DRAFT COBURG
2004 WASTEWATER FACILITIES PLAN

CHAPTER 1
SUMMARY

The City of Coburg is embarking on a long-term project to bring wastewater service to the residents and industries. The Wastewater Facilities Plan outlines the recommended approach and costs associated with achieving that goal.

BACKGROUND

This Facilities Plan Update amends the original Wastewater Facilities Plan that Brown and Caldwell prepared for Coburg in 1999. This update is needed to meet the Oregon Department of Environmental Quality (DEQ) requirements for a facilities plan that is less than 5 years old, and to reflect changes in planning and community growth projections. Several fundamental planning aspects have changed since the 1999 document.

- The planning period has been extended from 2022 in the 1999 plan to 2028. This was done to meet the DEQ requirement that the planning period extends 20 years past anticipated facility start-up date.

- Population projections have increased dramatically. The 1999 plan was based on a population of 1,020 for year 2022 and build-out population of 2,980, whereas this update is based on a population of 3,255 for year 2028 and build-out population of 6,700.

- The urban growth boundary (UGB) has increased significantly. The 1999 plan was based on a UGB of 547 acres, whereas this update is based on a UGB expanded to 812 acres including area east of Interstate 5 (I-5).

These changes contribute to the need for significantly larger and more costly wastewater collection and treatment facilities than were envisioned in the 1999 plan.

Preliminary Design and Value Engineering

In June 2004 Brown and Caldwell prepared a Preliminary Design Report based on the recommendations from the 1999 Wastewater Facilities Plan. Wastewater facility sizing was adjusted to reflect planning changes in progress at that time. The Preliminary Design Report also provided the basis for conducting a value engineering (VE) session during August of 2004. The VE process consisted of a team of senior engineers not involved in the project examining all aspects of the proposed project for cost-saving measures. VE is typically recommended for projects of this magnitude. The VE Study identified several potential cost-saving recommendations. These recommendations were incorporated into the evaluations presented in this Facilities Plan Update.

Overview of Recommended Plan

Wastewater facilities for Coburg consist of two main components; the collection system and the treatment system.

Collection System. The wastewater collection system will consist primarily of a conventional gravity system. However, there are a few low-elevation and difficult to reach areas that will be served with pumped systems. The sewer mains will be minimum 8-inch-diameter pipe and will be located in alleys and streets. New service laterals will be required to connect each house or business to the sewer main. Existing septic tanks will be decommissioned according to DEQ regulations by pumping out of their contents and being filled with sand.

Treatment and Disposal. The facilities plan developed two general approaches for wastewater treatment and disposal, a Local Treatment Alternative and a Regional Treatment Alternative. The Local Treatment Alternative would be for construction of a wastewater treatment facility and for Coburg to obtain a National Pollutant Discharge Elimination System (NPDES) permit to discharge the treated wastewater to the McKenzie River. The Regional Treatment Alternative would be for Coburg to connect with the Eugene/Springfield Regional Water Pollution Control Facility (Regional WPCF) managed by the Metropolitan Wastewater Management Commission (MWMC). This would require Coburg to construct a pumping station and pipeline that connects with the City of Eugene sewer system.

Systems Development Charges (SDC) would also be incurred for connecting to both Eugene's sewer system and to the Regional WPCF. MWMC staff developed three scenarios of connection charges for Coburg. The lowest cost scenario, based on MWMC's current SDC schedule adopted in 2004, would allow Coburg to connect at a cost that is similar to the Local Treatment Alternative.

The Local Treatment Alternative is the preferred approach for Coburg's long-term wastewater treatment needs. Local treatment provides the following key advantages for Coburg:

- *Local Control of Treatment and Residuals Disposal.* Coburg would have "cradle to grave" control of the effluent and biosolids produced in the city and would not be reliant on other municipal agencies for control of rates and charges.

- *Local Control of Utility Management.* Only the Coburg City Council would be responsible for establishing policies and setting rates for the utility.

- *Lower Cost.* Ultimately the costs for the Regional and Local Treatment Alternatives were very similar if it was assumed that the lowest cost SDC option was implemented. However, the higher cost SDC alternatives represented a significant cost increase for the proposed project. Final approval for Coburg to join the Regional WPCF lies with the joint elected officials of Eugene, Springfield, and Lane County. Likewise, the charges for connecting to the Regional WPCF and for use of the regional sewers will also depend on the decision of the joint elected officials.

At the time of report preparation, there has been no decision regarding whether Coburg will be allowed to become a customer of the Regional WPCF. Therefore, while the Local Treatment Alternative is being pursued, the Regional Treatment Alternative will be kept as a backup option. Regional treatment will become the preferred approach if Coburg can negotiate a cost-effective agreement for connection to the regional system and if the connection charges make regional treatment economical for Coburg.

Project Capital and Operating Costs

The project capital costs, as summarized in Table 1-1, include expenditures for the wastewater collection system, pumping stations and wastewater treatment using a sequencing batch reactor (SBR) type plant.

Table 1-1. Project Capital Cost

Item description	Cost, dollars[1, 2]
Collection system including service laterals	
West of I-5	7,042,000
East of I-5	1,104,000
Local treatment with SBR plant[3]	8,305,000
Total capital cost (rounded)	16,450,000

[1] Cost expressed in year 2004 dollars, ENR 20-cities average construction cost index of 7,000.
[2] Cost includes construction cost plus allowances for engineering design, construction management, legal, and administration. Planning costs expended to date are not included.
[3] Capital cost includes pumping station and pipeline to discharge into the McKenzie River.

The collection system cost is broken down according to the east and west sides of I-5. It is anticipated that the east side of I-5 would be constructed as a separate project, possibly timed with the construction of a new I-5 overpass. Therefore, an initial $15.3 million project would consist of the collection system which serves only the west side of I-5. By year 2028, construction of the collection system east of I-5 would bring the total cost expended to about $16.5 million. If Coburg were able to connect to the Regional WPCF, the overall cost through year 2028 (including the cost for sewers east of I-5) for the Regional Treatment Alternative would be approximately $15.6 million assuming the lowest cost connection fee option.

The estimated annual operating costs, summarized for both the first year of operation and year 2028, are summarized in Table 1-2. The annual costs are associated with the labor, power, and equipment maintenance required to operate the entire wastewater collection and treatment facilities. Due to the significant contribution of industrial wastewater, Coburg will likely be faced with a DEQ-mandated industrial pretreatment program. A portion of this cost may be recovered through industrial user fees.

Table 1-2. Annual Operating Costs

Item description	Cost, dollars per year[a]	
	Year 2008	Year 2028
Collection system operation	62,000	72,000
SBR plant operation	224,000	258,000
Industrial pretreatment program	20,000	20,000
Total annual cost	306,000	350,000

[1] Costs expressed in 2004 dollars

STUDY AREA CHARACTERISTICS AND BASIS OF PLANNING

Chapter 2 addresses the study area and presents the basis of planning. Key points are summarized below.

Service Area

After the 1999 facilities plan was completed, Coburg began updating the Comprehensive Plan, expanding the UGB to satisfy the land needs for 2025, and designating an Urban Reserve Area (URA) to meet the land needs for 2050. The previous UGB consisted of 560 acres; the UGB expansion added 252 acres including areas east of I-5, and a 384-acres URA was identified. A copy of the draft comprehensive plan map is included in Appendix A.

Population Projections

Wastewater flows for Coburg are primarily related to population and number of employees in the industrial park. Both aspects were recently addressed in the Coburg Urbanization Study (ECONorthwest, 2004) and Lane Council of Governments Region 2050 process. Population and employee projections used for facilities planning are summarized in Table 1-3.

Table 1-3. Population Projections for Facilities Planning

	Year	Residential population	Employee population
Start-up	2008	1,316[1]	3,445
Design	2028	3,255	5,230
Build-out	2050	6,701	5,799

[1] Current population is about 1,100 with increase limited due to lack of sewers. Housing demand is expected to result in rapid population increase when sewers are available.

Construction Cost Estimates

Construction costs can be expected to undergo long-term changes in keeping with corresponding changes in the national economy. One of the best available indicators of these changes is the Engineering News-Record (ENR) construction cost index. Figure 1-1 shows the trend of the ENR construction cost index since 1980. The pink portion of the line indicates expected future increases, based on past trends.

