Nitrification

The existing activated sludge system operates in the plug-flow mode with an anaerobic selector that improves sludge settleability The plant may be required to meet a summertime effluent ammonia limit in the future If it is required to meet such a limit, the capacity of the existing basins would be derated and an anoxic selector system would be employed to ensure biological nitrification and denitrification Therefore, the aeration basin capacity will be expanded by conversion of the existing secondary clarifiers to aeration basins and construction of replacement clarifiers west of North Portland Road

In the secondary treatment process, the sludge age can be increased to about 7 to 9 days and the food/microorganism ratio can be decreased to approximately 0 25 during the summer months to provide nitrification The existing process air system has the capacity to meet the oxygen requirements that nitrification will demand

The west secondary expansion process layout has been developed to provide nitrification for an average dry-season design flow of 115 mgd and a peak flow of 160 mgd during the summer months when the wastewater temperature is greater than 15°C

Effluent Filtration

The site plan sets aside space for the addition of secondary effluent filtration–a deep-bed filter with a capacity of 160 mgd Filtration will be required if an effluent reuse program is initiated or an effluent with 10 mg/L of BOD_5 and 10 mg/L of TSS, or less, is required The CBWTP hydraulic profile is such that there would not be enough hydraulic head to filter the flow stream without pumping The secondary effluent would need to be pumped to the filters

Ultraviolet Disinfection

Ultraviolet disinfection was evaluated in detail as an alternative for disinfection of the secondary effluent, as well as the wet-weather effluent Ultraviolet disinfection of secondary effluent is a proven technology and could be applied here Even so, it was determined that ultraviolet disinfection currently is not as cost-effective for treatment of secondary effluent as the existing chlorination system The site plan provides the capability to add ultraviolet disinfection if chlorination is removed in the future The CBWTP hydraulic profile can incorporate ultraviolet disinfection without new pumping facilities Ultraviolet disinfection is not a proven technology for the treatment of wet-weather flows that receive only primary treatment Although some full-scale systems currently are being implemented, no long-term operational data are yet available Moreover, it is not cost-effective to construct an ultraviolet wet-weather disinfection facility that would be operated on an intermittent basis For this reason, chlorination was identified as the preferred disinfection technology for wet-weather flows

Effluent Reuse

Currently there is no demand to reuse the effluent from the treatment plant The potential for effluent reuse will improve, however, as the treatment plant begins to produce a higher quality effluent and the cost of potable water increases for industrial users in the local area For example, reuse water might be used to irrigate nearby golf courses, parks, and industrial parks The present regulations require treatment to a Class IV water level before effluent can be used for irrigation in areas with public access This level of treatment requires chemical coagulation, filtration, and a high level of disinfection The existing site plan and process flow can meet this high level of treatment with slight modifications

To produce Class IV reuse water, a coagulant such as alum must be added to the flow stream before filtration For this purpose, a chemical receiving and storage facility could be constructed in the area of the filters Water storage would be required to provide more disinfection contact time and to store the water for users This system could be placed in an unused area of the site or offsite

Preliminary Sizing Criteria

The preliminary sizing criteria used in the conceptual planning of the liquid treatment processes are summarized in Table 10-1

Description of Willamette River Wet-Weather Treatment Facilities

In the site plan (Figure 10-1), space is reserved for the facilities that will be needed if the Willamette River Basin CSOs are treated at the CBWTP site Site planning for these facilities is addressed in Chapter 9, and the implementation phases are discussed in Chapter 11

The Willamette River wet-weather treatment facilities will be similar to the facilities for the Columbia Slough Basin CSOs If the decision is made to site the Willamette River wet-weather treatment facilities at the CBWTP, the following facilities will need to be added or expanded to treat an additional flow of 336 mgd

- Headworks
- New primary clarifiers (six more of the same size as those for the Columbia Slough Basin CSOs)
- New chlorine disinfection facility (three bays)
- Effluent pumping
- New outfall
- Dechlorination facility on Hayden Island

Table 10-1
Preliminary Sizing Criteria for Liquid Treatment Unit Processes
West Secondary Expansion Alternative Including Columbia Slough Basin CSOs

Parameter	Unit
Influent Pumping	
Main Pump Station	
Number of pumps	6
Capacity (mgd)	319
Number of influent magmeters	6
CSCC Pump Station	
Number of pumps	3
Capacity (mgd)	75
Number of influent magmeters	3
Headworks	
New Headworks	
Number of mechanically cleaned bar screens	5
Capacity (mgd)	319
Number of vortex grit removal units	6
Diameter (feet)	24
CSCC Headworks	
Number of mechanically cleaned bar screens	3
Capacity (mgd)	75
Number of vortex grit removal units	3
Diameter (feet)	20
Primary Clarifiers	
New Dry-Weather Clarifiers	
Number	4
Capacity (mgd)	160
Length (feet)	260
Width (feet)	60
Depth (feet)	16-18
Surface area, each (square feet)	15,600
Surface area, total (square feet)	62,400
Peak overflow rate (gallons/day/square foot) at 160 mgd	2,564
Existing Wet-Weather Clarifiers	
Number	4
Capacity (mgd)	234
Length (feet)	225
Width (feet)	58
Side water depth (feet)	12
Surface area, each (square feet)	14,790
Surface area, total (square feet)	59,160
Peak overflow rate (gallons/day/square foot) at 160 mgd	2,705
Activated Sludge	
Existing Capacity (mgd)	160
Number	8
Volume (gallons)	14,580,000

Table 10-1
Preliminary Sizing Criteria for Liquid Treatment Unit Processes
West Secondary Expansion Alternative Including Columbia Slough Basin CSOs

Parameter	Unit
New Capacity (mgd)	70
Volume (gallons)	11,579,000
Mixed-liquor concentration (mg/L)	4,300
Sludge volume index	<150
Total Volume (gallons)	26,159,000
Secondary Clarifiers	
New	
Number	14
Diameter (feet)	140
Depth (feet)	18-20
Surface area, each (square feet)	15,394
Surface area, total (square feet)	215,516
Overflow rate (gallons/day/square foot)	742
Filters	
Number of cells	6
Length (feet)	50
Width (feet)	50
Depth of medium (feet)	5
Surface area, each (square feet)	2,500
Surface area, total (square feet)	15,000
Disinfection–Chlorine Gas and Sodium Bisulfite Dechlorination	
Chlorine Facilities	
Existing	-
Dechlorination	
Days of storage	20
Storage requirement (gallons)	5,400
Number of metering pumps, 10 gph each	4
Bulk storage and metering building (square feet)	1,000
Effluent Pumping	
Dry-Weather Flow Pump Station	
Number of pumps	4
Capacity (mgd)	160
Wet-Weather Flow Pump Station (existing pump station)	
Number of pumps	5
Capacity (mgd)	234

Abbreviations
CSCC = Columbia Slough consolidation conduit
CSO = combined sewer overflow
gph = gallons per hour
mgd = million gallons per day
mg/L = milligrams per liter

Description of Solids Treatment Facilities

Solids-handling improvements for the planning period (1995 to 2040) will consist of the following

- Add a third gravity belt thickener
- Add recuperative thickening to the digester process and add four new anaerobic digesters
- Compartmentalize and line Triangle Lake
- Construct an odor-free compost storage facility
- Modify existing dewatering equipment, upgrade older dewatering facilities, and add another dewatering unit

The site plan locations for these improvements are shown in Figure 10-1

Waste Activated Sludge Thickening

The plant will continue to use the three existing gravity belt thickeners to thicken waste activated sludge These are housed in the dewatering building A fourth gravity belt thickener will need to be added later in the planning period, after the year 2020 It should be added in conjunction with another dewatering unit, to coordinate configuration of the building layout

Anaerobic Digestion

Primary and secondary solids are currently being digested separately, to improve dewatering of solids for composting and to eliminate problems that could occur during codigestion Separate digestion of solids requires additional redundancy and does not result in optimum use of the existing digester tankage The digesters are currently operating at design hydraulic loadings, and the necessary redundancy for equipment breakdown or digester cleaning does not exist The hydraulic loading is limited because the primary sludge pumped from the thickeners is thin, and thickening of secondary sludge is constrained to 4 percent solids because of the potential for ammonia toxicity in the digesters The necessary digestion capacity can be provided by pumping of thicker primary sludge and by incorporation of recuperative thickening into the digestion process

It is necessary to modify the primary sludge pumping systems and piping to pump the thicker primary sludges After installation of a digested sludge recirculation loop or a booster pump station, primary sludges can be pumped at solids concentrations of up to 6 percent instead of at the current solids concentration of 2 to 3 percent This modification will make it possible for the present digestion system to provide adequate capacity through the year 2010 with all units in service The system, however, will not be able to meet the minimum 15-day detention time with one unit out of service The necessary redundant capacity can be

provided through the use of recuperative thickening, which will require installation of a thickening centrifuge at the digester complex The result will be an increase in the digester detention times, which will provide the necessary redundant capacity through the year 2010 This work needs to be done soon to minimize the potential for digester upset

After incorporation of the modifications outlined above, the digester capacity will be adequate through the year 2010 Four additional digesters will be needed by the year 2040 to handle the projected increase in solids production These can be added in two phases, two digesters per phase Factors that can affect when additional digestion capacity will be needed are future regulation requirements, potentially changing the process to codigestion, and the actual quantities of solids that will be received from the CSO treatment facilities

Sludge Storage

The Triangle Lake sludge lagoon will be compartmentalized and lined to improve operational efficiency and minimize the potential for leakage Its size will be reduced from 36 to 26 acres when the wetland at the southern end is restored for environmental enhancement

Operation of the lagoon in an odor-free manner will require that the volatile solids loading not exceed 20 pounds of volatile solids per 1,000 square feet per day This loading may be increased if operational experience shows that a higher loading rate will not result in an odor episode

The 26-acre lagoon will have the ability to store up to 1 year's worth of biosolids at the year 2040 loadings but will not be able to do so at the 20 pounds of volatile solids per 1,000 square feet per day level For this reason, alternative programs for biosolids should be incorporated into the CBWTP biosolids management plan in the future to reduce the program's reliance on storage

Dewatering

The existing belt filter presses dewater digested solids and solids stored in the lagoon The dewatered solids are used for composting or are hauled to eastern Oregon for application to farmland Increasing the dryness of the solids product will lower the costs of composting by lowering the amount of sawdust required to obtain the proper water balance The increased dryness will also lower the hauling costs for the application program and increase the amount of solids that can be hauled in each truck load

Available new technology can provide an additional high-pressure dewatering zone for the existing belt presses This might increase the total solids concentration by 2 to 3 percent This technology needs to be pilot tested and incorporated into the process if it proves to be cost-effective

Given the dewatering process requirements and the age of the existing equipment, the system should be modified, and the capacity should be increased The existing dewatering building should be upgraded and expanded vertically, with placement of dewatering equipment on the upper floor to facilitate a new conveyance system The existing at-grade floor could then be

used for expansion of the thickening processes and miscellaneous dewatering support functions The capacities of the existing dewatering, composting, and truck loadout facilities should be maximized

Major modification and expansion of the existing dewatering building should include new storage and blend tanks, rehabilitation and expansion of the GBT WAS thickening, probably at the at-grade level, and expansion and improvement of filtrate storage and return pumping

Utilization Program

The CBWTP produces two types of biosolids for reuse compost and dewatered cake The compost is distributed to local landscaping markets The dewatered cake is taken in trucks to the Madison Ranch near Hermiston, Oregon, for direct land application These utilization programs will continue in the future

An odor-free compost storage facility will be constructed Its location will depend on the results of a market evaluation It may, for instance, be beneficial to locate it off the CBWTP site

More agricultural land will be added to the program to increase its flexibility and provide a contingency capacity The acreage should be sufficient to accommodate solids used in the existing compost program (approximately 3,000 acres at 2 5 dry tons per acre every 2 years) The land should be at a location separate from the existing reuse site on the Madison property to further increase the program's diversity If technological diversification is desired, a new composting facility or heat drying should be considered after evaluation of local market conditions for the product

Methane Utilization

Three methane utilization programs are recommended

- Sell landfill gas to industrial users, increase the sale of digester gas to industrial users, or both
- Sell the remaining landfill gas, digester gas, or both to the Northwest Natural Gas Company
- Develop a cogeneration plant at the CBWTP as a reserve alternative in case the preceding alternatives are not successfully implemented or to use the remaining digester gas

Following are the key findings of the conceptual evaluation

- The St Johns Landfill and CBWTP should pursue marketing of their landfill and digester gas to industrial users St Johns should focus on delivery to

Rivergate, and the CBWTP should focus on delivery to Malarkey and other potential users along its existing pipeline

- Selling digester gas to the Northwest Natural Gas Company is considered economical, provided the CBWTP can meet the specifications for pipeline-quality gas

- Selling landfill gas to the Northwest Natural Gas Company is considered uneconomical at this time because of the difficulty and expense of removing nitrogen and other unknown landfill gas constituents by means of the current gas processing technology

- Cogeneration at the CBWTP is an economical alternative to selling digester gas to the Northwest Natural Gas Company, provided electrical rates increase at a rate higher than inflation

- The alternatives in which nonprocessed gas is sold to industrial users or processed gas is sold to the Northwest Natural Gas Company result in lower overall air emissions in the North Portland area than the baseline condition of flaring excess gas at the CBWTP and St Johns Landfill

The following recommendations are suggested to develop a plan for implementing methane use at both the CBWTP and the St Johns Landfill

- Analyze the landfill gas to determine its constituents and begin a regular gas testing program

- Evaluate in greater detail the feasibility of selling landfill gas to Ash Grove, include financing methods

- Continue monitoring the performance of digester gas metering at the CBWTP and the system for delivering gas to Malarkey

- Evaluate in greater detail the feasibility of selling processed digester gas to the Northwest Natural Gas Company, include costs and financing methods

Description of Support Facilities

Pipe galleries will connect new and existing facilities The pipe galleries will be similar to the existing pipe galleries that provide space for piping, pumps, instrumentation and control equipment, and operation and maintenance access corridors

The following support facility improvements are planned

- Construct a new centralized monitoring and control facility above the administration building

- Improve access to the plant's tunnel system
- Construct tunnel access to the secondary clarifiers and the filtration and ultraviolet disinfection facilities west of North Portland Road
- Add a new fueling station
- Move the remaining onsite industrial laboratory and the liquid process control laboratory to the existing satellite laboratory building and upgrade the process control laboratory
- Complete the recommended facility upgrades identified in the *Seismic Vulnerability Assessment Report* (Dames and Moore, 1995)

These improvements are described in Chapter 8, Support Facilities

Environmental Enhancements

Environmental Services project staff and the CAC members identified five areas at the CBWTP site for potential environmental enhancements

- Plant entrance
- Public link to the Columbia Slough
- Triangle Lake
- Columbia Slough screening to the west secondary expansion site
- North Portland Road screening to the west secondary expansion site

See Chapter 9, Environmental Enhancements, for conceptual layouts of these areas and descriptions of the improvements The enhancements, to be performed as the different CBWTP expansion projects proceed, include the following

- Restoration of wetlands at Triangle Lake
- Improvements along the Columbia Slough
- Creation of a buffer between the Columbia Slough and the new secondary facilities on the west side of North Portland Road
- Construction of the portion of the 40-mile-loop trail on the north side of the Columbia Slough
- Construction of the Columbia Slough bridge
- Construction of a system of paths, on the east side of the plant, that connect the 40-mile loop with neighborhood access at North Portsmouth Road

Odor Control

The recommended odor control strategy, approved by the CAC, is to install foul air containment and treatment facilities on all existing and future primary treatment and solids-handling facilities It was determined that the secondary and tertiary treatment facilities at the CBWTP would not require odor control facilities Existing sources of odor will be eliminated through containment, treatment, and operational changes over the next 5 to 10 years New facilities will be designed and constructed with integral odor control facilities The odor control measures that will be taken are summarized in Table 10-2

Table 10-2
Recommended Odor Control Measures for Existing and Future Facilities
Columbia Boulevard Wastewater Treatment Plant

Four Air Source	Containment	Treatment
Primary clarifiers	Add flat cover	Chemical packed-bed wet scrubbers
Primary clarifier effluent weirs	Add flat cover (alternatively, replace exposed weirs with submerged weirs)	Two-stage system chemical packed-bed wet scrubber followed by biofilter
Digesters	Modify floating covers to fixed covers*	No treatment
Compost process building	Use equipment covers	Two-stage system chemical scrubber followed by biofilter
Compost scrubber outlet	Use existing duct	Two stages first stage, sulfuric acid for ammonia control, second stage, packed-bed wet scrubber with an oxidant for control of reduced sulfur compounds
Compost storage building	Use duct	Two stages of chemical scrubbing
Dewatering building	Use heating, ventilation, and air-conditioning duct	Carbon adsorber

* If an existing cover does not need to be fixed for reasons other than odor control, a short-term solution should be investigated because of the high capital cost of this approach Escape of digester gas through safety vents is caused by equipment malfunction Improving operational and maintenance practices can solve this problem If leakage is expected to continue, a local carbon canister should be added

Chapter 11

Implementation of Recommended Plan

Chapter 11
Implementation of Recommended Plan

Implementation Phases

Implementation phases for the recommended west secondary expansion alternative (see Chapter 10) were developed for the planning periods ending in the years 2001, 2011, 2020, and 2040 These periods were selected because of the regulatory and growth impacts that will be occurring at these times

In the phase ending in the year 2001, actions will be taken to ensure that a wet-weather treatment facility is operational and able to handle Columbia Slough Basin combined sewer overflows (CSOs) by December 31, 2000, and that facilities are in place to treat sewage flows from the Inverness area

In the phase ending in the year 2011, actions will be taken to ensure that a wet-weather treatment facility is operational and able to handle Willamette River Basin CSOs and that the dry-weather treatment facilities have the capacity to adequately treat the projected increased domestic sewage flows

In the phase ending in the year 2020, actions will be taken to meet the treatment requirements for the projected increases in domestic sewage flows

In the phase ending in the year 2040, actions will be taken to meet a potential nitrification requirement and to implement the extensive secondary treatment expansion needed to meet the projected population growth and increased wastewater flows The year 2040 marks the end of the overall planning period for the Portland metropolitan area and is the estimated year of ultimate build-out for the service area

Several figures are provided to illustrate these phases Figures 11-1 through 11-4 are liquid process diagrams for each of the phases (Willamette River Basin CSO treatment facilities not included) Figure 11-5 is a color-coded site plan showing the implementation phases for the recommended plan

