pay to Lane Regional Air Pollution Authority the sum of $3,008 per month from the effective date of the agreement through June 30, 1974 and thereafter the sum of $3,310 per month through June 30, 1975. This sum represents an exchange of administrative services accounted for to DEQ by LRAPA which is determined by the indicated percentages of services for the following positions:

JOB CLASSIFICATION	% APPLIED	Actual 1973-74 RATE*	Estimated 1974-75 RATE*
Program Director	25	$ 459/mo.	$ 504/mo.
Program Administrator	50	718/mo.	790/mo.
Chief Engineer & Technical Services	30	452/mo.	497/mo.
Technical Services Supervisor	20	260/mo.	287/mo.
Administrative Assistant-Finance	50	462/mo.	508/mo.
Public Information Representative	15	126/mo.	140/mo.
Secretary 3	50	270/mo.	297/mo.
Data Clerk-Typist	50	261/mo.	287/mo.
	TOTAL	$3,008/mo.	$3,310/mo

* Dollar amounts above include:

Base Salary

Retirement Benefits

Social Security

State Disability Compensation

Life, Health, and Dental Insurance

EXHIBIT C

I. Housing and Maintenance

LRAPA will provide housing in its facilities for the DEQ personnel, arranging for additional space as required in accord with State space-per-employee guidelines. Estimated costs to DEQ will include the following:

a. Half the total rental -- $450 per month plus half the monthly rental for additional space required to house the contract activity.

b. Up to $1,500 (one-time charge) for remodeling costs to house the contract activity.

c. Half the janitorial service costs, estimated as $40 per month during 1973-74.

d. Half the building maintenance and repair costs, estimated as $50 total for 1973-74.

e. Janitorial supplies, estimated as $25 for 1973-74.

II. Office Furnishings and Equipment

DEQ will provide existing or purchased office furnishings and equipment to accommodate DEQ personnel consistent with State and DEQ practices, rules and regulations.

III. Communications Services

DEQ will supply and pay for up to four Centrex lines for use by both LRAPA and DEQ personnel. LRAPA will provide and pay for installation and service on a complaint/after hours recorder telephone.

IV. Transportation

DEQ will provide sufficient transportation to operate under terms of the agreement, estimated as six vehicles.

Vehicles assigned to the contract activity will be

-- vehicles purchased by LRAPA to be used for DEQ and LRAPA. Costs to DEQ for this latter arrangement not to exceed $6,000, and
-- those permanently assigned by the State to DEQ, and/or
-- State pool cars.

V. Travel

LRAPA personnel traveling on DEQ assignments shall be compensated in accord with State personnel practices, rules, and regulations through the State voucher system. For the period ending June 30, 1975, travel expense for this purpose is not to exceed $3,500 without timely review by the DEQ Director and special authorization by him.

VI. Materials and Supplies

Miscellaneous materials and supplies, such as meter rental, postage, film and processing, books and periodicals, will be purchased in accord with normal administrative practices by LRAPA. Costs for such purchases, when provided on behalf of DEQ, shall be reimbursed by DEQ. These costs shall not exceed $2,000 for the contract period up to June 30, 1975 without special written approval by the DEQ Director.

VII. Miscellaneous

a. DEQ will furnish a Mag-Card typewriter
b. DEQ will pay actual copy costs for Xeroxing

It is the intent of this agreement that DEQ personnel and LRAPA personnel assigned to the contract activity shall be treated consistent with DEQ practices, procedures, and requirements applied in DEQ's other regional oeprations.

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229- 5359

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

TO: Environmental Quality Commission

FROM: Director

SUBJECT: Agenda Item No. H , December 17, 1973, EQC Meeting

Variance Request, Woolley Enterprises, Inc.
Smith River Lumber Division, Drain,
Douglas County, Oregon, SIC 2421,
Wigwam Waste Burner

Background:

Smith River Lumber (a Division of Woolley Enterprises, Inc.) is a sawmill and planing mill located approximately two miles north of Drain, Oregon in Douglas County.

A modified wigwam waste burner is located on this plant site and is utilized to burn any wood-waste residues which cannot be sold or used as hog fuel by the corporation's Drain Plywood Plant hog fuel boiler. This burner was demonstrated to be capable of operation in compliance with Oregon Administrative Rules, Chapter 340, Section 25-020 and was approved for operation by the Department on April 12, 1973. Up to the present time there have been no known complaints regarding this modified burner nor has the Department issued any Notices of Violation for excessive emissions. Three observations were made by Department Staff since modification and the burner was in compliance on all occasions.

OAR, Chapter 340, Section 25-020 (1) specifies that emissions from a wigwam waste burner cannot exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any one hour.

In order to not exceed this three (3) minute emission limitation during start-up periods, it is usually necessary to employ some sort of auxiliary fuel in the wigwam waste burner so as to rapidly bring the burner up to an efficient, low emission, operating temperature. Smith River Lumber Company has been using diesel oil-fired auxiliary ignitors in its burner for this purpose.

On October 26, 1973, Smith River Lumber was notified by its oil distributor (Union Oil Company) that, effective November 1, 1973, fuel oils would be allocated at a level equal to 91% of the 1972 monthly usage. Since this burner did not require oil for auxiliary fuel prior to April, 1973, no fuel oil allocation exists for this burner. The company has not been able to obtain any additional fuel oil from other area distributors.

Current Program

Smith River Lumber Company, in a letter submitted to the Department on November 20, 1973, requested a variance to OAR, Chapter 340, Section 25-020 (1) because of an inability to obtain diesel oil for their modified wigwam waste burner.

Factual Analysis

1. Based on a 9% cutback from 1972 usage, Smith River Lumber was allocated 1,169 gallons of fuel oil for November, 1973, and 836 gallons for December, 1973.

2. No oil was allocated for the wigwam waste burner since it was not operating in 1972. The auxiliary fuel system for the burner normally requires about 800 gallons per month.
3. With the consent of the Department, the company conducted a short study to determine the extent of their burner emissions during start-up if auxiliary fuel is not used. This study indicated that, with careful control of the burner wood fuel pile, an efficient, low-emission, operating temperature could be attained in an average of seven (7) minutes.
4. The company is of the opinion that, after start-up, they can generally comply with the three-minute rule, without using auxiliary fuel, by carefully controlling their wood residue mixture.
5. The company currently operates their Smith River burner 12 hours/day, 1 - 5 days/week. When the Corporation's Drain Plywood Plant wigwam-waste-burner/veneer-dryer incineration system becomes operational (early 1974), usage of the Smith River burner will decrease to no more than one day per week.
6. The company has always cooperated with the Department by implementing timely control programs to bring emissions into compliances at dates ahead of the regulatory requirements.

7. Between 10 and 15 residences are located within 1/4 mile of the mill site.

Conclusions:

1. Because of the local and national fuel oil situation, no fuel oil is available for the auxiliary firing system of the Smith River Lumber Co. wigwam waste burner. This burner normally requires 800 gallons of oil per month.
2. A study conducted on this burner indicated that the burner could be brought up to operating temperature in about seven (7) minutes without any auxiliary fuel as opposed to less than three (3) minutes using auxiliary heat.

Director's Recommendation:

It is recommended that Smith River Lumber Company be granted a variance from OAR, Chapter 340, Section 25-020 (1) (Emission and Operation Standards for Wigwam Waste Burners) subject to the following conditions:

1. The variance shall be in effect only during start-up periods, i.e. the period during which a cold burner is brought up to its normal efficient operating temperature.
2. Emissions from the burner during start-up shall not exceed an opacity of 20% for a period or periods aggregating more than ten (10) minutes in any one hour.
3. The company shall make every possible effort to obtain additional fuel oil for utilization in the burner auxiliary heat system. These efforts shall be documented and made

available to the Department of Environmental Quality when requested.

4. The company shall make every effort to sell its wood waste residues or utilize them for hog fuel so as to minimize the operation of this burner. Burner temperature charts shall continue to be submitted to the Department on a monthly basis.
5. This variance shall cease to be in effect when adequate auxiliary fuel oil is available for the burner.
6. This variance shall terminate on January 1, 1975, but shall be subject to renewal after the evaluation of relevant conditions at that time.

Director

PJ:mh

Attachments (2)

12/ 7/1973

Divisions
DRAIN PLYWOOD
836-2144
MT. BALDY MILL
849-2168

Woolley Enterprises, Inc.

Divisions
SMITH RIVER LUMBER
836-2131
WOOLLEY LOGGING
836-2816

DRAIN, OREGON 97435

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED
NOV 23 1973

OFFICE OF THE DIRECTOR

November 20, 1973

Department of Environmental Quality
1234 S. W. Morrison
Portland, Or. 97205

Re: Request for Variance on Wigwam Burner Start-up and Intermittent Smoke Emission: Chapter 340, Section 25-020

Gentlemen:

Due to the prevailing energy problem, we hereby present a request for a variance from the Three(3) minute allowable start-up time on our wigwam burner at our Smith River Lumber Co. plant located 2 miles north of Drain on Highway 99.

Our fuel supplier, Union Oil Co., has placed us, and all other customers, on a 91% allocation based on 1972 usuage. Due to the fact that we were not using fuel oil in the burner in 1972 we have no basis for allocation. Following is the fuel allocation for our Smith River plant: November 1972 usuage-1,285 gals; November 1973 allocation-1,169 gals.; December, 1972 usuage-919 gals., December, 1973 allocation-836 gals. Our allocation for December is particularly low due to the bad weather in 1972 which had our plant shut down. The burner requirements are appriximately 800 gals. per month in addition to the above figures.

With the consent of Mr. Ron Baker and Mr. Hal Burkett of your office, we ran tests for a period of five days without using fuel oil for start up, and left the auxiliary switches off. The following results were obtained, these are also on the recorder paper which you will receive next week.

	No smoke	Reached Operating Temp-850°
11-13-73	3 min.-605°	6 minutes
11-14-73	4 min.-605°	7 minutes
11-15-73	Did not operate burner	
11-16-73	4 min.-700°	7 minutes
11-19-73	6 min.-650°	8 minutes (Heavy Rain)
11-20-73	17 min.-600°	22 minutes

Note: on Nov. 20th we started the fire too early, and did not have a large enough pile.

When running Douglas Fir, the burner is self-sustaining at 850° with no auxiliary fuel. When running Hemlock or Cedar, we must add Douglas Fir bark that we truck in from another plant to help keep the temperature up. Hemlock is extremely wet, and Cedar does not have sufficient heat value to hold the 850°. Douglas Fir bark works well with the exception that we will probably exceed the 20% opacity for 3 minutes once in awhile; at this time we have no figures to show how often this may occur.

Our present schedule at the mill calls for running either Cedar or Hemlock at least once per week during the winter and spring months, and as much as two days per week in the summer and fall. With the Veneer Dryer Emissions system now being installed at our Drain Plywood plant we do not forsee running the Smith River burner more than one day per week shortly after the first of 1974. However, start up on the Dryer Emission system is dependent on the delivery of the necessary parts and equipment.

Yours very truly,

LeRoy C. Morrison

Leroy C. Morrison

LCM:tm
Copies to: Hal Burkett, Portland
Ron Baker, Roseburg

Encl: 3

Drain, Oregon
November 13, 1973

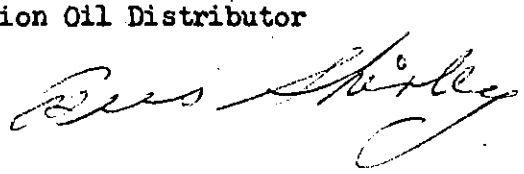
Smith River Lumber Co.
Drain, Oregon
Attention: Mr. Leroy Morrison

Dear Mr. Morrison,

Due to mandatory fuel allocation, we are sorry to advise you that we will be unable to furnish fuel for your burner.

Respectfully,

James G. Shirley
Union Oil Distributor



Union 76 Division: Western Region

Union Oil Company of California
2901 Western Ave., Seattle, Washington 98121
Telephone (206) 682-7600

UNION

October 26, 1973

MANDATORY MIDDLE DISTILLATE
FUEL ALLOCATION PROGRAM

Dear Customer:

Effective November 1, 1973 and continuing until terminated by the Director of the Energy Policy Office or by expiration of the Economic Stabilization Act, Union Oil Company of California, as your supplier during the year of 1972 or during any period thereof is required to deliver to you upon your order a proportionate share of the total quantities available of middle distillate fuels per month up to amounts which equal the same quantities per month that you purchased from Union during 1972.

In the event Union should have insufficient supplies to provide all its 1972 customers, including any purchasers assigned by the Department of the Interior, with a quantity equal to any particular Base Period month, Union will allocate the total available volume, as it compares to the Base Period, on a proportionate basis.

Middle distillate fuels, for the purpose of this program as applicable to Union Oil are as follows: Automotive Diesel, Diesel #1 and #2, Bunker Diesel, Super Diesel, Turbine Fuel, Kerosine and Heating Oil #1 and #2.

Your 1972 monthly purchases from Union are listed on the attached schedule.

Should your records of monthly purchases of these products from Union differ from the attached schedule, it is your responsibility to notify Union of such differences within 30 days following receipt of this letter.

This mandatory allocation program preempts any private contractual obligations.

Contact your local Union Sales Representative should you have any questions relating to the allocation program. Additional information or inquiries on this program should be directed to the Office of Oil and Gas, U.S. Department of the Interior, 450 Golden Gate Avenue, Box 36032, San Francisco, California, 94102.

Very truly yours,

W M Shreve

W. M. SHREVE
Manager Division Services

73 cont.

Union 76 Division: Western Region

Union Oil Company of California
2901 Western Ave., Seattle, Washington 98121
Telephone (206) 682-7600

UNION

October 29, 1973

MANDATORY MIDDLE DISTILLATE
FUEL ALLOCATION PROGRAM

Dear Customer:

Effective November 1, 1973 and continuing until terminated by the Director of the Energy Policy Office or by expiration of the Economic Stabilization Act, Union Oil Company of California is required to cease supply to you of middle distillate fuels.

Your requirements of middle distillate fuels, by law, will be provided by your supplier or suppliers of record during the calendar months of 1972. Union's records indicate you were not a wholesale purchaser during 1972. Should your records differ please notify Union of such differences within 30 days following receipt of this letter.

Middle distillate fuels, for the purpose of this program are any derivatives of petroleum such as kerosene, heating oils, diesel fuels and turbine fuels.

Union recognizes possible contingencies involved within the guidelines as outlined in the mandatory program and expresses its intent to assist customers in an orderly and professional manner as deliveries cease.

This mandatory allocation program preempts any private contractual obligations.

Information or inquiries on this program should be directed to the Office of Oil and Gas, U. S. Department of the Interior, 450 Golden Gate Avenue, Box 36032, San Francisco, California, 94102.

Very truly yours,

Division Sales Manager

UNION 76

Seattle, Washington
November 2, 1973

To: DISTRIBUTORS - NORTHWEST DIVISION

MANDATORY MIDDLE DISTILLATE
FUEL ALLOCATION PROGRAM

Each of you is aware of the inception of subject program. From material published by Department of Interior, it is our intent to give you a brief outline of the requirements of this program. Pertinent information is as follows:

1. The supplier's (Union's) main obligation is to provide our 1972 customers with 100% of their base period volume (of middle distillate fuels) - depending on availability of supply.

2. If supply is not available to serve 100% of customers 1972 purchases, a proportional allocation - equal to available supply - will be effected.

3. Base period is a like month of 1972.

4. If supply is available and #1 commitment fulfilled leaving additional fuel still available; that product must be allocated on a pro rata basis to contracted accounts acquired in 1973.

5. If the commitment under #3 is fulfilled and product remains uncommitted, it becomes exempt volume to be used as designated by Union.

6. If a customer's current requirements are in excess of his 1972 purchases, he must make application through Department of Interior for increased allocation. His request should be directed to:

Mr. Paul Caatz
3098 Federal Office Bldg.
909 - 1st Ave.
Seattle, Wa. 98104

Regional Office serving Montana is:

Mr. Warren Mankin
Bldg. 67 - Room 1470
Denver Federal Center
Denver, Colorado 80225

We are enclosing copies of letters mailed to 1972 customers of record as well as letter being mailed to accounts acquired during 1973. As this letter indicates, accounts acquired during 1973 must contact their 1972 supplier to make arrangements for their middle distillate requirements. Computer printouts of 1972 monthly purchases have been mailed to individual customers. A copy of these printouts is also being mailed to marketing stations for their use in the application of proportional allocations.

Obviously this program will require all delivery points to keep detailed delivery records - by product - by customer. We are enclosing a sample form which you can adapt for this purpose and have reproduced in necessary quantities for your own use.

Regarding customers sold on Distributor paper - or sold by jobbers:
Union has no record of those customers and therefore, those customers must be notified of their purchases by the person - or firm - reselling to them.

It must be assumed that applications to Department of Interior will not be handled on an overnight basis; therefore, customers who had no supplier in 1972 and/or customers whose requirements have greatly increased should waste no time in making application to the proper Regional Office.

You will be notified early in the week of November 5 of the allocation formula to use for the current month. You will also be notified of any revisions in the program which may be required by the Government from time to time.

W. M. SHREVE
Manager Division Services

attch.
LJT:ed
cc: Sales Managers
Resident Sales Managers
Terminal Superintendents
J/D Sales Representatives
Sales Representatives
Commercial Sales Representatives
Jobbers

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-

TOM McCALL
GOVERNOR

DIARMUID F. O'SCANNLAIN
Director

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. I , December 17, 1973, EQC Meeting

Variance Request
Crown Zellerbach Corporation, Wauna Mill, Clatsop County
SIC 2621

Background:

Crown Zellerbach Corporation operates a 800-ton per day bleached Kraft pulp and paper mill northwest of Westport on the lower Columbia River. The company has until recently, open burned its loose combustible wastes such as non-reusable pallets and non-recyclable paper. The company was requested to stop all open burning in August, 1973 when it applied for formal approval of its solid waste disposal program in accordance with Oregon Administrative Rules (OAR) Section 61-020 (5). Since that time the company has been stockpiling these combustible solid wastes.

Current Program:

Crown Zellerbach Corporation has requested a variance to Oregon Administrative Rules, Chapter 340, Section 23-010 (1)(a) so that they can open burn non-reusable pallets and non-recyclable paper until June 1, 1975 in accordance with the following program:

1. Decision on means for eliminating open burning and submittal of plans to the Department by no later than July 1, 1974.
2. Issuance of contracts and purchase orders by no later than September 1, 1974.
3. Initiation of construction and installation by no later than November 1, 1974.
4. Completion of construction by no later than April 1, 1975.
5. Elimination of open burning and demonstration of air pollution control compliance of alternative facility by no later than May 30, 1975.

Analysis:

The open burning site is on property owned by Crown Zellerbach Corporation. The mill site covers approximately 1,500 acres. The open burning site is located one-half (1/2) mile north of U. S. Highway 30 and is three (3) miles from Westport. The site is isolated and well-screened with timber. The nearest house is located one mile to the east. No complaints with regard to open burning by Crown Zellerbach Corporation have been received by the Department since the mill was placed in operation in 1965.

The company generates an average of 50 cubic yards of waste that it wishes to open burn daily. This waste is 90 percent contaminated and non-recyclable paper, 5 percent non-returnable pallets, and 5 percent miscellaneous combustible material such as fiber drums. The burning site is considered satisfactory and well protected from a fire safety standpoint. Burning would take place between 10 a.m. and 1 p.m. daily.

Oregon Revised Statutes, Chapter 449, 1971 Replacement Part, regulations and orders, paragraph (1) states that, "The Environmental Quality Commission may grant specific variances from the particular requirements of any rule, regulation or order . . . if it finds that strict compliance with such rule, regulation or order is inappropriate because . . . of special circumstances which would render strict compliance unreasonable, burdensome or impractical due to special physical conditions or cause, . . . or because no other alternative facility or methods of handling is yet available."

No alternatives to open burning are immediately available to the company. Landfilling in the company's solid waste sites is unfeasible and undesirable from the Department's standpoint because of the nature and quantities of waste involved. Landfilling at a public disposal site is considered impractical because of the quantity of material and the distance to the site. The nearest public site is at Astoria which is over 25 miles from the mill.

It should be noted that the Astoria Disposal Site presently burns all combustible wastes; however, Clatsop County is presently involved in a solid waste management planning study funded by this Department to improve this situation. As a result of that study it is likely that the Astoria site will be closed and wastes would then have to be transported to a new landfill approximately 10 miles further from the mill.

The company is actively studying three alternatives to open burning:

1. Conventional solid waste incinerator.
2. Incineration of combustible material in combination with primary and/or secondary waste water treatment sludge.
3. Incineration in a hog fuel boiler.

All of these alternatives involve further study as well as the purchase and installation of equipment and this is the reason for the length of the variance.

It should be noted that this loose combustible material is just a part of the mill's overall solid waste problem. The following waste materials are generated by the mill:

Type of Solid Wastes	Volume Generated
Trash-combustible & non-combustible	20,000 cu. yds./yr.
Hogged bark & misc. wood	56,000 cu. yds./yr.
Lime sludge	4,000 cu. yds./yr.
Processed solid waste	15-20 dry tons/day

To date the non-combustible trash, hogged bark and miscellaneous wood, lime sludge, and processed solid wastes are landfilled at locations around the mill site.

A program to adequately dispose of all solid waste material must be developed and implemented with its objective being to eliminate open burning and eliminate or substantially reduce landfilling.

Conclusions:

1. From an overall environmental standpoint, it is judged that disposal of the non-recyclable paper and non-reusable pallets by burning is more acceptable than disposal in a landfill because of the nature of the waste and quantities involved.
2. No economic alternative to open burning the loose combustible material presently exists.
3. Because of the location of the mill, it is judged that that the open burning made possible by the granting of this variance would not create significant air pollution problems. No complaints or complainants are known from past prolonged periods of open burning this material.
4. The granting of this variance by the Environmental Quality Commission would be allowable in accordance with Oregon Revised Statutes 449.810 (1).

Recommendations:

It is recommended that this variance request be approved and an order be entered granting this variance under the following conditions:

1. The open burning shall be terminated on or before May 30, 1975.
2. Construction of an alternative to open burning shall proceed in accordance with plans and specifications approved in advance by the Department and in accordance with the following schedule:
   a. Decision on means for eliminating open burning and submittal of specific plans to the Department by no later than July 1, 1974.
   b. Issuance of contract and purchase orders by no later than September 1, 1974.
   c. Initiation of construction and installation by no later than November 1, 1974.
   d. Completion of construction by no later than April 1, 1975.
   e. Elimination of all open burning and demonstration of air pollution control compliance of alternative facility by no later than May 30, 1975.
3. The company shall file progress reports with the Department on each of the above dates.

4. The program and plans submitted to the Department shall include a solution for the proper disposal of all solid wastes generated at the mill including process solid wastes, hogged bark and miscellaneous wood wastes, non-combustible trash, lime sludge and loose combustible materials.
5. The variance and schedule shall be specifically conditioned to minimize any potential adverse impacts from burning and made revocable upon the development by any unforeseen problems.

Director

CRC/kz

Attachments (3)

12/5/73

CrownZellerbach

Wauna Mill

September 6, 1973

Mr. Harold Patterson
DEPARTMENT OF ENVIRONMENTAL QUALITY
P.O. Box 231
Portland, Oregon 97207

Dear Mr. Patterson:

The recently issued Air Contaminant Discharge Permit No. 04-0004, Application No. 0117, for the Wauna Mill of the Crown Zellerbach Corporation, paragraph 23, prohibits open burning at the plant site.

Open burning of combustible materials, such as non-reuseable pallets and non-recyclable paper, has been practiced at Wauna except during periods of high fire hazard. During those periods the combustible materials are stored until the fire hazard is reduced and then open burned.

In accordance with ORS 449.810, we request a variance from the prohibition of open burning at the Wauna plant site. Continuation of open burning is the only immediately available economic method for disposing of combustible materials at Wauna. Due to the significant volume of combustible materials, it would not be reasonable or economically feasible to landfill them on the Wauna site or dispose of them in a public landfill. We normally generate about 50 cubic yards of loose combustible material each day. Occasionally we generate 125 cubic yards per day.

There is no putrescible material in the combustible materials disposed of by open burning at Wauna.

There have not been any public complaints on open burning in the past at Wauna to our knowledge.

To bring Wauna into compliance with the Air Contaminant Discharge Permit, we propose the following compliance schedule for eliminating open burning:

1. Decision on means for eliminating open burning and submittal of a plan to the Department of Environmental Quality by no later than March 1, 1974.

2. Issuance of contracts and purchase orders by May 1, 1974.

1870-1970
Foundation for the Future
Crown Zellerbach Centennial

Clatskanie, Oregon 97016

3. Initiation of construction and installation by no later than July 1, 1974.

4. Completion of construction no later than January 1, 1975.

5. Demonstration of air pollution control compliance by no later than March 1, 1975.

The six month period included in paragraph 1, above, is necessary for proper evaluation of the alternatives, including incineration, hopefully with heat recovery, which are available.

The prohibition of open burning was included in E. J. Weathersbee's letter to me, August 27, 1973, relating to solid waste. This request for a variance to permit open burning until completion of the proposed compliance schedule will also relate to the August 27 letter.

Sincerely,

CROWN ZELLERBACH CORPORATION

L. A. Broeren
Asst. Resident Manager

LAB/fd

CrownZellerbach

Wauna Mill

November 21, 1973

Mr. Jack Weathersbee
DEPARTMENT OF ENVIRONMENTAL QUALITY
1010 N. E. Couch Street
Portland, Oregon 97232

Dear Mr. Weathersbee:

My letter to Mr. Harold Patterson of September 6, 1973, requested a variation from the prohibition of open burning for the Wauna Mill of the Crown Zellerbach Corporation. That letter also proposed a compliance schedule for eliminating open burning.

On Tuesday, November 20, 1973, Mr. Bob Brown and Mr. Bob Gilbert of the D.E.Q. visited Wauna to discuss our request for a variance and other subjects. Based on the discussion during the visit, we request that the following proposed compliance schedule to eliminate open burning be used with our request for variance:

1. Decision on means for eliminating open burning and submittal of a plan to the Department of Environmental Quality by no later than July 1, 1974.

2. Issuance of contracts and purchase orders by September 1, 1974.

3. Initiation of construction and installation by no later than November 1, 1974.

4. Completion of construction no later than April 1, 1975.

5. Demonstration air pollution control compliance by no later than June 1, 1975.

The request to change the compliance schedule dates is based upon the time that has elapsed since the September 6, 1973 letter, and the anticipation that the variance will not be granted until at least December 17, 1973.

Your very truly,

CROWN ZELLERBACH CORPORATION

L. A. Broeren
Asst. Resident Manager

LABroeren

cc: J. B. Palmer; L. B. Zurcher; Dr. H. R. Amberg - ESD

1870-1970 Foundation for the Future
Crown Zellerbach Centennial

Clatskanie, Oregon 97016

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. J, December 17, 1973, EQC Meeting

Adoption of Emergency Rules for Real Estate Disclosures Regarding Sewage Disposal

Background

House Bill 2607 (Chapter 421, Oregon Laws 1973) enacted by the 1973 Legislature, requires land developers to register land developments with the Real Estate Commissioner. As part of the registration procedure, the developer must prepare and submit a disclosure statement which is designed to inform the prospective purchaser of specified details about the development and the particular parcel of land. In particular, the disclosure statement must contain "a statement describing the available or proposed method of sewage disposal, whether or not the method has been approved by the Department of Environmental Quality, and any conditions or limitations placed on such approval, including, but not limited to, location or capacity of the system." [Section 12(e) Chapter 421, Oregon Laws 1973]

House Bill 2607 becomes effective on January 1, 1974. Therefore, the Department of Environmental Quality must immediately establish

procedures to govern the submission and processing of applications for approval of proposed methods of sewerage disposal.

Evaluation

House Bill 2607 establishes new procedures which require several state agencies to coordinate efforts and develop rules. In view of the many unknowns, it is proposed that minimal procedural rules be adopted by the Environmental Quality Commission as temporary rules be effective beginning January 1, 1974. Such temporary rules are only valid for 120 days. This will permit approximately three months to gain some experience prior to proceeding with adoption of permanent rules.

Proposed temporary rules are attached.

Director's Recommendation

It is recommended that the attached proposed rules be adopted as temporary rules to become effective January 1, 1974.

DIARMUID F. O'SCANNLAIN

HLS:ak

Encl.

December 7, 1973

ENVIRONMENTAL QUALITY COMMISSION

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: Agenda Item No. K, December 17, 1973, EQC Meeting

Public Hearing on and Adoption of Rules Pertaining to the Subsurface Disposal of Sewage

Background

The 1973 Legislature assigned responsibility to the Department of Environmental Quality for regulating subsurface sewage effective January 1, 1974. Temporary rules have been in effect from October 5, 1973 and will expire February 2, 1974, if not superseded by Environmental Quality Commission action.