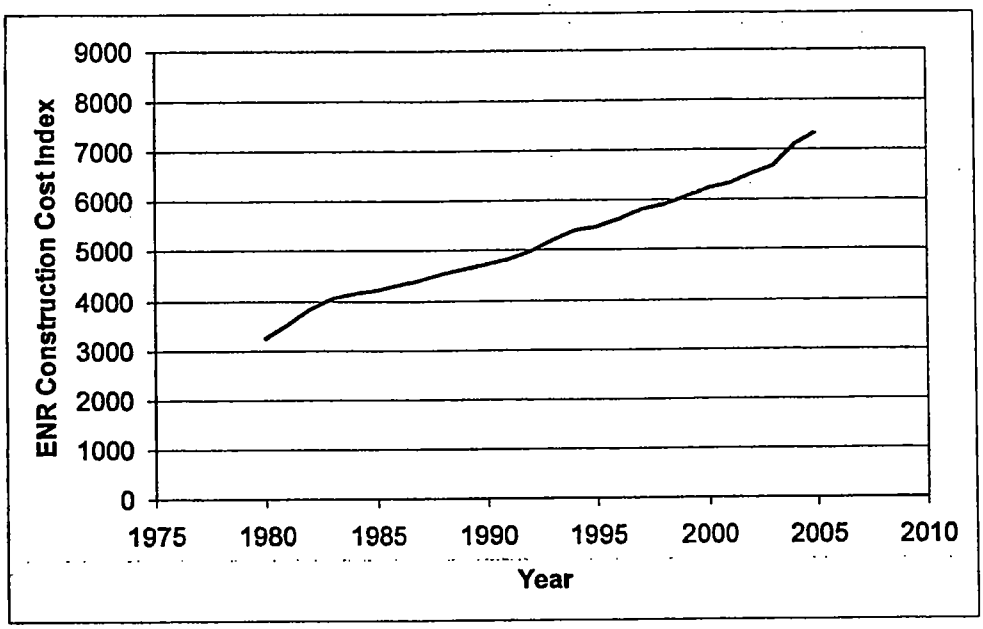


Figure 1-1. ENR Construction Cost Index Trend

The costs developed for this report are based on the 2004 ENR index of about 7,000. The costs presented may be related to any time in the future by applying the ratio of the anticipated cost index to 7,000. As this figure shows, construction costs have made a dramatic increase during 2004. The increasing price for steel and fuel has been a contributing factor. Assuming that the trend returns to the pre-2004 pattern, the 2008 cost index is anticipated to be 7,800. This projection corresponds to a 10 percent increase.

WASTEWATER CHARACTERISTICS

Chapter 3 presents updated wastewater flow projections based on land use and population projections. Wastewater flows are critical in sizing sewers, pumping stations and treatment facilities. Since sewers can be expected to last longer than 50 years, it is necessary to consider sewage flows well into the future. Pumping stations and treatment facilities typically have a design life of 20 years, so flow projections on this time scale are also important. Coburg's situation is unique because there are no existing sewers. Therefore, it is necessary to estimate the wastewater flow anticipated at the time sewers and treatment facilities initially go into operation as well as future wastewater flow.

Wastewater Flows

Wastewater flows are comprised of three main components; residential sanitary waste, commercial/industrial waste, and storm water infiltration/inflow (I/I). The residential component was developed on the basis of population and typical per capita wastewater contribution. The commercial/industrial component was estimated on the basis of winter water use records for each establishment and number of employees to provide a per employee flow. In Coburg, the commercial/industrial flow component represents about 25 percent of the total sanitary flow. The I/I component was based on a per acre contribution reflecting new sewer construction.

Wastewater facilities must also be sized to handle the highest, or peak, flow anticipated to occur. Peak flow estimates were also made to reflect seasonal variations, I/I contribution associated with storms, and the daily patterns of activity within the community. Wastewater flow projections for future years were developed on the basis of population and industrial park employee estimates. Table 1-4 presents a summary of the wastewater flow projections.

Table 1-4. Wastewater Flow Projections

Condition	Million gallons per day (mgd)		
	Start-up, 2008	Design, 2028	Build-out, 2050
Average dry weather[1]	0.21	0.46	0.84
Maximum month dry weather[2]	0.40	0.87	1.60
Maximum month wet weather[3]	0.51	1.15	2.14
Maximum day wet weather[4]	0.69	1.59	2.98
Peak wet weather[5]	1.02	2.32	4.36

[1] Average dry weather flow = average flow during the summer months.
[2] Max month dry weather flow = maximum flow that would occur over one month during the summer.
[3] Max month wet weather flow = maximum month sanitary flow plus an I/I allowance associated with the once-in-5 year wet season month.
[4] Max day wet weather flow = maximum 1-day sanitary flow plus an I/I allowance associated with once-in-5 year 24-hour storm condition.
[5] Peak wet weather flow = maximum 1-hour sanitary flow plus an I/I allowance associated with the once-in-5 year 24-hour storm condition.

For designing sewer systems, wastewater flow must also be spatially distributed over the sewer service area. Wastewater flows based on unit area were developed for each major land use type. These values were then used to size sewers serving specific areas. These values were developed using Coburg's water use records and compared with typical values reported from other communities. The land-use based wastewater flow projections are summarized in Table 1-5.

Table 1-5. Land Use-Based Projections of Average Sanitary Sewage Flow

Comprehensive plan designation	Build-out flow rate (gpad[1])
Campus Industrial	1,000
Central Business	1,000
Highway Commercial	1,500
Light Industrial	1,000
Mixed Use Master Plan	1,500
Neighborhood Residential	1,680
Traditional Residential	1,200

[1]gallons per acre per day

I/I allowances, expressed on a per acre bases, are summarized in Table 1-6. These values increase with the age of the sewer system to reflect deterioration in the pipes and also increase during wet weather to reflect storm severity. The peak I/I values selected compare well with values measured in the recently sewered River Road area of Eugene, which range from 640 gpad to 1,400 gpad.

Table 1-6. Infiltration and Inflow Rates

	gpad		
	Start-up, 2008	Design, 2028	Build-out, 2050
Average dry weather	30	40	50
Maximum month dry weather	150	220	250
Maximum month wet weather	450	600	750
Maximum day wet weather	600	800	1,000
Peak wet weather	750	1,000	1,250

Wastewater Composition

Wastewater composition refers to biochemical oxygen demand (BOD), total suspended solids (TSS), nitrogen, and phosphorus. Since Coburg is currently served by septic tanks, there is no existing data from which to base composition projections. Therefore, typical residential values were applied and values were assigned for the various commercial and industrial activities. The average wastewater composition values are summarized in Table 1-7.

Table 1-7. Average Wastewater Composition

Parameter	Sanitary wastewater concentration (mg/L)	Average load (ppd[1])		
		Start-up, 2008	Design, 2028	Build-out, 2050
BOD	210	371	803	1,470
TSS	210	371	803	1,470
Total Kjeldahl nitrogen	35	38	95	196
Total phosphorous	8.6	9	23	48

[1] pounds per day

WASTEWATER COLLECTION SYSTEM

Chapter 4 presents the development and evaluation of the collection system alternatives. The 1999 Wastewater Facilities Plan developed and evaluated five alternative wastewater collection systems. The 1999 study recommended that a conventional gravity system serving the majority of the community with isolated areas served by a septic tank effluent pumped (STEP) system was the most economical and appropriate system for Coburg. The gravity collection system was further developed during the predesign phase of the project (Brown and Caldwell, 2004). The collection system predesign report served as the basis for the August 2004 VE study (Value Management Consulting, August 2004). The VE Study identified significant potential cost savings associated with a STEP collection system. Therefore, this Facilities Plan Update re-examined the STEP system alternative.

Gravity Collection System Alternative

The gravity collection system alternative is described in the June 2004 Preliminary Design Report as *Technical Memorandum 2–Collection System* (Brown and Caldwell, 2004). The complete Technical Memorandum, map of the gravity system, and detailed cost estimate are included as Appendix E.

Coburg's UGB had not been extended to the east side of I-5 at the time the sewer system evaluation was being prepared. Therefore, the detailed costs estimates reflect only sewer service west of I-5. However, it is anticipated by year 2028 sewer service would be extended to the east side of I-5. Establishing costs for extending sewer service to the east of I-5 is difficult because development plans for this area have not been established. The existing recreational vehicle park, located on the east side of I-5, is currently served by a lagoon system. For financial planning purposes, an order-of-magnitude cost estimate was prepared for extending the sewer service.

The gravity collection system would consist of predominately 8-inch-diameter sewers at 8- to 16-foot depth, with the largest sewer being 24 inches in diameter and 16 feet deep. Six pumping stations would be needed with force mains ranging from 6 to 8 inches in diameter. The collection system would include construction of new sewer laterals to serve each user and decommissioning of all existing septic tanks. Sufficient capacity would be provided to allow infill within the existing developed areas and for extension to currently undeveloped areas. There is a portion of southwest Coburg that is low-lying, congested and difficult to serve with conventional gravity sewers. Some services in this area will need STEP systems.

STEP Sewer Alternative

Pressure sewer systems conveying septic tank effluent to a central treatment facility have been used in small communities in Oregon and throughout the U.S. STEP systems are recognized by DEQ as viable systems for small and rural communities. Pressure sewers are best suited for communities where housing density is low, and where flat terrain combined with high groundwater make deep excavations difficult. Under these conditions, conventional gravity sewers are expensive because they require multiple lift stations. Because Coburg is relatively flat and low density with high groundwater, it is appropriate to evaluate a STEP collection system alternative.

Evaluation of Collection System Alternatives

Evaluation of the gravity and STEP sewer alternatives focused on long-term economics and non-cost factors. Detailed tables outlining both construction and operating costs are included in Chapter 4. An economic comparison and discussion of non-cost factors is presented in Chapter 6.

The economic comparison is summarized in Table 1-8. This comparison shows that even though the gravity sewer alternative has a higher capital cost, its lower annual operating cost makes it overall more economical. The STEP system's higher operating cost is primarily due to the cost of pumping and disposal of septage, and the operating cost associated with annual inspection, maintenance and periodic replacement of the septic tank effluent pumps.