Existing Conditions

The base year for the planning was 1995 The current average dry-weather flow is 60 million gallons per day (mgd), and the current average wet-weather flow is 80 mgd The plant has a peak hydraulic flow of 278 mgd, which is limited by the interceptor sewer

The new headworks and the primary treatment process have a design capacity of 300 mgd The secondary treatment process has an average dry-weather capacity of 100 mgd, a maximum-day capacity of 130 mgd, and a peak hydraulic capacity of 160 mgd The outfall to the Columbia River has a peak hydraulic capacity of 240 mgd Flows in excess of 240 mgd must be discharged into the Oregon Slough

All flows that exceed the collection system capacity overflow through 55 outfalls 13 into the Columbia Slough and 42 into the Willamette River A stipulation and final order (SFO) has been issued by the Oregon Department of Environmental Quality (DEQ) for elimination of the overflows The City of Portland CSO facilities plan completed in 1994 outlined the plan for collection, storage, and treatment of CSOs The overflows to the Columbia Slough will be captured in a consolidation conduit and transferred to the Columbia Boulevard Wastewater Treatment Plant (CBWTP) for treatment This project must be completed by 2001

The overflows to the Willamette River will be collected and treated adjacent to the Willamette River or at the CBWTP Site selection for the Willamette River Wet-Weather Treatment Facility (WRWWTF) has not yet been finalized Therefore, planning of the facilities has included placement of the WRWWTF at the CBWTP Overflows to the Willamette River must be reduced by one-third by the year 2006, and the remaining overflows must be contained by 2011

Planning Period 1995 to 2001

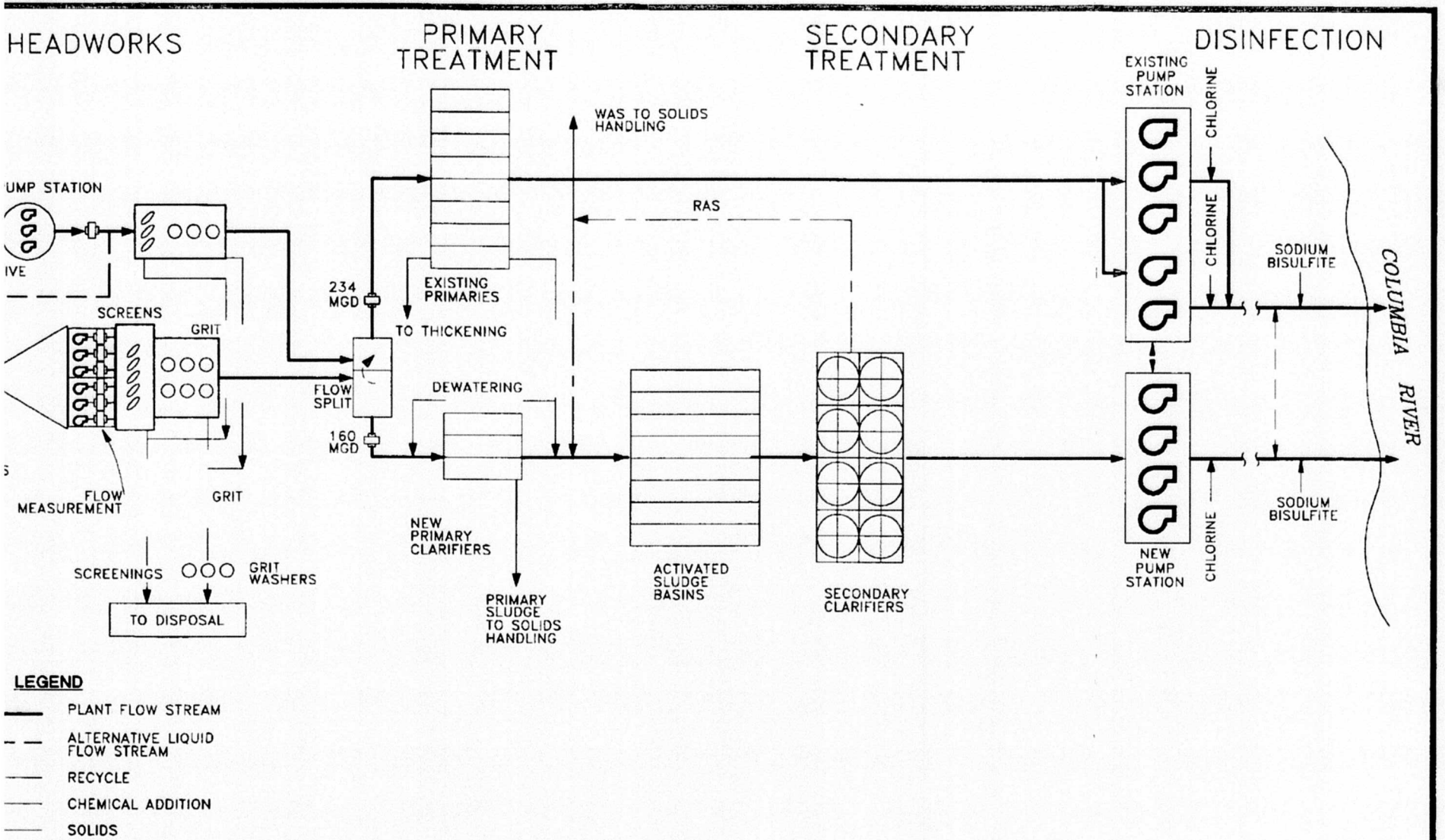
The average dry-weather flow is projected to increase to 78 mgd, and the average wet-weather flow is projected to increase to 97 mgd by the year 2001 The peak hydraulic flow from the interceptor, Inverness, and Columbia Slough consolidation conduit (CSCC) will be 365 mgd by the year 2000

Treatment facilities for flows from the CSCC must be in operation by 2001 The new Inverness force main will be completed, and additional flows will be brought from currently unsewered areas These projects will include odor control facilities to capture odors from the treatment processes identified as high odor producers

The treatment facilities for flows from the CSCC will require construction of a 75-mgd influent pump station and headworks The existing primary clarifiers will be used for wet-weather treatment The wet-weather primaries will need to be covered for odor control A new effluent pump station and outfall will need to be constructed to handle the increase in peak hydraulic flows A dechlorination system will need to be constructed on Hayden Island to dechlorinate wet-weather flows

New dry-weather primary clarifiers will need to be constructed Three of the four dry-weather primaries will need to be constructed by 2001

Nonprocess improvements planned for completion by the year 2001 are the addition of a new fueling station, relocation and upgrading of the process control laboratory, and a portion of the seismic improvements identified in the *Seismic Vulnerability Assessment Report* (Dames and Moore, 1995)



LEGEND

- PLANT FLOW STREAM
- ALTERNATIVE LIQUID FLOW STREAM
- RECYCLE
- CHEMICAL ADDITION
- SOLIDS

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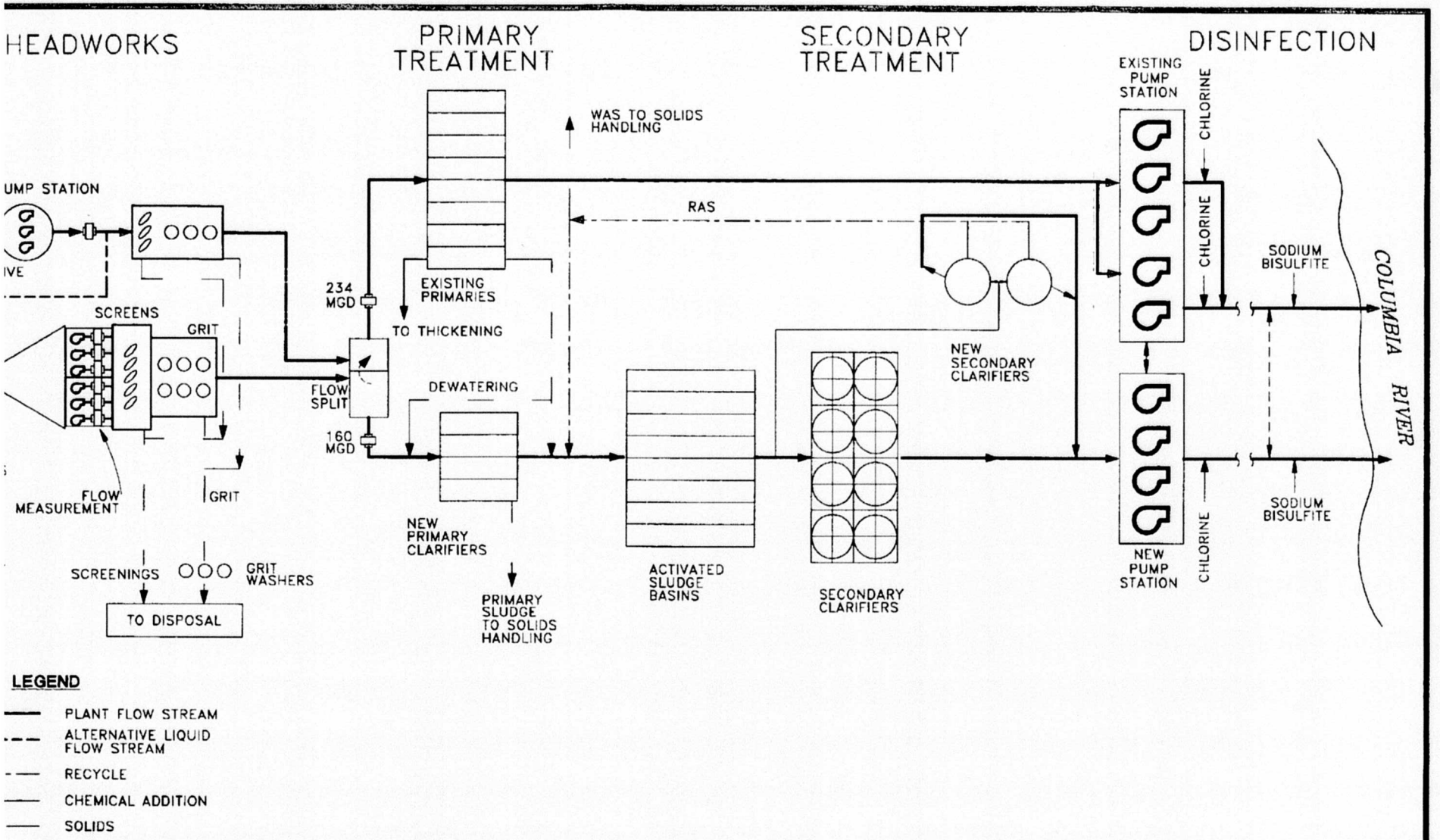
Planning Year 2001
Liquid Process Flow Diagram
Recommended Plan
Columbia Boulevard Wastewater Treatment Plant

FIGURE
11-1

Plan

22G21Z DWG



LEGEND

- PLANT FLOW STREAM
- ALTERNATIVE LIQUID FLOW STREAM
- RECYCLE
- CHEMICAL ADDITION
- SOLIDS

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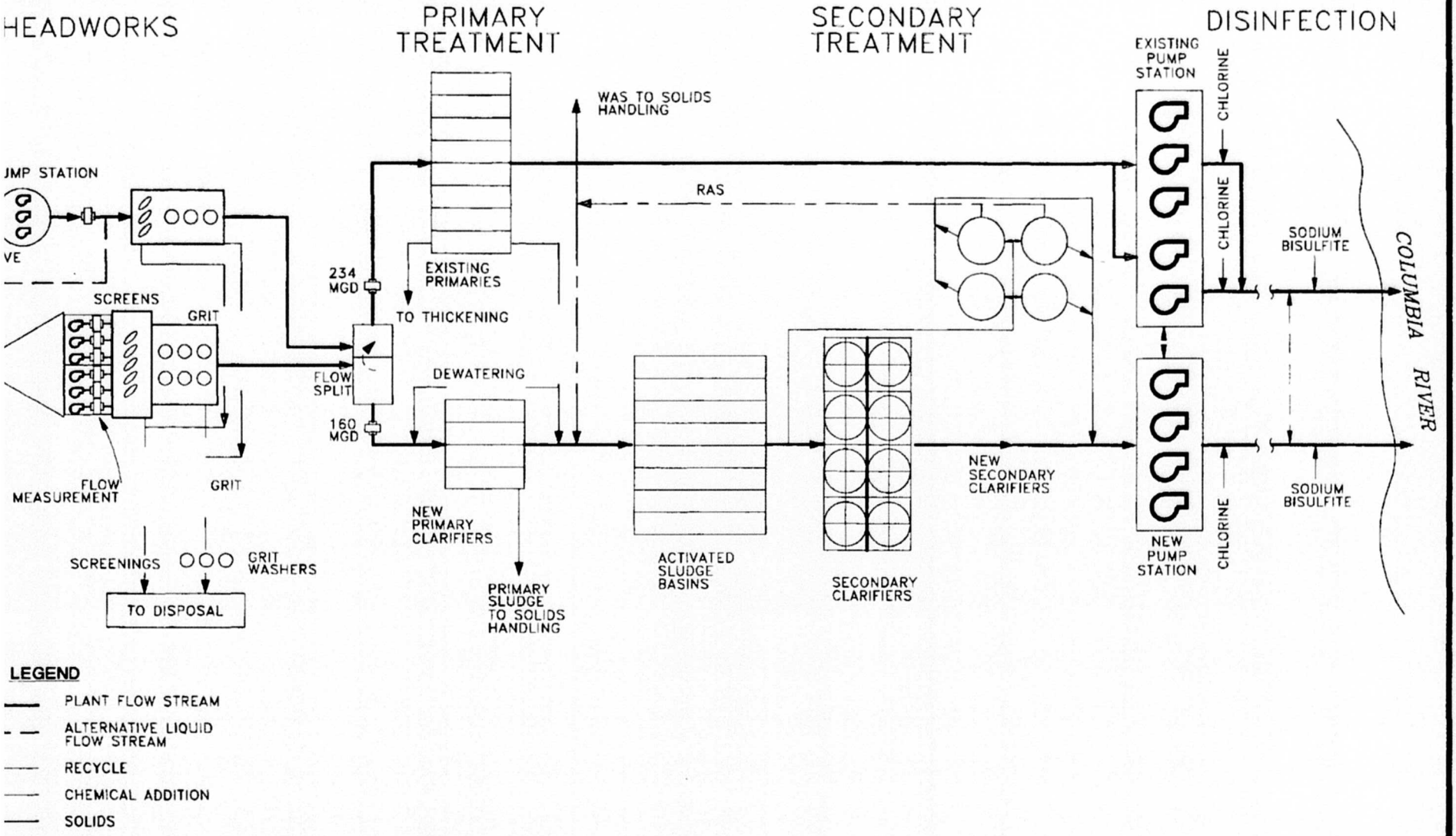
Plan

Planning Year 2011
Liquid Process Flow Diagram
Recommended Plan
Columbia Boulevard Wastewater Treatment Plant

FIGURE
11-2

22G22Z DWG



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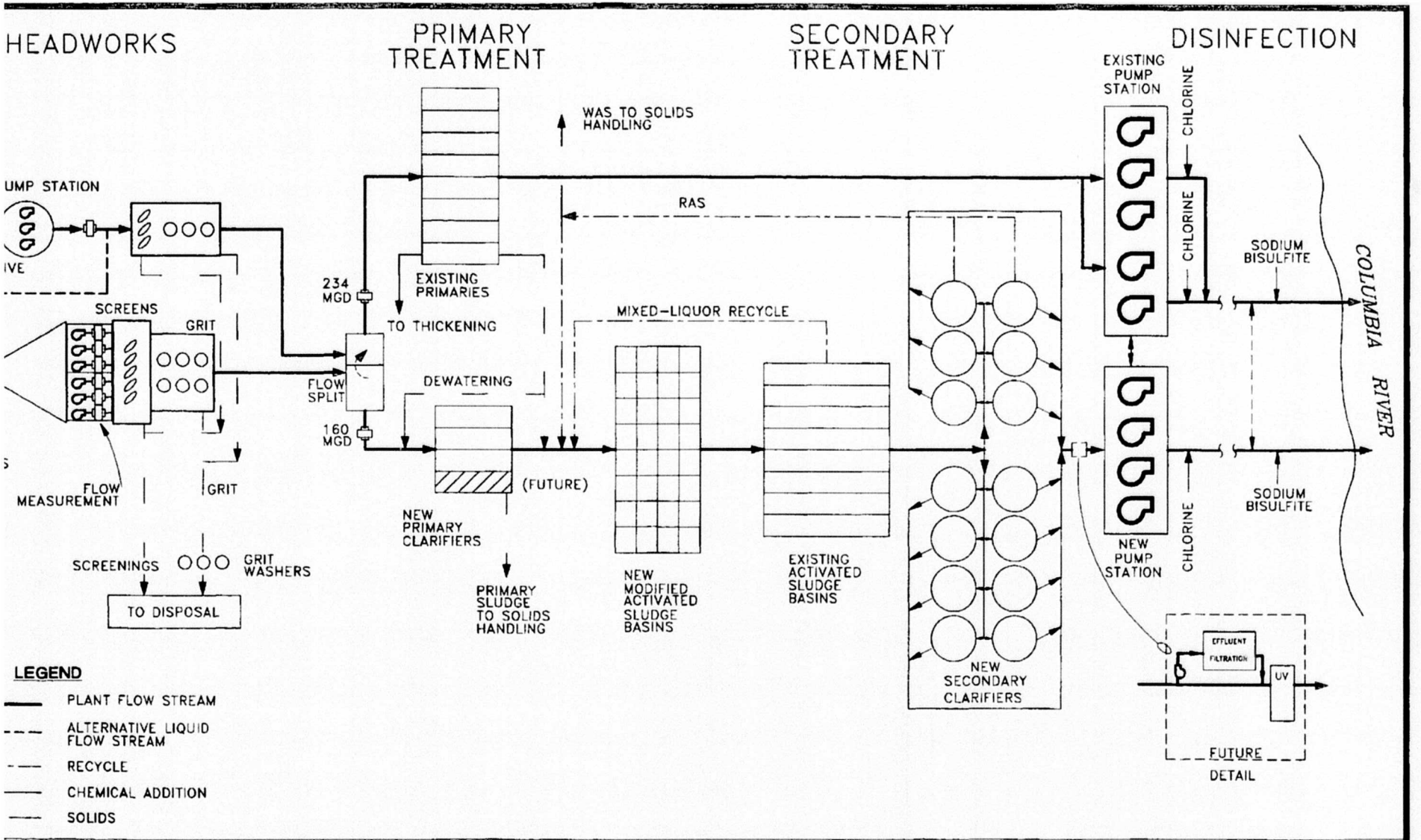
Plan