At its November 26, 1973 meeting the Environmental Quality Commission authorized that public testimony be heard before a hearings officer at several locations throughout Oregon to consider adoption of proposed rules pertaining to standards for subsurface sewage disposal, and that a public hearing be held by the Commission at the December 17, 1973 meeting in Eugene to consider the proposed rules, the hearings officer's report, and public testimony.

Proposed rules were published and given very well circulation.

Hearings were subsequently held and public oral and written testimony received in Albany, Eugene, Coos Bay, Grants Pass, Medford, Klamath Falls, Bend, Pendleton, and Portland, concluding on December 13, 1973 in Newport.

Proposed Subsurface Sewage Rules, General

These proposed rules consist of a reorganization of general format and a revision of some of the content of earlier rules promulgated by the Oregon State Health Division. The proposed rules are divided into nine (9) major sections arranged in a logical sequence for selective distribution of sections. Sections I through VI pertain to the evaluation of the suitability of land for the installation of a subsurface sewage disposal system. These sections also cover the standards for installation of systems.

Section VII pertains to standards for use of nonwater-carried waste disposal facilities including privies and chemical toilets.

Section VIII defines standards for licensing installers and septic tank pumpers.

Section IX contains the Appendix and covers standards for manufactured materials including septic tanks, protective coatings, dosing tanks, effluent lift pumps, seepage pits, cesspools, pipe materials, construction of nonwater-carried waste disposal facilities.

A table of contents has been provided to facilitate easy reference to rule sections.

Specific Sections

I. Definitions

The terms and language used in the rules are defined in this section.

II. Procedures for Issuance or Denial of Subsurface Sewage Disposal Permits.

This section outlines the procedures for handling fees and applications for permits to construct subsurface sewage disposal systems. This section also provides that a permit will be effective for a period of one year from the date of issuance and that any permit or written approval for construction of a subsurface sewage disposal system granted prior to the adoption of these proposed rules will be effective for a period of one year from the date of issuance and the rules in effect on the date of issuance of the permit shall apply.

III. Subsurface Sewage Disposal Systems

This section provides minimum separation distances for the installation of portions of any subsurface disposal systems and system replacement areas from drinking water supplies, property lines, surface public waters (streams), water pipelines, building foundation lines, and the top of cut banks.

This section also defines general standards for the construction of subsurface sewage disposal systems.

IV. Septic Tanks

This section provides minimum standards for establishing septic tank capacities and outlines the requirements for septic tank installation.

V. Disposal Areas

This section provides measurable standards in high density areas for the evaluation of land suitability for the installation of disposal trenches. These standards include the values for such items as the depth of soil profile to restrictive layers or impervious layers, the depth of soil to regional water tables or perched water tables, the depth of the soil to rapid draining materials, the acceptable slope of the ground and the prohibited construction of disposal trenches in fills, floodplains, and areas covered with concrete or asphalt. This section also provides standards for the use of curtain drains.

This section further provides for judgment and flexibility in areas of low density upon written approval from the Department in response to a recommendation from an authorized representative, such as a county sanitarian.

This section provides that only the effective sidewalls of the trench shall be utilized in calculating the seepage area. Tables are included in this section for calculating the required effective sidewall area for various sewage loads, soil conditions, and water table levels.

This section establishes minimum standards for the approval and installation of disposal trenches, seepage pits, cesspools, seepage trenches, and transpiration systems.

This section also provides standards for the repair of disposal areas.

VI. Distribution Techniques

This section provides standards for the various alternate designs of disposal trench distribution systems on level ground and slopes.

VII. Nonwater-Carried Waste Disposal Facilities

This section provides standards for the use of privies and chemical toilets including separation distances from drinking water supplies, surface public waters, and property lines. The standards have been categorized to establish a difference between the requirements for use of an unsealed earth pit privy and a self-contained toilet.

VIII. Sewage Disposal Service

This section provides standards for the licensing of installers of subsurface sewage disposal systems and the pumpers of sewage and waste disposal facilities.

This section also requires all septic tank pumper trucks to meet standards and be clearly labelled. All waste is required to be disposed of in a disposal facility or treatment facility operating under permits issued by the Department.

This section further requires that disposal operators maintain records of facilities pumped and the location of the disposal site where the material is deposited. All reports will be submitted to the Department on a routine basis.

IX. Appendix

A. Septic Tanks - This subsection provides standards for the construction of concrete septic tanks, metal septic tanks, or other materials approved by the department.

B. Dosing Tanks and Effluent Lift Pumps - This subsection provides standards for the construction and installation of dosing tanks and effluent lift pumps.

C. Seepage Pits and Cesspools - This section provides standards for the construction of seepage pits and cesspools.

D. Pipe Materials and Construction - This section provides standards for the use of styrene-rubber plastic pipe, polyethylene pipe, concrete, tile, vitrified clay drain tile, and bituminized fiber pipe.

E. Nonwater-Carried Waste Disposal Facility Construction. This section provides standards for the construction of privies, chemical toilets and portable toilets.

F. Protective Coatings - This section provides standards for coatings used to seal septic tanks, dosing tanks, and effluent lift pump sumps.

- Appendices G through K incorporate standards from the American Society for testing and materials and the U. S. Department of Commerce standards for pipe.

Present Status

After having begun evaluating the extensive, valuable, and often conflicting testimony received from hearings thus far, the staff is convinced that further revisions to the proposed rules are necessary. Further, it is anticipated that additional relevant testimony will be forthcoming today which may need staff evaluation. Regretably, therefore, the staff is not in a position to recommend final rules today. It can be reported, however, that at least the following amendments are planned to the proposed rules:

1. Purpose of Rules - A statement to clarify that these rules are pursuant to Chapter 835, Oregon Laws 1973 in the protection of the waters of the state of Oregon and the public health.
2. Definitions - Some definitions are not readily understood due to technical verbage and need to be clarified by the Department staff by means of administrative circulars or else be reworded. The definitions for Rapid Draining Materials, Saturated Zone, and Sewer Availability are examples frequently mentioned in the statewide hearings.
3. Procedures for Issuance or Denial of Subsurface Sewage Disposal Permit.
   a.) Prior Approvals - Conflicting testimony was received at the statewide hearings relative to this and regarding the relationship to consumer protection.
   b.) Local Land Use Planning and Zoning Coordination - The staff is evaluating the addition of a subsection requiring coordination of the issuance of permits only when in conformance with land-use planning requirements and building requirements.
   c.) Appeals from Denials - A request at the hearings was made for the inclusion of an appeals procedure.
   d.) A request was made for inclusion of the application procedures in the rules.

4. Low Density Areas - Testimony received at the statewide hearings was conflicting. This section needs to be reworked, based on the testimony given.
5. Disposal Areas - The measurable standards outlined in this section need to be further evaluated by the staff, relative to the use of fills and curtain drains. There was conflicting testimony received in regard to the minimum standards outlined in this section for the use of disposal trenches. There was also testimony requesting clarification regarding the use of Seepage Pits, Cesspools, Seepage Trenches, and Transpiration Systems.
6. Alternate Methods - Testimony was received requesting a section in these rules which would allow for the use of alternative or research systems.
7. Quantities of Sewage Flows - Testimony was received from operators of mobile home parks requesting the gallons per space be reduced.
8. Replacement Areas - Requests were made to reevaluate the necessity of a full replacement area especially for commercial installations.
9. Distribution Systems - Several comments were made at the statewide hearings relative to criteria for the use of equal and serial distribution systems. The requirements for the manufacture of distribution boxes need to be reconsidered in terms of size and shape.

Further amendments will be required effective January 1, 1975 based on experience with these rules in operation during 1974.

Attached to this report is a copy of the proposed rules as originally published.

Also attached is a copy of the hearings officer's report.

Director's Recommendation

It is the Director's recommendation that the Commission defer final adoption of subsurface sewage rules to its January 28 meeting in Portland to which this hearing be recessed and reconvened, but that it hear and receive this report and take further testimony on the proposed rules today.

The Director further requests that the record be closed on December 27, 1973 at 5 p.m.

The Director further requests he be instructed to publish final proposed rules during the first week of January and circulate such rules widely for final review by the public prior to formal adoption on January 28, 1974.

DIARMUID F. O'SCANNLAIN
Director

RDJ/bw
12/15/73
Attachments (2)

Proposed

Temporary Rules
Establishing Procedures for Processing of
Application for Approval Statement for Proposed Method of Sewage Disposal

(1) Definitions contained in Chapter 835, Oregon Laws 1973 (SB77) shall apply as applicable.

(2) Any person who is required under Chapter 421, Oregon Laws 1973, to furnish a disclosure statement pursuant to rules of the Real Estate Commissioner for the sale or transfer of interest in a land development and pertaining to the proposed method of sewage disposal may submit to the Department an application for approval of proposed sewage disposal on a form provided by the Department. Applications must be submitted at least 60 days before a statement is needed. All application forms shall be completed in full and signed by the applicant or his legally authorized representative.

(3) Applications which are obviously incomplete, unsigned or which do not contain the required exhibits will not be accepted by the Department and will be returned to the applicant for completion.

(4) If the Department determines that additional information is needed it will promptly request the needed information from the applicant. The application will not be considered complete for processing until the requested information is received. The application will be considered to be withdrawn if the applicant fails to submit the requested information within 90 days of the request.

(5) Applications which are complete will be processed by the Department and a statement will be furnished to the applicant indicating whether or not the proposed method of sewage disposal for each individual lot, parcel or unit is approved by the Department, and listing any condition or limitations placed on such approval, including, but not limited to, location or capacity of the proposed sewage disposal system.

PROPOSED RULES

PERTAINING TO STANDARDS

FOR

SUBSURFACE SEWAGE DISPOSAL

ENVIRONMENTAL QUALITY COMMISSION

November 1973

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INTRODUCTION

Effective January 1, 1974 Chapter 835, Oregon Laws 1973 establishes a subsurface sewage disposal permit program and transfers jurisdiction of subsurface sewage disposal from the State Health Division to the Department of Environmental Quality.

Because the same legislative act terminated the Health Division's authority in subsurface sewage disposal on October 5, 1973, the Environmental Quality Commission adopted the Health Division's rules with minor modifications as temporary rules of the Department. The Department also contracted with the Health Division for administrative enforcement until January 1, 1974. The emergency rules were adopted October 5, 1973, and are effective for 120 days. Such rules, therefore, must be permanently replaced prior to February 2, 1974. The rules which are proposed to be adopted are similar to the present emergency rules with modifications relating to policies of the Department and the Commission in regard to sewage disposal.

Notice of a Public Hearing has been given that the Environmental Quality Commission will consider the adoption of subsurface sewage disposal rules at their meeting in Eugene on December 17, 1973 at 2 p.m. The meeting will be held at Harris Hall, Main Floor, Corner of East 8th and Oak Street.

The Department will also conduct hearings before a hearings officer in the cities of Pendleton, Klamath Falls, Coos Bay, Newport, Albany, Portland, Eugene, Grants Pass, and Medford, in order to collect testimony throughout the state of Oregon which will be summarized and presented to the Commission at their public hearing.

In order to develop the proposed rules, the Department's staff conducted workshops with field staff working with the temporary rules, with many county and city officials, home builders and realtors throughout the state during the month of October 1973, to gather information on proposed changes with the present rules.

On the basis of these workshops, recent information submitted to the Department and a complete review of the temporary rules and Chapter 835, Oregon Law 1973, the following rules have been proposed for adoption by the Environmental Quality Commission.

PROPOSED RULES

PERTAINING TO STANDARDS

FOR

SUBSURFACE SEWAGE DISPOSAL

STATE OF OREGON

ENVIRONMENTAL QUALITY COMMISSION

NOVEMBER 1973

I. DEFINITIONS

(1) "A" Horizon means the original top layer of soil having the same color and texture throughout its depth. It is usually ten (10) to twelve (12) inches thick, but may range from two (2) inches to two (2) feet.

(2) Absorption facility means a system of open-jointed or perforated piping, alternate distribution units, or other seepage system for receiving the flow from septic tanks or other treatment units and designed to distribute effluent for absorption by the soil within the unsaturated zone and above any temporarily perched liquid water body.

(3) Automatic Siphon means a hydraulic device designed to rapidly discharge the contents of a dosing tank between predetermined water or sewage levels.

(4) Authorized Representative means the staff of the Department of Environmental Quality or of the local unit of government performing duties for and under agreement with the Department of Environmental Quality.

(5) Building sewer means that part of the system of drainage piping which conveys sewage into a septic tank, cesspool or other treatment unit from the building or structure within which the sewage originates.

(6) Cast-iron means standard weight cast-iron soil pipe.

(7) Chemical toilet means any device used for the retention and/or treatment of human waste which is dependent upon the addition of organic or non-organic chemicals other than water for that retention and/or holding. It shall also mean portable toilets which are intended to be emptied into water-carried sewage disposal facilities or into trailer holding tank dump stations.

(8) Cesspool means a receptacle which receives the discharge of sewage from a building sewer and which is so designed and constructed as to allow separation of solids from the liquid, digestion of organic matter during a period of detention, and to allow the liquids to seep into a minimum of five (5) foot deep stratum of rapid draining material through perforations in the side wall of the receptacle.

(9) Commission means the Environmental Quality Commission.

(10) Construction includes installation, alteration, repair or extension.

(11) Curtain drain means any gravel backfilled and adequately drained ground water interceptor or drainage system.

(12) Department means the Department of Environmental Quality.

(13) Director means the Director of the Department of Environmental Quality.

(14) Disposal area means the entire area used for underground dispersion of the liquid portion of sewage. It may consist of a seepage pit or of a disposal field or of a combination of the two. It may also consist of a cesspool or transpiration system.

(15) Disposal field means a system of disposal trenches or a seepage trench or system of seepage trenches.

(16) Disposal trench means a ditch or trench with vertical sides and substantially flat bottom with a minimum of twelve (12) inches of clean, coarse filter material into which a single distribution line has been laid, the trench then being backfilled with a minimum of twelve (12) inches of soil.

(17) Distribution box means a watertight structure which receives septic tank effluent and distributes it in approximately equal portions to two or more pipelines leading to a disposal area.

(18) Distribution pipe means an open-jointed or perforated pipe used in the dispersion of septic tank or other treatment unit effluent into disposal trenches or seepage trenches.

(19) Dosing tank means a watertight receptacle placed between a settling or septic tank and a distribution box or disposal area, and equipped with an automatic siphon or pump designed to discharge treated effluent intermittently to a disposal field in amounts proportioned to the area of the field and to provide a rest period between such discharges.

(20) Dwelling means any structure, building, or any portion thereof which is used, intended, or designed to be occupied for human living purposes including, but not limited to, houses, houseboats, boathouses, and mobile homes.

(21) Effective sidewall means the sidewall area from the bottom of the disposal trench or seepage trench to a level not to exceed the level of the filter material.

(22) Effluent lift pump means a pump used to lift septic tank or other treatment unit effluent to a disposal area at a higher elevation than the septic tank or treatment unit.

(23) Effluent sewer means that part of the system of drainage piping that conveys treated sewage from a septic tank or other treatment unit into an absorption facility.

(24) Filter material means clean, crushed stone or washed gravel ranging from three quarters (3/4) to two and one-half (2-1/2) inches in size.

(25) Grade means the rate of fall or drop in inches per foot or percentage of fall of a pipe.

(26) Grease trap means a device in which grease in sewage is intercepted and from which the grease is periodically removed for disposal.

(27) Impervious layer means a layer which restricts water or root penetration. It shall also be defined as having a saturated hydraulic conductivity (permeability) of less than .06 inches per hour as outlined in the United States Department of Agriculture, Soil Conservation Service, OR-Soils-1, for that particular soil series.

(28) Individual water supply means a source of water and a distribution system which serves a single residence or user for the purpose of supplying water for drinking, culinary or household uses and which is not a public water supply system.

(29) Industrial waste means any liquid, gaseous, radioactive, or solid waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.

(30) Intermittent stream means any watercourse that continuously flows water for a period of greater than two months in any one year, but not continuously for that year.

(31) Invert is the lowest portion of the internal cross section of a pipe or fitting.

(32) Multiple compartment tank means a settling or septic tank containing more than one settling compartment or chamber in series.

(33) Nonwater-carried sewage disposal facility includes, but is not limited to, pit privies, vault privies, and chemical toilets.

(34) Occupant means any person living or sleeping in a dwelling.

(35) Owner means any person who alone, or jointly, or severally with others (a) has legal title to any lot, dwelling, or dwelling unit, or (b) has care, charge, or control of any lot, dwelling, or dwelling unit as agent, executor, executrix, administrator, administratrix, trustee, leasee, or guardian of the estate of the holder of legal title, or (c) is the contract purchaser of the legal title. Each such person as described in (b) and (c) above, thus representing the holder of legal title, is bound to comply with the provisions of these minimum standards as if he were the owner.

(36) Percolation test means a test to determine the rate of movement or flow of water under the influence of gravity through the interstices or pores of a soil.

(37) Perched ground water means unconfined ground water separated from an underlying body of ground water by an unsaturated zone. Its water table is a perched water table. It is held up by a restrictive or impervious layer. Perched ground water may be either permanent, where recharge is frequent enough to maintain a saturated zone above the perching bed, or temporary, where intermittent recharge is not great or frequent enough to prevent the perched water from disappearing from time to time as a result of drainage over the edge of or through the perching bed.

(38) Permeability means the rate at which a soil transmits water when saturated and is equivalent to the term saturated hydraulic conductivity.

(39) Permit means the written permit issued by the Director or his authorized representative bearing the signature of the Director or the signature of the authorized representative, which by its conditions authorizes the permittee to construct, install, alter, repair or extend a subsurface disposal system.

(40) Person includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the Federal Government and any agencies thereof.

(41) Privy means a structure used for the disposal of human waste without the aid of water. It consists of a shelter built above a pit or vault in the ground into which the human waste falls.

(42) Public health hazard means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals and radioactive isotopes.

(43) Public waters means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

(44) Rapid draining materials means those materials having a saturated hydraulic conductivity greater than or equal to two (2) feet per day or those materials with fifty (50) per cent by weight retained on a ten (10) mesh sieve (2 millimeters diameter) and less than ten (10) per cent passing a two hundred (200) mesh sieve (0.074 millimeters diameter).

(45) Restrictive layer means a layer in the soil that because of its structure or low porosity does not allow water entering from above to pass through as rapidly as it accumulates. During some part of every year, a restrictive layer will have temporarily perched liquid water accumulated above it. A restrictive layer shall also be defined as having a saturated hydraulic conductivity (permeability) rating of 0.2 inches per hour to .06 inches per hour as outlined in the United State Department of Agriculture, Soil Conservation Service, OR-Soils-1, for that particular soil series.

(46) Saturated hydraulic conductivity means the rate at which saturated soil transmits water under unit conditions, as defined by the U.S. Geological Survey.

(47) Scum means a mass of sewage solids floating at the surface of sewage which is buoyed up by entrained gas, grease, or other substances.

(48) Seepage area means the effective sidewall of a disposal trench, seepage trench,or that portion of a seepage pit through which the sewage seeps into the soil.

(49) Seepage pit means a type of absorption facility which is a covered pit with open-jointed lining through which septic tank or other treatment unit effluent will seep into a minimum of five (5) foot deep statum of rapid draining material.

(50) Seepage trench means a ditch or trench that is more than thirty-six (36) inches deep and has verticle sides, a substantially flat bottom, and filled with clean, coarse filter material into which a single distribution line has been laid, the trench then being backfilled with a minimum of twelve (12) inches of soil.

(51) Self-contained nonwater-carried waste disposal facility includes, but is not limited to, vault privies, chemical toilets, combustion toilets, recirculating toilets, and portable toilets, in which all waste is contained in a watertight receptacle.

(52) Septic tank means a watertight receptacle which receives the discharge of sewage from a building sewer and which is so designed and constructed as to allow separation of solids from the liquid, digestion of organic matter during a period of detention, and to allow the liquids to discharge into the soil outside of the tank through an absorption facility.

(53) Septic tank effluent means partially treated sewage which is discharged from a septic tank.

(54) Sewage means the water-carried human and animal wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places, together with such ground-water infiltration, surface waters, or industrial waste as may be present.

(55) Sewage disposal service means:

(a) The construction of subsurface sewage disposal systems or any part thereof.

(b) The pumping out or cleaning of subsurface sewage disposal systems or nonwater-carried sewage disposal facilities.

(c) The disposal of materials derived from the pumping out or cleaning of subsurface sewage disposal systems or nonwater-carried sewage disposal facilities.

(d) Grading, excavating and earth-moving work connected with the operations described in paragraph (a) of this subsection, except streets, highways, dams, airports or other heavy construction projects and except earth-moving work performed under the supervision of a builder or contractor in connection with and at the time of the construction of a building or structure.

(56) Slope means the rate of fall or drop in feet per one hundred (100) feet of the ground surface. It is expressed as percent of grade.

(57) Soil separate means the size of soil particles according to the following chart:

USDA Soil Classification
Sizes of Soil Separates

Clay	Silt	Very fine sand	Fine sand	Medium sand	Coarse sand	Very coarse sand	Fine gravel	Coarse gravel	Cobbles
Sieve sizes		270 — 200 — 140	60	40	20	10	4	½" — ¾"	3"
.001 .002	.003 .004 .006 .008 .01 .02 .03 .04	.06 .08	.2	.3 .4	.6 .8 1.0	2.0	3.0 4.0 6.0 8.0 10	20 30 40 60	80
Particle size mm.									

(58) Soil texture means the amount of each soil separate in a soil mixture. Field methods for judging the texture of a soil consist of forming a cast of soil, both dry and moist, in the hand and pressing a ball of moist soil between thumb and finger. The major textural classifications are defined and classified as follows:

(A) Sand: Individual grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it will form a cast that will hold its shape when the pressure is released, but will crumble when touched.

(B) Sandy loam: Consists largely of sand, but has enough silt and clay present to give it a small amount of stability. Individual sand grains can be readily seen and felt. Squeezed in the hand when dry, this soil will readily fall apart when the pressure is released. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

(C) Loam: Consists of an even mixture of sand and of silt and a small amount of clay. It is easily crumbled when dry and has a slightly gritty yet fairly smooth feel. It is slightly plastic. Squeezed in the hand when dry, it will form a cast that will withstand careful handling. The cast formed of moist soil can be freely handled without breaking.

(D) Silt loam: Consists of a moderate amount of fine grades of sand, a small amount of clay, and a large quantity of silt particles. Lumps in a dry, undisturbed state appear quite cloddy, but they can be pulverized readily; the soil then feels soft and floury. When wet, silt loam runs together and puddles. Either dry or moist, casts can be handled freely without breaking. When a ball of moist soil is pressed between thumb and finger, it will not press out into a smooth, unbroken ribbon, but will have a broken appearance.

(E) Clay loam: Consists of an even mixture of sand, silt, and clay, which breaks into clods or lumps when dry. When a ball of moist soil is pressed between the thumb and finger, it will form a thin ribbon that will readily break, barely sustaining its own weight. The moist soil is plastic and will form a cast that will withstand considerable handling.

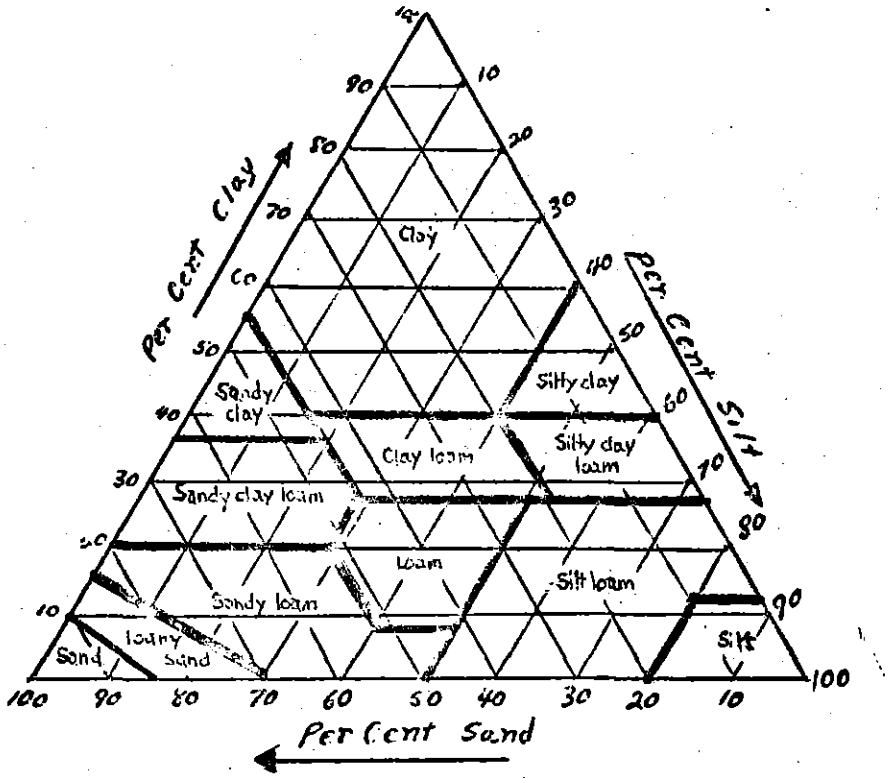
(F) Silty clay loam: Consists of a moderate amount of clay, a large amount of silt, and a small amount of sand. It breaks into moderately hard clods or lumps when dry. When moist, a thin ribbon or 1/8-inch wire can be formed between thumb and finger that will sustain its weight and will withstand gentle movement.

(G) Silty clay: Consists of even amounts of silt and clay and very small amounts of sand. It breaks into hard clods or lumps when dry. When moist, a thin ribbon or 1/8-inch or less sized wire formed between thumb and finger will withstand considerable movement and deformation.

(H) Clay: Consists of large amounts of clay and moderate to small amounts of silt and sand. It breaks into very hard clods or lumps when dry. When moist, a thin, long ribbon or 1/16-inch wire can be molded with ease. Fingerprints will show on the soil, and a dull to bright polish is made on the soil by a shovel.

These and other soil textural characteristics are also defined as shown in the United States Department of Agriculture textural classification chart shown below which is based on laboratory analysis and hereby adopted as part of these regulations.

SOIL TEXTURAL TRIANGLE



(59) Subsurface sewage disposal means the physical, chemical or bacteriological breakdown and treatment of sewage in the unsaturated zone of the soil above any temporarily perched liquid body, and preceded by bacterial breakdown within a septic tank or other treatment facility.

(60) Subsurface sewage disposal system means the combination of a building sewer and cesspool or a building sewer, septic tank, or other treatment unit and effluent sewer and absorption facility.

(61) Test pit means an open pit dug to permit examination of the soil to evaluate its suitability for subsurface sewage disposal.

(62) Transpiration system means the combination of a building sewer, septic tank, or other treatment unit and effluent sewer and an effluent disposal system used in soils not suitable for an absorption facility and designed to distribute effluent for transpiration by specifically located vegetation.

(63) Trap means a fitting or device which provides a liquid seal without materially affecting the flow of sewage or waste water through it.

(64) Vent stack means a vertical vent pipe which is installed to provide circulation of air to and from the drainage system.

(65) Water Table means that surface in an unconfined water body at which the pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the water body just far enough to hold standing water. In wells which penetrate to greater depths, the water level will stand above or below the water table if an upward or downard component of ground-water flow exists.

(66) Zone, saturated means that part of the water-bearing material in which all voids, large and small, are filled with water under pressure greater than atmospheric, as defined by the U. S. Geological Survey.

(67) Zone, unsaturated means the zone between the land surface and the water table. This zone contains liquid water under less than atmospheric pressure. In parts of the zone, interstices, particularly the small ones, may be temporarily or permanently filled with water. Temporarily perched liquid water may exist within the unsaturated zone.

II. PROCEDURES FOR ISSUANCE OR DENIAL OF SUBSURFACE SEWAGE DISPOSAL PERMITS

A. Applications for subsurface sewage disposal systems shall be made on Department's approved application forms. All application forms must be completed in full, signed by the applicant or his legally authorized representative and accompanied by the specified number of copies of all required exhibits.

B. Applications, which are incomplete, unsigned or which do not contain the required exhibits (clearly identified) will not be accepted by the Department for filing and will be returned to the applicant for completion within 20 days of receipt.