Table 1-8. Present Worth Analysis of Collection System Alternatives

Item description	Gravity sewer system	STEP sewer system
Capital cost, dollars[1]	7,042,300	5,972,000
Annual cost, dollars per year[2]	62,000	178,200
Present worth cost[3], dollars		
Capital cost	7,042,300	5,972,000
Salvage value[4]	(1,482,500)	(1,130,700)
Annual Cost[5]	772,500	2,063,000
Total present worth cost, dollars[6]	6,332,300	6,904,300

[1] Cost from Tables 4-1 and 4-3.
[2] Cost from Tables 4-2 and 4-4.
[3] Present worth computed with 20-year period and 5 percent discount rate. Present worth factor is 0.377.
[4] Salvage value, which represents the economic value remaining after the analysis period, is based on 80-year life for sewers and 20 year life for pumping stations.
[5] Present worth for gravity sewer alternative computed as uniform series with present worth factor of 12.46. STEP sewer present worth calculations presented in the Appendix G.
[6] Total present worth is computed as the capital cost minus present worth of salvage value plus present worth of annual costs.

In addition to the economic savings, the gravity sewer system was considered to be more acceptable to both residential and industrial sewer users. Concern was also expressed that installing a new septic tank in each resident's yard would be more disruptive than installing new service laterals connecting to a gravity sewer in the street. The recommendation for a gravity sewer system was reviewed and confirmed by the Coburg City Council.

TREATMENT SYSTEM ALTERNATIVES

The 1999 Wastewater Facilities Plan recommended a Natural Treatment System (NTS) consisting of two advanced facultative ponds followed by a two-stage constructed wetland. The sizing and design of the NTS was updated in the June 2004 Preliminary Design Report. The August 2004 VE session included review of the NTS. The VE Study, August 2004, recommended that mechanical treatment plant options be given further consideration.

Following the VE session, results from the geotechnical study were received. The onsite geotechnical investigation concluded that the native soils are not suitable for embankment construction. The soils need to be amended with cement or lime to improve their structural characteristics for dike construction. Alternatively, material could be imported from offsite for dike construction. Either approach would significantly increase the cost of earthwork for both the lagoons and wetlands. Based on the recommendations from the VE study and geotechnical report, a new look at mechanical treatment options was warranted.

Chapter 5 presents the following four wastewater treatment alternatives. These were grouped according to Local Treatment Alternatives, for which Coburg would construct its own treatment facility, and Regional Treatment Alternatives, for which Coburg would connect with MWMC.

1. Local Treatment with an NTS
2. Local Treatment with a Membrane Treatment system
3. Local Treatment with an SBR
4. Regional Treatment with MWMC

The membrane treatment alternatives were predicated based on using a STEP collection system. If a gravity collection system was used, the membrane treatment alternative became uneconomical and thus was eliminated from further consideration.

NTS

The 2004 Preliminary Design Report refined the plan recommended in the 1999 Facilities Plan based on additional experience and updated flow projections. The advanced facultative ponds would provide primary and initial secondary treatment. However, the two-stage constructed wetland system has been modified. The subsurface flow wetland that was originally proposed has been replaced with a vertical flow wetland, followed by the free water surface wetland. The revised wetland treatment system would occupy about 13 acres total. Effluent from the wetlands would be disinfected with ultraviolet (UV) light and pumped to the McKenzie River for discharge.

Capital and operating costs for the NTS, developed in Chapter 5, are summarized in Table 1-9. Because the NTS uses low power and limited operator attention, the annual operating cost would not increase significantly as future flow increases.

Table 1-9. NTS Costs

Item	Year 2008	Year 2028
Capital cost, dollars[1]	9,948,000	No additional
Annual operating cost, dollars per year[1]	195,000	205,000

[1] Cost expressed in 2004 dollars.

SBR System

The SBR process is a variation on the conventional activated sludge process. It is most aptly described as a fill-and-draw batch reactor activated sludge wastewater treatment process. Fill-and-draw batch treatment processes are not a new development. However, improvements in automation since the 1980s have made this configuration more practical. The SBR configuration has become popular with small communities because of the efficient use of the concrete basins and associated lower cost. DEQ considers SBR as an acceptable treatment process for both municipal and industrial wastewaters.

An SBR treatment plant consists of two concrete basins operating in parallel. Each basin goes through the following sequence:

1. Wastewater fills the basin to reach the high operating level.
2. Basin is aerated and mixed until the desired level of treatment is reached.
3. Basin contents are allowed to settle.
4. Treated clear supernatant is removed, lowering the basin level and saving the biomass for the next treatment cycle.

The cycle alternates between the two basins so that wastewater is continuously treated. However, since the supernatant flow is withdrawn in surges, an equalization basin would be provided to allow a uniform flow through disinfection and effluent pumping. After disinfection with UV light, the effluent would be discharge to the McKenzie River.

An operations building would be provided to house mechanical equipment, electrical and instrumentation equipment, a standby generator, maintenance and storage, a water analysis laboratory, and office. Mechanical equipment would include aeration blowers, circulating pumps and automatically operated valves.

Capital and operating costs for the SBR system are summarized in Table 1-10.

Table 1-10. SBR Treatment Systems Costs

Item	Year 2008	Year 2028
Capital cost, dollars[1]	8,257,000	No additional
Annual operating cost, dollars per year[1]	224,000	257,600

[1] Cost expressed in 2004 dollars.

Regional Treatment with MWMC

The Facilities Plan Update focused on the feasibility and economics of regional treatment. However, it should be recognized that there are numerous complex implementation issues associated with this option. The following are a few examples of the public policy and planning aspects that eventually will need to be addressed.

- Revision of the Metro Plan
- Approval by the Eugene and Springfield city councils
- Approval by the Lane County commission
- Boundary Commission approval
- Service agreement between Coburg and MWMC
- Implications regarding the regional plant's compliance with NPDES permit and anticipated total maximum daily loads
- Adoption of a compatible sewer use ordinance with industrial pretreatment requirements
- Responsibility regarding NPDES permit compliance

The approach used in this report is to first evaluate and compare the economics of the regional treatment to the Coburg Local Treatment Alternative. The public policy and implementation issues would be addressed only if Coburg's City Council wishes to pursue the regional alternative. The primary objective of the following analysis is to outline the economic issues in a balanced manner so that Coburg pays its appropriate share of the cost and is not subsidized by MWMC.

Connection to the regional treatment system would include the following elements:

- Wastewater pumping station in Coburg
- Pressure main to Eugene
- Connection to the Eugene sewer system

In addition to the capital and operating cost associated with a pumping station and pipeline to Eugene, Coburg would incur both an SDC, or connection charge, for its share of the capital improvements and a service charge for the operation and maintenance (O&M) of the regional facilities. All new connections to the regional wastewater system incur the following charges.

- *MWMC SDC*–This charge is for Coburg's share of the Regional WPCF and large regional sewers.

- *City of Eugene SDC*–This charge is for Eugene's sewer system and pumping stations that would be used to transport Coburg's wastewater to the Regional WPCF. However, a logical argument can be made that Coburg should not be charged a Eugene SDC. This argument is based on the premise that a sewer carrying flow from both Coburg and Eugene would become a "regional sewer" and fall under MWMC's jurisdiction. Therefore, the MWMC SDC and user charge would cover the cost for Coburg using the regional sewer.

- *MWMC User Charge*–This monthly charge is for the O&M of the Regional WPCF and regional sewers.

- *City of Eugene User Charge*–This monthly charge is for the O&M of Eugene's sewer system and pumping stations. The same argument regarding the applicability of the Eugene SDC may also be applied to this user charge. If Coburg connects to a regional sewer, then the operating cost would be covered by MWMC's user charge.

Developing the appropriate SDC for Coburg presents a complex problem because the Regional WPCF was originally funded with significant federal grants, and Coburg is not located within the Metro UGB served by the regional plant. To address this issue and define the range of potential costs, MWMC staff developed the following three SCD scenarios.

- *Scenario A–Baseline.* This approach uses MWMC's current SDC formula which became effective July 2004.

- *Scenario B–New Capacity.* In this approach, the SDC represents the cost for new capacity. No credit is given for the plant's initial capacity constructed with federal grants.

- *Scenario C–New Capacity Plus Improved Performance.* In this case, the SDC represents the cost for new capacity plus the cost for improving the performance of the existing plant to meet new regulatory requirements.

Table 1-11 summarizes the capital and annual operating costs for connecting with MWMC. Although it may be subject to negotiation, the Eugene SDC was included to provide a conservative estimate of regional treatment cost.

Table 1-11. Cost Summary for Regional Treatment

Item	Year 2008	Year 2028
Capital cost, dollars[1]		
Eugene SDC[2]	474,000[2]	1,038,000[2]
MWMC SDC		
Scenario A	1,696,500	3,192,240
Scenario B	2,638,760	5,010,760
Scenario C	4,627,040	9,158,370
Pumping station and pipeline	3,420,000	3,420,000
Total capital cost and connection charges, dollars[1,2]		
Scenario A	5,590,500	7,650,240
Scenario B	6,532,760	9,468,760
Scenario C	8,521,040	13,616,670
Eugene user charge, dollars per year	76,800	168,400
MWMC user charge, dollars per year	178,900	319,100
Pumping station operating cost, dollars per year	60,900	70,900
Total annual cost, dollars per year[1]	316,300	558,400

[1] Costs are in year 2004 dollars.
[2] Eugene SDC included to provide a conservative estimate of regional treatment costs.