Planning Year 2020
Liquid Process Flow Diagram
Recommended Plan
Columbia Boulevard Wastewater Treatment Plant

FIGURE
11-3

22G23Z DWG



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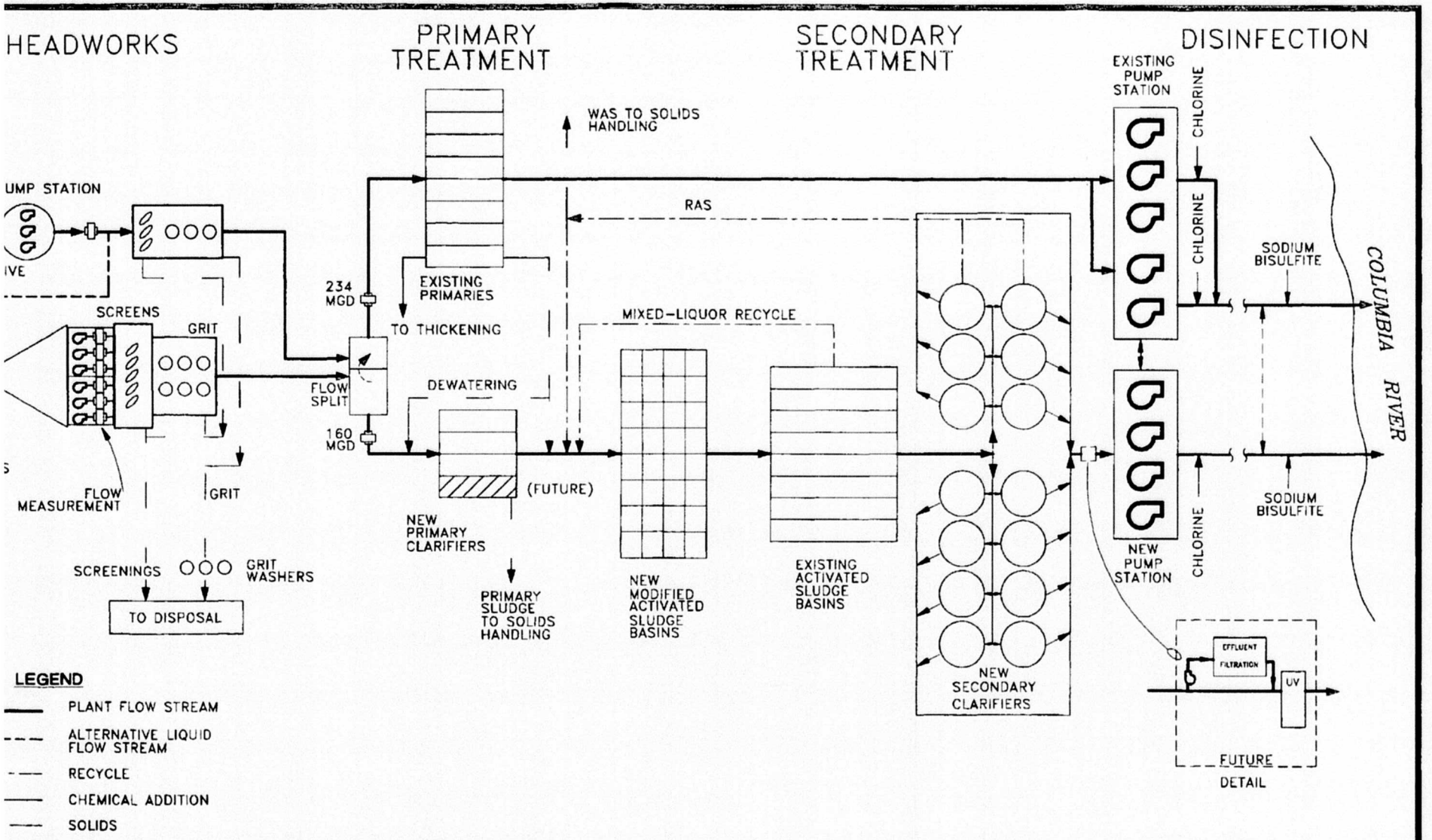
Planning Year 2040
Liquid Process Flow Diagram
Recommended Plan
Columbia Boulevard Wastewater Treatment Plant

FIGURE
11-4

Plan

22G02X DWG



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Planning Year 2040
Liquid Process Flow Diagram
Recommended Plan
Columbia Boulevard Wastewater Treatment Plant

FIGURE
11-4

Plan

422G02X DWG

Environmental enhancements to be performed in conjunction with these projects will include construction of the portion of the 40-mile-loop trail on the north side of the slough, the slough bridge, and a system of paths, on the east side of the plant, that connect the 40-mile-loop trail with a neighborhood access at North Portsmouth Avenue

Solids handling improvements will consist of modifications to the existing dewatering equipment The resulting increased dryness of the cake solids will reduce the costs of hauling biosolids to the arid lands application site Recuperative thickening will be added to the digestion process to increase the digester capacity

Planning Period 2001 to 2011

The average dry-weather flow is projected to increase to 87 mgd, and the average wet-weather flow is projected to increase to 109 mgd by the year 2011 The peak hydraulic flow from the interceptor, Inverness, and CSCC will be 374 mgd by the year 2011 The WRWWTF will need to be fully operational to handle a peak hydraulic flow of 336 mgd

The capacity of the new headworks (under construction in 1995) will need to be increased from 300 to 319 mgd This increase can be accomplished through an increase in the pump speeds

If the WRWWTF will be located at the CBWTP, it will require construction of an influent pump station, headworks, primary clarifiers, an effluent pump station, and an outfall with a peak hydraulic capacity of 336 mgd The location of the new effluent pump station will depend on the selected outfall alignment Construction of the WRWWTF at the CBWTP site will also require expansion of the existing chlorination facility, that is, addition of three railcar bays and the necessary feed equipment and emergency scrubber system The dechlorination facility on Hayden Island will also need to be expanded

During this planning period, the dry-weather flows to the treatment plant will have increased enough to necessitate construction of the fourth dry-weather primary The secondary system will have reached capacity under dry-season, maximum-month conditions, the limitation will be the secondary clarification capacity This will require construction of two new secondary clarifiers on the west side of North Portland Road, with installation of piping and galleries under the railroad tracks and North Portland Road, as well as an access road for light vehicles along the south side of the Columbia Slough

Nonprocess improvements planned for completion by the year 2011 are construction of a new centralized monitoring and control building, addition of improved access to the plant's tunnel system, and completion of the seismic improvements identified in the *Seismic Vulnerability Assessment Report* (Dames and Moore, 1995)

Environmental enhancements will continue to be implemented in conjunction with the different projects The enhancements will include restoration of the wetlands at Triangle Lake, improvements along the Columbia Slough, and creation of a buffer between the Columbia Slough and the new secondary facilities on the west side of North Portland Road

Solids handling improvements will consist of compartmentalization and lining of Triangle Lake and construction of an odor-free compost storage facility The location of the compost storage facility will depend on an evaluation of the market, it may, for instance, be beneficial to locate it offsite The most cost-effective biosolids utilization program will continue to be land application on arid lands, with a composting program similar to the one currently operated

Planning Period 2011 to 2020

The average dry-weather flow is projected to increase to 97 mgd, and the average wet-weather flow is projected to increase to 120 mgd by the year 2020 The peak hydraulic flow from the interceptor, Inverness, and CSCC will be 380 mgd by the year 2020

The dry-weather flows will have increased enough to make it necessary to add two more secondary clarifiers west of North Portland Road Environmental enhancements will continue to be implemented in conjunction with the various projects

Solids handling improvements will require the addition of two anaerobic digesters and upgrading of the existing dewatering facility Biosolids will continue to be land applied on arid lands

Planning Period 2020 to 2040

The average dry-weather flow is projected to increase to 115 mgd, and the average wet-weather flow is projected to increase to 143 mgd by the year 2040 The peak hydraulic flow from the interceptor, Inverness, and CSCC will be 394 mgd by the year 2040

It is assumed that nitrification will be required by 2040 The existing secondary clarifiers will need to be converted to activated sludge basins, and another 10 secondary clarifiers will need to be constructed west of North Portland Road Environmental enhancements will continue to be implemented in conjunction with the various projects

Solids handling improvements will require the addition of another two anaerobic digesters, another dewatering unit, and a third gravity belt thickener for waste activated sludge thickening Biosolids will continue to be land applied to arid lands

Project Cost Estimates

The capital costs, annual operation and maintenance costs, and present worth analysis for the recommended west secondary expansion alternative are presented in Table 11-1 In this analysis, the capital construction was assumed to occur in four phases over a 45-year period, from 1995 through 2040 The four construction phases are 1995 to 2001, 2001 to 2011, 2011 to 2020, and 2020 to 2040 The costs are shown in Table 11-1 by phases for each major facility

The total cost for the recommended alternative, including the wet-weather flows for the Columbia Slough Basin, is estimated to be $361,808,000 for the 45-year period in 1995 dollars The annual operation and maintenance cost is estimated to be $6,297 for the new facilities, therefore, the present worth for the project is $165,126,000

As shown in Table 11-2, the total cost for the recommended alternative, including the wet-weather flows for both the Columbia Slough Basin and the Willamette River Basin, is estimated to be $491,877,000 for the 45-year period in 1995 dollars The annual operation and maintenance cost is estimated to be $6,873 for the new facilities, therefore, the present worth for the project is $261,679,000

The annual operation and maintenance costs were based primarily on the cost of labor and power, but do include equipment and other costs as appropriate For the present worth calculations, it was assumed that all capital costs would be incurred in the first year of a construction period, the facility would be operated for 20 years, with an annual operation and maintenance cost, and the facility would have a salvage value that would be applied in the 21st year All facility structures were assumed to have a 50-year service life, and all equipment was assumed to have a 20-year service life A discount rate of 8 percent was used in the analyses, all cost estimates, including the phased costs, were in 1995 dollars

Table 11-1
Summary of Estimated Costs
Recommended Plan Including Columbia Slough CSO Facility
Columbia Boulevard Wastewater Treatment Plant

Cost Item	Capital Costs ($1,000)*					Annual O&M Cost ($1,000) (Year 1995)	Present Worth in 95 Dollars ($1,000)
	Years 1995-2001	Years 2001-2011	Years 2011-2020	Years 2020-2040	Grand Total		
Liquid Treatment							
Influent pumping	3,479				3,479	10	3,184
Headworks	14,123				14,123	27	12,439
Primary treatment - basins	27,789	6,413			34,202	336	30,325
Secondary treatment		11,608	9,200	64,000	84,808	1,644	20,112
Filtration				77,680	77,680	1,560	11,864
Disinfection - Cl_2/DCl_2	3,232				3,232	307	5,712
Subtotal	48,623	18,021	9,200	141,680	217,524	3,884	83,636
Effluent Discharge							
Effluent pumping	9,860				9,860	31	9,049
Outfall	23,927				23,927	0	20,394
Subtotal	33,787	0	0	0	33,787	31	29,443
Solids Management							
Digestion	870		18,560	18,560	37,990	248	7,500
Dewatering	550		17,250	750	18,550	1,120	8,042
Thickening				1,000	1,000	400	657
Liquid biosolids storage		6,822			6,822	150	4,571
Access to west of Portland Road		5,835			5,835	0	3,134
Subtotal	1,420	12,657	35,810	20,310	70,197	1,918	23,904
Odor Control Facilities							
Conduit/PS/headworks	517				517	12	555
Primary treatment - covers	6,747				6,747	66	6,425
Solids management	2,266	7,000			9,266	137	6,662
Compost storage building		6,934			6,934	89	4,283
Subtotal	9,530	13,934	0	0	23,464	304	17,925
Support Facilities							
Land purchase	776	1,999			2,775	NA	NA
Access/egress		4,699			4,699	0	2,524
Fueling station	220				220	0	201
Centralized control		2,286			2,286	0	1,281
Process control laboratory	167				167	0	145
Tunnel access		189			189	0	102
Slough bridge	0				0	0	0
Seismic improvements	1,150	1,150			2,300	0	1,598
Environmental enhancements	2,400	1,800			4,200	160	4,366
Subtotal	4,713	12,123	0	0	16,836	160	10,217
Total Cost	98,073	56,735	45,010	161,990	361,808	6,297	165,126

*Costs are in 1995 dollars
Capital costs include categories for planning, engineering, administration, and contingencies at 45 percent
Capital costs include categories for mobilization/demobilization, bonds/insurance, and interface at 18 percent
Capital costs include Columbia Slough combined sewer overflows

Abbreviations
CSO = combined sewer overflow
NA = not applicable
O&M = operation and maintenance
PS = primary sludge

Table 11-2
Summary of Estimated Costs
Recommended Plan Including Willamette River CSO Facility
Columbia Boulevard Wastewater Treatment Plant

Cost Item	Capital Costs ($1,000)* Years 1995-2001	Years 2001-2011	Years 2011-2020	Years 2020-2040	Grand Total	Annual O&M Cost ($1,000) (Year 1995)	Present Worth in 95 Dollars ($1,000)
Liquid Treatment							
Influent pumping	3,479	4,395			7,874	142	8,292
Headworks	14,123	20,591			34,714	55	30,471
Primary treatment - basins	27,789	48,973			76,762	657	55,201
Secondary treatment		11,608	9,200	64,000	84,808	1,644	20,112
Filtration				77,680	77,680	1,560	11,864
Disinfection - Cl_2/DCl_2	3,232	7,079			10,311	369	6,120
Subtotal	48,623	92,646	9,200	141,680	292,149	4,427	132,060
Effluent Discharge							
Effluent pumping	9,860	15,515			25,375	64	23,144
Outfall	23,927	39,929			63,856	0	54,428
Subtotal	33,787	55,444	0	0	89,231	64	77,571
Solids Management							
Digestion	870		18,560	18,560	37,990	248	7,500
Dewatering	550		17,250	750	18,550	1,120	8,042
Thickening				1,000	1,000	400	657
Liquid biosolids storage		6,822			6,822	150	4,571
Access to west of Portland Road		5,835			5,835	0	3,134
Subtotal	1,420	12,657	35,810	20,310	70,197	1,918	23,904
Odor Control Facilities							
Conduit/PS/headworks	517				517	12	555
Primary treatment - covers	6,747				6,747	66	6,425
Solids management	2,266	7,000			9,266	137	6,662
Compost storage building		6,934			6,934	89	4,283
Subtotal	9,530	13,934	0	0	23,464	304	17,925
Support Facilities							
Land purchase	776	1,999			2,775	NA	NA
Access/egress		4,699			4,699	0	2,524
Fueling station	220				220	0	201
Centralized control		2,286			2,286	0	1,281
Process control laboratory	167				167	0	145
Tunnel access		189			189	0	102
Slough bridge	0				0	0	0
Seismic improvements	1,150	1,150			2,300	0	1,598
Environmental enhancements	2,400	1,800			4,200	160	4,366
Subtotal	4,713	12,123	0	0	16,836	160	10,217
Total Cost	98,073	186,804	45,010	161,990	491,877	6,873	261,679

*Costs are in 1995 dollars
Capital costs include categories for planning, engineering, administration, and contingencies at 45 percent
Capital costs include categories for mobilization/demobilization, bonds/insurance, and interface at 18 percent
Capital costs include Columbia Slough and Willamette combined sewer overflows

Abbreviations
CSO = combined sewer overflow
NA = not applicable
O&M = operation and maintenance
PS = primary sludge

Chapter 12

Public Participation

Chapter 12
Public Participation

Overview of the Public Participation Approach

The Columbia Boulevard Wastewater Treatment Plant (CBWTP) facilities plan and the appointment of the Columbia Boulevard Citizens Advisory Committee (CAC) are an intrinsically linked part of the project design City of Portland Environmental Services Clean River Works staff wanted a road map for expansion of the treatment plant that would meet future needs of all stakeholders, including the plant's neighbors and all Portland residents They wanted a plan that could be supported and viewed as an asset for all stakeholders And they wanted a plan guided by an active, broadly based group of citizens who could bring a variety of perspectives to planning and problem solving

On October 7, 1994, Environmental Services Director Dean Marriott sent appointment letters to nine community and city residents and established a decision process that brought them together with Environmental Services and consulting staff in a series of monthly meetings The meetings were designed for information processing and problem solving The partnership approach was selected to orient project decisionmaking to the technical requirements, as seen by wastewater professionals, and to the concerns of community stakeholders The objective of the work, as established by Dean Marriott, was to directly determine the choices for the plant and to increase the broad public awareness and understanding of the decisions and the rationale for the decisions

The CAC members were JoAnn Allen*, Pam Arden, William Benz, Tom Kelly, Patricia Merkle, Barry Messer, Barbara Novak, Lee Poe, and Ted White

Meeting Approach

From the first meeting, the CAC was given the opportunity to work collaboratively with Environmental Services staff and the technical and consulting team The effort was one of discovery for all concerned The CAC was involved in the following activities

- Reviewing and building the information base
- Analyzing information
- Arriving at a group decision
- Establishing and conducting a community outreach program

As part of the group decisionmaking, CAC members expressed their opinions and presented a variety of perspectives, consensus-building approaches were essential to this process

* Unable to continue active involvement owing to conflicts with the meeting times of the Oregon State Legislature

The 13 full CAC meetings held between October 13, 1994, and July 7, 1995, were facilitated by the consulting team to ensure interaction and coordination Project staff conducted a briefing at each meeting to identify key issues and major assumptions This approach enabled the CAC to evaluate the issues for potential impacts on the values and vision, and to refine the information presented The CAC also was invited to attend and participate in all project workshops, these dealt with odor and air toxic compounds, site planning, biosolids, and methane utilization

The series of CAC meetings held to prepare the facilities plan covered the topics listed in Table 12-1 Each meeting involved the key consulting team staff and key Environmental Services staff The Environmental Services CBWTP facilities plan project manager attended all CAC meetings, and the Environmental Services communications manager attended a number of the meetings The investment in time and energy by all participants resulted in completion of the facilities plan within the initial project deadline

Each meeting provided a highly interactive, dynamic, yet focused forum in which decisions could be made with the full understanding and participation of the CAC