C. Following the receipt of a completed application and specified permit fee the Director or his authorized representative will make a determination as to whether or not the proposed construction will be in accordance with the rules of the Environmental Quality Commission, and within 20 days after the date of such receipt will either issue or deny the permit, unless weather conditions or distance and unavailability of transportation prevent the issuance or denial within 20 days, in which case the Director or his authorized representative will notify the applicant of the reason for the delay and will issue or deny the permit within 60 days of such notification.

D. The Director or his authorized representative will issue a permit only if he finds that the proposed construction will be in accordance with the Rules of the Environmental Quality Commission and will issue a permit only to a person licensed by the Department to perform sewage disposal services, or to an owner or contract purchaser in possession of the land.

If the determination referred to in paragraph C above cannot be made within the time limits specified because of frozen ground conditions or seasonal variations in the liquid water level, the application shall be denied until such time as the required determination can be made by the Director or his authorized representative.

E. The Director or his authorized representative will not issue a permit if a community or area-wide sewerage system is available which will satisfactorily accommodate the proposed sewage discharge.

F. Permit shall be effective for a period of one year from the date of issuance.

G. Prior Permits or Approvals - Any permit or written approval for construction of a subsurface sewage disposal system granted prior to the adoption of these rules shall be effective for a period of one year from the date of issuance of the permit or written approval. The rules in effect on the date of issuance of the permit or written approval and any special conditions contained in the permit or written approval shall apply.

III. SUBSURFACE SEWAGE DISPOSAL SYSTEMS

All subsurface sewage disposal systems shall comply with the following requirements:

A. Minimum Separation Distances - Septic tanks and all other treatment units and all portions of any subsurface sewage disposal area, including the replacement area, shall not be installed closer than the following distances from items below: [1]

	Sewage Disposal Area	Septic Tanks and other Treatment Units
1. Ground water supplies including wells, springs, and cisterns.	100 ft.	25 ft.
2. Property Line[2]	10 ft.	10 ft.
a. When adjacent to property which is or may be served by individual water supply (except on property line abutting public street)	25 ft.	10 ft.
3. Surface public waters or intermittent streams (Bank drop-off or mean yearly high water mark, whichever is greater).	100 ft.	25 ft.
4. Water mains or service lines	10 ft.	10 ft.
5. Foundation lines of any building including garages and outbuildings	10 ft.	5 ft.
6. Above top of cut banks	25 ft.	---

1. Greater separation distances will be required if the disposal system will adversely affect the quality of any public waters of the state.

2. Where more than one lot or parcel is served by a common subsurface disposal system, no property setbacks shall be required from the common property line, providing the minimum separation distance between wells and subsurface sewage disposal systems can be maintained.

NOTE: Septic tanks and other treatment units shall be kept as close to the minimum separation distance from the foundation as feasible.

B. General Standards

1. Prohibited Flows - No cooling water or air conditioning water, ground water or roof drains shall be discharged to any subsurface sewage disposal system. No petroleum derivatives shall be discharged into any subsurface sewage disposal system.

2. Repairs - If in the judgment of the Director or his authorized representative, a subsurface sewage disposal system is creating a public health hazard or is adversely affecting the quality of public waters of the state, the system shall be repaired.

3. Maintenance - All subsurface sewage disposal systems shall be maintained so as not to create a public health hazard or affect public waters of the state.

4. Replacement Area - All lots on which a subsurface sewage disposal system is to be installed must have at least sufficient suitable disposal area for a full replacement disposal area which meets all of the requirements of the rules contained herein, and which shall be installed in the event of disposal system failure. The replacement area shall be kept vacant, free of development, traffic, or soil modification. The Director or his authorized representative may require additional area to allow for anticipated expansion of commercial establishments.

5. Public Waters - If, in the judgment of the Director or his authorized representative, the installation of a subsurface sewage disposal system will adversely affect the quality of any public waters of the state, he shall not authorize the installation of the system.

6. Multiple Service - Where a water-carried subsurface sewage disposal system will serve more than one (1) lot or parcel, such a system shall be under the control of a city or other legal entity which has been

formed in compliance with Oregon Revised Statutes, Chapter 450 or 451.

7. Property Line Crossed - No sewage disposal system or part thereof shall cross any property line unless a recorded utility easement is secured which permits installation, maintenance, repair or replacement of the proposed construction. This easement must accommodate the entire proposed subsurface sewage disposal system, including setbacks, which lies beyond the property line.

8. Pipe Materials and Construction - Standards for pipes used for subsurface disposal systems including the building sewer, the effluent sewer, and the distribution pipes in the absorption facility or transpiration system are found in Appendix D. All pipe used for subsurface sewage disposal shall comply with these standards.

9. Capacity - The system shall have adequate capacity to properly dispose of the maximum daily sewage flow. The quantity of sewage shall be estimated by the Director or his authorized representative using the following table:

Quantities of Sewage Flows

Type of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Airports (per passenger)	5
Bathhouses and swimming pools	10
Camps:	
Campground with central comfort stations	35
With flush toilets, no showers	25
Construction camps (semi-permanent)	50
Day camps (no meals served)	15
Resort camps (night and day) with limited plumbing	50
Luxury camps	100
Churches (per seat)	5
Country clubs (per resident member)	100
Country clubs (per non-resident member present)	25

Quantities of Sewage Flows

(Continued)

Type of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Dwellings:	
Boarding houses	50
Additional for non-resident boarders	10
Multiple family dwellings (apartments)	75
Rooming houses	40
Single-family dwellings	75
Factories (gallons per person, per shift, exclusive of industrial wastes, with shower facilities)	35
Factories (gallons per person, per shift, exclusive of industrial wastes, without shower facilities)	15
Hospitals (per bed space)	250
Hotels with private baths (2 persons per room)	60
Hotels without private baths	50
Institutions other than hospitals (per bed space)	125
Laundries, self-service (gallons per wash; i.e., per customer)	50
Mobile home parks (per space)	375
Motels with bath, toilet, and kitchen wastes (per bed space)	50
Motels (per bed space)	40
Picnic Parks (toilet wastes only)(per picnicker)	5
Picnic Parks (with bathhouses, showers and flush toilets)	10
Restaurants (toilet and kitchen wastes per seat)	40
Restaurants (single-service with toilet)(per customer)	2
Restaurants (additional for bars and lounges per seat)	10
Schools:	
Boarding	100
Day, without gyms, cafeterias or showers	15
Day, with gyms, cafeterias and showers	25
Day, with cafeteria, but without gyms or showers	20
Service stations (per vehicle served)	10
Swimming pools and bathhouses	10
Theaters:	
Movie (per auditorium seat)	5
Drive-in (per car space)	20
Travel trailer parks (without individual water and sewer hookups)(per space)	50
Travel trailer parks (with individual water and sewer hookups)(per space)	100
Workers:	
Construction (at semi-permanent camps)	50
Day, at schools and offices (per shift)	15

NOTE: The number of occupants shall be calculated as two (2) per bedroom in dwellings and thirty (30) per classroom in schools.

IV. SEPTIC TANKS

All septic tanks shall comply with the following requirements:

A. Required liquid capacity of the first compartment of septic tanks shall be at least 750 gallons for flows up to 500 gallons per day; shall be equal to at least one and one-half (1-1/2) days' sewage flow for flows between 500 and 1500 gallons per day; and shall be equal to 1125 gallons plus seventy-five (75) percent of the daily sewage flow for flows greater than 1500 gallons per day. Additional volume may be required by the Director or his authorized representative for industrial wastes or other special wastes. The quantity of daily sewage flow shall be estimated by the Director or his authorized representative using the daily sewage flow chart under the rule section on Subsurface Sewage Disposal Systems.

B. Minimum Liquid Capacity - Septic tanks shall be sized according to Item A above except that in no case shall a septic tank have a liquid capacity less than indicated in the following:

1. Single Family Dwellings:

Number of Bedrooms	Required Minimum Capacity in Gallons	Recommended Liquid Capacity in Gallons
1	750	1200
2	750	1200
3	900	1200
4 *	1000	1200

*For each additional bedroom, add 250 gal to tank capacity.

2. Establishments Other Than Single-Family Dwellings

Type of Establishment	Septic Tank Minimum Liquid Capacity In Gallons
Airports	750
Bathhouses and swimming pools	2000
Camps:	
Campground with central comfort stations	2000
With flush toilets, no showers	1200
Construction camps (semi-permanent)	2000
Day camps (no meals served)	1200
Resort camps (night and day) with limited plumbing	2000
Luxury camps	3000
Churches	750
Country clubs	3000
Dwellings:	
Boarding houses	2000
Multiple family dwellings (apartments)	2000
Rooming houses	2000
Single-family dwellings	750
Factories (exclusive of industrial wastes, with shower facilities)	recommend 1200 2000
Factories (exclusive of industrial wastes, without shower facilities)	750
Hospitals	5000
Hotels with private baths	2000
Hotels without private baths	2000
Institutions other than hospitals	3000
Laundries, self-service	2000
Mobile home parks	3000
Motels with bath, toilet, and kitchen wastes	2000
Motels	2000
Picnic Parks (toilet wastes only)	1200
Picnic Parks (with bathhouses, showers and flush toilets	2000
Restaurants (toilet and kitchen wastes)	3000
Restaurants (single-service with toilet)	1200
Schools:	
Boarding	3000
Day, without gyms, cafeterias or showers	1200
Day, with gyms, cafeterias and showers	2000
Day, with cafeteria, but without gyms, or showers	1200
Service stations	2000
Swimming pools and bathhouses	2000
Theaters:	
Movie	1200
Drive-in	1200
Travel trailer parks (without individual water and sewer hookups)	2000
Travel trailer parks (with individual water and sewer hookups)	3000
Workers:	
Construction (at semi-permanent camps)	2000
Day, at schools and offices	750

Minimum liquid capacities of septic tanks for structures and establishments not listed shall be determined by the Director or his authorized representative.

C. Installation

1. Septic tanks installed with more than eighteen (18) inches of soil cover shall have a manhole provided for access to the tank.

2. No septic tank shall be installed in such a manner that the sewage flow from one building drain or building sewer is divided with one portion being discharged to a second tank.

3. Septic tanks that are installed in a road or driveway or otherwise are subject to vehicular traffic shall be constructed in accordance with Diagram 2, Appendix A.

4. Septic tanks shall be installed on a level, stable base that will not settle.

5. Septic tanks shall be installed in a location so as to be accessible for servicing and cleaning.

6. Backfill around and over the septic tank shall be placed in such a manner as to prevent damage to the tank or connected pipes.

7. No septic tank shall be covered by concrete or asphalt surfaces unless provisions are made for access in accordance with these rules.

D. Construction

1. The minimum standards for construction of septic tanks are found in Appendix A.

V. DISPOSAL AREAS

A. Disposal Trenches - No disposal trench shall be installed where any of the following conditions are present:

NOTE: Measurments are to be taken on the downhill side of the test pit.

1. An impervious layer is less than thirty-six (36) inches below the surface of the ground or twelve (12) inches below the bottom of the disposal trench.

2. A restrictive layer is less than thirty (30) inches below the surface of the ground or six (6) inches below the bottom of the disposal trench.

3. An area where the seasonal high saturated zone is within six (6) feet of the natural ground surface or a temporarily perched liquid water body would come into contact with the disposal field. Projected levels of liquid water may be predicted during periods of dry weather utilizing one of the following criteria:

a. Where water movement is laterally restricted, mottling consisting of various shades of gray and red specks, splotches and/or tongues throughout the soil and caused by alternate saturation and desiccation, or dark black highly organic soils, may be found at the liquid water level.

b. Where water movement is laterally unrestricted, no mottling will occur and liquid water level predictions where possible shall be based on past observations by the Director or his authorized representative. If such observations have not been made, application for a permit shall be denied until appropriate observations can be made.

4. Slopes exceeding these maximums.

a. Where restrictive layers are encountered:

Depth to Restrictive Layer	Maximum Slope Allowed
Greater than 48 inches	25%
Between 36 and 48 inches	18%
Between 30 and 36 inches	12%

b. Where impervious layers are encountered:

Depth to Impervious Layer	Maximum Slope Allowed
Greater than 72 inches	25%
Between 54 and 72 inches	18%
Between 36 and 54 inches	12%

5. Where rapidly draining materials will adversely affect public waters and are located within thirty-six (36) inches of the natural ground surface.

6. An area where an accumulation of surface water will occur for a period of two (2) consecutive weeks or longer.

7. An area that has been filled or the soil has been modified. A disposal field shall not be installed where the "A" horizon has been cut away without prior written approval of the Department.

8. An area that will be covered by asphalt or concrete, or where vehicular traffic will be allowed to drive over the field after installation.

9. An area where provisions have not been made for the drainage of the ground surface of and adjacent to a disposal area to prevent the accumulation of surface water and to prevent erosion.

NOTE: Curtain Drains

If the restrictive layer is within the acceptable limits for a disposal area as defined in these Rules, a curtain drain may be used to intercept and/or drain a perched liquid water. However, a curtain drain shall be used only on ground with a minimum slope of five (5) percent, and shall be located at least twenty (20) feet up-gradient from the nearest disposal area, and at least one hundred (100) feet down-gradient from any other disposal area or property line.

B. Low Density Areas

1. For single-family dwellings in areas where the disposal area and the replacement area can be located more than 250 feet from any property line, surface public waters, or ground water supplies, the installation of a disposal trench may be considered where the soil profile depths are less than thirty-six (36) inches to an impervious layer, where the soil profile depths to restrictive layer are less than thirty (30) inches, where the saturated zone is less than six (6) feet of the natural ground surface, where the topographical slope is greater than 25%, where rapid draining materials are less than thirty-six (36) inches of the natural ground surface, where the proposed disposal area has been filled, where a public health hazard will not be created, or where the installation will not adversely affect the public waters of the state, if requiring strict compliance with the foregoing restrictions would be unreasonable, burdensome or impractical in the judgment of the Department due to special physical conditions or cause. Any permit proposed to be issued under these conditions by any authorized representative other than the Department's staff shall receive the prior written concurrence of the Department.

C. Minimum Seepage Area

1. All disposal fields shall comply with the following requirements:

a. The bottom of the disposal trench or seepage trench shall not be calculated as seepage area. Only the trench effective sidewall area shall be calculated as seepage area. The amount of effective sidewall area required for each disposal field shall be determined by consideration of soil characteristics, including texture and levels of restrictive layers, observed and anticipated perched liquid water levels, topographical and climatological features.

Percolation or other tests to determine saturated hydraulic conductivity may be used only as a supplement to the requirements of this section.

b. Where restrictive layers are encountered, the following chart shall be used to determine the minimum effective sidewall area;

MINIMUM SIDEWALL SEEPAGE AREA IN SQUARE FEET PER 150 GALLONS DAILY WASTE FLOW DETERMINED FROM TYPE OF SOIL VERSUS DEPTH OF RESTRICTIVE LAYER.

DEPTH TO RESTRICTIVE LAYER	SANDY LOAM / SAND	LOAM	SILT LOAM	CLAY LOAM	SILTY CLAY LOAM	SILTY CLAY	CLAY*
30"	150	180	250	275	300	330	NOT ACCEPTABLE
36"	125	150	180	250	275	300	
42"	125	150	180	200	275	300	
48"	125	150	180	200	275	300	
54"	100	125	150	180	250	275	
60"	100	125	150	180	250	275	
66"	100	125	150	180	250	275	
72" or more	100	100	125	150	180	250	

Soil Type at the Depth of Disposal Trench

c. Where observed or projected liquid water is encountered, the following chart shall be used to determine the minimum effective sidewall seepage area.

MINIMUM SIDEWALL SEEPAGE AREA IN SQUARE FEET PER 150 GALLONS DAILY WASTE FLOW DETERMINED FROM TYPE OF SOIL VERSUS DEPTH TO LIQUID WATER DURING THE HIGHEST PERIOD OF A YEAR.

DEPTH TO FREE WATER	SANDY LOAM / SAND	LOAM	SILT LOAM	CLAY LOAM	SILTY CLAY LOAM	SILTY CLAY	CLAY*
24"	150	180	250	275	300	330	NOT ACCEPTABLE
30"	125	150	180	250	275	300	
36"	125	150	180	250	275	300	
42"	125	150	180	250	275	300	
48"	100	125	150	180	250	275	
54"	100	125	150	180	250	275	
60"	100	125	150	180	250	275	
66" or more	100	100	125	150	180	250	

Soil Type at the Depth of Disposal Trench

NOTE: A minimum of 300 square feet of effective sidewall area shall be provided for each disposal field.

*Clays that have a low or moderate shrink-swell potential combined with a moderate or strong structure according to the SCS OR-1 for that type of soil shall be permitted with a soil rating of 330 square feet per 150 gallons daily waste flow.

D. Minimum Construction Requirements for Disposal Trenches

1. Excavations - The bottom of each disposal trench shall be parallel with the grade of the tile. When the subsoil within the level of the disposal trench is wet, the disposal trench sidewalls shall be raked or hand finished to insure permeability.

2. Filter material - No material of less than three quarters (3/4) inch in diameter shall be allowed in the disposal trench. The filter material shall extend the full width of the disposal trench or seepage trench, shall not be less than six (6) inches deep beneath the bottom of the distribution pipes, and shall extend at least two (2) inches above the top of the distribution pipes. The filter material shall be covered with untreated building paper, or a minimum of six (6) inches of straw, or other material approved by the Director or his authorized representative before the trench is backfilled with earth. In sandy soils which can be expected to enter the filter material even many years after installation, the filter material may be covered with plastic or tar paper.

3. Trench Backfill - The disposal trench shall be backfilled with earth that is free from stones larger than ten (10) inches in diameter, frozen clumps of earth, masonry, stumps, or waste construction materials. Backfill shall be carefully placed to prevent damage to the piping and to the installation.

4. Distribution pipes shall have a minimum diameter of four (4) inches and shall be laid true to line and grade. The distribution pipe may consist of perforated bituminized-fiber, perforated plastic, or vitrified clay pipe or cement tile laid with loose joints. A description of the approved materials and the construction requirements is found below.

a. The lines between each of the field lateral lines and the distribution box shall be constructed with watertight joints and shall be bedded on undisturbed soil. No open-jointed or perforated distribution line shall be within five (5) feet of a distribution box. The trenches shall not be constructed to allow septic tank effluent to flow backwards from the field laterals to undermine the distribution box and septic tank.

b. Distribution pipes in disposal trenches - All disposal trenches shall have a distribution pipe of at least four (4) inch diameter centered in the middle of the ditch. The pipe installation shall conform with the following requirements:

1) Plastic pipe shall be installed with the aid of grade boards or stakes which have been installed before any filter material is placed in the ditch, and there shall be no less than six (6) inches of filter material under every portion of the pipe.

2) Concrete tile shall be laid with one-fourth (1/4) inch open joints. The top one-half (1/2) of these joints must be protected by individual strips or a capping strip of either treated building paper or tar paper. Suitable tile connecters, spacers, collars, or clips may be used. The tile must be laid on a grade board at least six (6) inches high and one (1) inch wide. This grade board must run the total length of the seepage trench and must remain in place after backfilling. If used in soils with a pH

of less than 6.0, Special-Quality pipe as defined in ASTM C 412-65 shall be installed.

3) Vitrified clay drain tile shall be installed the same as concrete pipe in (b) above.

4) Bituminized fiber pipe shall be installed with the aid of grade boards or stakes which have been installed before any filter material is placed in the ditch, and there may be no less than six (6) inches of filter material under every portion of the pipe.

5) No disposal pipe shall be installed which does not comply with the standards in Appendix D.

5. Disposal trenches shall be constructed in accordance with the standard dimensions listed in the following table:

a.	Minimum lines per field using equal distribution system	2
b.	Maximum length per trench using equal distribution system	125 feet
c.	Minimum diameter of distribution lines	4 inches
d.	Maximum grade of distribution lines from point nearest the septic tank to the point of the farthest distance	5 inch drop in every 125 feet (Prefer 2-inch drop)
e.	Minimum bottom width of trench	18 inches
f.	Minimum depth of trench	24 inches
g.	Maximum depth of trench	36 inches
h.	Minimum depth of backfill over filter material	12 inches
i.	Minimum distance of undisturbed earth between disposal trenches	8 feet
j.	Minimum depth of filter material under 4-inch tile	6 inches
k.	Minimum total depth of filter material	12 inches

E. Seepage Pits and Cesspools

1. Seepage pits and cesspools shall not be used for the subsurface disposal of sewage except where specifically approved by the Department. Any permit for a seepage pit or cesspool proposed to be issued by any authorized representative other than Department's staff shall receive the prior written concurrence of the Department.

2. Seepage pits and cesspools shall not be used in areas having groundwater supplies including wells, springs, and cisterns, or where public waters will be adversely affected.

3. Seepage pit and cesspool construction standards are found in Appendix C.

F. Seepage Trenches

1. Seepage trenches may be used in areas where the unsaturated zone is sufficiently deep and where public waters will not be adversely affected. Any permit for a seepage trench proposed to be issued by any authorized representative other than the Department's staff shall receive the prior written concurrence of the Department.

2. Seepage trench construction shall be the same as for disposal trenches except that the maximum depth may exceed thirty-six (36) inches.

G. Transpiration Systems

1. Transpiration systems shall not be used for the subsurface disposal of sewage except where specifically approved by the Department. Any permit for a transpiration system proposed to be issued by any authorized representative other than Department's staff shall receive the prior written concurrence of the Department.

H. Repair of Disposal Areas

1. In repairing a failing disposal system consideration may be given to the installation of a disposal trench where the soil profile depths are less than thirty-six (36) inches to an impervious layer, where the soil profile depths are less than thirty (30) inches, to a restrictive layer where the saturated zone is less than six (6) feet of the natural ground surface, where the topographical slope is greater than twenty-five percent (25%), where rapid draining materials are less than thirty-six (36) inches of the natural ground surface, where the proposed disposal area has been filled, where the minimum separation distance cannot be maintained, where a public health hazard will not be created, or where the installation will not adversely affect the public waters of the state if requiring strict compliance with the foregoing would result in unreasonable closure for use or occupancy of any buildings in the judgment of the Director or his authorized representative.

2. Within feasible limitations, the repair of a failing subsurface disposal trench system shall require the installation of an adequate amount of disposal trench to make the total effective sidewall seepage area comply with these rules. In no case shall a repair consist of the addition of disposal trench equivalent to less than fifty percent (50%) of the effective sidewall area in the original installation.

3. In constructing a disposal trench repair, a serial distribution technique shall be used with an overflow pipe or drop-box used to divert the effluent to the repair system and allowing the failing system time to recover before the effluent diverts back to the original disposal area.

VI. DISTRIBUTION TECHNIQUES

A. Distribution System Design - Disposal trenches shall be constructed according to one of the following methods depending on the slope of the ground surface:

1. Loop System (Figures 1A and 1B)

   a. The loop system shall be used on level ground only. All lines and headers shall be level with no drop throughout their length.

   b. A distribution box may receive the effluent sewer and shall divert the flow of sewage into a header for each lateral in the disposal facility. In lieu of a distribution box, a series of "tees" laid on an even grade may be used.

   c. The disposal trenches shall be interconnected at the farthest point from the distribution box by "tees" connecting an additional disposal trench which shall run at right angles to the other trenches.

   d. The elevation of all disposal trenches shall be the same.

2. Equal Distribution System (Figure 2)

   a. The equal distribution system shall be used on level ground only.

   b. A distribution box shall receive the effluent sewer and shall divert the flow of sewage into a header for each lateral in the disposal facility.

3. Serial System (Figures 3A and 3B)

   a. The Serial System shall be used on sloping ground. The bottom of each trench and its distribution line shall be level.

   b. One overflow pipe or one set of drop-boxes per line shall be used to divert the effluent to the succeeding trench at such time as each fills.

FIGURE 1A

LOOP SYSTEM (with Distribution Box)

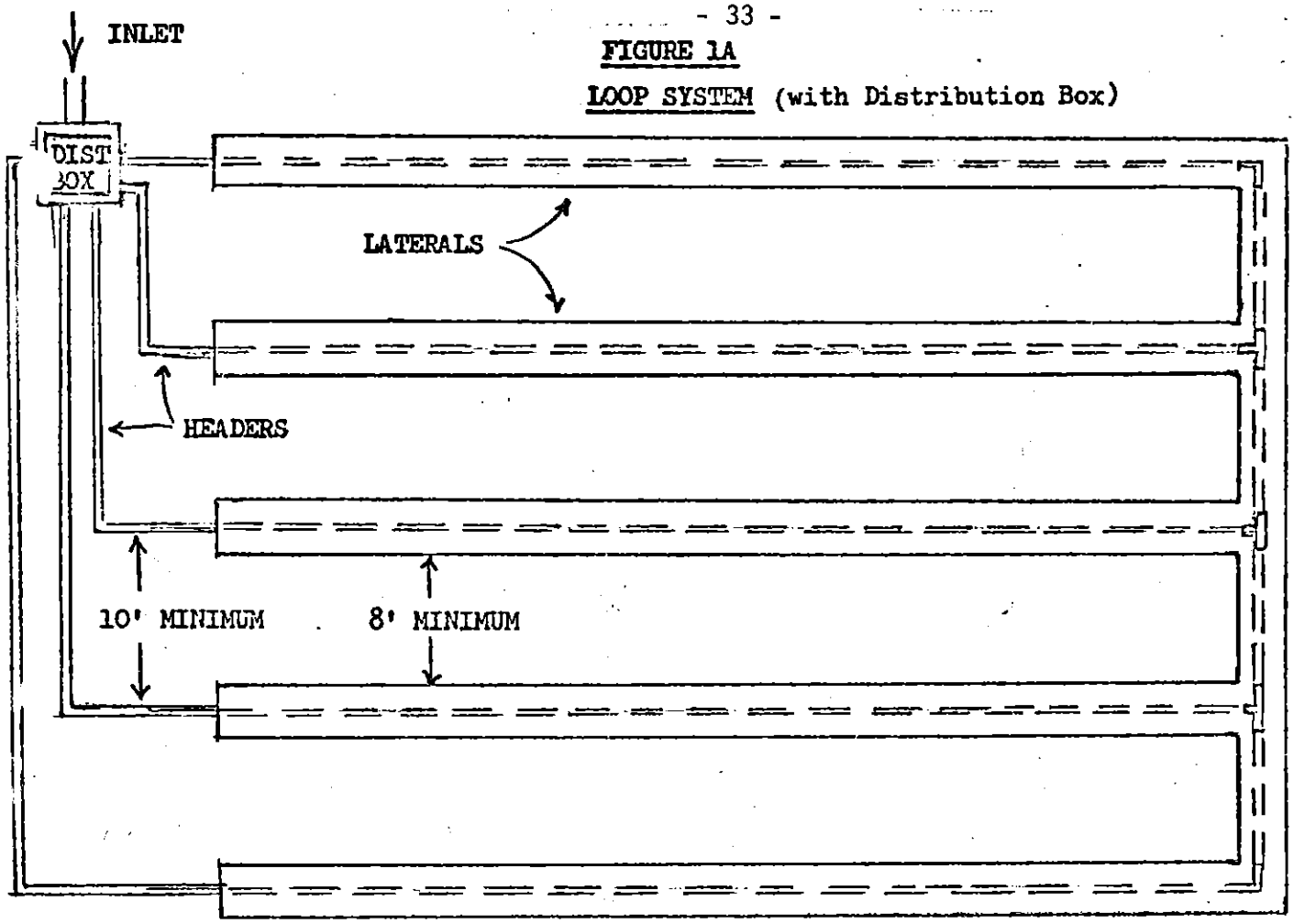


FIGURE 1B

LOOP SYSTEM (with Manifold)