Evaluation of Treatment Alternatives

The alternatives were evaluated by considering both economics and non-cost factors. The economic data of all alternatives is summarized in Table 1-12. The Local Treatment Alternatives will be discussed first, followed by a comparison with the Regional Treatment Alternative.

Table 1-12. Economic Comparison of Alternatives

Item	Local treatment alternatives		Regional treatment with MWMC		
	NTS	SBR	Scenario A	Scenario B	Scenario C
Capital cost, dollars[1]					
Year 2008	9,948,000	8,257,000	5,590,500	6,532,760	8,521,040
Year 2028	--[2]	--[2]	7,650,240[3]	9,468,760[3]	13,616,670[3]
Annual operating cost, dollars[1] per year					
Year 2008	195,000	224,000	316,300	316,300	316,300
Year 2028	205,000	257,600	558,400	558,400	558,400
Present worth[4] cost, dollars	11,374,000	10,391,000	10,780,000	11,788,000	14,013,000

[1] Costs are expressed in 2004 dollars.
[2] No additional capital cost required for year 2028.
[3] Total cost incurred by year 2028, reflecting SDC charges for additional connections anticipated between 2008 and 2028.
[4] Present worth computed over 20 years at a 5 percent discount rate.

Comparison of Local Treatment Alternatives. The economic comparison presented in Table 1-12 clearly shows that the SBR Treatment alternative has both a lower initial capital cost and lower 20-year present worth cost. The lower initial capital cost is not offset by higher annual operating cost.

Key non-cost considerations are listed below:

- SBR is better suited for future expansion. The small footprint of the SBR system will allow for future expansion without incurring wetland mitigation costs. The site may be kept in agricultural use and used for biosolids application or effluent irrigation. The degraded wetlands may be restored and preserved as a community asset.

- The NTS would be aesthetically more pleasing. However, nuisances such as mosquitoes and nutria could present a problem. Landscaping and screening vegetation would be included with the SBR alternative.

- SBR requires a higher level of automation and technology. The lower level of operator involvement with the NTS is reflected in the lower annual operating costs.

Although the NTS does present an innovative and aesthetically pleasing approach to wastewater treatment, these advantages do not offset the higher overall cost. Therefore, the SBR was selected as the preferred Local Treatment Alternative. This selection was confirmed by the Coburg City Council.

Comparison of Local and Regional Treatment. Table 1-12 shows that the long-term present worth cost of local treatment with SBR is only slightly lower than regional treatment with charges based on Scenario A. The cost difference of less than 4 percent is within cost estimating accuracy. The most significant economic aspects are listed below.

- Regional Treatment Scenario A has lower initial capital cost. This is because SDC charges would be incurred only for the services initially connected in 2008. Future users would be charged SDCs at the time they connect to the system. In the Local Treatment Alternative, the community would have to finance the entire treatment facility including capacity for future connections. Future users would be charged local SDCs as they connect.

- Regional treatment would provide greater capacity to support industrial growth. Although local treatment would provide reserve capacity for future growth, an industry with high wastewater requirements could use the available capacity. Regional treatment, with access to the Regional WPCF, would provide ample treatment capacity for almost any future industrial needs. The Local Treatment Alternative could be expanded at any time due to the modular nature of SBR technology.

- Regional treatment would require fewer Coburg staff. Without a treatment facility, Coburg would have fewer operating staff and less administrative effort. Furthermore, there would be no discharge permit to obtain and maintain compliance.

- Local treatment would require obtaining a new discharge permit to the McKenzie River. DEQ would go through a public process before issuing a new discharge permit to the McKenzie River. This process could become lengthy and result in public controversy regarding protection of the McKenzie River water quality.

The advantages for regional treatment discussed above could offset the cost savings for local treatment identified in Table 1-12, assuming that the lowest cost option for SDCs and connection charges was implemented. However, we recognize that final approval for Coburg joining the Eugene/Springfield Regional WPCF lies with the joint elected officials of Eugene, Springfield, and Lane County. Likewise, the connection charge will also depend on the joint elected officials. Therefore, for regional treatment to be viable, it must be both politically acceptable and come at a cost similar to Scenario A, as outlined above. To keep Coburg's wastewater project moving forward, both regional and local treatment should be pursued in parallel. The Local Treatment Alternative is the preferred course at this time. If negotiations with the adjoining communities and councils can result in regional treatment being approved at a cost similar to Scenario A, the Regional Treatment Alternative could be pursued.

FINAL PARTITION PLAT FOR

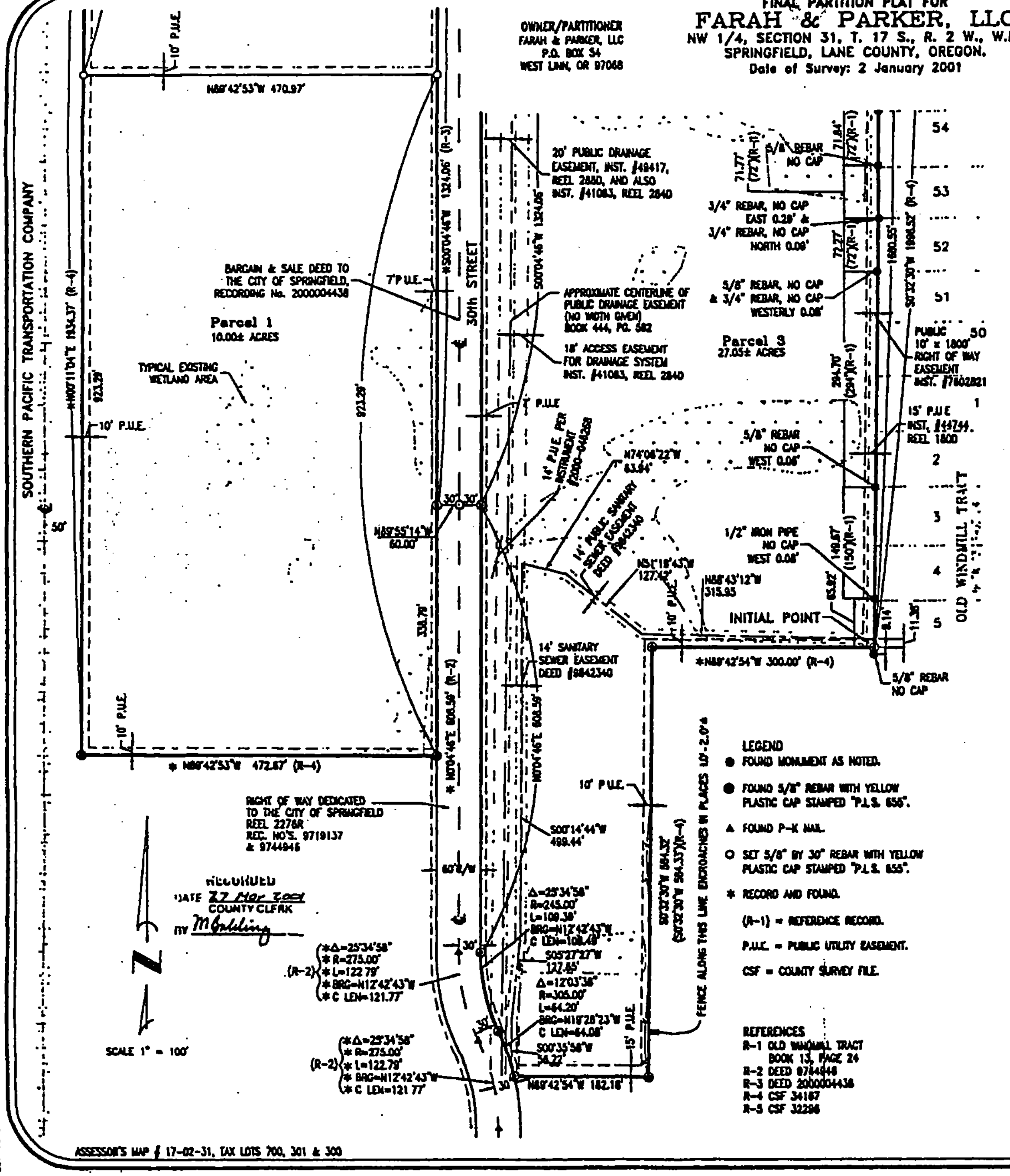
FARAH & PARKER, LLC

NW 1/4, SECTION 31, T. 17 S., R. 2 W., W.M.
SPRINGFIELD, LANE COUNTY, OREGON.
Date of Survey: 2 January 2001

OWNER/PARTITIONER
FARAH & PARKER, LLC
P.O. BOX 54
WEST LINN, OR 97068

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 36977
FILING DATE 3/27/01 C

LAND PARTITION PLAT No. 2001-P1460



SURVEYORS CERTIFICATE

I, LAWRENCE B. OLSON, A REGISTERED PROFESSIONAL LAND SURVEYOR, HAVE SURVEYED AND MARKED WITH THE PROPER MONUMENTS THE FOLLOWING DESCRIBED PARTITION PLAT:

BEGINNING AT THE NORTHEAST CORNER OF THAT TRACT OF LAND CONVEYED TO EASTERN LANE COUNTY FIRE PATROL ASSOCIATION BY INSTRUMENT RECORDED JANUARY 14, 1946, IN BOOK 308, PAGE 163, LANE COUNTY OREGON DEED RECORDS; THENCE NORTH 89° 42' 54" WEST ALONG THE NORTH LINE OF SAID TRACT 300.00 FEET TO THE WEST LINE OF SAID TRACT; THENCE SOUTH 00° 32' 30" WEST ALONG SAID WEST LINE 584.32 FEET TO THE NORTH LINE OF THAT TRACT OF LAND DESCRIBED ON INSTRUMENT RECORDED JANUARY 26, 1998, REEL No. 2378, RECEPTION No 9804630, LANE COUNTY OFFICIAL RECORDS; THENCE NORTH 89° 42' 54" WEST ALONG SAID NORTH LINE 182.18 FEET TO THE EAST RIGHT OF WAY LINE OF 30th STREET DESCRIBED ON THAT INSTRUMENT RECORDED JULY 3, 1997, REEL No. 2312, RECEPTION No. 9744946, LANE COUNTY OFFICIAL RECORDS; THENCE ALONG SAID EAST LINE ALONG THE ARC OF A 305.00 FOOT RADIUS CURVE TO THE LEFT, WHOSE CHORD BEARS NORTH 19° 28' 23" WEST 64.08 FEET, AN ARC DISTANCE OF 64.20 FEET TO A POINT OF REVERSE CURVATURE; THENCE CONTINUING ALONG SAID EAST LINE ALONG THE ARC OF A 245.00 FOOT RADIUS CURVE TO THE RIGHT, WHOSE CHORD BEARS NORTH 12° 42' 43" WEST 108.49 FEET, AN ARC DISTANCE OF 109.39 FEET; THENCE CONTINUING ALONG SAID LINE NORTH 00° 04' 46" EAST 608.59 FEET TO THE SOUTHEAST CORNER OF THAT PARCEL OF LAND DESCRIBED ON THAT BARGAIN AND SALE DEED TO THE CITY OF SPRINGFIELD RECORDING No. 2000004438, DATED JANUARY 25, 2000, BEING ON SAID EAST RIGHT OF WAY LINE OF SAID 30th STREET; THENCE CONTINUING ALONG SAID EAST LINE NORTH 00° 04' 46" EAST 1324.06 FEET TO A POINT OF CURVATURE; THENCE CONTINUING ALONG SAID LINE ALONG THE ARC OF A 170.00 FOOT RADIUS CURVE TO THE RIGHT, WHOSE CHORD BEARS NORTH 45° 31' 13" EAST 242.28 FEET, AN ARC DISTANCE OF 269.85 FEET; THENCE CONTINUING ALONG SAID LINE SOUTH 89° 02' 19" EAST 373.34 FEET TO A 5/8 INCH REBAR MARKING THE NORTHWEST CORNER OF LOT 67, "OLD WINDMILL TRACT" AS PLATTED AND RECORDED IN BOOK 13, PAGE 24, LANE COUNTY OREGON PLAT RECORDS; THENCE NORTH 00° 32' 30" EAST 60.00 FEET TO THE NORTHEAST CORNER OF THAT TRACT OF LAND DESCRIBED ON SAID DEED No. 2000004438; THENCE ALONG THE NORTH LINE OF SAID TRACT, NORTH 89° 02' 19" WEST 372.90 FEET TO A POINT OF CURVATURE; THENCE ALONG THE ARC OF A 230.00 FOOT RADIUS CURVE TO THE LEFT, WHOSE CHORD BEARS SOUTH 45° 31' 13" WEST 327.76 FEET, AN ARC DISTANCE OF 364.82 FEET ON THE WEST RIGHT OF WAY LINE OF SAID 30th STREET; THENCE CONTINUING ALONG SAID WEST LINE SOUTH 00° 04' 46" WEST 1324.06 FEET TO THE NORTHWEST CORNER OF THAT TRACT OF LAND HERETOFORE DESCRIBED ON INSTRUMENT No. 9744946; THENCE CONTINUING ALONG SAID WEST LINE SOUTH 00° 04' 46" WEST 338.79 FEET TO THE NORTH LINE OF THAT TRACT OF LAND DESCRIBED ON INSTRUMENT RECORDED JANUARY 26, 1998, REEL No. 2378, RECEPTION No. 9804630, LANE COUNTY OFFICIAL RECORDS; THENCE NORTH 89° 42' 53" WEST ALONG SAID NORTH LINE 472.87 FEET TO THE EAST LINE OF THE MOHAWK BRANCH OF THE SOUTHERN PACIFIC TRANSPORTATION COMPANY; THENCE NORTH 00° 11' 04" EAST ALONG SAID EAST LINE 1934.37 FEET TO THE SOUTHWEST CORNER OF THAT TRACT OF LAND DESCRIBED ON INSTRUMENT RECORDED AUGUST 6, 1945, IN BOOK 283, PAGE 606, LANE COUNTY OREGON DEED RECORDS; THENCE NORTH 80° 37' 40" EAST ALONG THE SOUTH LINE OF SAID TRACT 204.59 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE NORTH 77° 08' 10" EAST 102.70 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE SOUTH 73° 06' 50" EAST 105.85 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE SOUTH 64° 11' 50" EAST 108.90 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE SOUTH 73° 00' 50" EAST 68.80 FEET TO THE EAST LINE OF SAID TRACT; THENCE NORTH 00° 00' 50" WEST ALONG SAID WEST LINE 300.00 FEET TO THE NORTH LINE OF DONATION LAND CLAIM No. 58, TOWNSHIP 17 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN, LANE COUNTY, OREGON; THENCE SOUTH 89° 59' 50" EAST ALONG SAID DONATION LAND CLAIM LINE 141.30 FEET TO THE SOUTH RIGHT OF WAY LINE OF THE SOUTHERN PACIFIC RAILROAD; THENCE ALONG SAID SOUTH LINE ALONG THE ARC OF A 620.00 FOOT RADIUS CURVE TO THE LEFT, WHOSE CHORD BEARS SOUTH 78° 14' 40" EAST 133.04 FEET, AN ARC DISTANCE OF 133.29 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE SOUTH 84° 24' 21" EAST 240.85 FEET TO A POINT THAT IS NORTH 00° 32' 30" EAST FROM THE NORTHWEST CORNER OF THE AFOREMENTIONED "OLD WINDMILL TRACT" 317.07 FEET; THENCE ALONG THE WEST LINE AND THE WEST LINE EXTENDED OF SAID "OLD WINDMILL TRACT", SOUTH 00° 32' 30" WEST 1998.52 FEET TO THE POINT OF BEGINNING, IN SPRINGFIELD, LANE COUNTY, OREGON.

CONTAINING 48.527 ACRES MORE OR LESS.

I, LAWRENCE B. OLSON, DO HEREBY CERTIFY THAT THIS IS AN EXACT COPY OF THE FINAL PARTITION PLAT AS SHOWN HEREON.

LAWRENCE B. OLSON, P.L.S. 655

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 19, 1994
LAWRENCE B. OLSON
655
RENEWAL DATE: 12-31-2002

EASEMENTS SHOWN ON TITLE REPORT THAT ARE NOT SITE SPECIFIC OR NO LONGER PERTAIN TO THE PROPERTY.

1) BOOK 202, PAGE 438, RECORDED APRIL 4, 1940. (N.S.S.)
2) BOOK 224, PAGE 395, RECORDED NOV 27, 1941. (N.S.S.)
3) BOOK 297, PAGE 666, RECORDED SEPT 25, 1945. (N.S.S.)
4) BOOK 307, PAGE 93 RECORDED JAN. 5, 1946.
5) INSTRUMENT No. 44083, RECORDED MARCH 24, 1966

(N.S.S. = NOT SITE SPECIFIC)

SHEET 1 OF 2

OLSON & MORRIS 1410 OAK ST. EUGENE, OR 97401 (541) 302-9790

FINAL PARTITION PLAT FOR
FARAH & PARKER, LLC
NW 1/4, SECTION 31, T. 17 S., R. 2 W., W.M.
SPRINGFIELD, LANE COUNTY, OREGON.
Date of Survey: 2 January 2001