Mission Statement of Citizens Advisory Committee

The mission of the CAC was defined as follows

> The Citizens Advisory Committee process will interact with all phases of the facilities planning project CAC members will develop the public values/project objectives consistent with the Facilities Plan vision The CAC will review and make recommendations on all aspects of the Facilities Plan consistent with that vision The recommendations will form the basis for the Columbia Boulevard Facilities Plan update
>
> The individual CAC members will submit the recommendations to their stakeholder groups for input and advice The submission of the formal recommendations to the relevant stakeholders depends and builds upon ongoing and detailed communication between the CAC and others in the community This communication system is essential for establishing accountability among the CBWTP CAC participants and the constituencies represented by the participants

The decision process used to achieve the mission is shown in Figure 12-1

Specialized Work Teams, Subcommittees, and Workshops

In addition to the CAC meetings, other workshops and meetings included CAC representation and involvement These are described in the text that follows

Table 12-1
Meeting Topics and Dates for Citizens Advisory Committee
Columbia Boulevard Wastewater Treatment Plant

Meeting No	Date	Major Topics for Discussion
1	10-13-94	Project management and organization CAC mission Methane utilization Plant history Vision resource team
2	11-9-94	Topics and schedule for CAC input Vision resource team draft vision statement CAC values Methane utilization
3	12-9-94	Subcommittee work on vision and values Methane utilization CSO coordination Population, flow, and loading projections Odor and air emission Workshop 1
4	1-23-95	Preliminary site layout alternatives Direction on community outreach activities
5	2-8-95	Site planning
6	2-17-95	Site planning
7	3-8-95	Project flow and phasing Vision, values, and mandates Video and other outreach issues Willamette River CSO discussion
8	3-29-95	Adoption of vision and values Landscape treatment discussion Community and business district outreach strategy Mandates and expectations document
9	4-19-95	Community and business district outreach Biosolids utilization information
10	5-17-95	Report on outreach Report on odor and air emission Workshop 2 Biosolids utilization evaluation matrix
11	6-6-95	Cost information for plant expansion alternatives Biosolids utilization Review of benchmarks document
12	6-28-95	Review of final two expansion alternatives and review of final report
13	7-7-95	Final site plan recommendation

Abbreviations
CAC = Columbia Boulevard Citizens Advisory Committee
CSO = combined sewer overflow

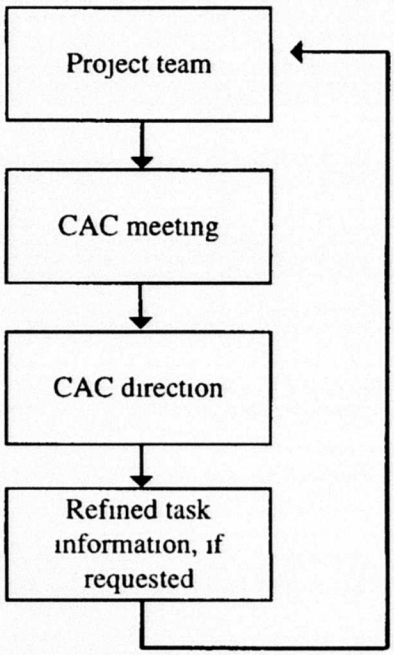


Figure 12-1
CAC Decision Process
Columbia Boulevard Wastewater Treatment Plant

Vision Resource Team

To help develop a meaningful and farsighted facilities plan, Environmental Services established a vision resource team This team, chartered as a resource to the CAC, included CAC members William Benz and Pat Merkle Its mission was to provide a resource to the CAC for preparation of a vision statement

The complete vision resource team included the following people John Filbert, Gary Krahmer, Linda Dobson, William Benz, Pat Merkle, Darrel Simms, Michael Read, and Gene Appel The brainstorming activities undertaken by the vision resource team were designed to bring out the creativity of participants and their knowledge about wastewater treatment, public policy, and community and neighborhood needs Bruce Wiley of HDR Engineering facilitated the meetings

The vision resource team met three times in the fall of 1994 The team was provided with background materials about other wastewater treatment plants After reviewing this

information and that provided by the resource team, the group generated an initial set of ideas about opportunities and possibilities for the CBWTP Many ideas were recorded on flip charts and hung around the room The group followed the brainstorming rule that no idea can be criticized or judged Some ideas received a great deal of elaboration All variations were recorded

In subsequent meetings, the ideas were grouped into vision objectives with supporting details The vision resource team transmitted the resulting product to the CAC for action on November 2, 1994 The CAC did not initially adopt the vision objectives After extensive discussion, some CAC members believed the objectives should be amplified through development of detailed, specific mandates A CAC subcommittee on mandates was formed to more fully define the vision product In the interim, the CAC agreed that the project team should use the vision resource team's written objectives and details as a guidance document

Vision Benchmarks Subcommittee

Several CAC members decided to prepare more specific performance requirements for achieving the intent of the vision objectives Although the meetings for this task were open to all interested CAC members, the following CAC members constituted the benchmarks subcommittee

- Pam Arden
- William Benz
- Pat Merkle
- Barbara Novak
- Lee Poe
- Ted White

The subcommittee initially worked on specific mandates Working meetings were held to draft the necessary language At one meeting, Jerry Baumgartner, Industrial Source Control Division manager, and Susan Keil, Industrial Waste Group manager, provided information to the subcommittee on the topic of fats, oils, and greases in the waste stream

Upon review by the full CAC on March 8, 1995, and after a request by the Environmental Services project manager to delay adoption of performance-requirement-specified dates of compliance until completion of the facilities planning, the work was tabled In the discussion that led to the tabling, it was suggested that the term *mandates* be changed to *expectations* The CAC failed to adopt the vision objectives at that time because some members perceived a need to draft a clearer set of performance standards Some members felt that the more general vision and values document should not be adopted without the specific guidance document

On March 29, 1995, the CAC reviewed, modified, and adopted the vision objectives and supporting details (see Chapter 2) The CAC, in adopting the document, removed the tabled work of the vision subcommittee and agreed that the subcommittee would continue to work on specific performance benchmarks These benchmarks would be brought forward for

review and potential adoption before conclusion of the facilities planning It was understood and informally agreed upon that this document would call for, among other items, continuation of the CAC as the CBWTP oversight committee until appointment of a successor committee

The benchmark document, included as Attachment 1 to this chapter, was revised and unanimously adopted by the full CAC on June 6, 1995 In adopting the document, several CAC members expressed their interest in continuing to serve on the CAC or oversight committee until their replacements had been selected and mentored

CAC Involvement in Workshops

Several topical workshops were held throughout the project CAC members were invited to, and encouraged to participate in, these workshops The CAC focused its effort on resolving key issues, questioning assumptions, and expanding options for review CAC involvement allowed a proper balance of technical, environmental, and neighborhood issues and helped reframe many aspects of technical problems under discussion

CAC involvement throughout the methane utilization workshops and in the workshops on odor and air toxic compounds was critical to integration of impact mitigation elements in the conceptual site layouts and selection of alternatives Consulting and Environmental Services project staff were also accessible to CAC members to answer questions and gave their viewpoints full consideration

Video Subcommittee

Another group of CAC members agreed to oversee the production of a short video on the CBWTP, the CAC process, and the facilities plan This educational documentary, *We Care Where It Goes Reclaiming Our Waste,* grew from the careful review and active participation of CAC subcommittee members

Environmental Services- and CAC-Sponsored Outreach

As just noted, the foundation of the participatory decision strategy was the appointment and work of the CAC As the site planning alternatives took shape, CAC members discussed an appropriate approach to community outreach to fulfill their charge to increase broad public awareness and understanding of their decisions and the rationale for the decisions The CAC decided that existing neighborhood associations, community service groups, and business district associations in areas surrounding the plant would be the most effective target groups The CAC also decided that a general "newsletter" brochure on the issues and process should be prepared and a citywide invitation should be given for an open house at the plant

Neighbors Between the Rivers Informational Articles

Two informational articles about aspects of the CBWTP facilities planning were published in *Neighbors Between the Rivers* These articles, which are included as Attachment 2,

emphasized collaborative decisionmaking *Neighbors Between the Rivers* is a widely read newspaper that is used to notify the community about special meetings, such as the June Odor Abatement Committee meeting on issues related to the facilities plan and the June 15 community plant open house (Attachment 3)

Outreach Meetings

Eight outreach meetings were scheduled and conducted between April 2, 1995, and June 15, 1995 Each outreach meeting was jointly conducted by Michael Read, director of wastewater management, and a citizen member of the CAC, with assistance from the consulting team The CAC approved the presentation approach and content (Attachment 4)

At the beginning of each outreach meeting, an attendance sheet was distributed to build a mailing list of interested individuals, to provide subsequent feedback, and to ask for volunteers for other projects Not all attendees signed the list (included as Attachment 5)

A handout of the CAC-approved vision objectives and a newsletter on the CBWTP facilities plan were distributed at each meeting (Attachment 6)

The suggested format for each presentation was reviewed and revised by the CAC The following presentation materials were available at each meeting

- An aerial photograph of the CBWTP
- Large sketches depicting the east secondary and west secondary treatment plant expansions, as well as five related landscape concept areas and five corresponding artistic sketches
- Expansion proposal sketches juxtaposed with text graphics describing the alternatives
- Photographic panoramas of the existing site

Presentations were made jointly by Michael Read, Pam Arden, William Benz, Ted White, and Lee Poe

Video

The CBWTP video was prepared as a Clean River Works production to achieve the following objectives

- Provide a brief history of wastewater treatment and treatment processes in Portland and define the need for the facilities plan
- Provide the context for community involvement in the process and Environmental Services' recognition of the need to determine and respect community values

- Document the facilities plan decisionmaking for people not directly involved
- Describe the site expansion planning alternatives

We Care About Where It Goes Reclaiming Our Waste was approved by the CAC video subcommittee, previewed by the CAC on June 6, 1995, and first shown to the community at large at the June 15 plant open house

Plant Open House

The CAC recognized and acknowledged that the CBWTP expansion provides opportunities to benefit all ratepayers, not just those living or working near the plant

The CAC wanted to give all the neighborhoods an opportunity to learn about the plans for a vital service provided by the Clean River Works program Pedestrian and bicycle access to the Columbia Slough would be available to all Environmental interpretation of wastewater treatment and the wetland could be included All neighborhood associations were invited (see Attachment 7 for invitation), and the open house was advertised in *Neighbors Between the Rivers* and other newspapers The open house was jointly sponsored by the CAC and Clean River Works staff

More than 21 residents, including 7 CAC members, attended the plan open house to learn more about the CBWTP facilities plan (see Attachment 8 for list of attendees) The event was described as a success by those attending

Conclusion and Final Site Plan Recommendation

The commitment of Environmental Service's to establishing a partnership with the appointed Columbia Boulevard Citizens Advisory Committee is helping concerned individuals and groups meet the challenges ahead through innovative approaches The selected public involvement approach focused the decisionmaking on the technical requirements and needs of community stakeholders The process enhanced the understanding of public issues and concerns by consultants and Environmental Services staff It enabled the CAC to make a final site plan recommendation that conformed to the vision statement objectives and was unanimously supported by all CAC members (see Attachment 9) The notes from the last CAC meeting are provided in Attachment 9 as relevant background information for the final site plan recommendation

The hours volunteered by the CAC brought important benefits to the process and helped participants identify and resolve environmental challenges Without this involvement, it would have been impossible to fully integrate community values and environmental equity concerns into the planning and operation goals for the CBWTP

35452

Attachments to

Chapter 12

35452

Attachment 1

Benchmark Document

Columbia Boulevard Wastewater Treatment Plant Facilities Plan

Directive of the CAC for Recognition of Priority Concerns and Identification of Benchmark Accomplishments Adopted June 6, 1995

Introduction

The Columbia Boulevard Citizens Advisory Committee (CAC) adopted a Vision Statement on March 29, 1995, to provide guidance for the growth and development of the Columbia Boulevard Wastewater Treatment Plant (CBWTP) The Vision Statement establishes that the plant must enhance the environment of which it is a part while also protecting the health, welfare, and water quality for all Portland residents

To ensure that this vision is achieved and to continue the partnership between the City of Portland Bureau of Environmental Services (Environmental Services) and the CAC, the existing CAC requests to continue until a successor citizens oversight committee is appointed This document presents the initial work program of the continuing CAC and the successor citizens oversight committee

Statement of Purpose

On March 29, 1995, the Citizens Advisory Committee (CAC) for the CBWTP adopted a Vision Statement to govern the operational strategies and the long-term growth and development of the plant The Vision Statement charges the CAC (and successor oversight committees) with the responsibility of determining, among the various objectives and directives of the Vision Statement, those that rise to the level of priority considerations The CAC has also been charged with the responsibility to request action on the part of decision makers consistent with the achievement of benchmark accomplishments determined by the CAC to be consistent with the Vision Statement and to propose new ideas for the furtherance or acceleration of the achievement of the objectives of the Vision Statement. To make certain there is continuous oversight, the CAC appointed in October 1994 requests to continue until the successor Citizens Oversight Committee is appointed* and an appropriate transition period has passed

* The requirement for Citizens Oversight Committee is set forth in the Supporting Detail of the Vision Statement/Provide Accountability During Implementation of the Plan (see page 7)

Introduction to Benchmarks

The CAC has adopted the Vision Statement as a general system of guiding principles for the long-term growth and development of the wastewater facilities The CAC has determined that certain goals suggested by the vision are so important to the health and welfare of the community at large and to basic principles of fairness that they should be set forth as specific benchmarks

Odor Emissions

1. Odor Benchmark

No odor will be emitted from the CBWTP.

2. Plan for Achieving Odor Benchmark

By December 1996, Environmental Services will provide to the CAC or its successor Citizens Oversight Committee a plan for eliminating all odors The plan will address odor mitigation through

a Operational changes, including the treating of biosolids

b Process improvements, including the control of "influent pollutants" as defined below

c Capital programs

This report will include what has been done in 1995 and will be prepared with the involvement and oversight of the CAC

3. Immediate Construction Activities to Achieve Odor Benchmark

Effective immediately, every expansion, remodel, connection, or addition to the plant will achieve complete odor control within a building structure or structural components so that no odors are emitted into the atmosphere

4. Public Responsibility Activities Pending Achievement of Odor Benchmark

Until all odors are eliminated from wastewater treatment operations, the CAC has determined that the plant cannot fully achieve the Vision Statement's objective of having no adverse impact on the neighboring community until all odors are eliminated from wastewater treatment operations The CAC has concluded that the CBWTP, while benefiting all residents by treating and reclaiming wastewater and biosolids, currently adversely affects the quality of life of its immediate neighbors because odors continue to be emitted from the plant

To address this situation in a manner consistent with the goal of environmental equity, the CAC requests that, in coordination with Environmental Services, within 90 days after City Council approval of the Facilities Plan, the CAC or its successor Citizens Oversight Committee will convene to prepare an ordinance for City Council consideration to recommend the means to establish an enhancement fund to be disbursed for community purposes and projects in the area that is affected by odors until the odors are eliminated

Biosolids

Biosolids Odor Benchmark

All biosolids produced in the treatment process must be removed for beneficial use

The accumulation of biosolids at the plant is a source of noxious odors Therefore, all biosolids produced in the treatment process should be processed for, or removed for, beneficial use within 90 days of generation Pending removal from the plant, all biosolids, including those that have been processed for beneficial use (e g , compost), should be contained or controlled so that no biosolid odors are emitted into the atmosphere at the plant

Point Source Pretreatment

Substances placed into the wastewater system by point source generators "influent pollutants" cause damage to wastewater treatment equipment, increase treatment costs, expose employees to unnecessary health risks, and create environmental and odor problems For this reason, it is obvious that efficient wastewater treatment will address influent pollutants Therefore, capture and treatment of influent pollutants should be a primary focus of Environmental Services The CAC must be informed and involved about the disposition of all influent pollutants

Fats, Oils, and Greases Benchmark

For example, it has come to the attention of the CAC that the problems of fats, oils, and greases are known and avoidable Technology or other best management practices currently exist to remove these substances at the source to prevent entry into the influent stream Therefore, elimination of these influent pollutants from the general wastewater stream should be an immediate priority

After approval of the Facilities Plan, Environmental Services and the CAC or its successor, including representation from the CBWTP, will convene to discuss the manner in which fats, oils, and greases will be eliminated from the industrial, commercial, and residential treatment stream

Attachment 2

Between the Rivers Article on CBWTP Facilities Planning

35452

PLANNING AHEAD - A LOOK INTO THE FUTURE OF WASTEWATER TREATMENT AT THE COLUMBIA BOULEVARD WASTEWATER TREATMENT PLANT

By Linda McPherson Consultant with CH2M Hill for Bureau of Environmental Services

Community Concerns and Participatory Process Provide Master Plan Guidance

A Columbia Boulevard Waste water Treatment Plant (CBWTP) facilities planning process is needed to guide changes at the plant through the year 2040 The process started with the appointment of a Citizens Advisory Committee (CAC) and the belief that listening and responding to community concerns will enhance project success Although the process has not been completed the results to date have been rewarding

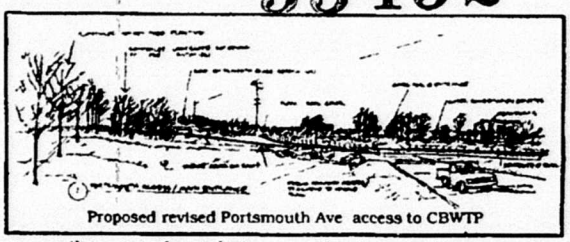
The CAC process has included adoption of vision and values to guide the look into the future The vision includes not only the way the plant will look but all aspects of the wastewater management system The Citizens Committee felt that the Columbia Boulevard Facility should be a model of excellence where environmental and community objectives are accomplished in a variety of ways

Protecting public health and practicing environmental stewardship achieving outstanding operational performance by promoting employee excellence providing cost effective service advocating pollution control at the source not adversely impacting the community never emitting odors that can be detected off site and serving as a center for water resources education and training are among the values endorsed by the CAC Underpinning all the CAC s work was the philosophy that the quality of the environment - air land and water -- contributes to the quality of life for the City of Portland and the communities which are neighbors to the Wastewater Treatment plant

One of the first initiatives guided by the CAC and other stakeholders was a study to identify evaluate and recommend the best methane utilization alternative for the Columbia Boulevard Plant and the St John s Landfill The study was needed because most of the excess methane gas a by product of the anaerobic digestion process from the wastewater treatment plant and the landfill gas are currently being flared into the air This wastes a potential energy supply CAC involvement in meetings and workshops together with other stake holders pointed to a new solution - selling gas to industry and selling the remaining gas to Northwest Natural Gas The development of a cogeneration plant was initially thought to be the lead alternative now it will only be a fallback alternative Citizens have truly shaped this portion of the project

The CAC is now working on site planning for the Columbia Boulevard Wastewater Treatment Plant Process sketches such as the one for a revised Portsmouth access are being developed as initial concepts The CAC intends to hold a series of meetings with the neighborhoods around the plant in the Spring on their efforts to date

The 9 member CAC is comprised of the following individuals JoAnn Allen Community Partnership Specialist, Multnomah County Pam Arden Kenton Neighborhood William Benz, Portsmouth Neighborhood Tom Kelly Neil Kelly Company/North Portland Businessman Patricia Trow-Merkle at large representative Barry Messer Portland State University/EnviroCorps Barbara Novak, at-large representative Lee Poe Portsmouth Neighborhood and Ted White Cathedral Park Neighborhood The CAC has been meeting since October 1994



Proposed revised Portsmouth Ave access to CBWTP

ATSDR Health Assessment for McCormick & Baxter Superfund Site

The Agency for Toxic Substances and Disease Registry has released the Brown Cover Version of its Health Assessment for the McCormick & Baxter Creosoting Company This report evaluates the level of increased cancer risk for former plant workers and ongoing potential health risks for nearby residents A copy of this report is available for reading at the St Johns Branch Library on N Charleston 248 5397 the North Portland Neighborhood Office on N Lombard 823 4524 or the Department of Environmental Quality at S W 6th Avenue 229 5815 A presentation will be made on this document by William P Benz at the March 7th meeting of the North Portland Odor Abatement Committee

MEETING NOTICE

NORTH PORTLAND ODOR ABATEMENT COMMITTEE MEETINGS

March 7th & April 4th

7pm Kenton Firehouse
8105 N Brandon
Call Lee at 289-1847 or Bob at 289-0861 for information

ODOR and TOXIC EMISSIONS ABATEMENT in NORTH PORTLAND

By William P Benz

Steps in the Right Direction

Odor and HAP Emissions Control

Our community has played an essential role in clarifying the need for a comprehensive odor abatement program for North Portland As a result of this effort the Columbia Boulevard Wastewater Treatment Plant (CBWTP) has recently taken additional steps to mitigate the obnoxious odors its neighbors have endured for years.