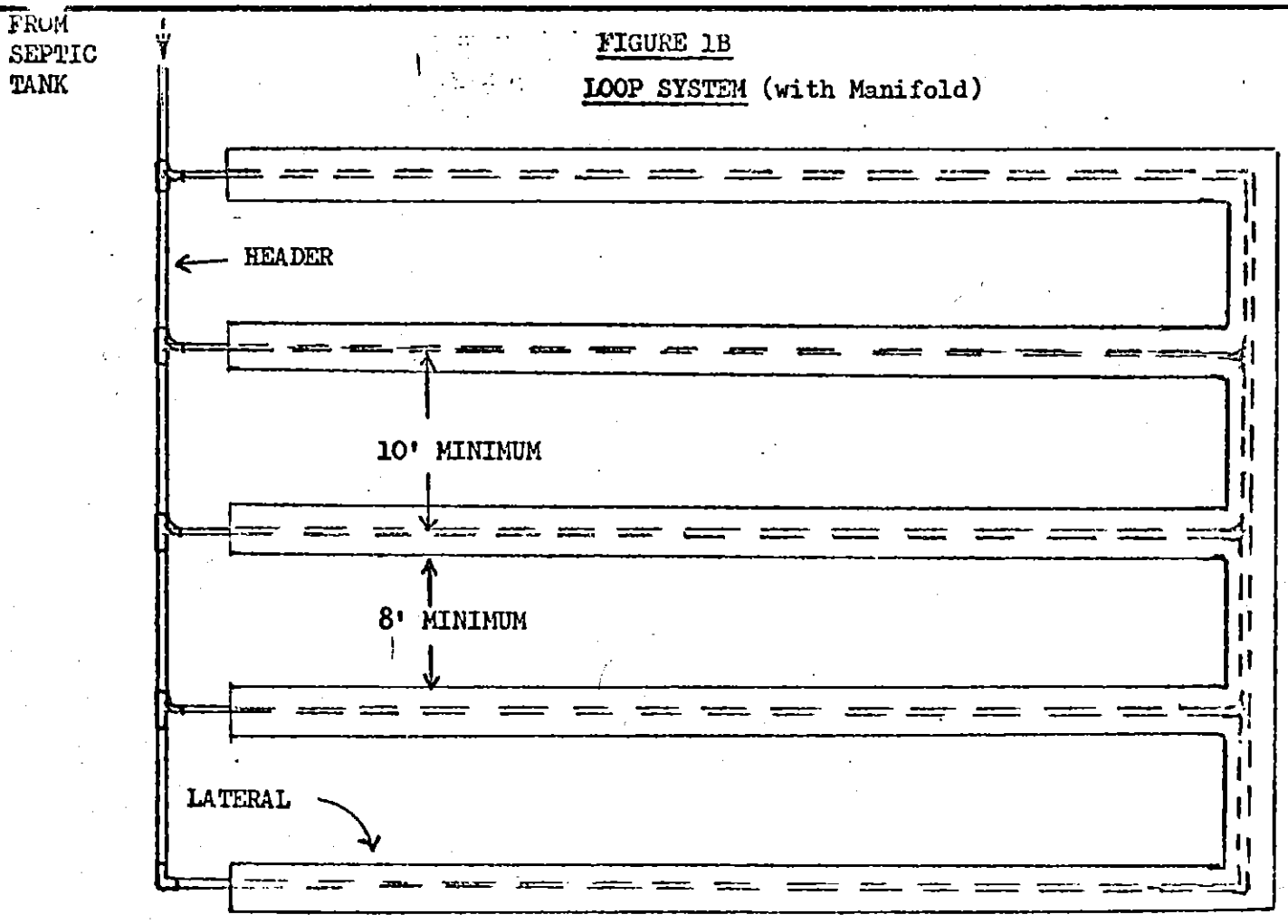


FIGURE 2

EQUAL DISTRIBUTION SYSTEM

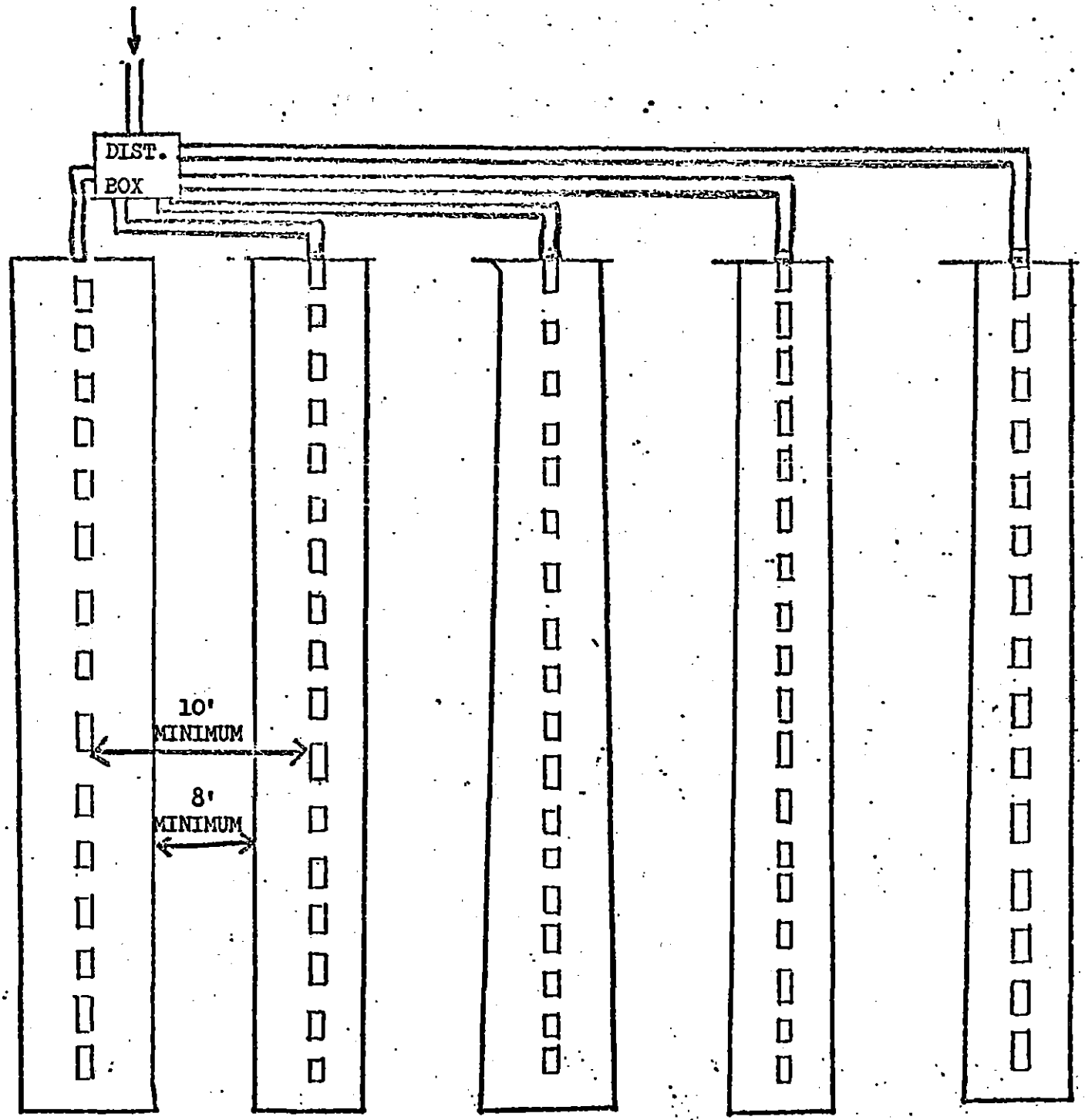
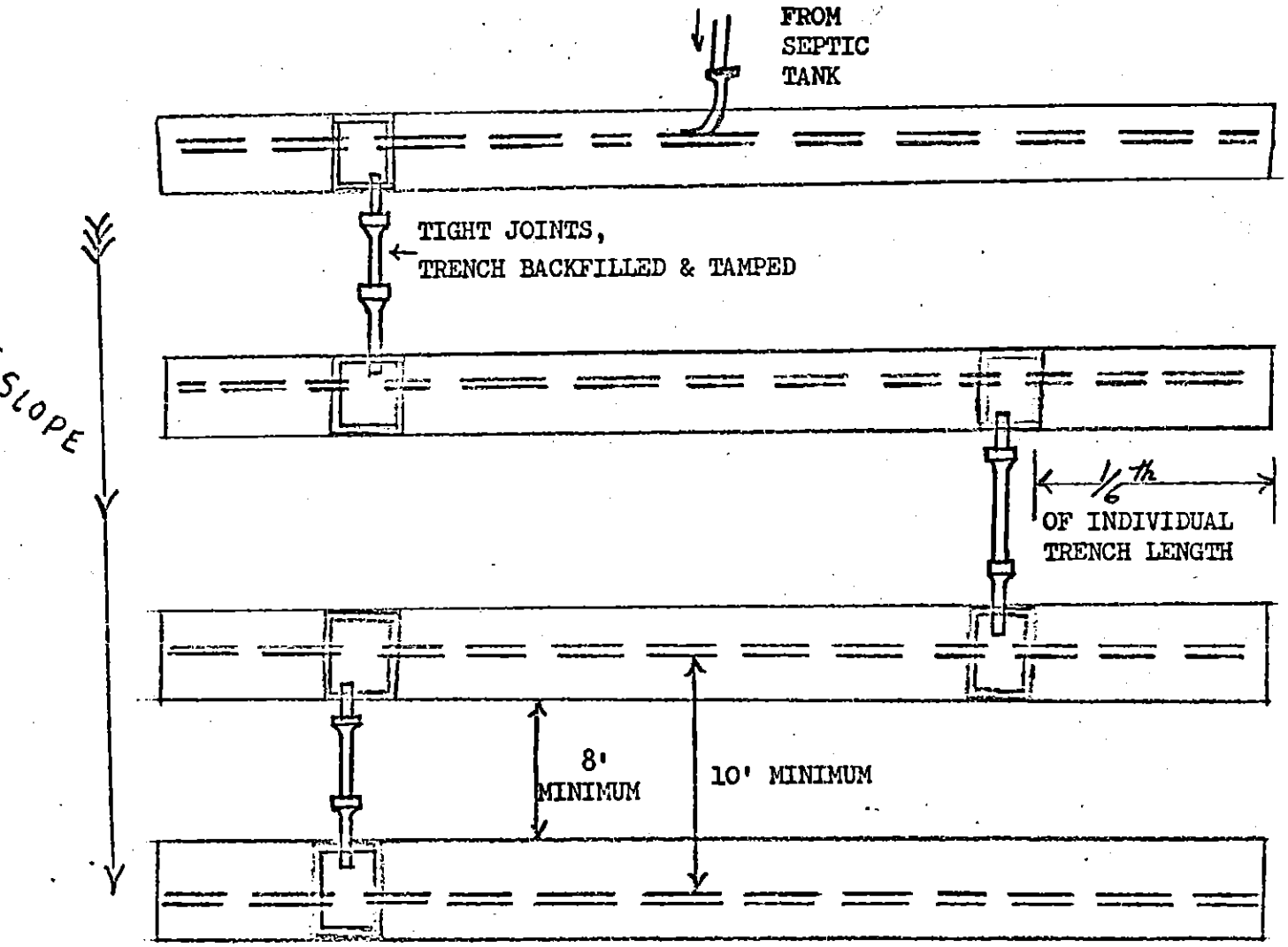


FIGURE 3A

SERIAL SYSTEM



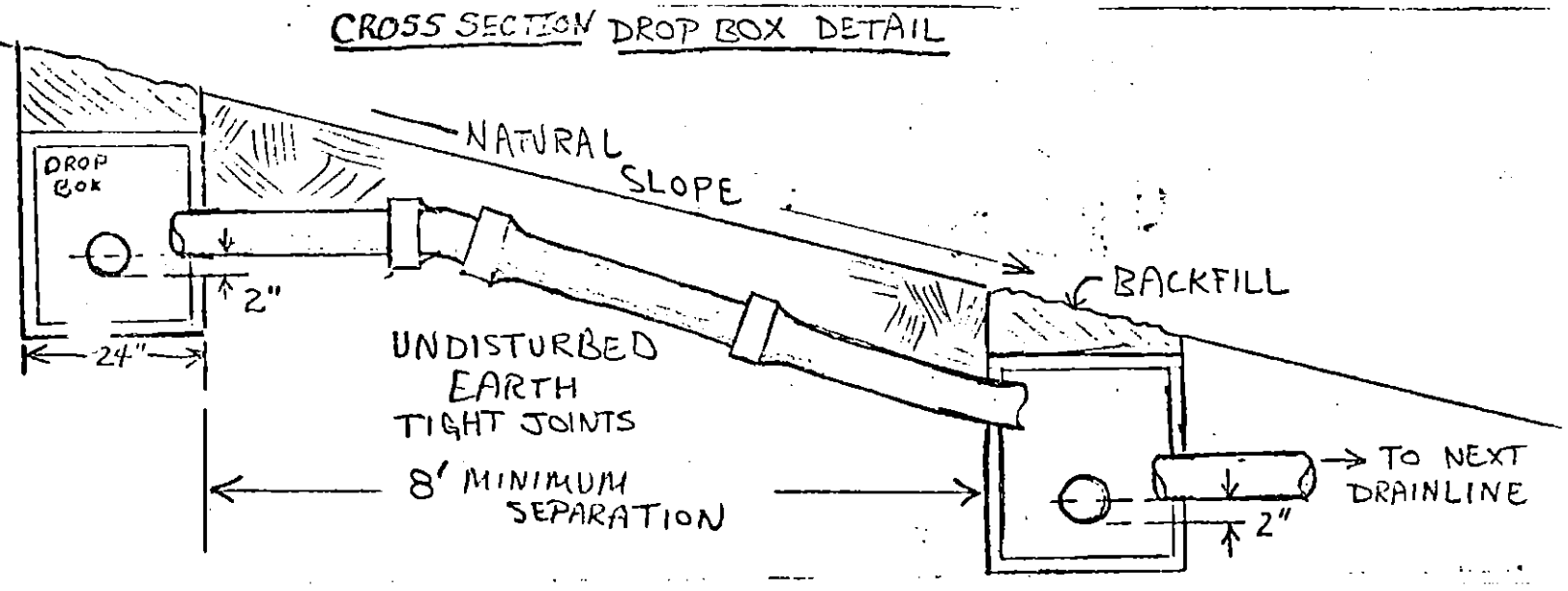
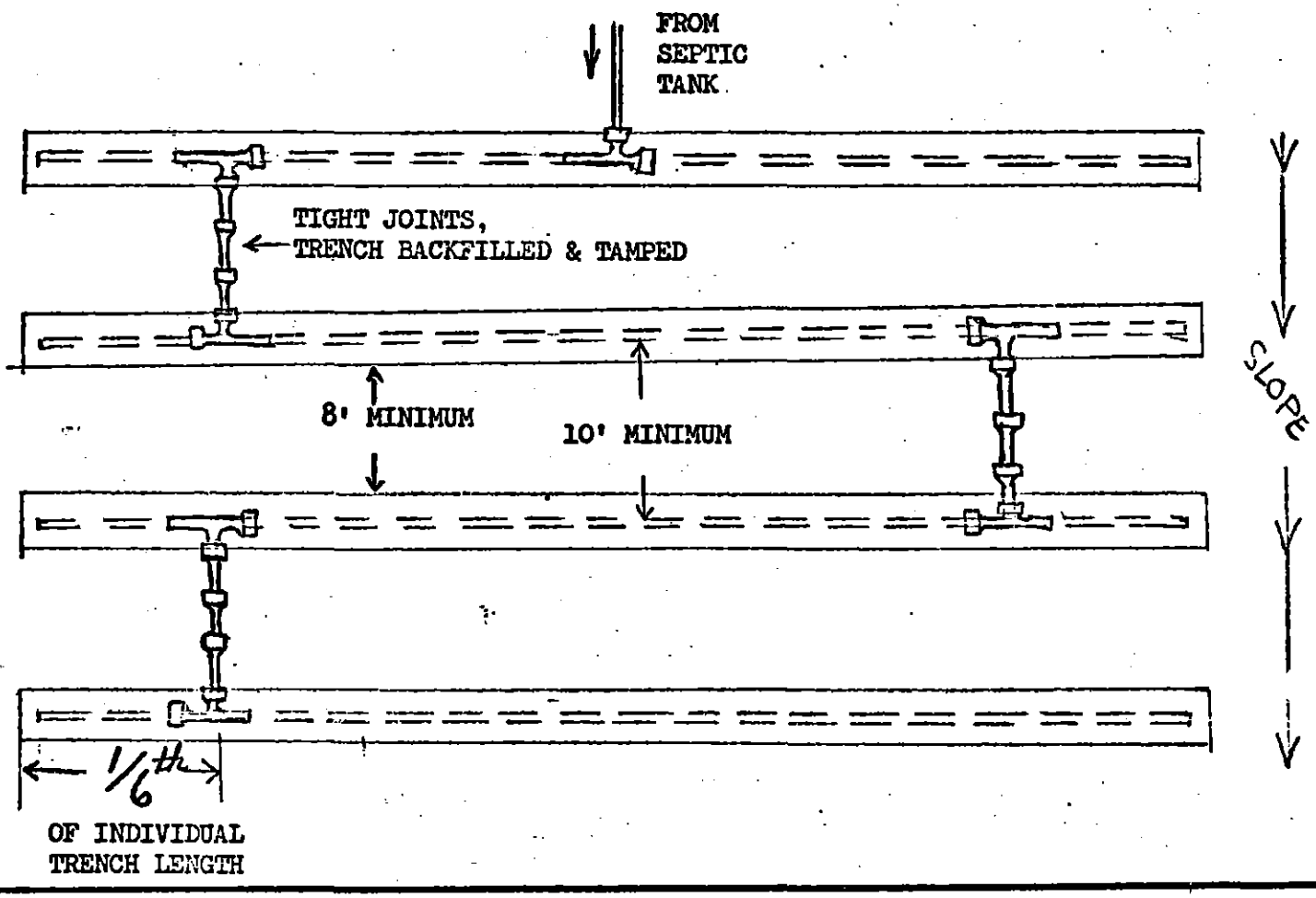
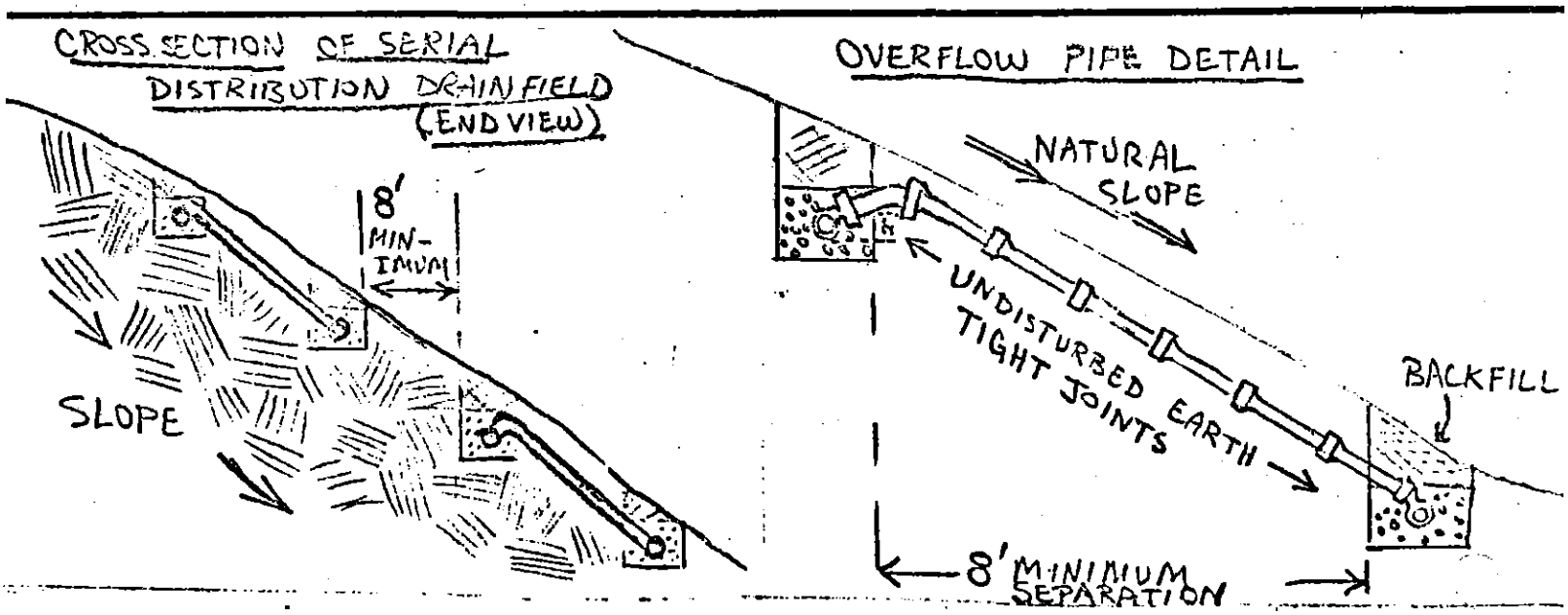


FIGURE 3B

SERIAL SYSTEM





B. Distribution Boxes

1. Outlet elevations - The invert elevation of all outlets shall be the same, and shall be at least two (2) inches below the inlet.

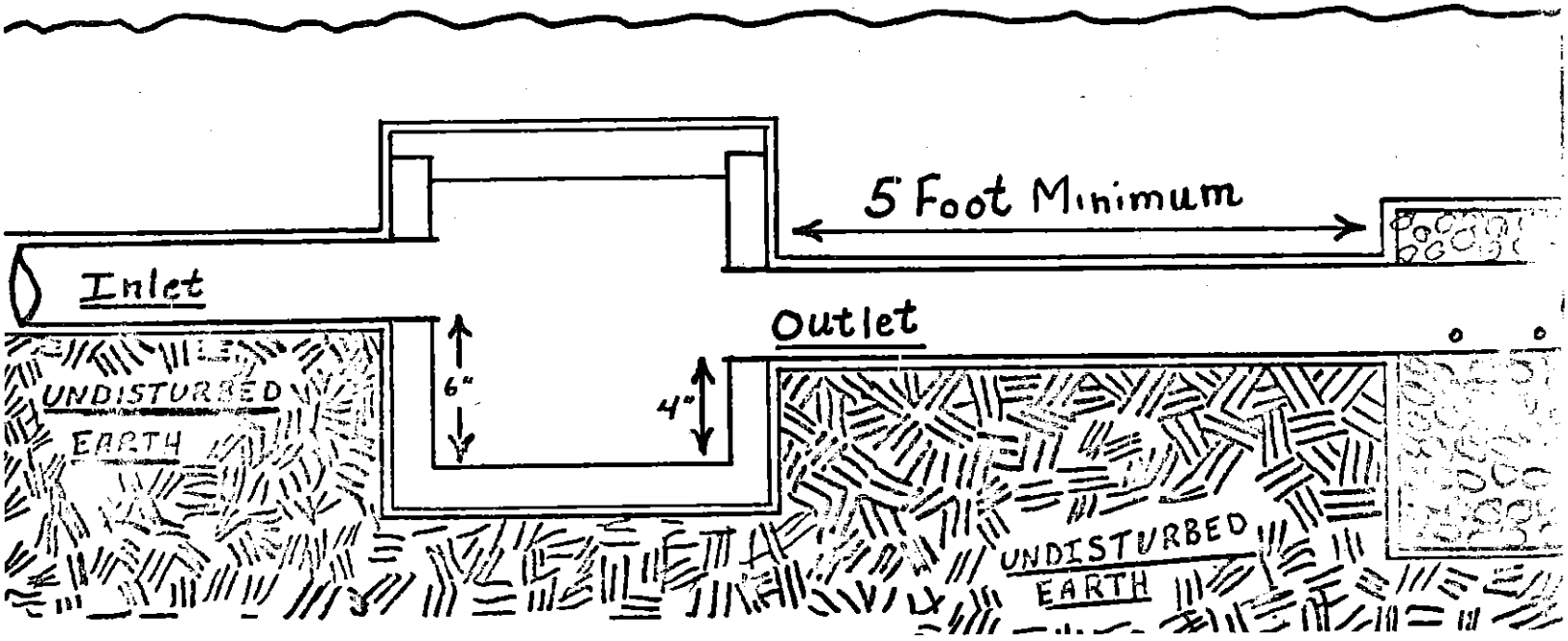
2. Sump - The distribution box shall be provided with a sump extending four (4) inches below the bottom of the outlet pipe.

3. Size - The inside horizontal dimensions measured at the bottom of the box shall be a minimum of fifteen (15) inches. No distribution box shall be installed with a top surface area greater than the bottom surface area.

4. Construction - Distribution boxes shall be constructed of concrete or other durable material approved by the Department. They shall be watertight and designed to accommodate the necessary distribution laterals.

5. Foundation - All distribution boxes shall be bedded on undisturbed earth.

Diagram (4)
DISTRIBUTION BOX



6. Cover - Distribution boxes shall be provided with a readily removable cover of durable material.

7. Marking - Each distribution box shall show the manufacturer's name and address on the top, and all manufacturers shall state, in writing, to the Department that the products to be distributed for use in absorption facilities within the State of Oregon will meet all of the requirements of this section.

C. Dosing Tanks and Effluent Lift Pumps

1. The standards for dosing tanks and effluent lift pumps are found in Appendix B.

VII. NONWATER-CARRIED WASTE DISPOSAL FACILITIES

A. All nonwater-carried waste disposal facilities shall comply with the following requirements:

1. No nonwater-carried waste disposal facility shall be used for dwellings having a water supply connection. The Director or his authorized representative may allow the use of nonwater waste disposal facilities for temporary or limited usages if all liquid wastes can be handled in a manner to prevent a public health hazard and to protect the public waters of the state.

(i.e. recreation parks, isolated individual camp sites, labor camps, places of employment, or on construction sites).

2. No water-carried sewage shall be placed in nonwater-carried waste disposal facility.

3. Separation Distances - No nonwater-carried disposal facilities shall be installed closer than the following distances from the items below:

	Self-contained Nonwater-carried Waste Disposal Facility	Unsealed Earth Pit Type Privies
Groundwater supplies including wells, springs and cisterns	25 ft.	100 ft.
Surface Public Waters or Intermittent Stream.	25 ft.	100 ft.
Property Line	25 ft.	25 ft.

4. Maintenance - All nonwater-carried waste disposal facilities shall be in a manner to prevent the occurrence of a public health hazard or adversely affect the quality of public waters.

5. A building housing any nonwater-carried waste disposal facility shall be firmly anchored and rigidly constructed.

6. All nonwater-carried waste disposal facilities shall be constructed in accordance to the requirements given in Appendix E.

B. Unsealed Earth Pit Type Privy - All unsealed earth pit type privies shall comply with the following requirements:

1. The zone of saturation or a temporarily perched liquid water body shall not be closer than four (4) feet below the maximum depth of the privy.

2. The privy shall be located and constructed in a manner to eliminate the entrance of surface water into the pit, either as runoff or as flood water.

3. When the pit becomes filled to within sixteen (16) inches of the ground surface, a new pit shall be excavated and the old one shall be backfilled with at least two (2) feet of earth.

C. Self-Contained Nonwater-Carried Waste Disposal Facilities.

1. The contents of a self-contained nonwater-carried waste disposal facility shall not be permitted to overflow onto the surface of the ground or otherwise cause a public health hazard or adversely affect public waters.

2. Standards for the construction of self-contained nonwater-carried waste disposal facilities are found in Appendix E.

3. All buildings housing self-contained nonwater-carried waste disposal facilities shall be constructed according to the standards for unsealed earth pit type privies in these rules.

VIII. SEWAGE DISPOSAL SERVICE

A. Minimum Specifications for pumping equipment. All pumping equipment shall comply with the following requirements:

1. Tanks and other containers used for the conveyance of the contents of cesspools, septic tanks, or privies shall have a liquid capacity of at least 550 gallons, be of watertight metal construction, fully enclosed, strong enough for all conditions of operation, and shall be provided with suitable covers so that there will be no spillage.

2. The tank truck shall be equipped with either a vacuum or other type of pump which will not allow any seepage from the diaphragm or other packing glands and which will be self priming.

3. Sewage hose on trucks shall be thoroughly drained, capped, and stored in such a manner that the contents will not create a health hazard or nuisance.

4. The discharge nozzle shall be so located that there is no flow or drip onto any portion of the truck.

5. Discharge nozzle shall be threaded and shall be capped when not in use.

6. Spreader gates on tank shall be prohibited.

7. Each truck shall at all times be supplied with a pressurized wash water tank, disinfectant, and implements needed for cleanup purposes.

8. Pumping equipment shall not be used for any other purpose.

B. Equipment Operation and Maintenance

1. When in use, pumping equipment shall be so operated that a health hazard or a nuisance will not be created.

2. When not in use and parked, all such equipment shall be covered or protected so that an odor or nuisance will not be caused.

3. Equipment shall be maintained in a reasonably clean condition at all times.

C. Personnel Responsibilities

1. The person or persons doing the actual cesspool, septic tank, or privy cleaning operation shall avoid spilling, pumping, or dumping the contents of the said cesspool, septic tank, or privy in the immediate vicinity of the operation or the highway when transporting the contents for dumping. Any accidental spillage on the ground around the operation shall be cleaned up by the operator and disinfected in such a manner as to render it harmless to humans and animals.

D. Trucks--Identification. The name under which the business is conducted and the business address of the sewage disposal services shall be painted on each side of every operated tank truck. The lettering shall be at least three (3) inches high. Labels issued by the Department for each current registration period shall be displayed at all times on both sides of each tank truck while it is being operated in the State of Oregon. Such labels shall be placed on cab doors below windows on both sides of vehicle and shall be maintained in a legible condition.