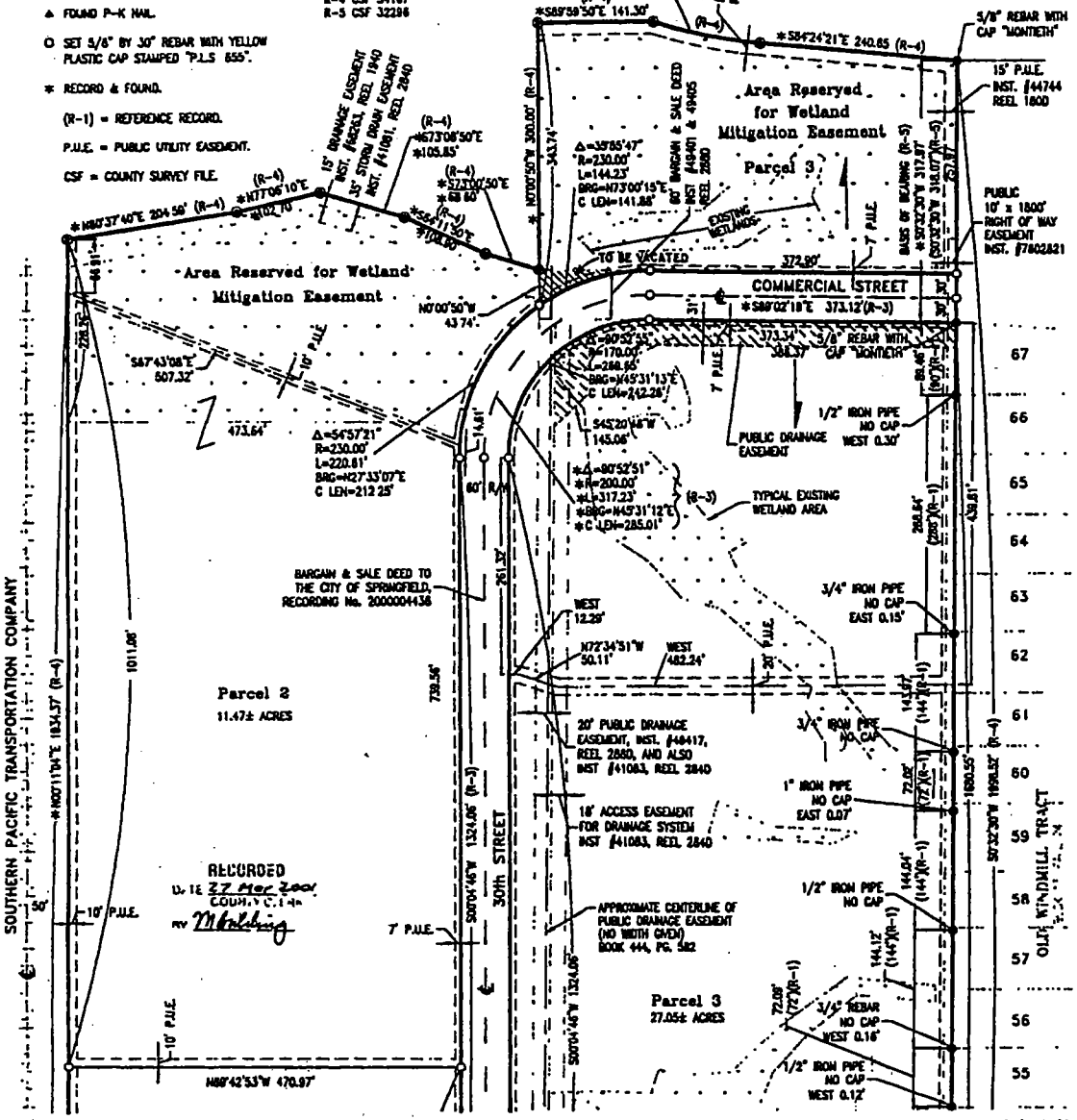
Division of Chief Deputy Clerk
Lane County Deeds and Records
2001-016719
$38.00
03/27/2001 08:59:46 AM
RPR-PART Cnt=1 Stn=6 CASHIER 03
$15.00 $10.00 $13.00

LANE COUNTY SURVEYORS OFFICE
C.S. FILE NO. 36977
FILING DATE 3/27/01 C

LAND PARTITION PLAT No. 2001-P1460

LEGEND
- ● FOUND MONUMENT AS NOTED
- ● FOUND 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED "P.L.S. 655".
- ▲ FOUND P-K NAIL.
- O SET 5/8" BY 30" REBAR WITH YELLOW PLASTIC CAP STAMPED "P.L.S. 655".
- * RECORD & FOUND.
- (R-1) = REFERENCE RECORD.
- P.U.E. = PUBLIC UTILITY EASEMENT.
- CSF = COUNTY SURVEY FILE.

REFERENCES
R-1 OLD WINDMILL TRACT BOOK 13, PAGE 24
R-2 DEED 9744946
R-3 DEED 2000004438
R-4 CSF 34167
R-5 CSF 32296



RESTRICTION FOR EACH PARCEL THAT THE APPROVAL OF THIS PARTITION APPLICATION (LD.NO.99-U-278) IN NO WAY APPROVES FUTURE DEVELOPMENT ON THESE PARCELS. ACCESS TO EACH OF THESE SITES WILL BE REVIEWED BY THE CITY WHEN DEVELOPMENT APPLICATIONS ARE SUBMITTED AND APPROVAL MAY REQUIRE THE IMPROVEMENT OF COMMERCIAL STREET THROUGH TO THE EXISTING COMMERCIAL STREET IMPROVEMENTS EAST OF THE SITE.

SCALE 1" = 100'

ASSESSOR'S MAP | 17-02-31, TAX LOTS 700, 301 & 300

DECLARATION
KNOW ALL MEN BY THESE PRESENTS THAT FARAH & PARKER, LLC, A LIMITED LIABILITY COMPANY, IS THE OWNER OF THE LAND DESCRIBED HEREON, AND IT WAS CAUSED THIS PARTITION TO BE PREPARED IN ACCORDANCE WITH THE OREGON REVISED STATUTES, CHAPTER 92 AND IT DOES HEREBY PARTITION AND PLAT THE SAME AND DEDICATES TO THE FREE USE OF THE PUBLIC 7.00 FOOT, 10.00 FOOT, 14.00 FOOT, 15 FOOT AND 20.00 FOOT PUBLIC UTILITY EASEMENTS AND THE VARIABLE WIDTH DRAINAGE EASEMENT SOUTH OF COMMERCIAL STREET AS SHOWN HEREON, AND GRANTS TO THE USE OF ALL PARCELS THE AREA RESERVED FOR THE WETLAND MITIGATION EASEMENT AND RETAINS THE EXISTING EASEMENTS AS SHOWN HEREON.

DARREL A. FARAH, MEMBER
FARAH & PARKER, LLC

ACKNOWLEDGMENT
STATE OF OREGON)ss
COUNTY OF LANE)

PERSONALLY APPEARED THE ABOVE NAMED DARREL A. FARAH, AND SAYS THAT HE IS A MEMBER OF FARAH & PARKER, LLC, A LIMITED LIABILITY COMPANY, AND THAT THE FORGOING INSTRUMENT WAS SIGNED ON BEHALF OF SAID COMPANY AND HE ACKNOWLEDGES THE FOREGOING INSTRUMENT TO BE HIS VOLUNTARY ACT AND DEED.
IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL.
SUBSCRIBED TO BEFORE ME THIS 9TH DAY March OF 2001.

NOTARY PUBLIC OF OREGON
MY COMMISSION EXPIRES 11/30/01

NARRATIVE
THE PURPOSE OF THIS SURVEY IS TO PARTITION THE LARGER PARCEL OF LAND AS SHOWN ON COUNTY SURVEY FILE No. 34167 INTO 3 PARCELS. I HELD THE BOUNDARY AS SHOWN ON SAID SURVEY AND ADDED THE STREET RIGHTS OF WAY AS DOCUMENTED ON INSTRUMENTS 9744946 AND 2000004438. THE PROPERTY WAS THEN PARTITIONED AS INSTRUCTED BY THE OWNER.

NOTES
1. PARCELS 1 & 2 ARE WITHIN THE LIGHT INDUSTRIAL DISTRICT AND ARE NOT SUBJECT TO SOLAR ACCESS STANDARDS. PARCEL 3 IS ZONED MEDIUM DENSITY RESIDENTIAL AND IS SUBJECT TO SDC 34.010(3). THE NORTH-SOUTH DIMENSION FOR PARCEL 3 IS APPROXIMATELY 2,200 FEET, THEREFORE IT COMPLIES WITH THIS CODE REQUIREMENT.
2. NO BUILDING, STRUCTURE, TREE, SHRUBBERY OR OTHER OBSTRUCTION SHALL BE PLACED OR LOCATED ON OR IN A PUBLIC UTILITY EASEMENT

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 10, 1984 LAWRENCE B. OLSON 655
RENEWAL DATE: 12-31-2002

APPROVALS & ACCEPTANCES
CITY PLANNING DIRECTOR — DATE 3-26-01
ACTING CITY SURVEYOR — DATE 3-26-01
for COUNTY ASSESSOR — DATE 3/26/01

CONCURRENCE: TRUSTEE FOR SPRINGWOOD, INC.
OREGON TITLE INSURANCE COMPANY.
INSTRUMENT No. 2001-016220 DATED 26 Mar 2001

I, LAWRENCE B. OLSON, DO HEREBY CERTIFY THAT THIS IS AN EXACT COPY OF THE FINAL PARTITION PLAT AS SHOWN HEREON.