For this the Bureau of Environmental Services (BES) deserves our sincere thanks An even greater thanks goes to the many local community members who labored for years to convince BES that the CBWTP was a major contributor to the odor problem

A special thanks goes out to the dozens of members of the North Portland Odor Abatement Committee (NPOAC) who have followed their noses documented sources filed complaints attended *numerous* meetings testified at hearings and kept on when no one seemed to be listening

Interim Odor and HAP Control

At CBWTP a new Headworks (the building where all the City s wastewater first enters the treatment plant) is now under construction This building will provide emissions control for both odor and Hazardous Air Pollutants (HAP) for many of its preliminary treatment facilities It is scheduled to be completed by September 1996

This completion date would leave two whole summers (the season when our community experiences odors the most) before its emissions controlling wet scrubbers came online To ensure that the local community will not have to endure two more summers of emissions and obnoxious odors BES has contracted with Black & Veatch a local engineering firm to complete an interim emissions control project by July 1995

This interim project consists of applying covers to some of the open tanks identified in October 1994 as major and moderate odor sources The odorous emissions captured under these covers will be treated by an activated carbon adsorber After the new Headworks comes online these captured emissions will be rerouted and treated by its chemical scrubbers The carbon adsorber would then be available to treat other odor sources

Seeing the Whole Success Story

If all this work *only* resulted in a single odor control project the true accomplishment of our mutual effort would be greatly underrated What is equally important is the rapport that s develop between BES and the North Portland Community This open dialogue has allow both parties to share information to their mutual benefit

When local activists seek redress of a problem that negatively impacts their community they often encounter many reasons to become discouraged Many obstacles seem to stand in the way of their success

One obstacle frequently encountered at the beginning is a level of mutual distrust between community and government In order to overcome this distrust both sides must work on developing a common language With a shared language it becomes easier to see just how much agreement exists among our seemingly separate goals

Let no one underestimate the effort required in clearing away these obstacles The hours of tedious and unpaid work can mount up quickly and wear down even the most steadfast determination Setbacks are frequent Burnouts are common Blaming each other and turf battles can abound It is not an easy process

During the times when I felt most discouraged the whole mess appeared as something the garbage collector should come along and haul away After I regained my enthusiasm the same situation would take on the appearance of a great and wonderful compost heap With this change in perception my confidence grew and I knew if I stuck around long enough a beneficial effect would become obvious –the healthy soil necessary for a new harvest of community well being It s important to see the big picture

The Community Becomes a Full Partner

This interim odor control project would not have happened as quickly if at all were it not for North Portland grass roots community action This success story shows that citizens can make a difference

Not only does this put us farther down the road towards helping North Portland become a better place to live but it has helped BES design a safer and more efficient plant With renewed effort members from the local community and BES are working together as partners to forge the cooperative spirit necessary to experience what it truly means to be good neighbors

Historically the job of treating a city s wastewater was done in-house by its public works agency As regulations changed and technologies grew in complexity cities found it more cost effective to depend upon outside engineering firms and consultants to supply the needed technical expertise Under this arrangement the plans were drawn up first, then the funds procured and the public (impacted communities rate payers) were finally informed last.

This method seemed to work fairly well as long as the communities were small but as urban areas grew in size so did their sewage plants and so did the effects they had on adjacent residents Too often the aftermath of these larger projects left the impacted communities feeling that they had little influence on the planning process Their legitimate concerns about noise odor and depressed property values were consistently ignored At first when communities requested to be included at he very beginning of a facility s design the typical response was "What can the public tell the experts?"

What Can the Community Tell the Experts?

After a common language is developed mutual trust established and the avenues of communication opened there is much that the public can tell the experts Why? First off we don t leave when the work day is finished Residents will tell you that most odors occur after regular business hours –early mornings late evenings on weekends One interesting pattern I ve noticed is that major sources are commonly located at the edges of the odorous facility Stands to reason Where do you store your garbage cans? In your front yard? No You store them out behind the garage by the back fence or in some other out of the way place Stands to reason

As an example of what community participation can do lets look at the two odor studies conducted at CBWTP by Black & Veatch One in 1990 and one in 1994 The first one was conducted with the advice of experts It did a pretty good job at helping to prioritize the odor sources that needed the most attention It concluded that odor levels at CBWTP were moderate when compared to similar sized facilities across the nation This conclusion was based on three assumptions First that June was a good month to conduct the testing Second that hydrogen sulfide (the rotten egg smell) is the major cause of odors at wastewater plants and since measured levels were low there could not be an offsite problem Third ammonia is another cause of odor and while emissions were measured at very high concentrations at the plant ammonia is lighter than air thus would drift up and dilute rapidly to below detection levels

There was a big difference in how the second odor study conducted in 1994 BES instructed Mr Tommy Esqueda the engineer in charge to work closely with the community After attending meetings of the NPOAC for over a year he became very familiar our specific concerns and experiences When we informed him that the most obnoxious odors were experienced during the hottest months he agreed to do the critical testing during July and August We additionally requested that tests be performed in the early morning hours (before 5 a m) evenings and on weekends The results showed that hydrogen sulfide levels varied greatly during this expanded testing period (from 0 002 ppm to 3 3 ppm H_2S) The higher levels recorded could certainly cause offsite odors With a community member present other areas were tested that were left out of the earlier study This resulted in the detection of entirely new major sources of odor

This was surprise to everyone Not only did the community members filing the original odor complaints feel vindicated but BES acquired more reliable information which they have already used to improve the operational efficiency of the plant as a whole

By involving the community as a full partner not only were the odors properly identified but everyone experienced the benefits that can be accomplished by working together

This cooperative spirit is being continued in development of a new CBWTP Facilities Plan A Citizen Advisory Committee with community representatives from the whole metropolitan area has been working with BES CH_2M Hill and Brown & Caldwell to design wastewater treatment facilities for the region out to the year 2040 (See Article Planning Ahead A Look into the Future)

Two Major Sources of Odor Remain

The budgeted funds available for odor control and reduction of HAP emissions at CBWTP will not treat all the major sources identified in the 1994 Odor Study For instance the most significant odor source identified the cluster of four Secondary Anaerobic Digesters are having their operational procedures reviewed with the hope that appropriate changes will keep odors from being produced in future The third most significant source of odor the Composter Off Gas System has not been slated for additional odor containment or treatment This system should be closely monitored this summer and appropriate action taken

Further Community Action Needed

The emphasis on CBWTP in this article is more an indication of the level of cooperation we have recently received from them It is not an indication that they are the single source for odors in North Portland

We need **YOUR** help in identifying all major sources of odors and Hazardous Air Pollutants (HAP) on the peninsula that affect the livability and safety of our community When I use the term –*major source*– here I am referring to a technical definition used by regulatory agencies –EPA, DEQ A *major source* of air emissions is defined by law as a source that has the potential to emit 100 tons of any criteria pollutant Or 10 tons of any single hazardous air pollutant or 25 tons of any combination of HAP

Many of the peninsula s odor and emission sources are now in the process of updating their Oregon Air Contaminant Discharge Permits (ACDP) Those that have been reclassified under requirements of the 1990 Clean Air Act as *major sources* will be required to qualify under the Title V Operating Permit program This program places the responsibility on the *source* of pollution to monitor its compliance and has provisions for greater public involvement in the permitting process

If you would like to help come join us at the monthly North Portland Odor Abatement Committee meetings Call Lee Poe at 289-1847 or William Benz at 735 9909 to find out dates for meetings or to be put on our mailing list By working together we can continue to eliminate odors and toxic emissions

And don t forget, take a deep breath and enjoy the coming fragrance of an early springtime

Attachment 3

Between the Rivers Article on Plant Open House (with Advertisement)

Neighbors
Between the Rivers
35452

FREE May 1995 Issue 19,500 Circulation Number Forty-Six FREE

PUBLIC MEETINGS SET ON WILLAMETTE OVERFLOW TREATMENT FACILITY

Environmental Services is studying possible sites for construction of a new facility to treat the mixture of stormwater and sewage that overflows into the Willamette River during rainy weather Portland citizens will have a voice in deciding the location of the plant

A group of citizen volunteers is studying several possible sites Most sites are located next to the Willamette River between the Ross Island Bridge and Swan Island Another is at the existing treatment plant on Columbia Boulevard The Environmental Services Combined Sewer Overflow Program will sponsor open houses and public workshops in May on the siting of the Willamette overflow treatment facility

Open House and Public Workshop
Tuesday, May 23, 1995

Kenton Firehouse
8105 N Brandon Ave
5 30 p m , Open House
6 30 p m , Public Workshop
Co sponsored by BES and North Portland Odor Abatement Committee

Open House and Public Workshop
Thursday, May 25, 1995

Interstate Firehouse Cultural Center
5340 North Interstate Ave
5 30 p m , Open House
6 30 p m Public Workshop
Co sponsored by BES and Overlook Neighborhood Association

The Bureau of Environmental Services (BES) provides city residents with water quality protection sewage treatment wastewater collection and sewer installation and oversees solid waste collection and recycling services

PUBLIC MEETING SET ON COLUMBIA SLOUGH CONSOLIDATION CONDUIT

Bureau of Environmental Services (BES) is planning construction of a new pipeline called a consolidation conduit The pipe will collect the mixture of stormwater and sewage that now overflows into the Columbia Slough when it rains It will also carry overflows to the Columbia Boulevard Wastewater Treatment Plant This is a big project The pipe will be about five miles long and about 10 feet in diameter

Engineers need to know the route the pipeline will follow by November 1995 In the meantime Environmental Services will hold a series of open houses and public meetings to get advice from the community on the best route A public workshop and open house is scheduled in north Portland in June

Open House and Public Workshop
Tuesday, June 1, 1995

Kenton Firehouse
8105 North Brandon Avenue
5 30 p m , Open House
6 30 p m , Public Workshop
Co sponsored by BES and North Portland Odor Abatement Committee

The Bureau of Environmental Services provides city residents with water quality protection sewage treatment wastewater collection and sewer installation and oversees solid waste collection and recycling services

The 33rd Annual St Johns Parade
Saturday, May 13, 1995
Parade Theme "We Build the Community"
Parade begins at Noon

For information call
Lila Estes at 286-1550 or
Joan Brown at 286 3570

NORTH PORTLAND WATERWAYS HIGHLIGHTED IN BOND MEASURE 26-26

Mail in ballots by May 16, 1995

By Sandi Hansen

When I was growing up in North Portland Swan Island was an island and Mock s Bottom had beaver (Yes I know you've heard this before but it bears repeating) Today Mock s Bottom is completely filled and the island is surrounded by pavement industries and warehouses North Portlanders gained access to jobs but lost access to the Willamette River With the passage of Measure 26-26 a bond measure to purchase and protect open spaces parks and streams we can regain some of what we've lost

Metro is submitting a bond measure to the voters at the end April that will provide $135 6 million to purchase and protect open space parks and streams North Portland has several projects in the package So do other communities throughout the metropolitan region

The projects in North Portland all relate to water recognition that over the years residents on the peninsula lost access to the two rivers surrounding them Willamette Cove the largest piece of North Portland property to be purchased by the bond measure is a twenty seven acre strip of vacant land running from the railroad bridge almost to the St Johns Bridge Metro has it under option to buy if the bond passes The property will provide a waterfront greenway connection between trails in the West Hills and new trails in North Portland The proposed Peninsula Crossing Trail whose beginning construction is also in the bond measure will run from Willamette Cove to Smith and Bybee Lakes joining the 40 Mile Loop Trails system along the Columbia Slough and the Columbia River Kelley Point Park at the tip of the peninsula will acquire trail access too

This combination of large regional projects smaller local projects and miles of trails is all part of Metro s long established master plan of regional natural areas The regional projects in the bond measure consist of 6000 acres in fourteen locations Over 5000 acres of stream banks can also be protected and rehabilitated by the money from the measure Local governments have identified ninety other projects coordinating with the regional master plan And the five trails in the bond measure help us - the people who live here connect with it all So in North Portland fifty five thousand people will end up living within a short walk or bike ride of rivers lakes and trails

Open Spaces Acreage Decreasing

The region is rapidly running out of open space space that we take for granted as being ours" Ravines that our kids have always played in treed hills that buffer us from the freeway - marshlands that purify our water these are open spaces that provide great service to us Yet, on a regional basis less than nine percent of open space or forested land is in public ownership That figure is from a 1989 inventory but the situation is worsening land targeted for purchase if the 1992 Greenspaces bond measure had passed is no longer available

But for the price of a movie for two with popcorn and Cokes - we can help save some of the land we now enjoy The bond measure will cost twenty-two cents per $1000 of assessment on each house For a hundred thousand dollar house that s twenty-two dollars the first year of the bond By the end of the bond it decreases to about fifteen dollars (Oh when I think of all the money I've spent on really bad movies)

My son lost Mock s Bottom and access along the rivers I hope my grandchildren don t lose any more I want to rollerblade with them from the Willamette River to Smith and Bybee Lakes I want to canoe with them down the Columbia Slough I want to picnic with them next to Willamette Cove I can if the bond measure passes (and I learn to rollerblade)

CITIZENS' COMPLAINTS FORCE LIQUOR COMMISSION TO PULL PLUG ON NEIGHBORHOOD NUISANCE

Ending three weekends of raucous and criminal behavior by patrons of the newly opened Club Ced on Denver Avenue Oregon Liquor Control Commission (OLCC) Adminstrator Chris Lyons revoked the ninety day temporary liquor license granted to applicants Roger Paris and Aaron Fentress In a March 23 letter Lyons revoked the license effective at 7 00pm Friday March 24 1995 Club Ced is located in the Kenton Business District at 8131N Denver in what was formerly the Cactus Club

Lyons cited a history of serious and persistent problems" with the bar According to the OLCC chief problems began the day the Club opened its doors on March 3rd "There have been numerous incidents of noise public drinking public urination disturbances alcoholic

Please turn to page 2

S/N LIGHT RAIL WORKING GROUP NORTHERN CORRIDOR MEETING

(Overlook to Hayden Island)
MAY 17, 7pm
Ockley Green Middle School Auditorium
Updates and Schedules for Hearings
Call Kathleen Maloney at 823-7238 for more info

North Portland Enhancement Committee Grant Applications

Due MAY 24TH, by 5pm
at METRO, 600 NE Grand

For applications or information call Katie Dowdall Enhancement Committee Coordinator at 797 1648

Friends of Columbia Park
"PARK RAT SALE"
June 24 & 25, 1995
Hours of the sale 9 am - 5pm both days
If you have any items that need to be picked up
please phone call 289-9578 289-0195 or 735-1537
Your donations are tax deductible
Thank you for your support

MEETING NOTICE

NORTH PORTLAND ODOR ABATEMENT COMMITTEE MEETINGS

May 2nd and June 6th
7pm Kenton Firehouse
8105 N Brandon
For information call
Jim Robison at 285-4805

Turn off the Violence

TAKE A BITE OUT OF CRIME

CH2M HILL BROWN AND CALDWELL and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant
Citizens Advisory Committee
Members Pam Arden William Bens Tom Kelly Patricia Merkle Barry Messer Barbara Nowak Lee Poe Ted White

ENVIRONMENTAL SERVICES CITY OF PORTLAND

Please join us at the North Portland Odor Abatement Committee Meeting on June 6th.