E. Equipment-Inspection of. Equipment shall be subject to inspection by the Department or by its authorized representative at any reasonable time and upon request shall be available for inspection at a designated location.

F. Disposal of Privy, Chemical Toilet, Cesspools and Septic Tank Contents

Every person registered by the Department to engage in sewage disposal service is required in the pumping out and cleaning out of cesspools and septic tanks and privies, chemical toilets and other non-water carried waste sludges or in the transportation of domestic or industrial sludges from same, shall:

1. Discharge no part of the contents upon the surface of the ground.

2. Dispose of such pumpings only in disposal facilities or treatment facilities authorized by the Department and operating under permits issued by the Department. Disposal can be conducted at other locations and by approved methods in which written authorization has been obtained from the Department.

3. Effectively monitor the pumping and disposal operations, maintain records of data required by the Department, submit the required data to the Department quarterly unless otherwise agreed to by the Department. Data collected shall be submitted to the Department on forms provided by the Department and shall include, but not necessarily be limited to, the following:

   a. Source of all material pumped on each occurrence, including name and address of source.

   b. Specific type of material pumped on each occurrence.

   c. Quantity of material pumped on each occurrence.

   d. Name and location of authorized disposal site, operating under permit or authorization of the Department, where pumpings were deposited on each occurrence.

   e. Quantity of material deposited on each occurrence.

4. Transport the contents in a manner that will not create a nuisance or health hazard.

G. Misuse of Registration - No person operating a sewage disposal service shall permit anyone to operate under his registration, except an employee who is paid a wage by the registered person and is working under the supervision of said registered and bonded person. No person shall:

1. Display or cause or permit to be displayed or have in his posession any registration certificate, knowing it to be fictitious or to have been cancelled, revoked, suspended, or fraudulently altered.

2. Fail or refuse to surrender to the Department, upon demand, any registration certificate which has been suspended, cancelled or revoked.

3. Use a false name or give a false or fictitious address in any application for any such registration certificate, or any renewal or duplicate thereof, or knowingly give a false age, or make a false statement, or knowingly conceal a material fact or otherwise commit a fraud in any such application.

H. Revocation of Certificate - When a "Certificate of Registration for Sewage Disposal Service," which had been issued by the Department is revoked, cancelled, or expired, the operator shall remove from display:

1. The Registration Certificate.

2. All identifying labels on trucks which were furnished by the Department.

APPENDIX A

Standards For

Septic Tank Construction

I. Septic tanks may have single or multiple compartments which shall be constructed in the following manner:

A. Liquid Depth - The liquid depth of any septic tank or compartment thereof shall not be less than thirty (30) inches. A liquid depth of greater than seventy-two (72) inches shall not be considered in determining liquid capacity. The tank may be oval, circular, rectangular, or square in plan, provided the distance between the inlet and outlet of the tank is at least equal to the liquid depth of the tank.

B. Compartments

1. No compartment of any tank shall have an inside horizontal dimension of less than twenty-four (24) inches, nor a liquid depth of greater than seventy-two (72) inches.

2. No tank shall have an excess of four (4) compartments.

3. The second compartment shall have a minimum liquid capacity at least equal to one-third of the capacity of the first compartment.

C. Materials

1. Septic tanks shall be of watertight construction below the liquid level and either of concrete or of not less than twelve (12) gauge steel or of other material approved by the Department. When steel is used it shall be covered inside and out with asphalt or other protective coatings, meeting U. S. Department of Commerce Commercial Standards CS 177-62, effective January 1962, Sections 5.3.1 through 5.3.4.4 as shown in

Appendix F, or other coatings of equal performance approved by the Department. Precast concrete tanks shall have a minimum wall, compartment, and bottom thickness of two and one-half (2-1/2) inches, and shall be adequately reinforced.

2. Cast-in-place concrete tanks, precast concrete tanks, and steel tanks shall be constructed and reinforced to withstand all loads imposed upon the walls and bottom, and a live load of not less than 500 pounds per square foot on the tank top. The top of the cast-in-place and precast concrete tanks shall be at least four (4) inches thick.

NOTE: Diagram (1) shows recommended sidewall thickness, bottom thickness, and reinforcement for cast-in-place tanks. For septic tanks that are installed beneath a road or driveway, refer to Diagram (2).

3. Where concrete block tanks are permitted by the Director or his authorized representative, the tanks shall be constructed of heavy-weight concrete block, eight (8) inch minimum thickness, laid on a four (4) inch poured foundation slab. The mortared joints shall be well filled. All block holes or cells shall be filled with mortar or concrete. "k" webbing shall be installed at every third row of block. No. 3 re-bar shall be installed vertically in every block. The interior of the tank shall be surfaced with two (2) one-quarter (1/4) inch thick coats of Portland cement-sand plaster or waterproof asphalt emulsion. If the tank is installed within the liquid water level, the outside of the tank shall be surfaced in a similar manner. The first row of blocks shall be keyed or doweled to the concrete foundation.

4. The Department shall review and approve specific specifications and manufacturers of tanks of other materials, and when such specific approval is granted, the Director or his authorized representative shall allow the installation of such tanks.

5. The inlet and outlet connection shall be located at opposite ends of the tank, shall be cast-iron soil pipe, or other materials approved by the Department which show equal performance, at least four (4) inches in diameter, and shall extend below and above the liquid level as required in this section.

6. The invert of the inlet shall be not less than one (1) inch and preferably three (3) inches above the invert of the outlet line.

7. The inlet pipe shall be a hubbed cast-iron long turn elbow extending at least six (6) inches below the liquid level. The cast-iron elbow shall be attached to a steel tank by a rubber or synthetic rubber ring seal and compression plate, or in some other manner approved by the Department.

8. The outlet pipe of the tank shall be a hubbed cast-iron "tee" extending below the liquid level to a distance equal to forty (40) percent of the liquid depth and at least six (6) inches above the liquid in order to provide scum storage. The cast-iron "tee shall be attached to a steel tank by a rubber or synthetic rubber ring seal and compression plate, or in some other manner approved by the Department.

Liquid Depth in Septic Tank	Depth of Outlet "tee" Below Flow Line
4 feet	19 inches
5 feet	24 inches
6 feet	29 inches

The opening between compartments shall be four (4) inches by twelve (12) inches, or its equivalent. The top of the opening shall be at the same level as the total depth of the outlet "tee".

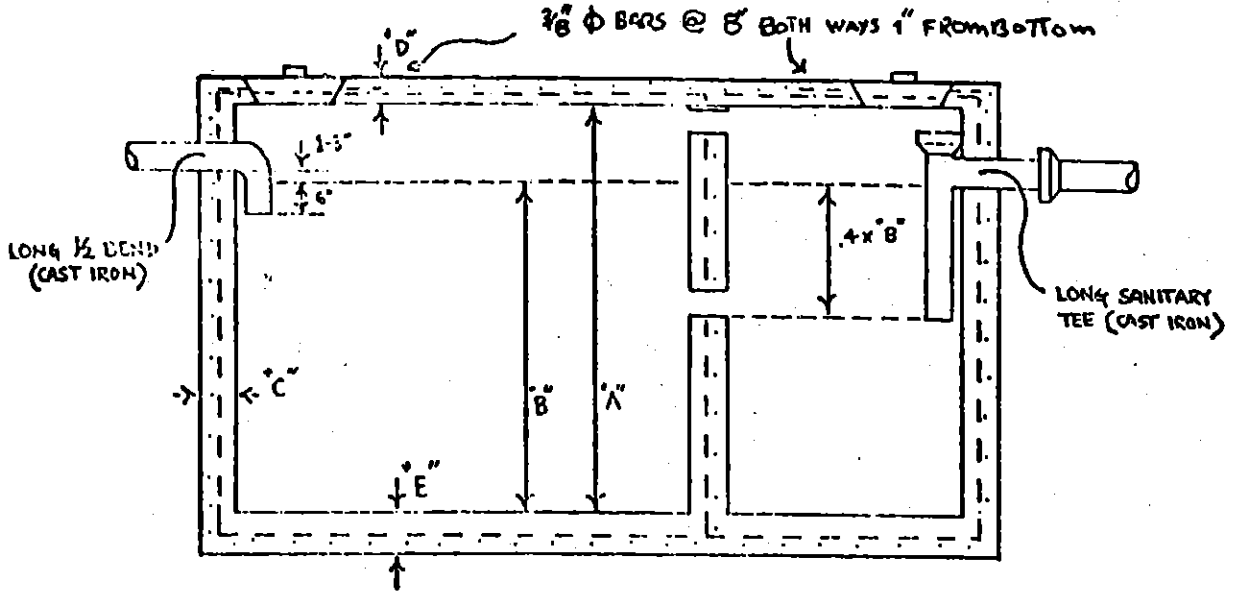
9. At least 10% of the inside volume of the tank shall be above the liquid level to provide scum storage.

10. Ventilation shall be provided through the outlet connection by means of at least a two (2) inch space between the underside of the top of the tank and the top of the "tee" fitting. Ventilation between compartments shall be provided by a hole or space at least one (1) inch in diameter in the compartment divider wall one (1) inch below the top of the tank.

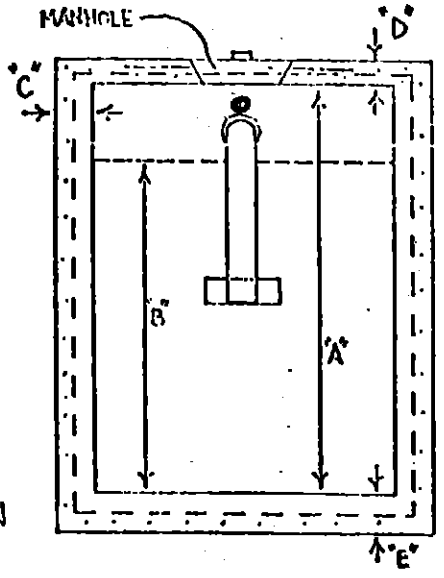
11. All prefabricated or precast septic tanks shall have markings on the uppermost face of the tank when installed for use which indicate the total liquid capacity of the tank and either the manufacturer's name or the number which has been assigned by the Department.

12. Adequate access to each compartment of the tank for inspection shall be provided by a manhole, not less than fourteen (14) inches square or equivalent, one over the inlet and one over the outlet of the tank.

DIAGRAM (1)



LONGITUDINAL SECTION



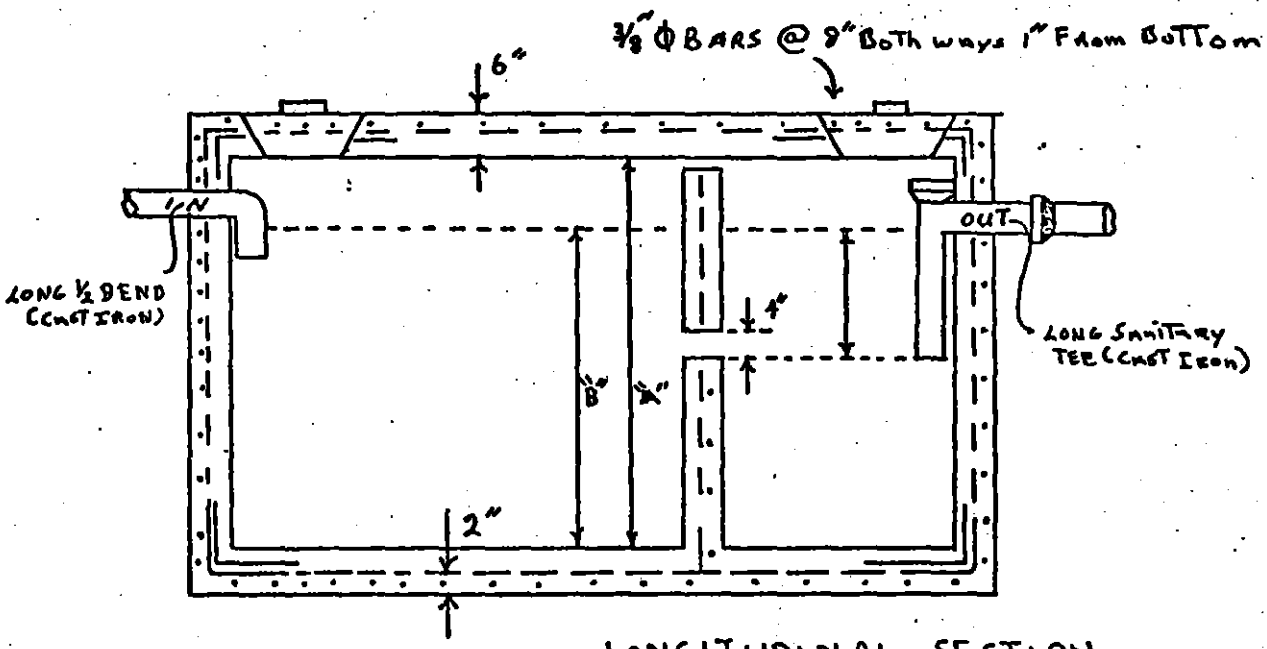
EXTRA 3/8" ϕ BARS AROUND MANHOLE

CROSS SECTION

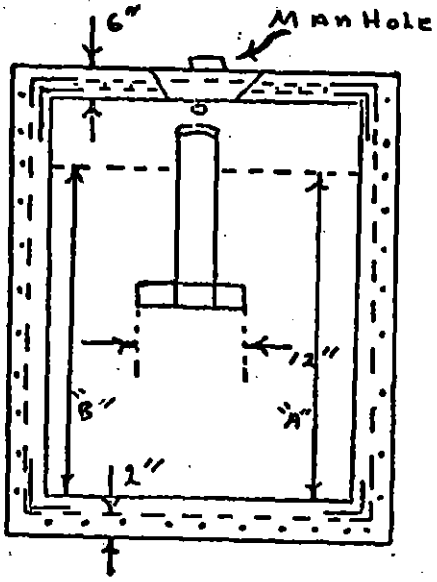
SPECIFICATIONS

NUMBER BEDROOMS	TOTAL WORKING CAPACITY (GALS)	TOTAL WORKING CAPACITY (CU. FT.)	TOTAL DEPTH	LIQUID DEPTH	CONCRETE THICKNESS			FIRST COMPARTMENT				SECOND COMPARTMENT				CUBIC YARDS CONCRETE
					WALLS	TOP	BOTTOM	WORKING CAPACITY (GALS)	WORKING CAPACITY (CU. FT.)	LENGTH	WIDTH	WORKING CAPACITY (GALS)	WORKING CAPACITY (CU. FT.)	LENGTH	WIDTH	
			"A"	"B"	"C"	"D"	"E"									
1	1000	133	5'-0"	4'-0"	6"	4"	6"	750	100	6'-0"	4'-0"	250	33	2'-0"	4'-0"	3.20
2	1000	133	5'-0"	4'-0"	6"	4"	6"	750	100	6'-0"	4'-0"	250	33	2'-0"	4'-0"	3.20
3	1200	160	5'-0"	4'-0"	6"	4"	6"	900	120	6'-8"	4'-6"	300	40	2'-6"	4'-6"	3.56
4	1333	177	5'-6"	4'-6"	8"	5"	6"	1000	133	6'-8"	4'-6"	333	44	2'-6"	4'-6"	4.68
5	1667	233	6'-0"	5'-0"	8"	5"	6"	1250	167	6'-8"	5'-0"	417	46	2'-6"	5'-0"	5.61

DIAGRAM (2)



LONGITUDINAL SECTION



CROSS SECTION

APPENDIX B

Dosing Tanks and Effluent Lift Pumps

I. DOSING TANKS

A. Siphons and Pumps - Siphons and pumps shall be of the alternating type when the total volume of waste to be disposed of exceeds 5,000 gallons per day. They shall operate automatically and shall discharge to separate disposal areas of equal size.

B. Capacity - Dosing tanks shall have a capacity equal to the volume required to cover the disposal area being dosed to a depth of not less than one-fourth (1/4) inch nor more than two (2) inches within fifteen (15) minutes.

C. Foundation - Dosing tanks shall be constructed on a level stable base that will not settle.

D. Inlet and Outlet - The inlet shall be above maximum water elevation in the tank. The outlet shall conform with the requirements of the manufacturer of the dosing tank siphon.

E. Manholes - Manholes shall be installed to provide access and to facilitate repair or adjustment of the siphon or pump in all dosing tanks. Manholes shall be brought up to ground surface.

II. EFFLUENT LIFT PUMPS

A. Pump

1. Pump capacity shall be no more than 15 gallons per minute unless it can be demonstrated that a greater rate may be accommodated by the drainfield with a reasonable factor of safety. Minimum capacity shall be 10 gallons per minute.

2. Pumps shall be capable of passing a 3/4 inch solid sphere and shall have a minimum 1-1/4 inch discharge.

3. Pumps may be oil filled submersible pumps or vertically-mounted column pumps.

4. Impellers shall be of cast-iorn, bronze or other corrosion-resistant metal.

5. Level control shall be by mercury float switch.

B. Pressure Line

1. A check valve shall be installed in the pressure line and a gate valve shall be installed between the pump and the check valve.

2. The pressure line shall be constructed of piping material of a bursting pressure of at least 100 psi and shall be of corrosion-resistant material.

3. The pressure line shall be bedded in 3-inches of sand or pea gravel.

4. The discharge of the pressure line shall be baffled or otherwise controlled to ensure even distribution of effluent to the drain lines.

C. Pump Sump

1. The sump shall be constructed of corrosion-resistant material of sufficient strength to withstand the soil pressures related to the depth of the sump.

2. Capacity of the sump shall be no less than 50 gallons, and shall be sized to provide between 3 and 6 pumping cycles per day.

3. Sumps shall be provided with a maintenance access manhole at the ground surface or above and of at least 24-inch diameter with a durable cover.

APPENDIX C

Standards for Seepage Pits and Cesspools

I. Construction

A. The liquid capacity of a seepage pit or cesspool shall be at least equal to the calculated volume of the required septic tank capacity for the dwelling or establishment served.

B. The minimum inside diameter of the lining shall be four (4) feet.

C. Two or more seepage pits shall be separated from each other by a distance equal to twelve (12) feet of undisturbed earth.

D. The seepage pit or cesspool shall be lined with stone, fired clay brick, building tile, adequately reinforced perforated precast concrete rings at least two and one-half (2-1/2) inches thick, or other material approved by the Department. A six (6) inch space shall be required between the lining of the pit and the soil, and it shall be backfilled with clean, coarse rock.

E. The inlet pipe of the seepage pit or cesspool shall be an elbow which extends downward a minimum of twelve (12) inches.

APPENDIX D

Standards For

Pipe Materials and Construction

I. Building Sewer and Effluent Sewer

A. The building sewer and effluent sewer shall be constructed with materials in conformance to building sewer standards in the Oregon State Plumbing Laws and Administrative Rules.

II. Distribution Pipe

A. Plastic pipe.

1. Styrene-rubber plastics used for pipe and fittings shall meet ASTM (American Society for Testing and Materials) Specification D 2852-72 and Sections 5.5 and 7.8 of Commercial Standard 228-61, published by the U.S. Department of Commerce, which are designated Appendix G and H, respectively, and by this reference are made a part of these regulations. Pipe and fittings shall also pass a deflection test withstanding 350 pounds/foot without cracking by using the method found in ASTM 2412. In addition to the markingsrequired by ASTM 2852-72, each manufacturer of styrene-rubber plastic pipe shall state, in writing, to the Department that he certifies that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.

2. Polyethylene pipe in 10-foot lengths of which pipe and fittings shall meet Commercial Standard 228-61, published by the Department of Commerce, which is designated Appendix H and by this reference is made a part of these regulations. Pipe and fittings shall also pass a

deflection test withstanding 350 pounds per foot without cracking by using the method found in ASTM 2412. Each length of pipe and each fitting shall be marked with the nominal size, the manufacturer's name or trademark, or other symbol which clearly identifies the manufacturer and the Commercial Standard number above. Markings on pipe shall be located on the uppermost surface when properly installed and at intervals of not greater than 10 feet. In addition to the markings required above, each manufacturer of polyethylene pipe shall state, in writing, to the Department that he certifies that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section.

3. The two types of plastic pipe described above shall have two (2) rows of holes spaced one hundred twenty (120) degrees apart and sixty (60) degrees on either side of a center line. A line of contrasting color shall be provided on the outside of the pipe the full length along the line furthest away and parallel to the two rows of perforations. The holes of each row shall be not more than five (5) inches on center and shall have a minimum diameter of one-half (1/2) inch.

B. Concrete tile in twelve (12) inch lengths which meets ASTM (American Society for Testing and Materials) Specification C 412-65 which is designated Appendix I and by this reference is made a part of these regulations. Tile used as part of an absorption facility shall bear the ASTM number above and some identification as to which quality standard it meets (Standard-Quality, Extra-Quality, or Special-Quality). In addition to the markings required above, each manufacturer of concrete tile shall state in writing to the Department that he certifies that the pipe to be

distributed for use in absorption facilities within the State of Oregon will comply with all of the requirements of this section.

C. Vitrified clay drain tile in twelve (12) inch lengths that meets ASTM (American Society for Testing and Materials) Specification C 4-62 which is designated Appendix J and by this reference is made a part of these regulations. Tile used as part of an absorption facility shall bear the ASTM number above and some identification as to which quality standard it meets (Standard, Extra-Quality, Heavy-Duty). In addition to the markings required above, each manufacturer of clay tile shall state, in writing, to the Department that he certifies that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all of the requirements of this section.

D. Bituminized fiber of which both pipe and fittings must meet ASTM (American Society for Testing and Materials) Specification D 1861-69 which is designated Appendix K and by this reference is made a part of these regulations. Each length of pipe and each fitting shall be marked with the nominal size, the manufacturer's name or trademark, or other symbol which clearly identifies the manufacturer and the ASTM standard number above. Markings on pipe shall be spaced at intervals not greater than two (2) feet. In addition to the markings required above, each manufacturer of bituminized pipe shall state, in writing, to the Department that he certifies that the pipe to be distributed for use in absorption facilities within the State of Oregon will comply with all requirements of this section. In addition, all bituminized pipe that is to be installed as part of an absorption facility shall comply with the following requirements:

1. The pipe shall have two rows of holes spaced one hundred twenty (120) degrees apart and sixty (60) degrees on either side of a center line. A line of contrasting color shall be provided on the outside of the pipe the full length along the line furthest away and parallel to the two rows of perforation. The holes of each row shall not be more than five (5) inches on center and shall have a minimum diameter of one-half (1/2) inch.

APPENDIX E
Standards For
Nonwater-Carried Waste Disposal Facility Construction

I. Unsealed Earth Pit Type Privy

A. The pit shall be constructed of such material and in such a manner as to prevent rapid deterioration, provide adequate capacity, and facilitate maintenance in a satisfactory manner under ordinary conditions of usage.

B. The pit and seat area shall be vented by a flue or vent pipe having not less than fifty (50) square inches cross-sectional area so as to provide a continuous escape of odors.

C. The pit shall provide a capacity of fifty (50) cubic feet for each seat installed in the privy building and shall be at least five (5) feet deep. The area within sixteen (16) inches of the surface grade shall not be counted as part of the fifty (50) cubic-foot capacity.

D. Pit cribbing shall fit firmly and be in uniform contact with the earth walls on all sides, and shall rise at least six (6) inches above the original ground line and descend to the full depth of the pit. However, pit cribbing below the soil line may be omitted in rock formations.

E. An earth plateau shall be constructed level with the top of the pit cribbing, and extend horizontally for a distance of at least eighteen (18) inches from sloping of the original ground level.

F. A building housing any non-water-carried waste disposal facility shall be firmly anchored and rigidly constructed in the following manner. It shall be free from hostile surface features, such as exposed nail points, sharp edges, rough or broken boards, etc., and shall provide privacy and protection from the elements. It shall be ventilated by leaving a four (4) inch opening at the top of all the walls just beneath the roof.

1. The building shall be of fly-tight construction, doors shall be self-closing, and all vents shall be screened with sixteen (16) mesh screen of durable material. The vent shall extend twelve (12) inches above the roof.

2. The seat shall be so spaced as to provide a minimum clear space of twenty-four (24) inches between each seat in multiple-unit installations, and shall provide twelve (12) inches clear space from the seat opening to each side wall in single and multiple units.

3. The seat riser shall have an inside clearance of not less than twenty-one (21) inches from the front wall and not less than twenty-four (24) inches from the rear wall of the privy building.

4. The seat opening shall be covered with an attached, movable toilet seat and lid that can be raised to allow sanitary use as a urinal. When the seat is closed it shall eliminate access to insects.

5. The floor and riser shall be built of impervious material or tongue and groove lumber, and in a manner to deny access of insects.

6. The seat top shall be not less than 12 inches nor more than 16 inches above the floor.

II. Self-Contained Nonwater-Carried Waste Disposal Facilities

A. Vault Privies

1. All vault privies shall have vaults and receptacles which are watertight of a minimum capacity of three hundred fifty (350) gallons or, in place of employment, 100 gallons per seat, and shall be constructed of reinforced concrete, plastic, metal, or other material of equal durability which has been approved by the Department.

2. The addition to the vault of caustic chemicals or disinfectants is required at frequent intervals to prevent bacterial decomposition and resulting odors.

B. Chemical Toilets

1. All wastes are held within the body of the toilet for removal when filled to capacity.

2. Receptacles for caustic shall be durable and corrosion proof, and provide a minimum capacity of 100 gallons per seat.

C. Portable Toilet Specifications

1. A portable toilet may be made up of the seat and its treatment unit to be installed in a structure, or it may be made up of an entire prefabricated, skid mounted, or otherwise portable structure containing a seat or treatment units with seat.

2. No pit, tank, or other subsurface structure shall be construed as part of a portable toilet.

a. Portable privies must be installed over a pit conforming to the requirements of this section, or a manhole that is part of a sanitary or combined waste water disposal system.

b. No portable toilet shall discharge into a storm sewer or into any waters of the state.

3. An airtight seal shall be provided between the structure base of any pit, receptacle, or manhole over which it is placed.

4. A portable toilet shall be provided with facilities, requisite to its construction, for the removal of chemicals, ash, or residue. All surfaces subject to soiling shall be readily accessible and easily cleaned.

APPENDIX F

Commercial Standard CS 177-62, January 1962

United States Department of Commerce

5.3 *Bituminous coatings*

5.3.1 *Coating requirements.*—The coating shall be composed of bituminous-base materials that are impervious to water and resistant to sulfuric and sulfurous acids of concentrations encountered in the normal operation of septic tanks. The physical characteristics of the materials shall be such that they are capable of being applied in a continuous coating which is free from bubbles, pinholes, holidays, etc. They shall have good adherence to the metal, and shall permit handling incidental to shipping and installation at temperatures between 30° and 140° F without separating from the metal or showing appreciable flow or stickiness.

5.3.2 *Coating systems.*—Two coating systems are acceptable as follows:

System I.—Hot-dipped asphalt coating applied to the bare metal or over an asphalt primer, followed by a coal-tar-base emulsion coating applied to the critical area.

System II.—Cold-application coal-tar-base coating to the bare metal or over a coal-tar primer, followed by a second application of coating to the critical area.

5.3.3 *Materials.*—Materials shall meet requirements for the applicable system, as follows:

System I.

(a) *Asphalt for hot-dipped coatings.*—The material shall comply with the requirements of Underwriters' Laboratories, Inc., for Asphalt Coating—System I.[3] Softening point shall not be lower than 185° F nor higher than 210° F; penetration (hundredths of a centimeter) shall be not less than 20 at 0° C; not less than 25 nor more than 50 at 25° C; and not greater than 100 at 46° C.

(b) *Asphalt primer, when used.*—Suitable primer shall be furnished by the manufacturer of asphalt coating.

(c) *Coal-tar-base emulsion.*—The material shall comply with the requirements of Underwriters' Laboratories, Inc., for Coal-Tar-Base Emulsion—System I.[3]

System II.

(a) *Coal-tar-base coating.*—The material shall comply with the requirements of Underwriters' Laboratories, Inc., for Coal-Tar-Base Coating—System II.[3]

(b) *Coal-tar primer, when used.*—Suitable primer shall be furnished by the manufacturer of the coal-tar-base coating.

5.3.4 *Coating procedure.*

5.3.4.1 *Preparation of tanks.*—Prior to coating, the metal shall be free from all loose scale, rust, oil and grease which would prevent proper adherence of the coating. The clean tanks shall be protected from rain, snow and frost prior to coating.

5.3.4.2 System I.

(a) Apply asphalt primer when recommended by the manufacturer of the coating material used. Make the application in accordance with recommendations of the coating manufacturer. Allow primer to set to touch at atmospheric temperature.