LAWRENCE B. OLSON, P.L.S. 655

EASEMENTS SHOWN ON TITLE REPORT THAT ARE NOT SITE SPECIFIC OR NO LONGER PERTAIN TO THE PROPERTY.
1) BOOK 202, PAGE 436, RECORDED APRIL 4, 1940 (N.S.S.)
2) BOOK 224, PAGE 385, RECORDED NOV. 27, 1941. (N.S.S.)
3) BOOK 287, PAGE 868, RECORDED SEPT. 25, 1945. (N.S.S.)
4) BOOK 307, PAGE 83 RECORDED JAN. 5, 1946.
5) INSTRUMENT No. 44083, RECORDED MARCH 24, 1966.
(N.S.S. = NOT SITE SPECIFIC)

SHEET 2 OF 2

OLSON & MORRIS 1410 OAK ST. EUGENE, OR 97401 (541) 302-9790

Metropolitan Wastewater Management Commission

partners in wastewater management

MEMORANDUM

DATE: October 28, 2004

TO: Executive Officers of Springfield, Eugene, and Lane County (SEL)

FROM: Susie Smith, Environmental Services/MWMC Manager
Gary Colwell, Environmental Services Supervisor

SUBJECT: **City of Coburg Connection Cost Evaluation**

ISSUE AND REQUEST

SEL has directed staff to determine a potential range of "buy-in" costs that might be assessed to Coburg in the event the elected officials allow a connection to the Eugene-Springfield regional wastewater system. Eugene-Springfield staff have worked together with Jack Detweiler of Brown and Caldwell (Coburg's wastewater facilities planning engineer) to conduct a very rough preliminary analysis. The analysis is intended to:

1. Provide Eugene, Springfield and Lane County elected officials a starting point for determining appropriate costs involved in connecting Coburg to the regional system; and
2. Assist Coburg in determining whether connection to the regional system is cost effective in comparison with building its own system.

This memo summarizes the analysis. At the SEL meeting on October 29th, staff will provide additional background and detail, as needed. Staff requests that SEL provide feedback on the analysis and direction on the next steps in meeting the elected officials' needs.

BACKGROUND, APPROACH, AND SCOPE

At the June, 2004 Joint Elected Officials (JEO's) meeting, the elected officials requested a scoping report outlining the issues and potential costs associated with Coburg's request. Since that time, many discussions have ensued regarding how to appropriately proceed in a way that addresses the elected officials' direction and Coburg's information needs while not being overly resource intensive. In a September 3rd letter to the JEOs, Jamon Kent conveyed SEL's direction, which includes a rough cost analysis based on a profile of Coburg's wastewater stream.

A comprehensive assessment of buy-in costs is complicated because Coburg is outside the Eugene-Springfield urban growth boundary and its wastewater demands never have been planned or considered as part of the MWMC service district. Whereas

Eugene and Springfield sewer users have funded the planning, permitting, and construction of the MWMC capital infrastructure through property taxes, connection fees and user charges, Coburg area residents and businesses have not contributed to the existing system. The difficulty this poses is in determining, with any degree of accuracy, what portion of the existing system, constructed with local investments, Coburg should contribute to in order to maintain equity and fairness to all customers of the system. The direction to avoid "subsidies" was expressed by elected officials in June. The MWMC intergovernmental agreement (IGA) also directs that connection fees be charged to create equity among existing and future sewer customers.

To keep the cost analysis as simple and objective as possible, the scope of items included was limited to the following three areas:

1. The capital assets addressed in the 2004 MWMC Facilities Plan and SDC methodology;
2. The major long-range planning studies conducted since 1996 to address future capacity needs through 2025; and
3. The elected officials' decision-making process and adoption of necessary Metro Plan and IGA amendments.

This analysis **does not** provide a comprehensive assessment of previous investments that existing customers have made through user rates, which would support service to Coburg. This analysis also does not consider any of the costs associated with building a pipeline from Coburg across the river. Finally, this analysis does not consider a wide range of issues that would need to be evaluated by the governing bodies in establishing appropriate service, governance and permit accountability relationships with Coburg, all of which would have associated costs. A preliminary scope of these issues is included as Attachment B. Many of the items in Attachment B relate to obligations and costs that Coburg will incur whether connected to MWMC or operated independently.

It should be noted that this information will be used by Brown and Caldwell to determine, for comparative purposes, the "present worth" of the estimated connection fees and user charges. This will give Coburg an "apples to apples" view of the costs of building an independent system vs. connecting to the MWMC system.

METHODOLOGY AND ASSUMPTIONS

Staff developed three scenarios that depict a preliminary range of what the City of Coburg might expect to pay to connect to the MWMC Regional Wastewater Facilities. Staff also estimated MWMC user rates Coburg might expect to pay given the existing MWMC user rate structure and long-range projections applied system-wide. The analyses were based on actual and planned wastewater profile information as provided by Brown and Caldwell. Brown and Caldwell developed estimated water usage from 2008 to 2028 based on actual 2003-2004 winter water usage provided by Coburg.

In order to determine connection costs for the capital assets described in item 1 above, the adopted MWMC regional wastewater systems development charge (SDC) methodology was applied to the data provided by Brown and Caldwell—no new unique models were developed. The methodology was applied in three ways, as described below, to depict different assumptions regarding the relationships Coburg users would

have to existing and planned MWMC service district customers.

A proportionate share, based on Coburg's estimated flow, of the long-range facilities planning efforts (described as item 2 above), and the full estimated costs of the regional evaluation and decision-making process on this matter (item 3 above), are provided as separate figures which are common to all three scenarios.

Finally, because it is assumed that Coburg would connect to the Eugene local system, Brown and Caldwell has worked separately with Eugene staff to determine a local connection fee. Eugene's estimated amount of the fee is added into the scenarios summarized below in order to get a picture of the "bottom line." The Eugene connection cost was computed according to the City of Eugene, Systems Development Charge Methodologies dated July, 2004.

CONNECTION COST SCENARIOS

Scenario A is based on the strict application of the FY 04-05 MWMC SDC Schedule of Charges adopted by the Cities. This scenario is offered as a baseline for comparison to what new sewer connection fees would be for Eugene or Springfield customers. In other words, existing and projected developments in Coburg were treated exactly as though they were located within the current MWMC service district, and would be charged this amount to connect. This method bases part of the SDC charge on the cost of existing available, and part on new capacity. The costs in Scenario A result from the weighted average cost of existing available and new capacity. The cost of existing capacity was offset with federal grants. Applying this method assumes that capacity for Coburg was always planned for and allocated to the Coburg area. This, of course, is not the case, and there is arguably no existing capacity available for Coburg's access. **The SDC portion of the Scenario A cost is $2,880,000.**

Scenario B is based entirely on the unit cost of new capacity that is charged to new users as determined by following the 2004 MWMC SDC Methodology as though there is no existing available capacity. This accounts in part for the fact that Coburg lies entirely outside the planned service district. The methodology distributes the costs of the 20-Year Project List according to whether additional capacity was gained by a physical expansion of capacity or whether new capacity was gained by improving a process. One-hundred percent of the cost of new physical capacity is passed to new users. Existing users share in the cost of capacity gained by process improvement on a prorata basis (11% to 28% is charged to new users). **The SDC portion of the Scenario B cost is $4,590,000.**

Scenario C is similar to Scenario B, except that the cost of new capacity is charged exclusively to new users. Scenario C uses the total project cost of new capacity and thereby most closely estimates the actual cost of capacity that Coburg would consume if connected to the regional system. **The SDC portion of Scenario C cost is $8,740,000.**

Additional Connection costs

Scenarios B and C, because they are based only on the cost of new capacity, do not include any of the cost of existing support facilities. A proportional share of this cost

would be about $106,000.

The costs of various planning studies which laid much of the foundation for the newly adopted MWMC Facilities Plan are not included in any of the scenarios. A proportional share of these costs would be about $12,000.

The cost of processing the decision making, including Intergovernmental Agreement changes, is estimated to run between $150,000 and $300,000.

Summary Of Connection Costs	A	B	C
Regional connection charge scenarios	$2,880,000	$4,590,000	$8,740,000
Additional Regional connection charges	$12,000	$118,000	$118,000
Decision costs ($150,000 -- $300,000)	$300,000*	$300,000*	$300,000*
Local connection charge	$1,038,000	$1,038,000	$1,038,000
Total	$4,230,000	$6,046,000	$10,196,000

Note *: Assumes high end of cost range.

Detailed summary sheets of each scenario are included as Attachment A.

USER CHARGES

Based on the existing adopted MWMC user rate structure, the regional wastewater charges for Coburg are estimated for the year 2008, as shown below.

Customer Class	2008 Total charges
Commercial/Industrial	$69,961
Residential	$108,942
Total	$178,903

REQUESTED ACTION

Staff requests that SEL provide feedback on the analysis and direction on the next steps in meeting the elected officials' needs.

City of Coburg
Commercial, Industrial and Residential Wastewater Sources
Regional Connection Cost Estimate Scenarios

Scenario A						
Establishment Type/Strength	**Number of Establishments**	**2004 Winter Water Use (gal/day)**	**Reimburse-ment Cost**	**Improve-ment Cost per FEU**	**Improvement Credit for Rate Support**	**Total Scenario A**
COMMERCIAL/INDUSTRIAL						
Low Strength	96	21,448	16,942.37	243,594.57	46,547.42	213,989.51
Medium Strength	5	20,867	27,381.09	335,827.56	62,027.72	301,180.93
High Strength	8	17,097	34,339.29	383,122.18	69,110.11	348,351.36
Very High Strength	2	3,000	8,114.47	86,171.28	15,335.84	78,949.91
	111	**62,412**	**86,777.22**	**1,048,715.59**	**193,021.09**	**942,471.72**
Residential	**1,362**	**325,522**	**153,420.48**	**2,205,854.16**	**421,507.03**	**1,937,767.61**
Subtotal	**1,473**	**387,934**	**240,197.70**	**3,254,569.75**	**614,528.11**	**2,880,239.33**
Planning Studies *						**12,000.00**
Decision processing costs **						**300,000.00**
Local connection charge ***						**1,038,000.00**
Total						**4,230,239.33**

* The costs of various planning studies which laid much of the foundation for the 2005 MWMC Facilities plan are not included in any of the scenarios. A proportional share of this cost would be about $12,000.