We'd like to talk with you about changes planned at the Columbia Boulevard Wastewater Treatment Plant

June 6, 1995 at 7 00 pm
Kenton Firehouse
8105 N Brandon

CLEAN RIVER WORKS

An invitation to all Portland neighbors

If you care about

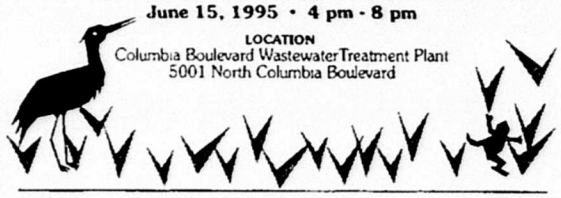
- *protecting water quality*
- *pollution control*
- *water resources education*
- *linking to and enhancing the ecosystem*
- *cost-effective services*
- *environmental stewardship*
- *neighborhood livability*

PLEASE JOIN THE
Columbia Boulevard Wastewater Treatment Plant Facilities Plan
Citizens Advisory Committee
at an informational open house to discuss plans to guide changes at the wastewater treatment plant through the year 2040

PRESENTATIONS HANDOUTS TOURS • PLANT VIDEO

June 15, 1995 • 4 pm - 8 pm

LOCATION
Columbia Boulevard WastewaterTreatment Plant
5001 North Columbia Boulevard



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Portland Meadows As A Concert Location

By Pam Arden

Over the past two years Portland Meadows has tried to be a concert venue much to the dismay of neighborhood residents and their immediate business neighbors The noise traffic intoxicated concert-goers parking litter and public urination have all been the negative side effects we've all had to suffer as a result of these concerts Last year due to problems when a crowd got out of hand the concert season was cut short Unfortunately Portland Meadows is at it again this year The neighborhood associations and neighboring businesses recently found out that the Grateful Dead have been scheduled for the Memorial Day Weekend with concerts on Sunday May 28and Monday May 29 Double T promotions is trying to assure everyone that there will be no camping and that security will be a high priority To help ourselves with this situation the hot-line numbers listed below should be used the weekend of the concert whenever you have a problem that stems from the concert - illegally parked cars camping noise etc Calling the Mayor and Commissioner's offices and expressing your concerns will also help

Memorial Day Weekend Concert
PORTLAND MEADOWS / GREATFUL DEAD
HOTLINE NUMBERS
285-1037 285-1038

Hotline numbers will be activated May 28 & 29

The businesses in Hayden Meadows would like you to know they will be open to serve you throughout the Memorial Day Weekend They would like your support during a difficult time for all of us

YES on 26-26

PROTECT OPEN SPACE, PARKS AND STREAMS

MAY 16, 1995

Authorized by the Campaign for Open Space Parks and Streams
P O Box 3648 Portland, OR 97208 (503) 227-4878

Free Workshops!

Alternatives to Pesticides for Home Gardeners

Learn how to reduce your use of pesticides Attend a workshop that focuses on controlling insects weeds and diseases through prevention and least toxic controls

Call for a free booklet about alternatives to pesticides

METRO

ENVIRONMENTAL SERVICES CITY OF PORTLAND

To register for a workshop or for more information call

Metro Recycling Information, 234-3000

Tuesday, May 2
Hillsboro Community Center
750 SE Eigth Ave
Hillsboro
7 8 30 p m

Tuesday May 9
Portland Impact Senior Center
4610 SE Belmont
Portland
7-8 30 p m

Saturday May 13
Old Lake Grove Fire Station
16400 Bryant Rd
Lake Oswego
9 10 30 a m

Tuesday, May 16
Jewish Community Center
6651 SW Capitol Highway
Portland
7-8 30 p m

Thursday May 25
St Johns Community Center
8427 N Central
Portland
7 8 30 p m

Wednesday May 31
Milwaukie Center
North Clackamas Park
5440 SE Kellogg Creek Rd
Milwaukie
7 8 30 p m

Attachment 4

Outreach Meeting Content and Approach

Columbia Boulevard Wastewater Treatment Plant Facility Plan

Community and Business District Outreach

Meeting Design and Assumptions

The Columbia Boulevard Facilities Planning Team (Citizens Advisory Committee, BES staff, and consultants) wishes to be on the agenda of existing and regularly scheduled community and business district association meetings in the neighborhoods around the plant during the month of May This strategy was selected in preference to arranging a series of special meetings to review results with the community

It was felt that one citywide meeting at the plant would be advised The meeting invitation will be from the CAC to all neighborhood associations and may be distributed by the Office of Neighborhood Associations It is anticipated that this meeting will be in June

The goals of all meetings are to disseminate information about facility planning and to obtain additional comment Feedback will be obtained by providing the opportunity to respond to and add additional comments

The agenda of each presentation will be framed to

1 Provide an introductory context about the Facilities Plan

2 Present information about vision, summary of issues addressed, site plan alternatives, and landscape concepts

3 Provide opportunity for clarification

4 Ask for opinions

Presentation Agenda

Introduction/Why Do a Facility Plan? — Michael Read

- BES commitment to a partnership approach
- Formation of Citizens Advisory Committee

Citizens Advisory Committee Process and Initiatives — CAC Member

- Role of the CAC
- Vision statement
- Summary of issues addressed
- Site Plan options and timing
  - Landscape concepts
  - Distinguishing features of each site plan
- Costs

Questions and Answers

Materials Provided at Each Meeting

- Prepared sign-up sheet (names and addresses of people attending meeting)
- Existing plant footprint and landscaping drawing for East Secondary and West Secondary
- Aerial photograph
- Vision statement general objectives presentation graphic
- Handouts
  - One handout with Vision Statement General Objectives, Summary of Issues, Opportunity for Comment, Opportunity to Volunteer, handout will be prepared to allow it to be folded and returned
- Pencils
- Markers
- Easels

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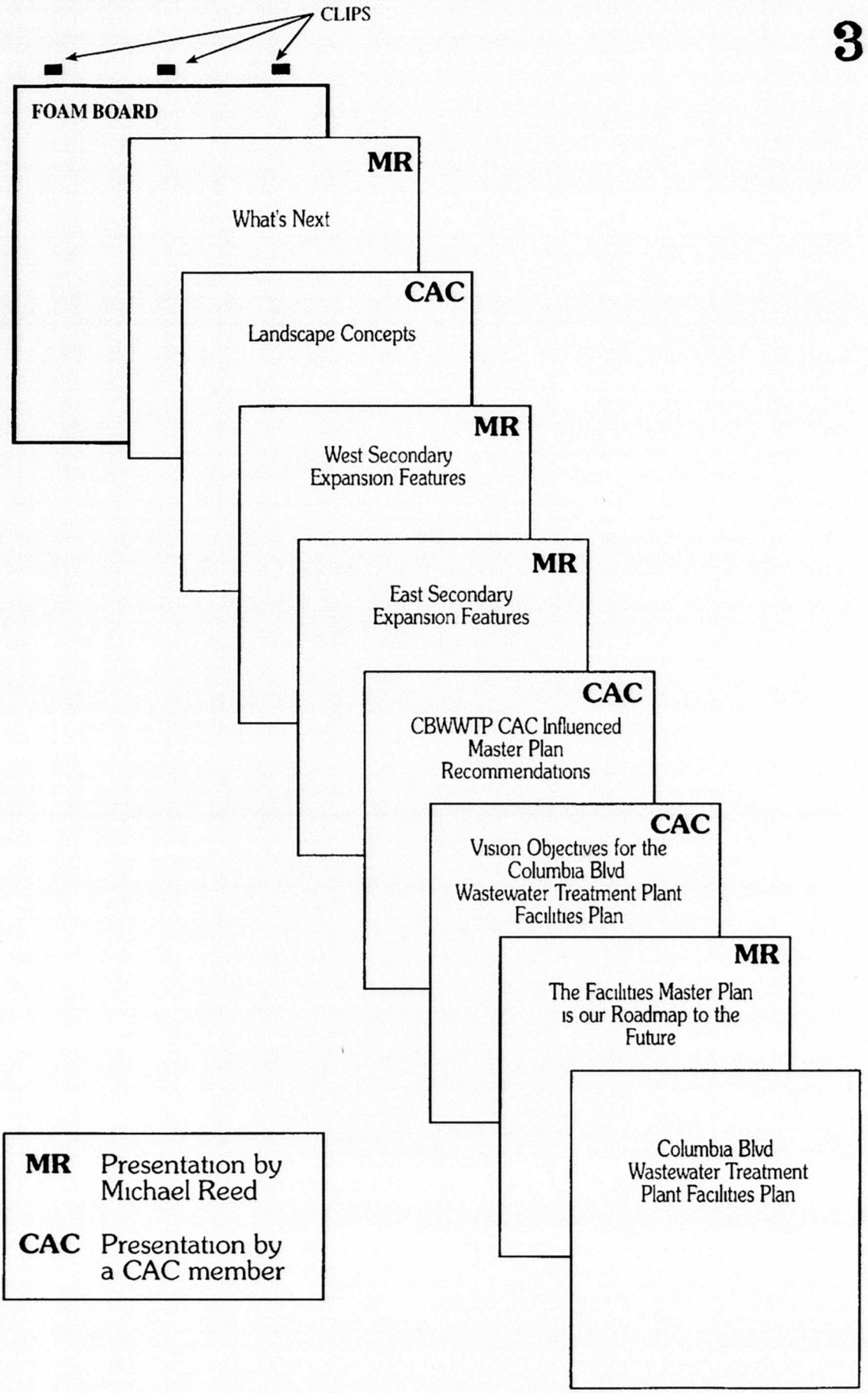
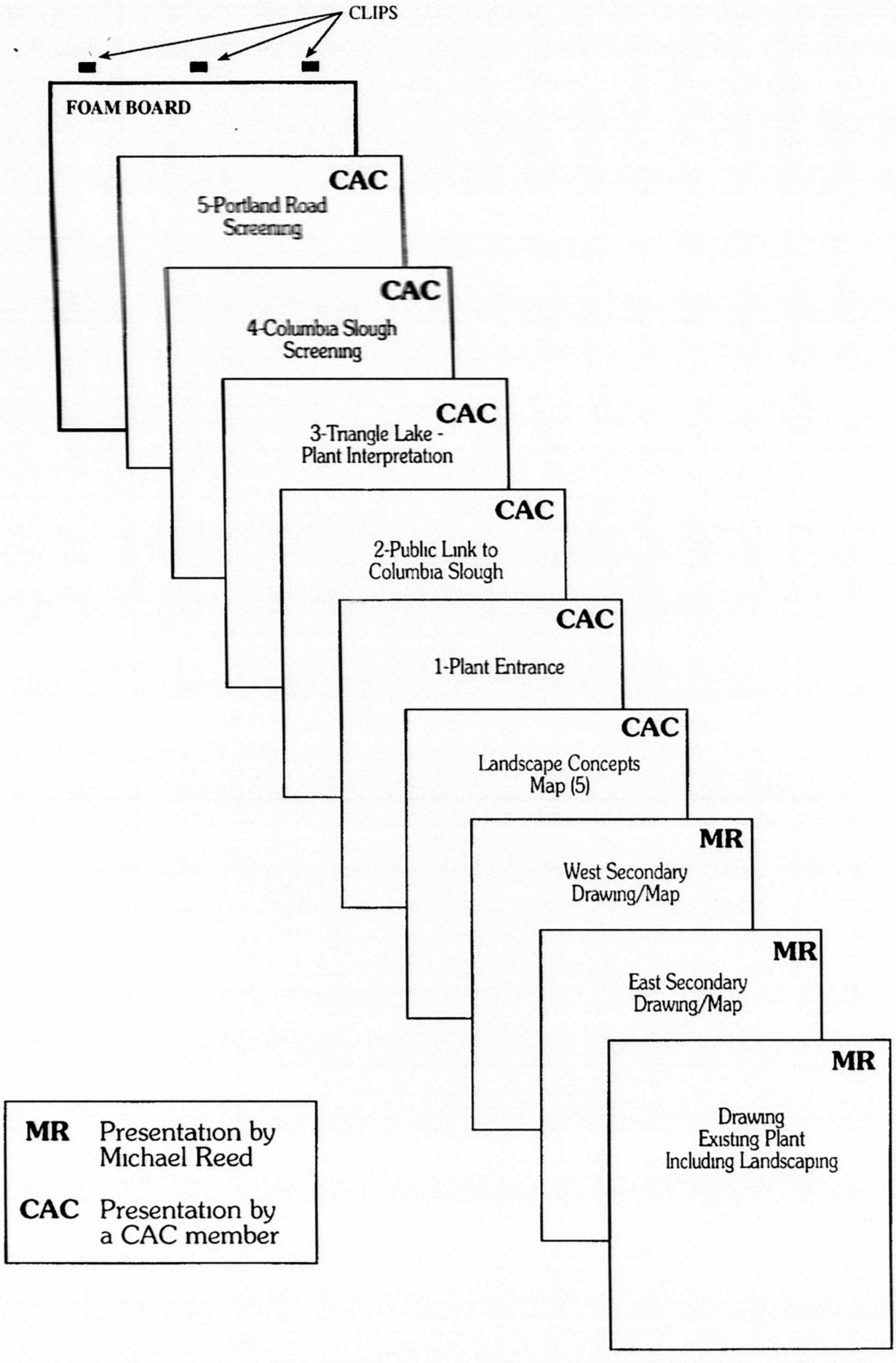

CLIPS
FOAM BOARD
MR
What's Next
CAC
Landscape Concepts
MR
West Secondary
Expansion Features
MR
East Secondary
Expansion Features
CAC
CBWWTP CAC Influenced
Master Plan
Recommendations
CAC
Vision Objectives for the
Columbia Blvd
Wastewater Treatment Plant
Facilities Plan
MR
The Facilities Master Plan
is our Roadmap to the
Future
Columbia Blvd
Wastewater Treatment
Plant Facilities Plan
MR Presentation by
Michael Reed
CAC Presentation by
a CAC member


CLIPS
FOAM BOARD
CAC
5-Portland Road
Screening
CAC
4-Columbia Slough
Screening
CAC
3-Triangle Lake -
Plant Interpretation
CAC
2-Public Link to
Columbia Slough
CAC
1-Plant Entrance
CAC
Landscape Concepts
Map (5)
MR
West Secondary
Drawing/Map
MR
East Secondary
Drawing/Map
MR
Drawing
Existing Plant
Including Landscaping
MR Presentation by
Michael Reed
CAC Presentation by
a CAC member

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Columbia Boulevard Wastewater Treatment Plant Facilities Plan

CH2M HILL
BROWN AND CALDWELL
and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant
Citizens Advisory Committee
Members Pam Arden, William Benz, Tom Kelly, Patricia Trow-Merkle, Barry Messer, Barbara Novak, Lee Poe, Ted White

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CITY OF PORTLAND

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The Facilities Master Plan is Our Roadmap to the Future

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Vision Objectives for the Columbia Boulevard Wastewater Treatment Plant

Adopted by the Citizens Advisory Committee March 29, 1995

The Columbia Boulevard Wastewater Treatment Plant shall be a model of excellence where environmental and community objectives are accomplished by:

- Protecting public health
- Practicing environmental stewardship
- Achieving outstanding operational performance by promoting employee excellence
- Providing cost-effective service
- Conserving, recovering, and reusing resources
- Advocating pollution control at the source
- Incorporating flexibility to meet changing regulatory and operational requirements
- Serving as a center for water resources education and training
- Not adversely impacting the community
- Providing a pleasing setting that supports neighborhood livability
- Providing a recognized positive and equitable asset to the community
- Providing social and economic benefits to the community
- Linking to and enhancing the ecosystem in which it is situated
- Maintaining an open dialogue with the community
- Continuing to apply new and innovative ideas
- Providing accountability during implementation of the plan

CH2M HILL
BROWN AND CALDWELL
and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant
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The Columbia Boulevard Wastewater Treatment Plant Citizens Advisory Committee Influenced Master Plan Recommendations on:

- Odor and air toxics
- Methane utilization
- Plant layout
- Landscaping treatments
- Community outreach

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East Secondary Expansion Features

- Narrow buffer for interconnecting bicycle trail
- Expansion west of Portland Road not required
- Operational complexity through two separate secondary treatment systems
- Expansion on existing city-owned property only
- All processes maintained within existing boundaries

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West Secondary Expansion Features

- Wide buffer for interconnecting bicycle trail
- Expansion west of Portland Road required
- Operational efficiency through one secondary treatment system
- Need to tunnel under railroad and Portland Road for maintenance of all processes
- Property improvements west of Portland Road

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Columbia Boulevard Facilities Plan Landscape Concepts

(Final concept approval provided by the Columbia Boulevard Citizens Advisory Committee, March 29, 1995)

AREA A–PLANT ENTRANCE

- Continue with concept used in headworks project
- Front yard, park-like, water garden
- Bike connection
- Parking for visitor of park/40-mile loop
- New entry at Portsmouth

AREA B–A PUBLIC LINK TO COLUMBIA SLOUGH

- Transition from front yard to existing slough riparian vegetation
- Bicycle path from Portsmouth Avenue to Columbia Slough
- Visual access to primary treatment process for public education
- Bicycle/light vehicle bridge over Columbia Slough
- Canoe landing on Columbia Slough
- Meadowy quality rather than park-like quality
- Low maintenance

AREA C–TRIANGLE LAKE PLANT INTERPRETATION

- Screening and physical barrier to Triangle Lake
- Bicycle path with visual access to Columbia Slough
- Visual access to existing wetlands on southeast end of Triangle Lake

AREA D–COLUMBIA SLOUGH SCREENING TO WEST PLANT EXPANSION

- Vegetative screening of new facilities from slough and interpretive center
- Consists of berming and natural plantings

AREA E–PORTLAND ROAD SCREENING TO WEST PLANT EXPANSION

- Vegetative linkage along Portland Road to Smith-Bybee Interpretive Center
- Consists of berming and natural plantings
- Also acts as a screen for facilities

What's Next

35452

Attachment 5

Outreach Meeting Attendance Lists

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ENVIRONMENTAL SERVICES
CITY OF PORTLAND
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June 6 North Portland Odor Abatement Committee

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Name	Address	*Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here* ➡
J m Robison	6615 N. Princeton St.	
Lee Poe	3911 N Attu	
John Bonebrake	4109 N Winchell	
Martha Moore	P.O Box 15172	
Kevin Meyer	9174 N. McKenna 97203	
Eugene Appel	BES 5001 Col. Blvd.	
Eugene Housman	7153 N Lancaster Ave	✓

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Cathedral Park Neighborhood
St John's Neighborhood, etc.
May 3, 1995

Name	Address	Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here
OFFICER BERT NEDERHISER	7214 N PHILADELPHIA	
Bill F[illegible]	24[illegible] [illegible] 823 40[illegible]	
Doug Ray	4905 N Philadelphia 283-[illegible]	✓
[illegible]	[illegible]	
Lee Poe	3911 N Attu Portland, Or 97219	
Sheilah Toomey	7[illegible]7 N Jersey	

Portsmith Neighborhood 35452

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Name	Address	Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here ➘
AUSTIN L BROWN	4846 N SYRACUSE PORTLAND 97203	✓
Willa Larsen	8316 N Lombard PDX 97203	✓
Chuck Rahe	8532 N Idaho St, 97203	
William E. Field	2416 N Lombard Portland Oreg 97217	"
Sheilah Toomey	7807 N Jersey " " 97203	✓
Angie Huseruk	8836 N Lombard Pld. OR 97203	✓
Tom Stubblefield	8310 N Jersey Pld Or 97203	
MARK MORROW	8302 N. LOMBARD PDX 97203	
Edward A. Trott	9210 N. ST Johns Ave Portland 97203	X
Larry Hollibaugh	8006 N Oswego Ave Pland 97203	
GARY SNOWDEN	7214 N PHILADELPHIA 97203	X
CATHEE WOODWARD	8322 N Lombard 97203	X