(b) Submerge the tank in the hot asphalt and withdraw it from the asphalt bath at such a rate that uniform coating of asphalt not less than 0.025" in average thickness will be produced on all surfaces of the tank. The coating shall be free from air bubbles, pinholes and holidays that expose bare metal.

(c) After the tank has cooled to atmospheric temperature, apply the coal-tar emulsion to the critical area by brush or spray at a rate of not more than 60 square feet per gallon of emulsion.

[3] Given in publication entitled "Requirements for Bituminous Coatings for Metal Septic Tanks, Subject 70" obtainable from Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago 11, Illinois.

5.3.4.3 *System II.*

(a) Apply coal-tar primer when recommended by the manufacturer of the coating material used. Make the application in accordance with recommendations of the coating manufacturer. Allow primer to set to touch at atmospheric temperature.

(b) Apply the coal-tar-base coating uniformly by brush or spray to all exterior and interior surfaces of the tank at a rate of not more than 100 square feet per gallon. Allow to dry not less than 24 hours at atmospheric temperature. Drying may be accelerated by the use of infrared lamps or heated drying chamber, provided the coating is not heated sufficiently to affect it adversely in adherence, flexibility and other significant properties. In general, the temperature for accelerated drying should not exceed 120° F and the drying time at approximately that temperature should be between 6 and 8 hours, unless slightly higher drying temperatures, or shorter drying periods, or both, are definitely known to be suitable for the materials used.

(c) Apply a second coat of the coal-tar-base coating to the critical area at a rate of not more than 75 square feet per gallon.

5.3.4.4 ***Touch up coating.***—Each tank shall be provided with a pint of touch-up material. The material supplied with tanks having system I coating shall comply with the requirements of Underwriters' Laboratories, Inc., for Touch-up Coating—System I.[3] The material supplied with tanks having System II coating shall comply with the requirements of Underwriters' Laboratories, Inc., for Coal-Tar-Base Coating—System II.[3]

APPENDIX G

Designation: D 2852 - 72

Standard Specification for STYRENE-RUBBER PLASTIC DRAIN AND BUILDING SEWER PIPE AND FITTINGS[1]

This Standard is issued under the fixed designation D 2852; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

1. Scope

1.1 This specification covers requirements and methods of test for materials, dimensions, workmanship, impact resistance, load-deflection properties, dimensional stability, and joint tightness of plain-end or bell-end styrene-rubber plastic drain and building sewer pipe and fittings in sizes 2 through 6 in.

NOTE 1—The values stated in U.S. customary units are to be regarded as the standard.

2. Terminology

2.1 The plastics terminology used in this specification is in accordance with ASTM Nomenclature D 883, Relating to Plastics[2] and ASTM Abbreviations D 1600, Terms Relating to Plastics,[2] unless otherwise indicated. The abbreviation for styrene-rubber plastics is SR.

3. Uses

3.1 The requirements for this standard are intended to provide pipe and fittings suitable for nonpressure underground drainage of sewage and certain other liquid wastes, in applications outside the building limits, where resistance to deterioration from water and chemicals, dimensional stability, resistance to aging, and strong tight joints are required. The plastic drain and sewer pipe and fittings described in this specification are intended for use in the following applications:

3.1.1 Building sewers in dwellings of four families or less.

3.1.2 House connections to septic tanks.

3.1.3 Footing drains (foundation drains).

3.1.4 Storm drainage.

NOTE 2—Industrial waste disposal lines should be installed only after careful consideration of the composition of the wastes involved, and only with the specific approval of the cognizant building code authority. Detrimental chemicals not commonly found in drains and sewers, and excessive temperatures may be encountered in industrial waste disposal lines.

3.2 The pipe should be installed in accordance with ASTM Recommended Practice D 2321, for Underground Installation of Flexible Thermoplastic Sewer Pipe.[3]

4. Materials

NOTE 3—A recommended list of chemicals, concentrations, and related test procedures to evaluate plastic piping materials for use in residential sewer systems is being developed and will be added to the Appendix of this specification when the work is completed. This is a particularly difficult task because of the lack of uniformity in the chemical composition of the material being transported and the lack of chemical analyses of this material. Consequently, the chemicals and the amounts present are to some extent a matter of opinion of those concerned. Investigations and discussions are underway to arrive at a consensus that can be added to all the plastic sewer piping specifications being developed in ASTM Subcommittee D-20.17. It should be noted that the consensus developed will be used to evaluate whether or not specific plastic materials are useful for residential sewer piping and not as test requirements in the body of the specifications.

4.1 *Materials*—The pipe and fittings shall

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[1] This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D-20.17 on Thermoplastic Pipe and Fittings functioning as a Joint Committee of The Society of the Plastics Industry and ASTM.

Current edition effective March 13, 1972. Originally issued 1969. Replaces D 2852 - 71.

[2] *Annual Book of ASTM Standards*, Part 27.

[3] *Annual Book of ASTM Standards*, Part 26.

be made of styrene-rubber (SR) plastics meeting the following requirements:

4.1.1 The SR plastic compound shall contain at least 50 percent styrene plastics, combined with rubbers to a minimum rubber content of 5 percent, and compounding materials such as antioxidants and lubricants, and may contain up to 15 percent acrylonitrile combined in the styrene plastics and/or rubbers. The rubbers shall be of the polybutadiene and/or butadiene-styrene type with a maximum styrene content of 25 percent and/or nitrile type. The combined styrene plastics and rubber content shall be not less than 90 percent. No fillers may be used.

4.1.2 The SR plastic compound shall meet the following minimum requirements when tested in accordance with Section 6:

Tensile strength at rupture,	26.2 MN/m² (3800 psi)
Elongation at rupture, percent,	15
Modulus of elasticity in tension,	2068 MN/m² (300,000 psi)
Izod impact strength, notched,	0.11 m-kg (0.8 ft-lb)
Deflection temperature at 1.82 MN/m² (264 psi), deg C (deg F)	65 (149)

4.1.3 *Rework Material*—Clean rework material, generated from the manufacturer's own pipe or fittings production, may be used by the same manufacturer, provided that the pipe and fittings produced meet all of the requirements of this specification.

5. Requirements

5.1 *Workmanship*—The pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions, or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density and other physical properties.

5.2 *Pipe Dimensions:*

5.2.1 *Pipe Diameters*—The outside and inside diameters of the pipe shall be within the tolerances given in Table 1 when tested in accordance with 6.6.1.

5.2.2 *Wall Thickness*—Pipe wall thickness shall meet the requirements of Table 1 when measured in accordance with 6.6.2.

5.2.3 *Laying Length*—The laying length shall be 10 ft with a tolerance of -0 $+\frac{1}{2}$ in., unless otherwise specified. The laying length shall be determined in accordance with 6.6.3.

5.3 *Fitting and Bell-End Dimensions:*

5.3.1 *Socket Diameters*—The inside diameters of the sockets shall comply with the dimensions in Table 2 when determined in accordance with 6.7.1.

5.3.2 *Wall Thickness*—The wall thicknesses of fittings shall comply with the requirements shown in Table 2 when determined in accordance with 6.7.2. In the case of belled pipe, this thickness of the belled section shall be considered satisfactory if the bell was formed from a pipe meeting the requirements of Table 1.

5.3.3 *Socket Depth*—The socket depth shall be not less than that shown in Table 2 when measured in accordance with 6.7.3.

5.3.4 *Laying Length*—The laying length shall meet the requirements shown in Table 3.

5.4 *Impact Strength*—The impact strength of the pipe and fittings shall not be less than the values given in Table 4 when tested in accordance with 6.9.

NOTE 4—This test is intended only as a quality control test, not as a simulated service test.

5.5 *Pipe Stiffness*—The pipe stiffness at 5 percent deflection shall be not less than the values given in Table 5 when tested in accordance with 6.10. This requirement does not apply to fittings.

5.6 *Flattening*—The pipe shall show no evidence of splitting, cracking, or breaking at 20 percent deflection when tested in accordance with 6.8.

5.7 *Dimensional Stability*—The average decrease in inside diameter of pipe and fittings shall not exceed 10 percent when tested in accordance with 6.11.

5.8 *Solvent Cement*—See Note 5.

5.9 *Joint Tightness*—Joints made with pipe and fittings shall not leak when tested at an internal pressure of 170 kN/m² (25 psi) in accordance with 6.12.

NOTE 5—A specification for SR plastic pipe cement is being developed and will be referenced when it is available. In the meantime, this pipe specification will be held as tentative rather than processing as a standard because of lack of a satisfactory reference for this requirement. It is suggested that users follow the recommendation of manufacturers regarding cements until this work is completed.

6. Methods of Test

6.1 *Conditioning*—Condition the specimens prior to test at 23 ± 2 C (73.4 ± 3.6 F)

and 50 ± 5 percent relative humidity for not less than 40 h in accordance with Procedure A of ASTM Methods D 618, Conditioning Plastics and Electrical Insulating Materials for Testing,[2] for those tests where conditioning is required and in all cases of disagreement.

6.2 *Test Conditions*—Conduct tests in the Standard Laboratory Atmosphere of 23 ± 2 C (73.4 ± 3.6 F) and 50 ± 5 percent relative humidity, unless otherwise specified.

6.3 *Deflection Temperature*—Determine the deflection temperature in accordance with ASTM Method D 648, Test for Deflection Temperature of Plastics under Flexural Load.[2] Injection mold two 6.4 by 12.7 by 127-mm (¼ by ½ by 5-in.) test specimens under conditions specified by the manufacturer. The test shall be made only at a stress of 1.82 MN/m² (264 psi). An inert immersion medium shall be used. The heating rate shall be 2 ± 0.2 C/min.

6.4 *Material Impact Resistance*—Determine the Izod impact resistance in accordance with Method A of ASTM Methods D 256, Test for Impact Resistance of Plastics and Electrical Insulating Materials.[2] Injection mold ten ⅛ by ½ by 2½-in. test specimens under conditions specified by the manufacturer. The notch shall be produced by a machining operation using a single-tooth milling cutter.

6.5 *Tensile Properties*—Determine the tensile strength, elongation at rupture, and modulus of elasticity in accordance with ASTM Method D 638, Test for Tensile Properties of Plastics.[2] Injection mold five Type I test specimens approximately 3.2 mm (⅛ in.) thick under conditions specified by the manufacturer. The speed of testing shall be 5 to 6 mm (0.20 to 0.25 in.)/min.

6.6 *Pipe Dimensions:*

6.6.1 *Pipe Diameters:*

6.6.1.1 Measure the average outside diameter of the pipe in accordance with Section 6 of ASTM Method D 2122, Determining Dimensions of Thermoplastic Pipe and Fittings.[3] Use either a tapered-sleeve gage or a vernier circumferential wrap tape accurate to ±0.02 mm (±0.001 in.).

6.6.1.2 Measure the average inside diameter of the pipe in accordance with Section 5 of Method D 2122.

6.6.2 *Wall Thickness*—Measure the wall thickness in accordance with Method D 2122. Make sufficient readings, a minimum of six, to ensure that the minimum thickness has been determined. Use a cylindrical anvil tubing micrometer accurate to ±0.02 mm (±0.001 in.).

6.6.3 *Length*—Determine the over-all length of the pipe in accordance with Method D 2122 using a steel tape with at least 1-mm (1/16-in.) graduations. For belled or coupled pipe, determine the laying length by measuring the bell or coupling socket depth with a steel rule with at least 1-mm (1/16-in.) graduations and subtracting this dimension from the over-all length.

6.7 *Fitting and Bell-End Socket Dimensions:*

6.7.1 *Socket Diameters*—Measure the inside diameters of the sockets at the socket entrance and bottom, using an inside micrometer accurate to 0.02 mm (±0.001 in.) or a telescoping pin gage in conjunction with an outside micrometer accurate to 0.02 mm (±0.001 in.). Determine the average inside diameters at the entrance and the bottom of the socket by taking sufficient readings to determine the minimum and maximum at each position. Calculate the average inside diameter at each position by taking the mean of the minimum and maximum values.

6.7.2 *Wall Thickness*—Measure the wall thickness in accordance with Section 4 of Method D 2122. Make sufficient readings, a minimum of six, to ensure that the minimum thickness has been determined. Use a cylindrical anvil tubing micrometer accurate to ±0.02 mm (±0.001 in.).

6.7.3 *Socket Depth*—Measure the socket depth using a steel rule with at least 1-mm (1/16-in.) graduations. Make sufficient readings to ensure that the minimum depth has been determined.

6.8 *Flattening*—Flatten three specimens of pipe, 6 in. long, between parallel plates in a suitable press, until the distance between the plates is 80 percent of the original outside diameter of the pipe. The rate of loading shall be uniform and such that the compression is completed within 2 to 5 min. Remove the load and examine the specimens for evidence

of splitting, cracking, or breaking. Reversal of curvature of the surface in contact with the parallel plate before 20 percent deflection is reached shall also be deemed failure.

NOTE 6—This test may be run in conjunction with 6.10.

6.9 *Impact Strength*—Determine the impact strength of pipe and fittings in accordance with ASTM Method D 2444, Test for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)[3]. Tup B at 4.5-kg (10-lb) weight shall be used, and dropped on the specimen from the selected height equivalent to the minimum impact requirements given in Table 4 for that size pipe or fitting. Test six specimens. If two or more specimens fail to meet the requirements, the pipe or fitting fails to pass this requirement. Test couplings and other in-line fittings assembled to pipe.

6.10 *Pipe Stiffness*—Determine the pipe stiffness at 5 percent deflection in accordance with ASTM Method D 2412, Test for External Loading Properties of Plastic Pipe by Parallel Plate Loading.[3]

6.11 *Dimensional Stability*—Cut two 6 ± $^1/_8$-in. long test specimens cleanly from the pipe. Mark and measure a diameter on the inside on the nearest 0.02 mm (0.001 in.). Place the specimens on a flat rigid base with the measured diameter in a vertical position, and place the assembly in a circulating air oven. Load the pair of test specimens symmetrically as shown in Fig. 1 to produce the total load for the indicated diameter as shown in Table 6. Turn on the heat in the oven and raise the temperature to 50 ± 3 C (122 ± 5.4 F). Hold the temperature there for 48 ± 1 h. Remove the load from the specimens and then remove the specimens from the oven. After cooling for 1 h, remeasure the inside diameters and calculate the average change in percent of the initial diameter.

6.12 *Joint Tightness*—Test solvent cemented joints prepared with cements and by procedures in accordance with manufacturer's recommendations and allowed to stand 24 h at room temperature. Then subject the specimen to an internal pressure of 0.17 MN/m^2 (25 psi) for 24 h with water as the medium. The joints shall show no leakage.

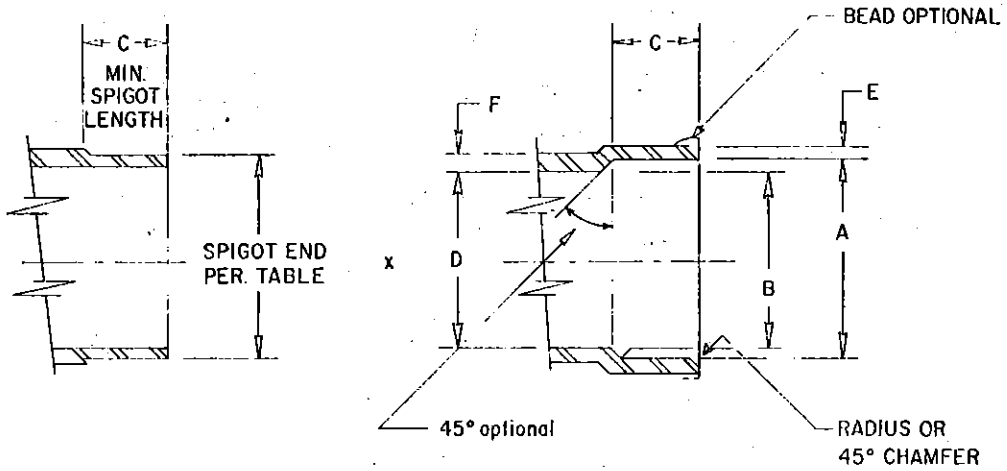
7. Marking

7.1 *Marking*—Each length of pipe and each fitting shall be marked with the nominal size, the manufacturer's name or trademark, or other symbol clearly identifying the manufacturer, the symbol SR for styrene-rubber plastic, and this specification number. Marking on pipe shall be spaced at intervals of not less than 2 ft. Alternatively, fittings may be marked with three dots in a triangular spacing instead of the specification number.

TABLE 1 Dimensions and Tolerances for SR Plastic Drain and Building Sewer Pipe, in.

Nominal Size	Average Outside Diameter	Permissible Deviations of the Diameter from Measured Average (Out-of-roundness)	Minimum Average Inside Diameter	Minimum Wall Thickness
2	2.250 ± 0.006	±0.030	2.000	0.073
3	3.250 ± 0.008	±0.040	2.875	0.100
4	4.215 ± 0.009	±0.050	3.875	0.125
5	5.300 ± 0.010	±0.060	4.875	0.150
6	6.275 ± 0.011	±0.070	5.875	0.180

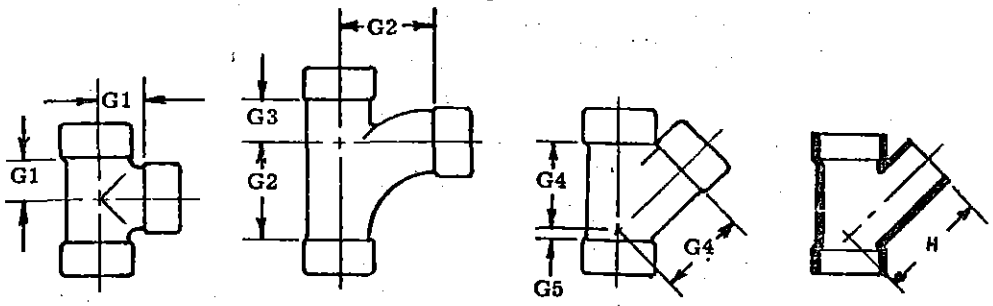
TABLE 2 Fitting Dimensions and Tolerances, In.



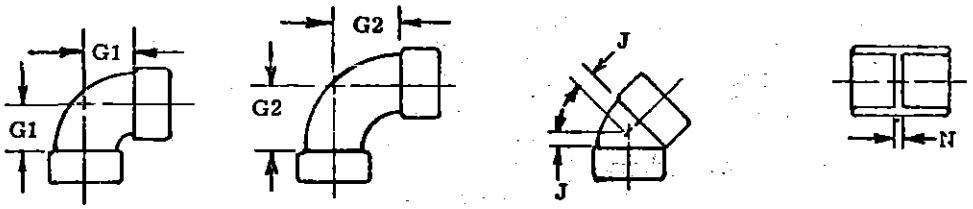
Nominal Size	A	B	C min	D min	E and F min
2	2.264 + 0.006 − 0.006	2.245 + 0.006 − 0.006	¾	2	0.073
3	3.271 + 0.008 − 0.008	3.245 + 0.008 − 0.008	1½	2⅞	0.100
4	4.235 + 0.009 − 0.009	4.210 + 0.009 − 0.009	1¾	3⅞	0.125
5	5.330 + 0.010 − 0.010	5.295 + 0.010 − 0.010	2	4⅞	0.150
6	6.305 + 0.011 − 0.011	6.270 + 0.011 − 0.011	2½	5⅞	0.180

TABLE 3 Fitting Minimum Laying Length Dimensions, in.

NOTE—All dimensions are in inches. The negative tolerance on these dimensions is zero.



TEE SANITARY TEE 45° WYE



1/4 BEND LONG 1/4 BEND 1/8 BEND COUPLING

Size	G1	G2	G3	G4	G5	H	J	N
2	1 5/32	1 3/4	1 5/16	2 3/4	1/2	3 1/8	9/16	3/32
3	1 21/32	2 1/8	1 3/8	3 1/4	9/16	6	1 1/16	1/8
4	2 5/32	3 11/16	1 3/4	5[1]	15/16	7 7/16	1/8	1/8
5	2 11/16	—	—	—	—	—	—	1/8
6	3 3/16	—	—	7 7/8	1 5/16	—	1 3/8	1/8

TABLE 4 Minimum Impact Strength Rrequirements of Pipe and Fittings at 23 C (73.4 F)

Nominal Size, in.	Minimum Impact	
	ft·lb	m·kg
2	10	1.4
3	10	1.4
4	15	2.1
5	15	2.1
6	15	2.1

TABLE 5 Minimum Pipe Stiffness for Pipe

Nominal Size, in.	Minimum Pipe Stiffness at 5 Percent Deflection	
	Original and Water Immersion Specimens	
	lb/in.[2]	MPa
2	50	0.35
3	42	0.29
4	38	0.26
5	37	0.26
6	34	0.23

TABLE 6 Loads for Dimensional Stability Test

Nominal Size, in.	Total Load	
	lb	kg
2	55	25
3	55	25
4	55	25
5	65	29.5
6	65	29.5

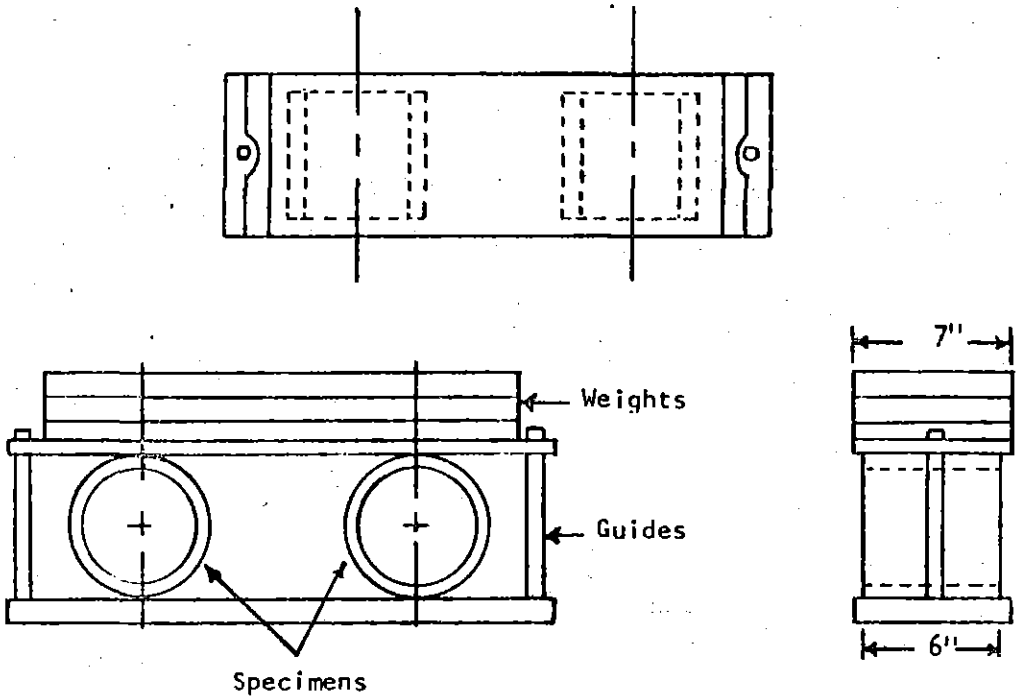


FIG. 1 Apparatus for Dimensional Stability Test.

Com 228-61

Styrene-Rubber Plastic Drain and Sewer Pipe and Fittings

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U.S. DEPARTMENT OF COMMERCE

BUSINESS AND DEFENSE SERVICES ADMINISTRATION

OFFICE OF TECHNICAL SERVICES

Commodity Standards Division

With the cooperation of the
National Bureau of Standards

EFFECTIVE DATE

Having been passed through the regular procedures of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard is issued by the U.S. Department of Commerce, effective May 15, 1961.

LUTHER H. HODGES, *Secretary.*

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Technical Services, Business and Defense Services Administration, and with the National Bureau of Standards. Their purpose is to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforcible through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The division by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the division assures continuous servicing of each Commercial Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Commodity Standards Division cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific

Styrene-Rubber Plastic Drain and Sewer Pipe and Fittings

(Effective May 15, 1961)

1. PURPOSE

1.1 The purpose of this Commercial Standard is to provide a nationally recognized specification for the guidance of producers, distributors, testing laboratories, and users of styrene-rubber plastic drain and sewer pipe and fittings; and to maintain public confidence in the quality of the products of this industry.

2. SCOPE

2.1 This Commercial Standard covers requirements and methods of test for materials, dimensions, workmanship, chemical resistance, crushing strength, water resistance, dimensional stability, and joint tightness of styrene-rubber plastic pipe and fittings. A form of marking to indicate compliance with this standard is also included.

3. TERMINOLOGY

3.1 The plastics terminology used in this Commercial Standard is in accordance with the definitions given in Tentative Definitions of Terms Relating to Plastics (ASTM Designation: D883-59T), unless otherwise indicated.

4. USES

4.1 The requirements of this standard are intended to provide pipe and fittings suitable for non-pressure drainage of sewage and certain other liquid wastes, where toughness, resistance to deterioration from water and chemicals, dimensional stability, resistance to aging, and strong tight joints are required. The plastic drain and sewer pipe and fittings described in this standard are intended for use in the following applications:

1. Building sewers and underground building drains in dwellings of four families or less.
2. Storm drainage.
3. House connections to septic tanks.
4. Leaching-system piping for septic-tank effluents.
5. Footing drains (foundation drains).
6. Sanitary sewers and storm sewers.

Industrial waste disposal lines should be installed only with the specific approval of the cognizant building code authority, since chemicals not commonly found in drains and sewers and temperatures in excess of 180° F. may be encountered.

5. REQUIREMENTS

5.1 *Materials.*—The pipe and fittings shall be made of styrene-rubber plastic. This plastic may contain stabilizers, lubricants, dyes, pigments, and fillers. Test specimens molded from the extrusion compound or from pieces of finished pipe and fittings shall have the following properties:

5.1.1 *Deflection temperature.*—The average deflection temperature shall be not less than 65° C. (149° F.) when tested in accordance with paragraph 7.3.

5.1.2 *Impact resistance.*—The average Izod impact strength shall be not less than 0.80 ft-lb/in of notch when tested in accordance with paragraph 7.4.

5.1.3 *Tensile properties.*—The average tensile strength and elongation at rupture shall be not less than 3,000 p.s.i. and 15 percent, respectively, when tested in accordance with paragraph 7.5.

5.2 *Dimensions.*

5.2.1 *Pipe diameters.*—The outside diameter of the pipe shall be within the tolerances given in table 1 when measured in accordance with paragraph 7.6. The inside diameter of the pipe shall meet the requirement given in table 1.

TABLE 1.—*Pipe diameters and tolerances*

Nominal size	Outside diameter	Minimum inside diameter	Minimum wall thickness [1]
Inches	*Inches*	*Inches*	*Inches*
2	2.250 +.010 −.020	2.050	0.073
3	3.250 +.015 −.025	2.875	.100
4	4.215 +.018 −.027	3.875	.125
5	5.300 +.050 −.027	4.875	.150
6	6.275 +.020 −.027	5.875	.180
8	8.400 +.050 −.030	7.750	.200
10	10.500 +.035 −.042	9.750	.225
12	12.500 +.040 −.045	11.750	.300

[1] These minimum wall thickness requirements do not apply to perforated drain pipe.

5.2.2 *Pipe length.*—The pipe shall be in 10-foot ±¼ inch lengths unless otherwise specified.

5.2.3 *Fitting dimensions.*—The dimensions of fittings shall meet the requirements given in table 2 when measured in accordance with paragraph 7.6.

5.3 *Workmanship.*—The pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions or other injurious defects. The pipe shall be as uniform as commercially practicable in color, opacity, density, and other physical properties.

5.4 *Crushing strength.*—The minimum crushing strength of pipe and fittings in sizes 2″ to 6″ nominal diameter shall be 1000 lb. per lineal foot, and the minimum crushing strength for sizes 8″, 10″, and

12" nominal diameter shall be 1200 lb. per lineal foot when tested in accordance with paragraph 7.7.

5.5 *Chemical resistance.*—The pipe and fittings shall not increase in weight more than 0.50 percent or change in crushing strength more than ±15 percent when tested in accordance with paragraph 7.8.

TABLE 2.—*Fitting dimensions and tolerances*

Nominal size	Dimensions				
	A		B		C
	Maximum inches	Minimum inches	Maximum inches	Minimum inches	Minimum inches
Inches					
2	2.267	2.257	2.250	2.240	¼
3	3.273	3.263	3.250	3.240	1½
4	4.230	4.220	4.220	4.210	1¾
5	5.315	5.305	5.305	5.295	2½
6	6.290	6.280	6.280	6.270	3
8	8.430	8.420	8.410	8.400	6
10	10.535	10.525	10.510	10.500	6
12	12.640	12.630	12.610	12.600	6

5.6 *Water resistance.*

5.6.1 *Water absorption.*—The pipe and fittings shall not increase in weight more than 0.60 percent when tested in accordance with paragraph 7.9.1.