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

North Portland Odor Abatement
May 2, 1995

Name	Address	Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here
Jim Robison	6615 N Princeton St, Portland 97203	
Maxine Krueger	4216 N Willis Blvd Portland 97203	
PAM ARDEN	1817 N WINCHELL ST PTLD 97217	x
[illegible]	[illegible] Hodge Ave 97203 [illegible]-4047	
Lee [illegible]	3911 N [illegible] 97217 [illegible]	
Larry Scruggs	6942 N Villard 97217 283 7273 business 285 5488 home	
Curtis L. Brown	9846 N. SYRACUSE ST. 286-3570	
Char Nash	4232 N Kilpatrick 97203 289-1798	

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Portsmouth General Membership Meeting 9/15

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Name	Address	Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here ➘
WAYNE TRUST	5907 N [illegible] 97203	
[illegible]	[illegible]	
Kathy Hazlett	5843 N. FESSENDEN 97203	
Jann Poersch	3835 N Juneau 97217	
Hyla A. Lillick	8414 N. Gloucester Ave. 97203-5934	?
Audrey Linimon	8506 N Gloucester, 97203	
HELEN L WARRINGTON	3814 N ALASKA PDX 97217	NOT YET
DONALD IRELAND	8831 N WAYLAND AVE 97203	YES
EDWARD F KETZEL SR	8917 N. HODGE AVE 97203	Yes
Columbia Villa/Tamarack Resident Council	9005 N Dana 97203	
Wendy Cromly	9404 N Exeter Portland 97203	✓

North Portland Odor Abatement Committee 4/4

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
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Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here ➘

Name	*Address*	
Jim Robison	6615 N. Princeton St Portland, OR 97203	No
Edward J Ketzel Sr	8717 North Hodge Ave 97203	

35452

Attachment 6

Outreach Meeting Handouts

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35452

Vision Objectives for the Columbia Boulevard Wastewater Treatment Plant

Adopted by the Citizens Advisory Committee March 29, 1995

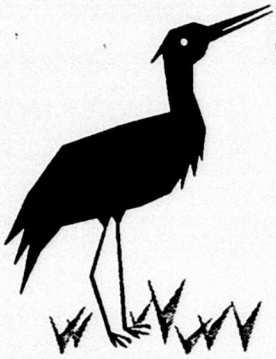
The Columbia Boulevard Wastewater Treatment Plant shall be a model of excellence where environmental and community objectives are accomplished by:

- Protecting public health
- Practicing environmental stewardship
- Achieving outstanding operational performance by promoting employee excellence
- Providing cost-effective service
- Conserving, recovering, and reusing resources
- Advocating pollution control at the source
- Incorporating flexibility to meet changing regulatory and operational requirements
- Serving as a center for water resources education and training
- Not adversely impacting the community
- Providing a pleasing setting that supports neighborhood livability
- Providing a recognized positive and equitable asset to the community
- Providing social and economic benefits to the community
- Linking to and enhancing the ecosystem in which it is situated
- Maintaining an open dialogue with the community
- Continuing to apply new and innovative ideas
- Providing accountability during implementation of the plan

CH2M HILL
BROWN AND CALDWELL
and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant
Citizens Advisory Committee
Members Pam Arden, William Benz, Tom Kelly, Patricia Trow-Merkle, Barry Messer, Barbara Novak, Lee Poe, Ted White

ENVIRONMENTAL SERVICES
CITY OF PORTLAND



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The Columbia Boulevard Wastewater Treatment Plant Facilities Plan

A Roadmap for the Future

Much has happened since 1987, when the last facilities plan for the Columbia Boulevard Wastewater Treatment Plant (CBWTP) was prepared This plan is now being updated to deal with known changes such as increasing service population and treatment of wet weather flows from the Columbia Slough Basin It also needs to be updated to plan for facilities that will make the plant a better neighbor to the surrounding community

These reasons and others constitute the need to do advance planning — planning for the future of the plant as a good neighbor and planning to fulfill the plant's mission to protect the health of the city's residents and the quality of the water in the Columbia River

The Columbia Boulevard Wastewater Treatment Facilities Plan will provide a roadmap for a treatment plant that will meet future needs of all stakeholders, including the plant's neighbors, all City residents, plant staff, and regulatory agencies

Environmental Service's Approach Initiated a Citizen Partnership

To meet the challenges of developing the Facility Plan, Environmental Services wanted to establish a partnership approach with a Citizens Advisory Committee (CAC) Environmental Services, the CAC, and the consulting team are working together to meet emerging challenges through collaborative, participatory decision-making This partnership approach was selected to ensure that project decision-making was oriented to addressing not only the technical requirements as seen by wastewater professionals but also the particular concerns of community stakeholders

Facilities Plan Vision Statement Is Responsive to Community Values

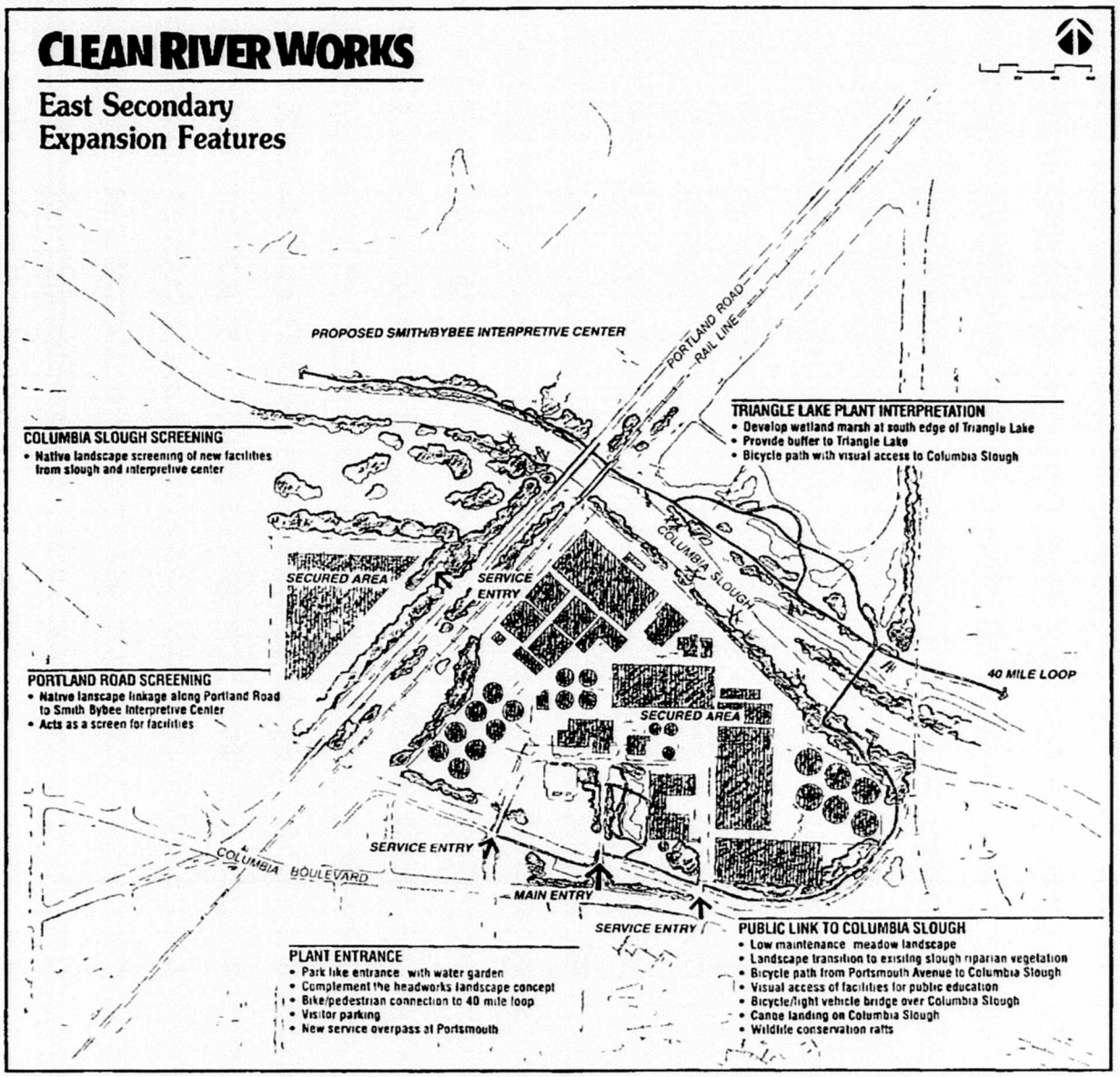
The Vision Statement is presented for use by all planners, decision-makers, citizen review boards, and oversight committees involvement with any phase of the planning and implementation process at the plant

(continued on page 4)

CH2M HILL
BROWN AND CALDWELL
and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant
Citizens Advisory Committee
Members: *Pam Arden, William Benz, Tom Kelly, Patricia Merkle, Barry Messer, Barbara Novak, Lee Poe, Ted White*

ENVIRONMENTAL SERVICES
CITY OF PORTLAND



Expanding Capacity and Upgrading Treatment Processes Create New Opportunities

Working together, Environmental Services, the CAC, and the consulting team have developed Facility Plan options that will meet future capacity and anticipated regulatory requirements These options also include differing landscape concepts The plans must now be tested not only by the CAC but also by the community at large That is why the CAC is outreaching to business district associations and neighborhood associations, and is hosting a plant open house

The East Secondary Expansion features include

- A narrow buffer for an interconnecting pedestrian/bicycle trail
- Operational complexity due to the need for two separate secondary treatment systems
- The principal expansion occurring on existing city-owned property

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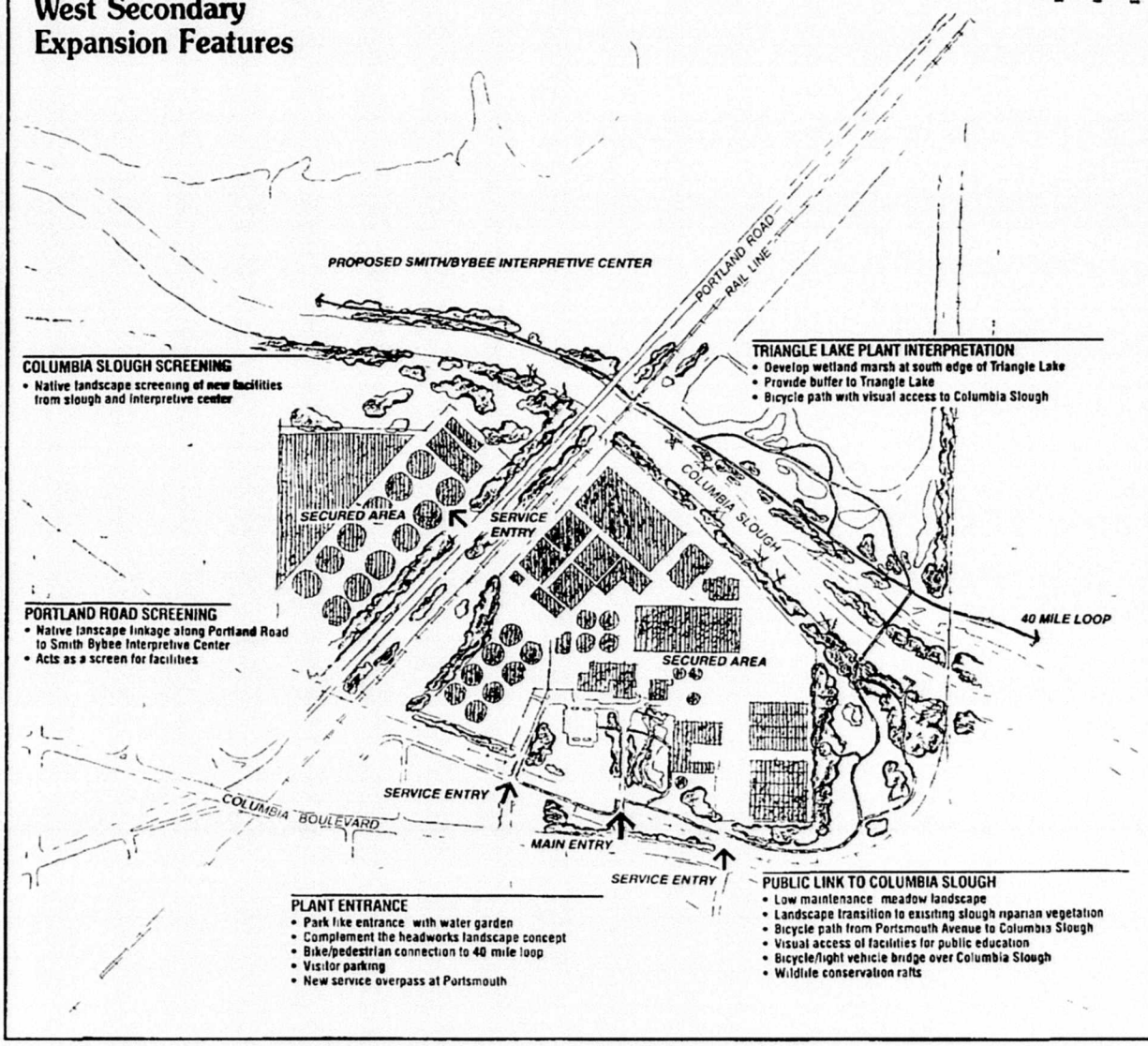
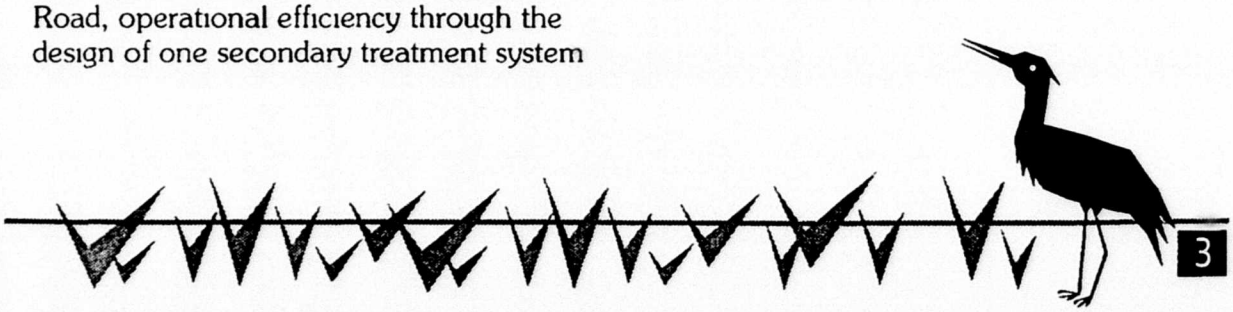
West Secondary Expansion Features



Features of the West Secondary Expansion include

- A wider buffer for the interconnecting bicycle trail
- An expansion west of North Portland Road, operational efficiency through the design of one secondary treatment system
- A need to tunnel underneath railroad and North Portland Road for maintenance of all processes
- The inclusion of some property improvements west of North Portland Road



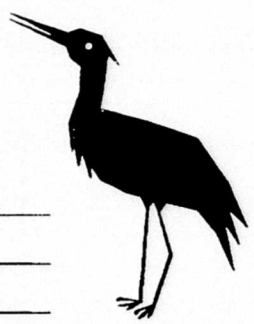
(continued from page 1)

The general objectives of the Vision Statement are to ensure that the Columbia Boulevard Wastewater Treatment Plant shall be a model of excellence where environmental and community objectives are accomplished by

- Protecting public health
- Practicing environmental stewardship
- Achieving outstanding operation performance by promoting employee excellence
- Providing cost-effective service
- Conserving, recovering, and reusing resources
- Advocating pollution control at the source
- Incorporating flexibility to meet changing regulatory and operational requirements
- Serving as a center for water resources education and training
- Not adversely impacting the community
- Providing a pleasing setting that supports neighborhood livability
- Providing a recognized positive and equitable asset to the community
- Providing social and economic benefits to the community
- Linking to and enhancing the ecosystem in which it is situated
- Maintaining an open dialogue with the community
- Continuing to apply new and innovative ideas
- Providing accountability during the implementation of the plan

We Need Your Comments!

Please call us at 823-2400 or write to us at *Columbia Boulevard Wastewater Treatment Plant*
5001 North Columbia Boulevard
Portland, Oregon 97203



❑ Please send me additional information and add my name to your mailing list

❑ I am willing to be on a Columbia Boulevard Wastewater Treatment Plant Facilities Plan Citizens Advisory Committee

Name _____

Address _____

City/State _____

Phone _____

My comments or questions about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan are

_____

_____

_____

_____

(Use additional paper if needed)

Attachment 7

Invitation to Plant Open House

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35452

An invitation to all Portland neighbors

If you care about:

- protecting water quality
- pollution control
- water resources education
- linking to and enhancing the ecosystem
- cost-effective services
- environmental stewardship
- neighborhood livability

PLEASE JOIN THE

Columbia Boulevard Wastewater Treatment Plant Facilities Plan

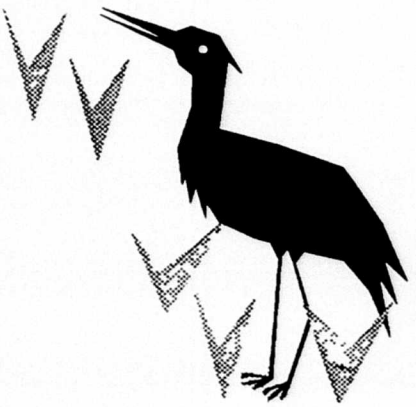
Citizens Advisory Committee

at an informational open house to discuss plans to guide changes at the wastewater treatment plant through the year 2040

PRESENTATIONS • HANDOUTS • TOURS • PLANT VIDEO

June 15, 1995 • 4 pm - 8 pm

LOCATION: Columbia Boulevard Wastewater Treatment Plant
5001 North Columbia Boulevard (see map on back page)



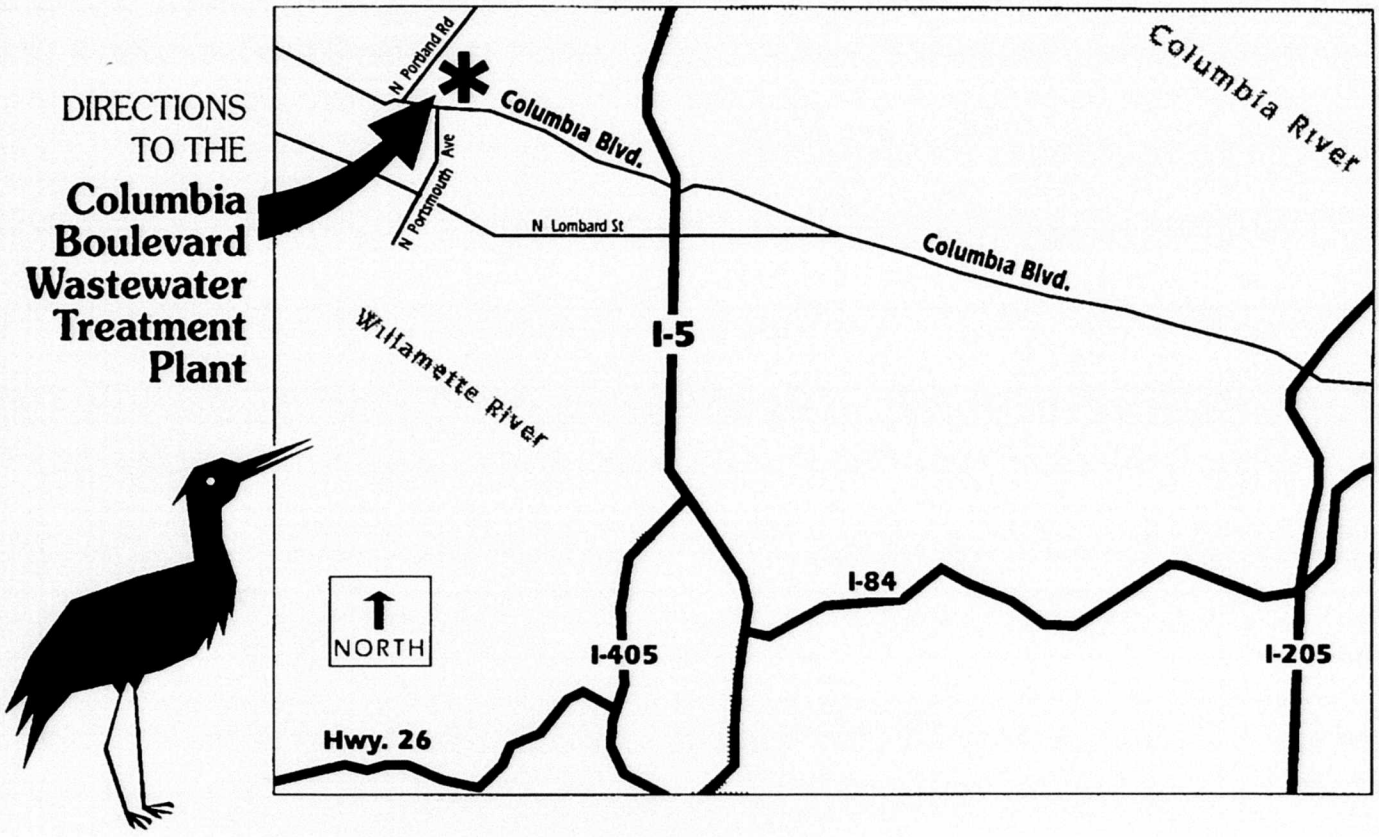
CH2MHILL
BROWN AND CALDWELL
and Associated Firms

In partnership with the Columbia Boulevard Wastewater Treatment Plant Facilities Plan
Citizens Advisory Committee
Members Pam Arden, William Benz, Tom Kelly, Patricia Merkle, Barry Messer, Barbara Novak, Lee Poe, Ted White

ENVIRONMENTAL SERVICES
CITY OF PORTLAND

DIRECTIONS
TO THE

Columbia Boulevard Wastewater Treatment Plant



Columbia Boulevard Wastewater Treatment Plant
5001 North Columbia Boulevard
Portland, Oregon 97203

Attachment 8

List of Open House Attendees

Open House
June 15, 1995

35452

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS

Would you like to receive more information about the Columbia Boulevard Wastewater Treatment Plant Facilities Plan?

Are you are willing to be on a Columbia Boulevard Wastewater Treatment Plant Citizens Committee? Check here

Name	Address		Check here
[illegible]	15221 N.W Gillihan Rd	Portland OR 97231	
Al Kern	1716 N Holman St	Portland 97217	
Pat Merkle	6705#C S.W. 30th Ave	PDX 97219	
Richard Ellinger	9124 N. McKenna	Portland OR 97203	
Eugene Houseman	7153 N Lancaster	Port 97217	
Kent Nelson	2104 N McClellan	Portland, Ore 97217 796-8408	
Kate Moore	2612 SE Madison	Portland, OR 97214	
Martha Moore	P.O. Box 15170	Portland, OR 97215	
Pam Arden	1817 N Winchell	Port. 97217	
Dan Small	8105 SE Powell	Ptld 97206	
Earl Ketzel Sr	8717 N Hodge	PORTLAND ORE 97203 289-4042	
Cathy L Crawford	5121 N Amherst	Portland Or 97203	
Bob Peterson	2036 N. Skidmore Ct	Portland 97217	wants tape (~~contact Assn~~ ~~sitting task force~~)
Delores Holland	8831 N. Wayland	Portland 97203	
Donald Holland	8831 N. WAYLAND	PORTLAND, 97203	
Bonnie Simonson	3402 SE Harney Ct	Portland, 97222	
Alan Schacht	650 E Arlington	Gladstone, 97027	
William P Benz	7718 N. Berkeley	Portland, 97203	
Lee Poe	3911 N. Attu	Portland 97217	
Bob Button	7907 N Albina	PDX 97217	
Richard Santner	DEQ NWR	229-5219	

Attachment 9

CAC Final Site Plan Recommendation

CLEAN RIVER WORKS

Final Site Plan Recommendation
Columbia Boulevard Wastewater Treatment Facilities Plan

Final Recommendation of the
Columbia Boulevard Wastewater Treatment Plant
Citizens Advisory Committee
on the
Site Plan Expansion Alternatives
July 7, 1995

The CAC considered the two remaining site plan alternatives that best meet the vision objectives All other considerations being approximately equal between the two alternatives, the CAC endeavored to weigh the two alternatives against each other in terms of the operational efficiency, cost, and community needs

The West Secondary Expansion alternative, as represented in the July 7 site plans and cost figures, appears to be slightly more costly on an actual (though not present) value basis, but it is clearly superior in addressing community needs and in achieving operational efficiencies Therefore, the CAC unanimously favored the West Secondary Expansion alternative However, if the Willamette River overflow treatment facility is not sited at the CBWTP and the East Secondary Expansion alternative can be reconfigured in a manner that would preserve the public link to the Columbia Slough as conceptualized in the West Secondary Expansion alternative, the CAC would recommend a reconsideration of an East Secondary Expansion alternative as presented on July 7 A reconsideration of the East Secondary Expansion alternative to compare costs and the adequacy of the public link to the Columbia Slough will be initiated by the CAC upon request by Environmental Services A CAC review and recommendation will be required before any change of this alternative recommendation

This statement was adopted unanimously by the CAC on July 7, 1995 All members were present

Columbia Boulevard Wastewater Treatment Plant
Facilities Plan

Meeting Notes

Meeting Date: July 7, 1995

Members Present: Tom Kelly
Barbara Novak
William Benz
Lee Poe
Pam Arden
Barry Messer
Ted White
Pat Merkle

Others Present: Ann Gardner/BES
Jim Goetz/CH2M HILL
Gene Appel/BES
Steve Simonson/BES
Dale Richwine/CH2M HILL
Tim Dabareiner/CSO Program
Paddy Tillet/ZGF
Michael Read/BES

Subject: Meeting No 13 Notes

Project: 108240 11 01

Facilitated By: Linda Macpherson

Discussion of the West and East Secondary Expansion Alternatives formed the content of the meeting as the CAC attempted to frame a recommendation

The issue of biosolids processing was discussed It was agreed that this issue was prospective because whether land would be required at all is presently unknown Nonetheless, land should be planned for solids processing It was agreed that in both alternatives depicted as Figure 1 and Figure 2 biosolids processing should be relocated The project team indicated that this would occur and that the correct figures would accompany the meeting notes

Some CAC members expressed the view that the value of cost-effectiveness was leading the decision while the intangible benefits of a connection to the Columbia Slough was not receiving attention The loss of amenity of the East Secondary Expansion Alternative was not being given a dollar value even though it adds value for the City and for the local citizens

Likewise, from a ratepayer perspective and the City policy to level rate impacts, the West Expansion Alternative was favored because construction would occur after the majority of the CSO costs are incurred

Yet if Willamette Wet Weather CSO does not come to the Treatment Plant, the West Secondary Treatment Plant would be favored from a process standpoint From an operability standpoint, West Secondary was favored because it functions as one treatment plant rather than two separate plants

Barry Messer framed a two-part recommendation that could change if Willamette River CSO was not sited at the treatment plant Discussion ensued and resulted in the following unanimously approved recommendation

The CAC considered the two remaining site plan alternatives that best meet the vision objectives All other considerations being approximately equal between the two alternatives, the CAC endeavored to weigh the two alternatives against each other in terms of the operational efficiency, cost, and community needs

The West Expansion Alternative, as represented in the July 7 site plans and cost figures, appears to be slightly more costly on an actual (though not present) value basis, but it is clearly superior in addressing community needs and in achieving operational efficiencies Therefore, the CAC unanimously favored the West Secondary Expansion Alternative However, if the Willamette River overflow treatment facility is not sited at the CBWTP and the East Expansion Alternative can be reconfigured in a manner that would preserve the public link to the Columbia Slough as conceptualized in the West Secondary Expansion Alternative, the CAC would recommend a reconsideration of an East Secondary Expansion Alternative as presented on July 7 A reconsideration of the East Secondary Expansion Alternative to compare costs and the adequacy of the public link to the Columbia Slough will be initiated by the CAC upon request by Environmental Services A CAC review and recommendation will be required before any change of this alternative recommendation

It was suggested that the recommendation be transmitted to the combined sewer overflow overflow treatment facility task force as soon as possible

There are still 2 missing attachments

The West Secondary Expansion Alternative Map & the East Secondary Expansion Alternative Map

Attachments

1 West Secondary Expansion Alternative map
2 East Secondary Expansion Alternative map
3 West Secondary Expansion Alternative Summary of Costs, July 7, 1995
4 East Secondary Expansion Alternative Summary of Costs, July 7, 1995

Chapter 13

References

Chapter 13
References

Brown and Caldwell *Recommended Methane Utilization Alternatives,* Technical Memorandum 9 5 prepared for the City of Portland Bureau of Environmental Services February 1995a

Brown and Caldwell *Columbia Boulevard Wastewater Treatment Plant Biosolids Management Plan* 1995b

CH2M HILL *Centralized Monitoring and Control Building Concept Plan* Prepared for the City of Portland Bureau of Environmental Services June 1992

CH2M HILL and Brown and Caldwell City of Portland CSO Management Plan Facilities Plan, Technical Memorandum 2 4 prepared for the City of Portland Bureau of Environmental Services December 1994

Columbia Boulevard Citizens Advisory Committee Facilities Plan Vision Statement Prepared for Columbia Boulevard Wastewater Treatment Plant 1995

Dames & Moore Columbia Boulevard Wastewater Treatment Plant Facilities Plan Update, Task 8, Seismic Vulnerability Assessment Report Draft report prepared for CH2M HILL Portland, Oregon January 19, 1995, and July 19, 1995

HDR Engineering and Black and Veatch Combined Sewer Overflow SFO Compliance Dry-Weather Overflow Study Prepared for the City of Portland Bureau of Environmental Services June 1993

Metropolitan Service District Region 2040 Interim Report January 1994

Oregon Department of Environmental Quality Stipulation and Final Order WQ-MW-NWR-92-140 Jointly agreed to by the Oregon Department of Environmental Quality and the City of Portland July 21, 1992

Oregon Department of Environmental Quality *Issue Paper Dissolved Oxygen Water Quality Division* Part of 1992-1994 water quality standards review August 1, 1994a

Oregon Department of Environmental Quality Memorandum from D S Mann, senior environmental engineer, to Oregon Community Development Program staff and other interested parties regarding scope and content of wastewater facility plan reports July 15, 1994b

Oregon Department of Environmental Quality *Stipulation and Final Order WQ-NWR-91-75* August 5, 1991, amended August 11, 1994c

State of Oregon Structural Specialty Code 1992

State of Oregon Uniform Building Code All applicable sections Amended 1992

State of Oregon Uniform Fire Code Article 79 Amended 1991

U S Environmental Protection Agency Technical Support Document for Water Quality Based Toxics Control EPA/505/2-90-001 March 1991

U S Government Printing Office *Federal Register* Under 40 *Code of Federal Regulations* Part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices September 13, 1979

Table 13-1
List of Technical Memorandums for Facilities Plan
Columbia Boulevard Wastewater Treatment Plant

Technical Memo No.	Subject
1 1[6]	Update Population, Flow, and Load Projections
(sub) 1 1A	Solids Projections
1 2[5]	Project Treatment Criteria for CBWTP
1 5[5]	Regulatory Support for the WWTF
2 5	Master Plan Process
4 1[7]	Definition of Existing CBWTP Capabilities
(sub) 4 1A	Plant Recycle Stream Description
4 2[8]	Hydraulic Analysis (called Hydraulic Profile)
4 3[4]	Process Alternatives Development
4 4[4]	Alternatives Analysis
(sub) 4 4A	Liquid Treatment and Disinfection Evaluation
4 5[4]	Development and Refinement of Recommended Alternative
5 1[3]	Influent Flows and Loads
5 2[6]A	Treatment Criteria–Wet Weather
(sub) 5 2[6]B	Treatment Criteria–CSO
5 3[7]	Hydraulic Requirements
5 4[6]	Operation and Maintenance Requirements
5 5[3]	Solids Production
6 1[3]	Processing and Handling Requirements
6 2[3]	Biosolids and Reuse Requirements
6 3[3]	Nonrecyclable Solids Disposal Requirements
6 4[3]	Development and Evaluation of Processing and Reuse Options
7 1[7]	Centralized Monitoring and Control Building
7 2[4]	Process Control Laboratory
7 3[3]	Access/Egress Upgrade
7 4[8]	General Site Improvements
8 7	Seismic Vulnerability Assessment*
9 5[2]	Methane Utilization*
10 1[5]	Criteria and Hazardous Air Pollutant Emissions
10 2	Odor Emissions
12 4[5]	Facilities Plan Report

* Document is listed separately on page 13-1 of this chapter

Abbreviations

CBWT = Columbia Boulevard Wastewater Treatment Plant

WWTF = wet-weather treatment facility

RESOLUTION NO **35452**

Accept the recommended plan presented in the 1995 Columbia Boulevard Wastewater Treatment Plant Facilities Plan (Resolution)

WHEREAS, the Bureau of Environmental Services (BES) previously prepared a Facilities Plan for the Columbia Boulevard Wastewater Treatment Plant (CBWTP) in 1987, and,

WHEREAS, the basis of planning has been updated and revised to coordinate with recommendations and options within the 1994 Combined Sewer Overflow Management Plan, and,

WHEREAS, it is necessary to define and coordinate wet weather treatment facilities at CBWTP to meet the requirements of an amended stipulation and final order with the Oregon Department of Environmental Quality to abate pollution from combined sewer overflows, and,

WHEREAS, on November 2, 1994, City Council adopted Resolution No 35324 accepting continued pumping of wastewater from Mid-County's Inverness Basin to the CBWTP and directing BES to develop a proposal to mitigate air emissions from CBWTP, and,

WHEREAS, it is necessary to plan for facilities at CBWTP to treat wastewater generated by the Mid-County Sewer Project, and,

WHEREAS, it is necessary to plan for facilities at CBWTP to treat wastewater generated by future service population growth, and,

WHEREAS, it is necessary to incorporate into facilities planning issues regarding development support facilities, correction of seismic deficiencies, utilization of methane gas generated on-site, and development of environmental enhancements which support the surrounding community, and,

WHEREAS, the recommended site expansion plan is the result of extensive public involvement and outreach and is preferred by citizens because it best addresses community needs and achieves operational efficiencies, and,

WHEREAS, a citizen advisory committee has developed a directive for recognition of priority concerns and identification of benchmark accomplishments to ensure implementation of the 1995 Facilities Plan, to achieve the vision of enhancing the environment while protecting the health, welfare, and water quality for all Portland residents, and to continue the partnership between BES and a citizen advisory committee, and,

WHEREAS, the elimination of odor emissions has been given a high priority by the citizen advisory committee and the odor elimination program is supported by this 1995 Facilities Plan and will be defined in a subsequent resolution,

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF PORTLAND, a municipal corporation of the State of Oregon, that the City of Portland accepts the recommended plan presented in the 1995 Columbia Boulevard Wastewater Treatment Plant Facilities Plan, and,

BE IT FURTHER RESOLVED that the City Council directs BES to incorporate the 1995 Facilities Plan recommendations into development of its capital improvement program

Adopted by the Council OCT 11 1995

Commissioner Mike Lindberg
Steve Simonson
October 3, 1995

BARBARA CLARK
Auditor of the City of Portland
By Britta Olson
Deputy

1641
Agenda No

TIME CERTAIN

RESOLUTION NO 35452

Title

Accept the recommended plan presented in the 1995 Columbia Boulevard Wastewater Treatment Plant Facilities Plan (Resolution)

INTRODUCED BY	Filed OCT 6 1995
Commissioner Mike Lindberg	Barbara Clark Auditor of the City of Portland
NOTED BY COMMISSIONER	
Affairs	By Cay Kershner Deputy
Finance and Administration	
Safety	For Meeting of
Utilities MDL / DMD	ACTION TAKEN
Works	
BUREAU APPROVAL	
Bureau Environmental Services	
Prepared by Date Steve Simonson October 3 1995	
Budget Impact Review Completed X Not Required	
Bureau Head Dean C Marriott, Director	

AGENDA		FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS		
				YEAS	NAYS
Consent	Regular X	Blumenauer	Blumenauer	✓	
NOTED BY		Hales	Hales	—	—
City Attorney		Kafoury	Kafoury	✓	
City Auditor		Lindberg	Lindberg	✓	
City Engineer		Katz	Katz	✓	