5.6.2 *Wet strength.*—The minimum crushing strength of wet specimens of pipe and fittings shall be within ±5 percent of the actual crushing strength of dry specimens when tested in accordance with paragraph 7.9.2.

5.7 *Dimensional stability.*—The average decrease in inside diameter of pipe and fittings shall not exceed 10 percent when tested in accordance with paragraph 7.10.

5.8 *Joint tightness.*—Joints made with pipe and fittings shall not leak when tested at an internal pressure of 25 p.s.i. in accordance with paragraph 7.11.

6. SAMPLING AND RETEST

6.1 *Sampling.*—A sample of the pipe and fittings sufficient to determine conformance with this standard shall be taken at random from each lot or shipment. About 40 feet of pipe are required to make the tests prescribed. The number of fittings required varies depending on the size and type of fitting.

6.2 *Retest.*—If the results of any test do not conform to the requirements prescribed in this standard, that test shall be repeated on two additional sets of specimens from the same lot or shipment, each of which shall conform to the requirements specified. If either of these two additional sets of specimens fails, the material does not comply with this Commercial Standard.

7. METHODS OF TEST

7.1 *Conditioning Test Specimens.*—The specimens shall be conditioned prior to test at 23±2° C. (73.4±3.6° F.) and 50±5 percent

relative humidity for not less than 48 hours in accordance with Procedure A in Standard Method of Conditioning Plastics and Electrical Insulating Materials for Testing (ASTM Designation: D618-58) for those tests where conditioning is required and in all cases of disagreement.

7.2 *Test Conditions.*—Tests shall be conducted in a laboratory atmosphere of 23±2° C. (73.4±3.6° F.) and 50±5 percent relative humidity, unless otherwise specified.

7.3 *Deflection Temperature.*—The deflection temperature shall be determined in accordance with Standard Method of Test for Deflection Temperature of Plastics under Load (ASTM Designation: D648-56). Two test specimens shall be injection molded under conditions specified by the manufacturer and shall be ½ by ½ by 5 inches. The test shall be made only at stress of 264 p.s.i. The immersion medium shall be water. The heating rate shall be 2±0.2° C. per minute.

7.4 *Impact Resistance.*—The Izod impact strength shall be determined in accordance with Method A in Standard Methods of Test for Impact Resistance of Plastics and Electrical Insulating Materials (ASTM Designation: D256-56). Ten test specimens ½ by ½ by 2½ inches shall be injection molded under conditions specified by the manufacturer except that the notch shall be produced by a machining operation using a single-tooth milling cutter.

7.5 *Tensile Properties.*—The tensile strength and elongation at rupture shall be determined in accordance with Method of Test for Tensile Properties of Plastics (ASTM Designation: D638-58T). Five Type 1 test specimens approximately ⅛-inch thick shall be injection molded under conditions specified by the manufacturer. The speed of testing shall be 0.20 to 0.25 inch per minute.

7.6 *Dimensions.*—Dimensions shall be measured on five cleanly cut specimens of pipe and fittings with micrometers accurate to 0.001 inch. For materials that are sufficiently flexible, a tapered plug may be used to measure the diameter provided that the diameter is not expanded by inserting the plug into the pipe or fittings. The pipe length shall be measured with a steel tape accurate to plus or minus $\frac{1}{32}$" in 10 feet.

7.7 *Crushing Strength.*—The crushing strength shall be measured by the sand bearing method described in Standard Specifications for Drain Tile (ASTM Designation: C4-55). Five specimens, each sufficient in length to test an area at least 1-foot along the axis of the pipe, shall be tested. Each specimen shall meet the requirement in paragraph 5.4. When the design of a fitting does not permit the selection of a length sufficient for a test area 1-foot long, sections from several fittings may be used to obtain a composite specimen with the required length. Fittings having non-uniform diameters, such as reducers, shall be considered acceptable when the wall thicknesses at all points are equal to or greater than the wall thickness of pipes of the same diameters and of the same plastic compound that have been found to meet the crushing strength requirements for those diameters.

7.8 *Chemical Resistance.*—The resistance to the following chemicals shall be determined in accordance with Tentative Method of Test

for Resistance of Plastics to Chemical Reagents (ASTM Designation: D543-56T).

Chemicals	Concentration in Water Solution
Sodium carbonate	0.1N.
Sodium sulfate	0.1N.
Sodium chloride	5 percent.
Sulfuric acid	0.1N.
Hydrochloric acid	0.2N.
Acetic acid	5 percent.
Sodium hydroxide	0.2N.
Ivory soap	5 percent.
Household detergent	5 percent.
Raw sewage	----------

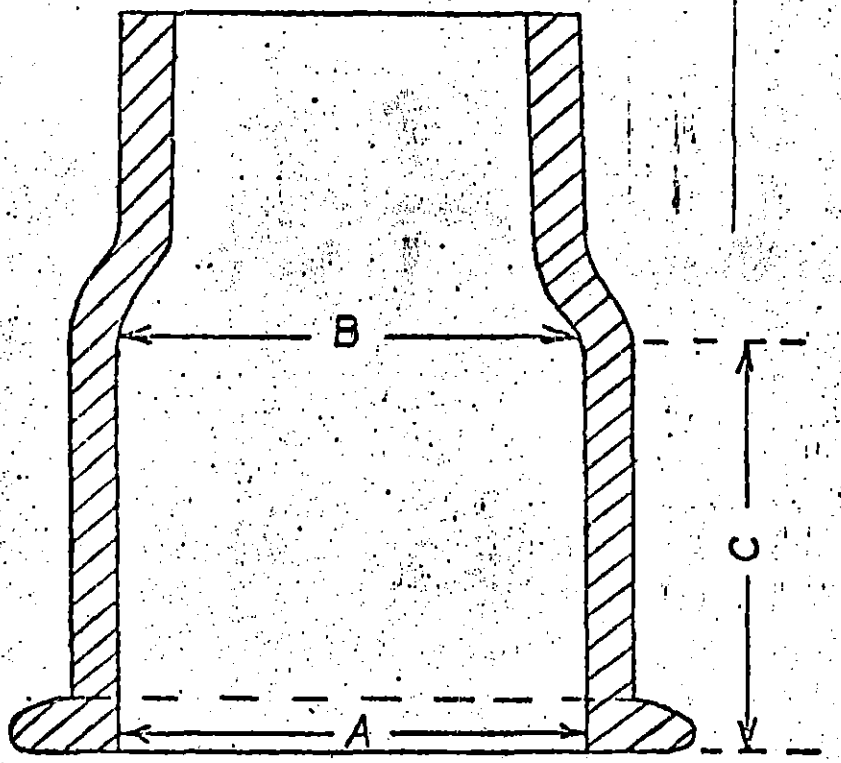

FIGURE 1. *Fitting dimensions.*

The test specimens shall be one foot long and cleanly cut. Three specimens shall be tested with each reagent. The specimen shall be weighed to the nearest 0.1 gram and completely immersed in the chemicals. The immersion period shall be 72 hours. On removal from the chemicals, the specimens shall be washed with running water, wiped with a clean, dry cloth, conditioned for 2 hours, −0 +15 minutes, and reweighed. The increase in weight shall be calculated to the nearest 0.01 percent on the basis of the initial weight. The specimen shall then be tested to determine the crushing strength in accordance with paragraph 7.7 within 30 minutes after weighing. The results obtained in both the weight and strength tests for each specimen shall meet the requirements.

7

7.9 *Water Resistance.*

7.9.1 *Water absorption.*—Three cleanly cut test specimens at least 4-inches long of pipe or three complete fittings shall be weighed to the nearest 0.1 gram and immersed in water at 23±2° C. (73.4±3.6° F.) for 48 hours. The specimens shall be removed, wiped dry with a clean, dry cloth, and reweighed immediately. The average percent gain in weight shall be calculated to the nearest 0.01 percent on the basis of the initial weight.

7.9.2 *Wet strength.*—The specimens used to make the water absorption tests shall be tested in accordance with paragraph 7.7 within 30 minutes after removal from the water. The crushing strength of each specimen shall meet the requirement.

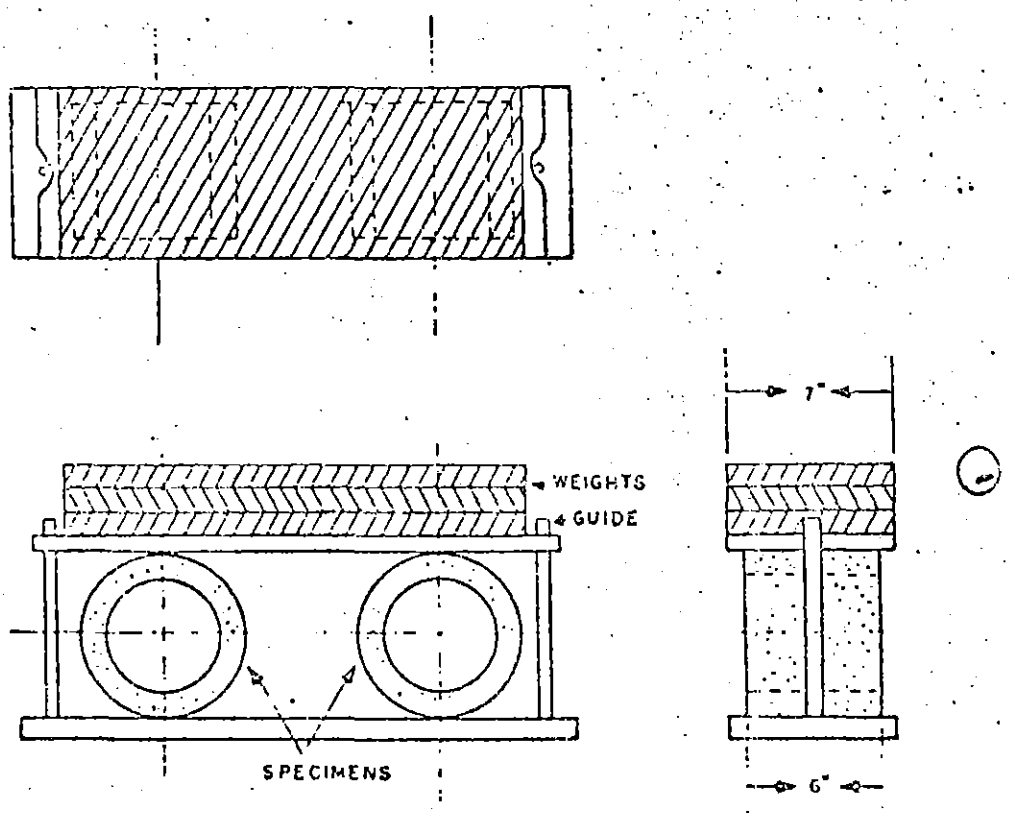

FIGURE 2. *Apparatus for dimensional stability test.*

7.10 *Dimensional Stability.*—The 6-inch long test specimens shall be cleanly cut from the pipe. A diameter shall be marked and measured on the inside to the nearest 0.001 inch. The specimens shall be placed on a flat rigid base with the measured diameter in a vertical position and the assembly placed in a circulating air oven. The pair of test specimens shall be loaded symmetrically as shown in figure 2 to produce the total load for the indicated diameter as shown in table 3.

The heat shall then be turned on in the oven and the temperature raised to 50±3° C. (122±5.4° F.) and held there for 48±1 hours. The load shall then be removed from the specimens and the specimens removed from the oven. After cooling for 1 hour, the inside diameters shall be remeasured and the average change in percent of the initial diameter shall be calculated.

TABLE 3.—*Loads for dimensional stability test*

Nominal size, inch	2	3	4	5	6
Total load, lb..	55	55	55	65	65

7.11 *Joint Tightness.*—Two pieces of pipe shall be joined together with a fitting by solvent welding or other method recommended by the manufacturer and allowed to stand for 24 hours at room temperature. The specimen shall then be subjected to an internal pressure of 25 p.s.i., with water as the medium, for 24 hours. The pipe and the joints shall show no leakage.

APPENDIX I

AMERICAN SOCIETY FOR TESTING AND MATERIALS
1916 Race St., Philadelphia 3, Pa.
Reprinted from Copyrighted 1966 Book of ASTM Standards, Part 12.

Standard Specification for

CONCRETE DRAIN TILE[1]

ASTM Designation: C 412 – 65
ADOPTED, 1960; LAST REVISED, 1965.

This Standard of the American Society for Testing and Materials is issued under the fixed designation C 412; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. This specification covers nonreinforced concrete drain tile with internal diameters from 4 to 24 in.

Classes

2. Drain tile manufactured according to this specification shall be of the following three classes:

(*a*) *Standard-Quality Concrete Drain Tile*, intended for land drainage of ordinary soils where the tile are laid in trenches of moderate depths and widths. Standard-quality concrete drain tile are not recommended for use where internal diameters in excess of 12 in. are required.

(*b*) *Extra-Quality Concrete Drain Tile*, intended for land drainage of ordinary soils where the tile are laid in trenches of considerable depths or widths, or both.

(*c*) *Special-Quality Concrete Drain Tile*, intended for land drainage where special precautions are necessary for concrete tile laid in soils that are markedly acid or contain unusual quantities of sulfates (see Section 9), and where the tile are laid in trenches of considerable depths or widths, or both (Note 1).

NOTE 1.—Where the calculated loads are in excess of the crushing strengths prescribed in Table III, tile strengths must be specified in advance by the purchaser.

Basis of Purchase

3. The purchaser shall specify in writing the class or classes of concrete tile to be supplied, whether Standard-Quality, Extra-Quality or Special-Quality. Unless Extra-Quality or Special-Quality concrete drain tile have been stipulated, Standard-Quality drain tile shall be accepted.

Basis of Acceptance

4. The acceptability of drain tile shall be determined by (*1*) the results of the physical tests as specified in Section 19 and in the Methods of Test for Determining Physical Properties of Concrete

[1] Under the standardization procedure of the Society, this specification is under the jurisdiction of the ASTM Committee C-13 on Concrete Pipe.

Pipe or Tile (ASTM Designation: C 497),[2] (*2*) measurements and inspection to ascertain whether the tile conform to the requirements regarding dimensions, shape, and freedom from visible defects, and (*3*) the manufacturer's certification in writing that the tile have been made in accordance with any special provisions, such as strength, absorption, permeability, type of cement, admixture, curing conditions, etc.

MATERIALS

Concrete

5. The concrete shall consist of portland cement, mineral aggregates and water, and may include admixtures and blends as described in Section 8.

Cement

6. Portland cement for concrete drain tile shall conform to the requirements of the Specifications for Portland Cement (ASTM Designation: C 150),[3] or shall be air-entraining portland cement conforming to the requirements of the Specifications for Air-Entraining Portland Cement (ASTM Designation: C 175),[3] or shall be portland blast-furnace slag cement conforming to the requirements of the Specifications for Portland Blast-Furnace Slag Cement (ASTM Designation: C 205).[3]

Aggregates

7. The aggregates for concrete drain tile shall conform to the Specifications for Concrete Aggregates (ASTM Designation: C 33),[3] except that the grading requirements for aggregates are waived when the tile meet all the other requirements of this specification.

Admixtures and Blends

8. Admixtures or blends that have been proven to impart desirable properties to concrete drain tile may be used with the approval of the purchaser.

CHEMICAL REQUIREMENTS

Acid and Sulfate Resistance

9. (*a*) The purchaser may specify special requirements in order to increase the durability of the drain tile in cases where the soils, soil water, or drainage waters are markedly acid (Note 2) or contain unusual quantities of soil sulfates (Note 3). Without a specific agreement in advance, no drain tile shall be rejected by reason of its composition as determined later by chemical analyses.

NOTE 2.—Soils or drainage waters with a pH of 6.0 or lower may be considered to be markedly acid.

NOTE 3.—Where the sulfates are chiefly sodium or magnesium, singly or in combination, unusual quantities of these sulfates may be assumed to be 3000 ppm (0.30 per cent) for soil or soil water.

(*b*) Concrete drain tile that will be installed in markedly acid soils shall meet the physical test requirements given in Table III for Special-Quality concrete drain tile. Tile that will be exposed to unusual quantities of soil sulfates shall meet the physical test requirements given in Table III and shall be made with sulfate-resistant cements.

(*c*) Type V portland cement shall be used where high-sulfate resistance is required, and types II and IIA portland cement shall be used for general concrete construction exposed to moderate sulfate conditions. If mutually agreed by the manufacturer and the purchaser, other cements, as described in Section 6, that have been proven to be sulfate resistant may be used.

PHYSICAL TEST REQUIREMENTS

Physical Tests

10. The physical properties of concrete drain tile shall conform to the requirements specified in Table I, or, when

[2] Appears in this publication.
[3] *1965 Book of ASTM Standards*, Part 10.

specified by the purchaser in advance, they shall conform to the requirements given in Tables II and III.

(*a*) For Standard-Quality concrete drain tile, the three-edge bearing crushing strength as shown in Table I, Column A, or the three-edge bearing crushing strength and the 5-hr boiling absorption as shown in Table I, Column B, shall meet the requirements given in Table I.

TABLE I.—PHYSICAL TEST REQUIREMENTS FOR STANDARD-QUALITY CONCRETE DRAIN TILE.

Nominal Inside Diameter, in.	Standard-Quality Concrete Drain Tile				
	Three-Edge-Bearing Crushing Strength[a]			Absorption, boiled 5 hr	
	Minimum Average, lb per lin ft		Minimum for Individual Tile, lb per lin ft	Maximum Average, per cent	Maximum for Individual Tile, per cent
	A	B	A and B	B	B
4	900	800	700	10	11
5	900	800	700	10	11
6	900	800	700	10	11
8	900	800	700	10	11
10	900	800	700	10	11
12[b]	900	800	700	10	11

[a] Drain tile meeting the above strength requirements are not necessarily safe against cracking in deep and wide trenches.

[b] Tile with nominal diameters greater than 12 in. should meet the requirements specified in Table II for Extra-Quality or in Table III for Special-Quality concrete drain tile.

No absorption tests are required if the strength requirements of Table I, Column A, are met.

(*b*) For Extra-Quality concrete drain tile, the three-edge-bearing crushing strength and the 5-hr boiling absorption shall meet the requirements given in Table II.

(*c*) For Special-Quality concrete drain tile the requirements shall be as follows:

(*1*) The three-edge-bearing crushing strength shall meet the requirements given in Table III, or the higher specified load.

(*2*) The 5-hr boiling absorption shall meet the requirements given in Table III.

(*3*) The 10-min, room-temperature soaking absorption shall meet the requirements given in Table III.

(*4*) The hydrostatic test shall be made, when demanded, in lieu of the 10-min room temperature soaking absorption tests. The leakage shall not exceed 1 liter in 10 min per ft of length of tile for all diameter sizes.

(*5*) For sulfate exposures, sulfate-resistant cement shall be specified (see Section 9).

TABLE II.—PHYSICAL TEST REQUIREMENTS FOR EXTRA-QUALITY CONCRETE DRAIN TILE.

Nominal Inside Diameter, in.	Extra-Quality Concrete Drain Tile				
	Nominal Wall Thickness, in.	Three-Edge-Bearing Crushing Strength[a]		Absorption, boiled 5 hr	
		Minimum Average, lb per lin ft	Minimum for Individual Tile, lb per lin ft	Maximum Average, per cent	Maximum for Individual Tile, per cent
4	1/2	1100	990	9	10
5	9/16	1100	990	9	10
6	5/8	1100	990	9	10
8	3/4	1100	990	9	10
10	7/8	1100	990	9	10
12	1	1100	990	9	10
14	1 1/8	1100	990	9	10
15	1 1/4	1100	990	9	10
16	1 3/8	1100	990	9	10
18	1 1/2	1200	1080	9	10
20	1 5/8	1300	1170	9	10
21	1 3/4	1400	1260	9	10
24	2	1600	1440	9	10

[a] For loads in excess of the supporting strengths shown in the above table, tile may be supplied using designs involving the increase of wall thickness or the use of higher strength concrete.

Selection of Tile for Tests

11. The drain tile to be tested shall be selected at random by the purchaser or his representative at the point or points

specified in the order. If agreeable to the purchaser, the tile may be inspected and tested in advance of shipment. Any additional expense for making tests and inspection in advance of shipment shall be paid by the manufacturer or other seller.

Number and Cost of Tile for Tests

12. Each standard physical test shall be made on five individual tile of each size. The manufacturer, or other seller, shall furnish tile without separate charge up to 0.5 per cent of each size. The purchaser shall pay for all tile in excess of 0.5 per cent at the same price as paid for other tile of the same size and quality.

Retests

13. Should the tile first selected fail to conform to the test requirements, the seller may, at his expense, cull the tile and have other tile selected for retest from the remaining stock. For such retests, the number of tile shall be ten for each standard physical test. In the event of failure of the tile after retest, the tile shall be rejected without further test. The manufacturer, or other seller, shall pay all cost for any retest demanded and made.

SHAPES, SIZES, AND PERMISSIBLE VARIATIONS

Shape

14. All drain tile shall be circular in cross-section, except when otherwise specified in advance. They shall be approximately straight, except in the case of special connections. The ends of butt-end tile shall be so regular and smooth as to readily admit the making of satisfactory close joints. Other than butt-end tile may be furnished when mutually agreed between the manufacturer, or other seller, and the purchaser.

TABLE III.—PHYSICAL TEST REQUIREMENTS FOR SPECIAL-QUALITY CONCRETE DRAIN TILE.

Nominal Inside Diameter, in.	Special-Quality Concrete Drain Tile (For tile exposed to corrosive waters)					
	Minimum Wall Thickness, in.	Minimum Individual Three-Edge-Bearing Crushing Strength,[a] lb per lin ft	Absorption			Sulfate Exposures
			Boiled 5 hr		Soaked 10 min at Room Temperature	
			Maximum Average, per cent	Maximum for Individual Tile, per cent	Maximum for Individual Tile, per cent	
4	1/2	1100	8	9	3	For sulfate exposures, sulfate-resistant cement should be specified (see Section 9).
5	9/16	1100	8	9	3	
6	5/8	1100	8	9	3	
8	3/4	1100	8	9	3	
10	7/8	1100	8	9	3	
12	1	1100	8	9	3	
14	1 1/8	1100	8	9	3	
15	1 1/4	1100	8	9	3	
16	1 3/8	1100	8	9	3	
18	1 1/2	1200	8	9	3	
20	1 5/8	1300	8	9	3	
21	1 3/4	1400	8	9	3	
24	2	1600	8	9	3	

[a] For loads in excess of the support strengths shown in the above table, tile may be supplied using designs involving the increase of wall thickness or the use of higher strength concrete.

Nominal Dimensions and Permissible Variations

15. Permissible variations of the nominal dimensions of diameter, length, and wall thickness, are as follows:

(*a*) Minimum internal diameters shall not be less than the nominal diameters by more than $\frac{1}{4}$ in. for 4- and 5-in. tile, $\frac{3}{8}$ in. for 6- and 8-in. tile, $\frac{1}{2}$ in. for 10- to 14-in. tile, $\frac{5}{8}$ for 15- to 18-in. tile, and $\frac{3}{4}$ in. for sizes of 20- to 24-in. tile.

(*b*) The nominal length of drain tile smaller than 12-in. diameter shall be not less than 12 in. Tile of 12- to 24-in. diameter, inclusive, shall have nominal lengths not less than the diameters. The underrun of individual tile shall not exceed 3 per cent of the nominal length.

(*c*) No wall thickness is specified for Standard-Quality concrete drain tile where the crushing strength and the absorption tests are used to determine the tile quality. When only the crushing strength is used to determine Standard-Quality tile, then the wall thickness for Standard-Quality tile shall not exceed the nominal shell thickness given in Table II by more than 25 per cent. The wall thickness of Extra-Quality concrete drain tile at any point shall not be less than the full thickness specified in Table II by more than $\frac{1}{16}$ in. for tile having inside diameter of 4, 5, and 6 in., $\frac{3}{32}$ in. for tile having inside diameters of 8 and 10 in., and $\frac{1}{8}$ in. for tile having inside diameters of 12 to 24 in. The minimum thickness of Special-Quality drain tile walls at any point shall be not less than shown in Table III.

INSPECTION

General Properties

16. All drain tile shall be given a thorough inspection at the agreed delivery point by an inspector approved by the purchaser, unless a satisfactory inspection has been made in advance of delivery as specified in Section 12. The purpose of the inspection shall be to determine whether the tile, independently of meeting the physical test requirements, conform to the specifications as regards shapes and sizes as prescribed in Sections 14 and 15, and to eliminate defective tile as defined in Section 17. The manufacturer, or other seller, of the drain tile shall afford the inspector all reasonable facilities for his work, both as to the selection of tile for tests and as to inspection of the tile. Inspection shall be completed and reported promptly and full reports of all tests and inspections shall be furnished the manufacturer or other seller on his request.

Defective Tile

17. Drain tile that, when placed in a vertical position, do not give a metallic ring when struck with a light metal hammer, or that are observed to have cracks that extend through the tile wall and are of a length in excess of $\frac{1}{2}$ in. or other defects that may impair the tile strength shall be discarded without further test. Outside surface irregularities that do not affect the tile strength shall not be considered reason for the rejection of the tile.

Rejection

18. The inspector shall plainly designate all drain tile that he rejects, and such rejected tile shall be removed promptly by the manufacturer, or other seller, from any job to which the tile have been delivered.

TEST METHODS

Absorption Tests

Test Specimens

19. Specimens for the absorption tests shall be selected in accordance with the following provisions:

(*a*) For tile with nominal inside diameters of 12 in. or less, and nominal lengths of 12 in., the absorption test

shall be made on one full-length quarter segment taken from each of the five tile broken in the strength test, constituting a standard sample as defined in Section 12. By quarter segment is meant one of the four pieces into which a tile usually breaks in the strength test. If a tile breaks in such a manner that a satisfactory quarter segment cannot be obtained, then the absorption test may be made of two or more pieces that approximate the area of a quarter tile of that size, selected so that both ends and the center portion of the tile are represented. The average absorption of the pieces so selected shall be considered the absorption for that tile.

(*b*) For tile with nominal inside diameters or lengths in excess of 12 in., the absorption test shall consist of three pieces, one of the pieces shall be taken from one end of the tile, another piece from the opposite end, and the third piece from near the center. The specimens shall be the full thickness of the tile, broken or cut from the tile broken in the strength test. Each specimen shall have a minimum area of not less than 25 sq in., as measured on one barrel surface. The average absorption of the three pieces shall be considered the absorption for that tile.

(*c*) All absorption test specimens shall be apparently sound, solid pieces of the tile and shall not show cracks or badly shattered edges.

(*d*) The average absorption for the Standard-Quality tile and for the Extra-Quality tile shall be the average of the absorption tests for the 5 tile constituting the standard sample as defined in Section 12, or the average of the absorption tests for the strongest and the weakest tile as measured by the crushing strength of the 5 tile of the standard sample. When drain tile fail to meet the absorption test requirement as computed by averaging the absorptions from the weakest and the strongest tile of a standard sample, then the average absorption test shall be computed by averaging the absorption tests from all the five tile from the standard sample. The average absorption for the Special-Quality tile shall be the average of the absorption tests for the 5 tile constituting the standard sample.

Procedure

20. All test shall be made in accordance with the Methods of Test for Determining Physical Properties of Concrete Pipe or Tile (ASTM Designation: C 497).[3]

APPENDIX J

AMERICAN NATIONAL STANDARD A6.1-1963
AMERICAN NATIONAL STANDARDS INSTITUTE

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa., 19103

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Standard Specifications for
CLAY DRAIN TILE[1]

ASTM Designation: C 4 – 62 (Reapproved 1970)

This Standard of the American Society for Testing and Materials is issued under the fixed designation C 4; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

Scope

1. These specifications cover drain tile made from clay, shale, fire clay, or mixtures thereof, and burned. In these specifications, the term drain tile or tile shall mean tile made only from these materials.

Classes

2. (*a*) Three classes of drain tile are covered:

Standard Drain Tile,
Extra-Quality Drain Tile, and
Heavy-Duty Drain Tile

(*b*) Unless otherwise specified by the purchaser, Heavy-Duty or Extra-Quality Drain Tile shall be accepted in lieu of Standard Drain Tile, and Heavy-Duty Drain Tile in lieu of Extra-Quality. Standard Drain Tile may be furnished and shall be considered as meeting these specifications unless another class is specified by the purchaser.

Physical Requirements

3. (*a*) Drain tile shall conform to the physical requirements for the class specified as prescribed in Table I.

(*b*) *Waiver of Absorption Requirements.*—Requirements prescribed in Table I for water absorption (5-hr boiling) shall be waived provided a sample consisting of five drain tile, meeting all other requirements, shows no disintegration or spalling and no loss in dry weight of any individual tile greater than 5 per cent when subjected to the freezing and thawing test, made as prescribed in Sections 16 and 17. The number of cycles of freezing and thawing to which each class of tile shall be subjected are:

Class	Number of Cycles
Standard	36
Extra-Quality	48
Heavy-Duty	48

[1] Under the standardization procedure of the Society, these specifications are under the jurisdiction of the ASTM Committee C-15 on Manufactured Masonry Units. A list of members may be found in the ASTM Year Book.

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If tile meet the requirements of the freezing and thawing test, the average percentage absorption of the specimens used in the test shall be adopted as the maximum allowable average absorption for the contract in question. At least 80 per cent of all tile tested shall meet the requirements prescribed in this Paragraph (*b*).

cause slaking or disintegration of the tile shall be deemed valid grounds for rejection, unless satisfactory proof is submitted that the tile are durable and permanent.

(*b*) Drain tile shall be free from cracks, checks, or chips extending into the body of the tile in such a manner as would decrease the strength appreciably. There

TABLE I.—PHYSICAL TEST REQUIREMENTS FOR CLAY DRAIN TILE.

Internal Diameter of Tile, in.	Standard Drain Tile				Extra-Quality Drain Tile				Heavy-Duty Drain Tile			
	Minimum Crushing Strength,[a] lb per lin ft		Maximum Water Absorption by 5-hr Boiling,[b] per cent		Minimum Crushing Strength,[a] lb per lin ft		Maximum Water Absorption by 5-hr Boiling,[b] per cent		Minimum Crushing Strength,[a] lb per lin ft		Maximum Water Absorption by 5-hr Boiling[b] per cent	
	Average of five Tile	Individual	Average of five Tile	Individual	Average of five Tile	Individual	Average of five Tile	Individual	Average of five Tile	Individual	Average of five Tile	Individual
4.....	800	680	13	16	1100	990	11	13	1400	1260	11	13
5.....	800	680	13	16	1100	990	11	13	1400	1260	11	13
6.....	800	680	13	16	1100	990	11	13	1400	1260	11	13
8.....	800	680	13	16	1100	990	11	13	1500	1350	11	13
10.....	800	680	13	16	1100	990	11	13	1550	1400	11	13
12.....	800	680	13	16	1100	990	11	13	1700	1530	11	13
14.....	840	720	13	16	1100	990	11	13	1850	1660	11	13
15.....	870	740	13	16	1150	1030	11	13	1980	1780	11	13
16.....	...	...	...	...	1200	1080	11	13	2100	1890	11	13
18.....	...	...	...	...	1300	1170	11	13	2340	2110	11	13
21.....	...	...	...	...	1450	1300	11	13	2680	2410	11	13
24.....	...	...	...	...	1600	1440	11	13	3000	2700	11	13
27.....	...	...	...	...	1800	1620	11	13	3330	3000	11	13
30.....	...	...	...	...	2000	1800	11	13	3590	3230	11	13

[a] Strengths of sizes not listed may be interpolated between tabular values of sizes and strengths of the nearest listed diameters.

[b] In case tile fails to meet absorption requirements, see Section 3 (*b*).

Sizes

4. (*a*) Sizes of drain tile shall be designated by their inside diameters.

(*b*) Drain tile smaller than 12 in. in diameter shall have a nominal length of not less than approximately 12 in. Tile 12 to 30 in. in diameter, inclusive, shall have nominal lengths not less than their diameters. Tile larger than 30 in. in diameter shall have a nominal length of not less than 30 in.

Materials, Workmanship, and Finish

5. (*a*) Presence in drain tile of any minerals or chemicals that are known to

shall be no breaks in the tile that would admit earth into the drain.

(*c*) Drain tile shall be reasonably smooth on the inside and shall be approximately circular in cross-section, except when otherwise specified in advance. They shall be approximately straight, except in the case of special connections. The ends of butt-end tile shall be so regular and smooth as to make possible close joints by turning and pressing together the ends of adjoining tile. Butt-end tile shall be furnished unless otherwise specified by the purchaser.

(*d*) Drain tile shall conform to the general physical characteristics prescribed in Table II.

Inspection and Rejection

6. (*a*) All drain tile shall be given a thorough inspection by a competent inspector approved by the purchaser. The tile shall be inspected at a location and time agreed upon by the purchaser and seller. The purposes of the inspection shall be to: (*1*) cull and reject imperfect individual tile, and (*2*) determine whether the tile, by visual inspection, meet the requirements set forth in Sections 5 and 6.

(*b*) Drain tile in a dry condition shall give a clear ring when held free of the ground or tipped on edge, and tapped lightly with a hammer that has a head not exceeding 4 oz in weight.

(*c*) The seller may appeal from decisions of the inspector when such decisions are based on visual inspection alone, in which case the point of issue shall be determined by standard physical tests made in accordance with Sections 9 to 18. Costs of such tests based on an appeal shall be paid by the seller if the tests confirm the inspector's decision; otherwise, these costs shall be paid by the purchaser.

(*d*) The inspector shall plainly mark all rejected drain tile, which shall be removed promptly by the seller at the expense of the seller.

(*e*) No drain tile shall be rejected by the purchaser on the basis of physical tests unless the laboratory test report is made available to the seller.

Sampling and Testing

7. (*a*) Tile shall be sampled and tested in accordance with Sections 9 to 18.

TABLE II.—DISTINCTIVE GENERAL PHYSICAL PROPERTIES OF CLAY DRAIN TILE

Physical Properties Specified	Standard Drain Tile	Extra-Quality Drain Tile	Heavy-Duty Drain Tile
Permissible variation of average diameter below specified diameter, per cent	3	3	3
Permissible variation between maximum and minimum diameters of same tile, percentage of thickness of wall	75	65	65
Permissible variation of average length below manufacturer's specified length, per cent	3	3	3
Permissible variation from straightness, percentage of length	3	3	3
Permissible thickness of exterior blisters, lumps, and flakes which do not weaken tile and are few in number, percentage of thickness of wall	20	15	15
Permissible diameters of above blisters, lumps, and flakes, percentage of inside diameter	15	10	10
General inspection	rigid	very rigid	very rigid

(*b*) For purposes of the test, full-size, unbroken drain tile shall be selected by the purchaser or by his authorized representative. Specimens shall be representative of the whole lot of tile from which they are selected, after culling undesirable tile which fail to meet visual inspection requirements. The place or places of selection shall be designated when the purchase order is issued. The manufacturer or seller shall furnish specimens for test without charge.

(*c*) Each specimen shall be so marked that it may be identified at any time.

(*d*) Unless otherwise specified in the purchase order, costs of tests shall be paid as follows:

(*1*) If results of tests show that tile do not conform to the require-

ments of these specifications, the cost shall be paid by the seller.

(*2*) If results of tests show that tile do conform to requirements of these specifications, the cost shall be paid by the purchaser, except that in the case of the freezing and thawing test, when specifically requested by the seller in order to justify waiver of absorption requirements, the cost of tests shall be paid by the seller.

(*e*) Should the standard sample of tile selected as prescribed in Paragraph (*a*) fail to conform to physical requirements prescribed in Section 3, the seller may, at his expense, cull the tile and have other tile selected for retest from the remaining stock. Selection of specimens for the purpose of retest shall be made as prescribed in Paragraphs (*a*) and (*b*), except that the number of tile sampled shall be ten per standard physical test. If the tile selected fail to meet the requirements in the retest, the lot may be rejected by the purchaser as not meeting these specifications. The seller shall pay all costs for any retesting he demands.

Basis of Acceptance

8. (*a*) Acceptability of the tile shall be determined by (*1*) measurements and visual inspection as prescribed in Sections 6 and 7, and (*2*) compliance with the physical requirements as prescribed in Section 3.

(*b*) Acceptance of drain tile as satisfactorily meeting one of the two general requirements in Paragraph (*a*) shall in no way be construed as a waiver of the other.

TEST METHODS

Crushing Strength Tests

Test Specimens

9. (*a*) Five unbroken, full-size drain tile of each specified size shall be tested.

(*b*) Drain tile with nominalinside diameter of 12 in. or less shall be immersed in water for at least 1 hr and not more than 2 hr immediately prior to testing. Tile with nominal inside diameters greater than 12 in. may be tested without wetting but shall not be dried except as may occur in complying with the provisions in Paragraph (*c*).

(*c*) No specimen of tile shall be exposed to water or air temperature lower than 40 F from the beginning of wetting until tested. Frozen tile shall be completely thawed before being tested.

Apparatus

10. The loading device may consist of any mechanically driven or hand-powered device that meets the following requirements: It shall be substantially built and rigid throughout so that distribution of load to the specimen will not be affected appreciably by deformation or yielding of any part. It shall provide for continuous application of load at a uniform rate—from 500 to 2,000 pounds per lineal foot per minute. It shall provide means for determination of load with an error not greater than 2 per cent.

Procedure

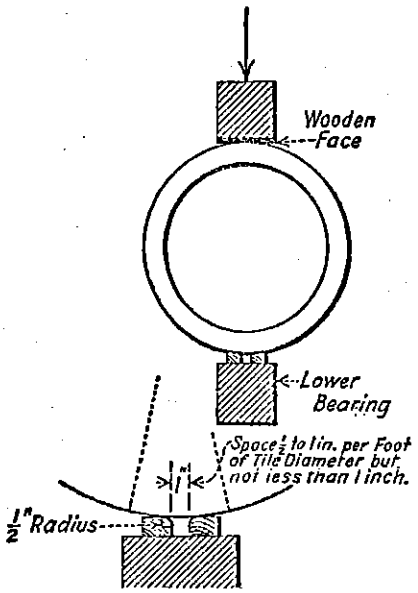
11. (*a*) Strength tests shall be made by the three-edge-bearing method.

(*b*) All bearings and specimens of tile shall be accurately centered to secure a symmetrical distribution of loading on each side of the center of tile in every direction.

(*c*) Load shall be applied as nearly continuously as testing equipment permits until the specimen fails.

(*d*) The lower bearing for the tile shall consist of two wooden strips free of knots and with vertical sides, having their interior top corners rounded to a radius of approximately $\frac{1}{2}$ in. (see Fig. 1). The strips shall be straight, and shall be securely fastened to a rigid base with the interior vertical sides parallel and spaced a distance apart not less than $\frac{1}{2}$ in., nor more than 1 in.,

per ft of the nominal tile diameter, with a minimum spacing of 1 in. The upper bearing shall be straight and true from end to end and load shall be applied through a wood beam or wooden-faced metal beam of such dimensions that it will transmit the full load without appreciable deflection. Upper and lower



Detail of Lower Bearing.

FIG. 1.—Three-Edge Bearings.

bearings shall extend the full length of tile exclusive of the bell, if any. Tile shall be placed symmetrically between the two bearings, and the center of application of load shall be at the center of the length of tile. In testing a tile that is "out of straight", the lines of bearing chosen shall be those which appear to give the most favorable conditions for a fair test.

(*e*) Plaster of paris bedding fillets may be used on the upper and lower bearings, if mutually agreed by the manufacturer, or other seller, and the purchaser. Before the tile is placed, a fillet of plaster of paris thick enough to compensate for inequalities in the tile barrel shall be cast on and between the lower bearings and the tile shall be placed in position on the fillet while the plaster is still somewhat plastic.

A similar fillet shall be cast along the length of the crown of the tile. This fillet shall have a width equal to that of the upper bearing block and, for this test, the upper bearing block shall have a width 1 in. greater than the distance between the strips constituting the lower bearing.

(*f*) If mutually agreed by the manufacturer, or other seller, and the purchaser, proven types of bearings such as hard rubber or sand-filled high-pressure hose may be used in lieu of wooden bearings as specified in Paragraph (*d*).

Calculations and Report

12. Results of strength tests shall be reported in pounds per lineal foot of tile. They shall be reported separately for each of the tile constituting a standard test, together with the average.

Absorption Test

Test Specimens

13. Test specimens shall consist of segments taken from each of the five tile broken in the strength test and shall be selected in accordance with the following provisions:

(*a*) For tile with nominal inside diameters of 12 in. or less, and nominal lengths of 12 in., a "standard sample" shall consist of one full-length quarter segment taken from each of the five tile broken in the strength test. By quarter segment is meant one of the four pieces into which a tile usually breaks in the strength test. The segment selected shall have approximately uniform width. If a tile breaks in such a manner that a satisfactory quarter segment cannot be obtained, the absorp-

tion test may be made on two or more pieces whose combined areas approximate the area of a quarter tile of that size, selected so that both ends and center portion of the tile are represented. The average absorption of the pieces so selected shall be considered to be the absorption for that tile.

(*b*) For tile with nominal inside diameters or lengths in excess of 12 in., the absorption test shall be made on three pieces, one piece taken from one end of the tile, another piece taken from the opposite end, and the third piece from near the center. Specimens shall have the full thickness of the tile, with all edges broken, or cut, preferably from tile broken in the strength test. Each specimen shall have an area not less than 25 sq in., as measured on one barrel surface. Average absorption of the three pieces shall be considered to be the absorption for that tile.

(*c*) All absorption test specimens shall be apparently sound, solid pieces of tile, shall not show cracks or badly shattered edges, and shall have laminations and fissures only to the extent that these are representative of the tile from which they are taken.

Procedure

14. (*a*) *Drying.*—Specimens shall be dried at least 16 hr in a ventilated oven at a temperature between 230 and 248 F (110 and 120 C) and until two successive weighings at intervals of not less than 3 hr show an increment of loss not greater than 0.1 per cent of the original weight of the specimen. Dry weights of specimens shall be the weights after final drying, and as soon as the specimen has cooled to 75 ± 10 F (24 ± 5.5 C). The balance used shall be sensitive to 0.5 g when loaded with 1 kg, and weighings shall be read to at least the nearest gram. Where other than metric weights are used, the same order of accuracy must be obtained.

(*b*) *Saturation.* — Dried specimens shall be placed in a suitable container, packed tightly enough to prevent jostling and covered with clean water. Water shall be heated to boiling in not less than 1 nor more than 2 hr, boiled continuously for 5 hr, and then allowed to cool to room temperature by natural loss of heat for not less than 12 hr. Specimens shall be removed from the water and allowed to drain for not more than 1 min. Superficial water shall be removed by absorbent cloth or paper, and the specimens immediately weighed.

Calculations and Report

15. Absorption shall be calculated as a percentage of initial dry weight (Section 14(*a*)), carried to the nearest 0.1 per cent. Results shall be reported separately for each specimen, together with the average for all specimens comprising the standard sample.

Freezing and Thawing Test

Test Specimens

16. (*a*) Test specimens for the freezing and thawing test shall be in the range of absorption values that required such a test and shall be selected by one of the following methods:

(*1*) Specimens may be from the original tile samples used in crushing tests but not subjected to boiling, or

(*2*) The manufacturer shall assist in selecting a group of five tile in the absorption range at which it is desired to establish a waiver of the absorption test. However, the absorption of each test specimen shall be equal to or greater than the average absorption at which the tile failed to meet absorption requirements as shown in Table I.

(*b*) Two sets of test specimens shall be prepared from each of the tile selected. The size and number of test specimens

shall be as prescribed in Section 13 (*b*) and (*c*). One set shall be used for determining absorption in accordance with Section 14 (*a*) and (*b*), and the remaining set, for freezing and thawing test in accordance with Section 17.

Procedure

17. (*a*) *Drying and Saturation.*—Specimens shall be dried in accordance with Section 14(*a*). Specimens shall be saturated by submersion in water at room temperature of 70 ± 30 F (21 ± 17 C) for not less than 24 hr. The same scales and weights specified in Section 14 for the absorption test, or others of equal sensitivity and accuracy, shall be used for weighings required in the freezing and thawing test.

(*b*) *Freezing and Thawing.*—When the specimens have been weighed at the conclusion of saturation, they shall be returned to water and kept immersed until the freezing test is begun. For freezing, specimens shall be placed with their concave faces upward in watertight trays. Depth of water in each tray shall be adjusted to ½ in. and the trays placed in the freezing apparatus. Freezing shall be performed in an atmosphere in which the natural or artificial air currents are no greater than necessary to maintain approximately uniform temperatures in all parts of the freezing compartment. The freezing apparatus shall have sufficient heat-absorbent capacity for lowering the temperature of the freezing compartment to +14 F (−10 C) within 30 min after introduction of the specimens and for maintaining a temperature of +4 ± 10 F (−15.5 ± 5.5 C). Each freezing period shall be not less than 3 hr for specimens from tile with walls up to 1.5 in. thick, and 4 hr for specimens with walls more than 1.5 in. thick. Trays containing the specimens shall then be removed and at once submerged in water at a temperature of 75 ± 10 F (24 ± 5.5 C). The tank in which the specimens are thawed should contain sufficient water to maintain water temperature at 70 ± 15 F (21 ± 8.5 C) while the specimens are thawing. In order that this condition may prevail, running water may be used or the water in the tank may be moderately heated for at least 1 hr and until all the ice has melted. The trays of specimens shall then be placed in the freezer as before and the freezings and thawings continued until the number of cycles required is completed.

Calculations and Report

18. At the end of the thawing treatment, specimens shall be inspected and the condition of each shall be noted in the records. When the number of cycles specified has been completed, specimens shall be oven-dried and weighed as specified in Section 17(*a*) and the loss in weight computed as a percentage of the initial dry weight. Report the number of cycles required to cause breakage, if breakage occurs. Where the specimen has not failed by breakage, the percentage loss in weight at the conclusion of 36 and 48 cycles shall be reported.

APPENDIX K

Designation: D 1861 – 69

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa., 19103

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Standard Specification for HOMOGENEOUS BITUMINIZED FIBER DRAIN AND SEWER PIPE[1]

This Standard is issued under the fixed designation D 1861; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

1. Scope

1.1 This specification covers homogeneous bituminized fiber drain and sewer pipe and fittings for use in nonpressure conductor and drain systems.

NOTE—The values stated in U.S. customary units are to be regarded as the standard. The metric equivalents of U.S. customary units may be approximate.

2. Materials and Manufacture

2.1 Pipe and couplings shall be composed of a bituminous compound reinforced with an interwoven fibrous structure. The fibrous material shall be thoroughly impregnated. The wall of the pipe shall be dense and homogeneous, without seams or laminations, and with a smooth interior surface free from obstructions and rough or flaky areas. Bends and fittings shall be of the same material as the pipe, or of a material having equal or better physical and chemical characteristics.

3. Joints

3.1 Pipe and bends shall be provided with accurately machined or molded tapered joints, and a taper-sleeve coupling shall be provided for each length of pipe and for each bend. The slope of the taper in both pipe and coupling shall be 2 deg (4 deg included angle) (see Fig. 1).

3.2 All joints for a given size shall be interchangeable and shall be watertight when properly assembled and tested as described in ASTM Method D 2314, Testing Homogeneous Bituminized Fiber Pipe.[2]

4. Physical and Chemical Requirements

4.1 *Resistance to Flattening*—The diameter decrease shall not exceed 3 percent when tested in accordance with Method D 2314, using loads specified in Table 2.

4.2 *Crushing Strengths*—The requirements for dry, wet, and coupling crushing strength shall be as prescribed in Table 2 when tested in accordance with Method D 2314.

4.3 *Beam Strength*—The requirements for beam strength shall be as prescribed in Table 2 when tested in accordance with Method D 2314.

4.4 *Joint Tightness*—There shall be no evidence of the leakage of water at the joint after a period of 24 h when tested in accordance with Method D 2314.

4.5 *Water Absorption*—The maximum water absorbed shall be not more than 2 percent of the original weight, calculated to the nearest 0.1 percent, when tested in accordance with Method D 2314.

4.6 *Boiling Water Resistance*—There shall be no evidence of disintegration or separation into laminations after immersion for 6 h, and the crushing strength shall be as specified in Table 2 when tested in accordance with Method D 2314.

4.7 *Heat Resistance*—The specimen shall show no appreciable decrease in vertical di-

[1] This specification is under the jurisdiction of ASTM Committee D-8 on Bituminous and Other Organic Materials for Roofing, Waterproofing, and Related Building or Industrial Uses. A list of members may be found in the ASTM Yearbook.

Current edition effective Oct. 3, 1969. Originally issued 1951. Replaces D 1861 - 64.

[2] *Annual Book of ASTM Standards*, Part 11.

ameter, and no appreciable exudation of the bituminous saturant when tested in accordance with Method D 2314.

4.8 *Chemical Resistance*—Specimens shall show no evidence of softening or disintegration when tested in accordance with Method D 2314.

4.9 *Kerosine Resistance*—Specimens shall meet the dry crushing strength requirements specified in Table 2 when tested in accordance with Method D 2314.

5. Dimensions

5.1 *Pipe and Couplings*—The dimensions of the pipe and couplings shall be as specified in Fig. 1.

5.2 *Bore*—The bore shall be straight and circular in cross section as determined by passing a 36-in. (914-mm) long mandrel, $^1/_4$ in. (6.4 mm) smaller in diameter than the nominal diameter of the pipe, freely through the pipe.

5.3 *Length*—The standard length shall be 5, 8, or 10 ft (1.5, 2.4 or 3.0 m), depending upon the standard practice of the manufacturer. Length measurements shall include the tapered ends of the pipe, and a tolerance of ±1 in. (25 mm) shall be allowed. Lengths other than standard shall be increments of 6 in. (150 mm) from standard and unless otherwise specified up to 20 percent of the short lengths may be supplied in a shipment. No lengths shorter than 4 ft (1.2 m) shall be furnished with no more than two different short lengths in any one shipment. A coupling shall be supplied with each length of pipe.

5.4 *Dimensions of Bends*—Wall thicknesses of bends shall be not less than those of the corresponding pipe. A round ball $^1/_4$ in. (6.4 mm) smaller in diameter than the nominal size shall pass through the bore of the bend freely. Dimensions of the 45 and 90-deg bends of the standard sizes furnished are shown in Fig. 2.

5.5 *Five-Degree Angle Couplings*—The dimensions of the 5-deg angle couplings shall be as specified in Fig. 3.

6. Sampling

6.1 From each lot to be tested or fraction thereof, representing a product of the same size, select at random a number of lengths equivalent to one half the cube root of the total number of lengths included in the lot, except that in lots of 1000 lengths or less, 5 lengths shall be taken. If one half the cube root, as calculated, proves to be a fractional number, express it as the next higher whole number. Test specimens shall not include damaged pipe. Tapered joints shall not be included except as specified in Method D 2314.

7. Basis of Acceptance

7.1 The lot shall be acceptable when all test specimens conform to the test requirements of Section 4. Should 20 percent or less of the specimens fail to meet these requirements, the supplier will be allowed a retest on two additional specimens for each specimen that failed, and the lot will be acceptable if all these specimens meet the requirements.

7.2 If any of the selected specimens should fail to meet other requirements of the specification than those of physical and chemical test, the supplier may cull the lot and may eliminate whatever quantity of pipe he desires and must so mark those pipes that they will not be considered part of the lot. The required tests and specimens will be made on the balance of the order, and they will be acceptable if they conform to the specified requirements.

8. Marking

8.1 Each length of pipe shall bear the manufacturer's name or trademark identification on its exterior barrel. The marking shall be durable enough to withstand outdoor storage and handling until installed.

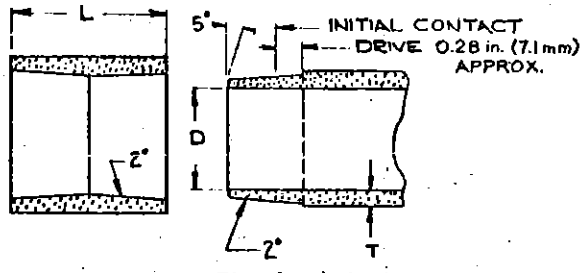
TABLE 1 Flattening Loads

	Nominal size, in. (mm)					
	2 (50)	3 (75)	4 (100)	5 (125)	6 (150)	8 (200)
Total load, lb (kg)	55 (24.9)	55 (24.9)	55 (24.9)	65 (29.4)	65 (29.4)	80 (36.2)
Load per piece, lb (kg)	27.5 (12.5)	27.5 (12.5)	27.5 (12.5)	32.5 (14.7)	32.5 (14.7)	40 (18.1)
Load, lb/ft (kg/m)	110 (164)	110 (164)	110 (164)	130 (193)	130 (193)	160 (238)

TABLE 2 Physical Requirements for Homogeneous Bituminized Fiber Drain and Sewer Pipe

Nominal Size, in. (mm)	Crushing Strength, min, lb/ft (kg/m)			Beam Strength, min, lb (kg)
	Pipe[a]		Coupling	
	Flat Plate	3-Edge	Flat Plate	
2 (50)	1100 (1650)	1350 (2000)	270 (400)	1000 (450)
3 (75)	1150 (1700)	1350 (2000)	315 (470)	1000 (450)
4 (100)	1250 (1850)	1350 (2000)	370 (550)	2200 (1000)
5 (125)	1350 (2000)	1400 (2100)	430 (650)	4200 (1900)
6 (150)	1450 (2200)	1450 (2200)	430 (650)	4400 (2000)
8 (200)	1800 (2700)	1800 (2700)	670 (1000)	7000 (3200)

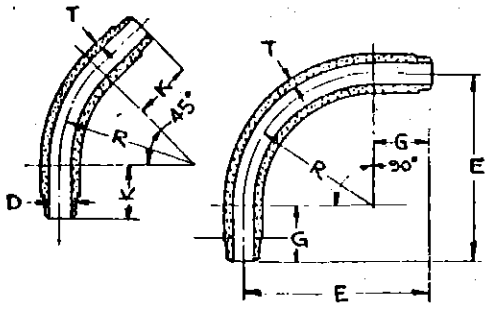
[a] The deflection of the specimen, based on the pipe nominal diameter, shall not exceed 10 percent before the crush value has been reached in either the flat plate or 3-edge bearing test.



Dimensions, in. (mm)

	Nominal size					
	2 (50)	3 (75)	4 (100)	5 (125)	6 (150)	8 (200)
D—Minimum inside diameter	2.00 (50.8)	3.00 (76.2)	4.00 (101.6)	5.00 (127.0)	6.00 (152.4)	8.00 (203.2)
T—Minimum wall thickness	0.23 (5.8)	0.28 (7.1)	0.32 (8.1)	0.41 (10.4)	0.46 (11.7)	0.57 (14.5)
L—Minimum length of coupling	2.90 (73.7)	3.42 (86.9)	3.92 (99.6)	3.92 (99.6)	3.92 (99.6)	5.00 (127.0)

FIG. 1 Dimensions of Taper Joint for Pipe and Couplings.



Dimensions, in.

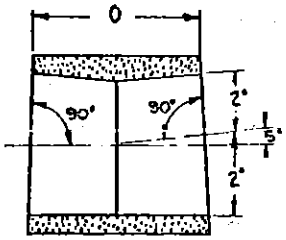
Nominal size	2				3			4		5		6	8
D—Minimum inside diameter	2.00				3.00			4.00		5.00		6.00	8.00
T—Minimum wall thickness	0.23				0.28			0.32		0.41		0.46	0.57
R—Radius	9.5	18	24	36	13	24	36	16	36	24	36	36	48
E	17.5	26	32	38	21	32	38	24	38	32	36	36	(2)
G	8	8	8	2	8	8	2	8	2	8	0	0	(2)
K	8	8	8	8	8	8	8	8	8	8	8	8	8

Dimensions, mm

Nominal size	50				75			100		125		150	200
D—Minimum inside diameter	50.8				76.2			101.6		127.0		152.4	203.2
T—Minimum wall thickness	5.8				7.1			8.1		10.4		11.7	14.5
R—Radius	240	460	610	920	330	610	920	410	920	610	920	920	1220
E	440	660	810	960	530	810	960	610	960	810	960	960	(2)
G	200	200	200	50	200	200	50	200	50	200	0	0	(2)
K	200	200	200	200	200	200	200	200	200	200	200	200	200

NOTE 1—Details of joints are given in Fig. 1.
NOTE 2—Eight-inch (200-mm) bends are supplied regularly in 45-deg angles only.

FIG. 2 Dimensions of Bends.



Dimensions, in. (mm)

	Nominal size					
	2 (50)	3 (75)	4 (100)	5 (125)	6 (150)	8 (200)
O, min	2.98 (75.7)	3.5 (89)	4.00 (102)	4.00 (102)	4.00 (102)	5.00 (127)

FIG. 3 Dimensions of Five-Degree Angle Couplings.