** The cost of processing the decision making, including Intergovernmental Agreement changes, is estimated to run between $150,000 and $300,000.

*** The local connection cost was computed according to the City of Eugene, Systems Development Charge Methodologies dated July 2004.

ATTACHMENT A

City of Coburg
Commercial, Industrial and Residential Wastewater Sources
Regional Connection Cost Estimate Scenarios

Scenario B

Establishment Type/Strength	Number of Establishments	2004 Winter Water Use (gal/day)	Reimburse-ment Cost	Improve-ment Cost	Improvement Credit for Rate Support	Total Scenario B
COMMERCIAL/INDUSTRIAL						
Low Strength	96	21,448	0.00	379,393.71	46,547.42	332,846.29
Medium Strength	5	20,867	0.00	563,277.92	62,027.72	501,250.19
High Strength	8	17,097	0.00	673,621.91	69,110.11	604,511.80
Very High Strength	2	3,000	0.00	155,418.89	15,335.84	140,083.05
	111	**62,412**	**0.00**	**1,771,712.43**	**193,021.09**	**1,578,691.34**
Residential	**1,362**	**325,522**	**0.00**	**3,435,574.15**	**421,507.03**	**3,014,067.13**
Subtotal	**1,473**	**387,934**	**0.00**	**5,207,286.58**	**614,528.11**	**4,592,758.47**
Support Facilities *						**106,000.00**
Planning Studies **						**12,000.00**
Decision processing costs ***						**300,000.00**
Local connection charge ****						**1,038,000.00**
Total						**6,048,758.47**

* Scenarios B and C, because they are based only on the cost of new capacity, do not include any of the cost of existing support facilities. A proportional share of this cost would be about $106,000.

** The costs of various planning studies which laid much of the foundation for the 2005 MWMC Facilities plan are not included in any of the scenarios. A proportional share of this cost would be about $12,000.

*** The cost of processing the decision making, including Intergovernmental Agreement changes, is estimated to run between $150,000 and $300,000.

**** The local connection cost was computed according to the City of Eugene, Systems Development Charge Methodologies dated July 2004.

Simplified Illustration Of Scenarios.

Existing System Capacity (mgd)	Existing Available Capacity (mgd)	Existing System Total Value ($)	Grant Funding ($)	Remaining Cost ($)	Unit Cost $/gal
5	2	10,000,000	($7,500,000)	2,500,000	$0.50
New System Capacity (mgd)	**New Available Capacity (mgd)**	**New System Total Value ($)**	**Project Allocation ($)**	**Remaining Cost ($)**	**Unit Cost $/gal**
5	5	15,000,000	($5,400,000)	9,600,000	$1.92

Scenario A	1,000,000 + 9,600,000 7 mgd	$1.44 /gal
Scenario B	9,600,000 5 mgd	$1.92 /gal
Scenario C	15,000,000 5 mgd	$3.00 /gal

COBURG SEWER EXTENSION EVALUATION: PRELIMINARY (INCOMPLETE) FIRST CUT AT ISSUES TO BE STUDIED/ADDRESSED BY THE ELECTED OFFICIALS

Prepared by Susie Smith and Peter Ruffier

ISSUES RELATED TO THE ENVIRONMENTAL IMPACT OF CONNECTING COBURG TO MWMC RELATIVE TO OTHER OPTIONS AVAILABLE:

Pipe across the River

- Where?
- How constructed?
- Natural resources, land use and water quality impacts

Centralization of Discharge (Single Outfall) vs Options with Potentially Less Negative Impact

- Greater impact within existing MWMC mixing zone vs. dispersed impact
- Concentration of temperature, ammonia, mercury, mass.....etc
- Are there other options for Coburg discharge that would be more beneficial (reconnection of hyporheic flows, exfiltration through gravels, constructed wetlands, etc)

ISSUES RELATED TO MWMC'S CURRENT NPDES DISCHARGE PERMIT AND ASSOCIATED POLLUTANTS OF CONCERN:

Coburg Responsibilities and Liabilities under the NPDES Permit Generally

- Annual reporting
- CMOM IGA
- Collection System Operator certification
- Share of liabilities
- Accountability/enforcement

Coburg Industrial Pretreatment Requirements

- Compliance with MWMC Model Ordinance,
- Local program implementation, including: development of local ordinance, code, program implementation, enforcement, monitoring, reporting, profile of current Coburg industries, MWMC administration oversight, etc.
- Local limits review, modeling and allocation (involves technical review and public policy discussion of how to allocate remaining pollutant loads to Coburg vs. Eugene/Springfield for future industrial development)

- Sampling, analysis, and coordination with Eugene-Springfield pretreatment programs
- Participation in Pollution Management Practices Program, such as Fat, Oil and Grease and Photoprocessor programs

Coburg Wet Weather Flow Management

- Coburg adoption of MWMC WWFMP, including modeling assumptions, strategies and policies, maintenance of hydraulic modeling, etc.
- I/I control plan approved by MWMC, monitoring and reporting
- Compliance with MWMC minimum standards for construction and materials, per IGA
- CMOM compliance, accountability
- Liabilities and enforcement under overflows, bypasses, or system failures (proportional share or other method for determination)
- MWMC ability to enforce standards for Coburg
- Interruptability for MWMC wet weather control (system detention/storage)

Coburg Temperature Management Plan—TMDL/Waste Load Allocation Compliance

- Compliance with MWMC TMP
- Impact assessment and determination of Coburg requirements for temperature reduction, or determination of Coburg share of costs associated with MWMC temperature mitigation approach (removal and reuse of a minimum of 10 mgd to 30 mgd of plant effluent)—(involves technical review and public policy discussion about average cost vs incremental/marginal cost method of determining)
- Interruptability for MWMC temperature/thermal load violation avoidance

Coburg Mass Load Limits

- Waste load assessment and impact on MWMC mass limitations and construction timelines/costs to address mass constraints at the WPCF

Coburg Ammonia Limits

- Waste load assessment and impact on MWMC mass limitations and construction timelines/costs to address ammonia constraints at the WPCF

Other Potential Pollutants of Concern

- Wastewater characteristics and potential impacts regarding all pollutants of concern
- Mercury Pollution Management Practices and, ultimately, TMDL compliance

ISSUES RELATED TO UP-FRONT AND ONGOING COSTS OF SERVICE TO COBURG:

Up Front "Buy-In" Costs to be Considered and apportioned to Coburg

- Share of existing system funded by Eugene-Springfield property taxes and River Road/Santa Clara ILOTC, and funded by Federal Grants
- Share of planning studies completed in the past 8 years to plan for future 20-year capacity needs and permit compliance
- Share of capital costs for recently constructed infrastructure, such as lab enhancements, dewatering facility, Biocycle Farm, etc.
- Capital and operating costs associated with constructing and making physical connection to the regional wastewater facilities
- Cost of reviewing and updating the MWMC 2004 Facilities Plan, and the Eugene-Springfield Public Facilities and Services Plan as needed to incorporate the extended service to Coburg
- Payment of connection fees equivalent to regional wastewater SDCs that would be charged for each user connected to the system.
- Set-up costs for billing and administration of service to Coburg
- Costs associated with the studies, along with the MWMC and elected officials review of the Coburg request
- Costs associated with developing/establishing intergovernmental agreements, permit modifications, etc.
- Cost-of–service study to determine Coburg sewer users' wastewater characteristics relative to MWMC cost centers—establishment of initial user rate structure
- Development and installation of metering and monitoring methods and equipment
- Costs related to increased insurance premiums, and other increases in MWMC fixed costs/fees occurring at the outset of connection of Coburg's collection system
- Costs associated with land-use decision making processes.
- Costs of establishing mechanisms and methodology for collecting SDCs for future connecting users of the Coburg collection system

Ongoing "User-Rate" Costs to Coburg

- Ongoing Administration services (provided by Springfield) apportioned to Coburg, such as customer service, MWMC administration, account management, involvement in regional coordination, public information, public processes/governance, etc
- Ongoing operations and maintenance services (provided by Eugene) for regional wastewater collection and treatment infrastructure
- All aspects of MWMC costs that are factored into current sewer user rates

GOVERNANCE:

<u>The MWMC Governing Bodies will need to decide the following</u>

- Whether current work load and resource constraints provide agency ability to conduct the ground work and decision making processes, and if not, how to address the need and how to determine a time frame for the work
- Whether they are agreeable to undertake changes necessary to accommodate Coburg—overall public/political acceptability
- Whether Coburg would be served as a "customer" or a "partner," and how accountability/representation would be provided for Coburg customers (note: Administration costs for Coburg could vary significantly based on outcome)
- Level of accountability, liability Coburg would share in joining MWMC NPDES permit and its conditions/requirements
- How much ongoing monitoring, reporting, system maintenance/rehabilitation and formal asset management Coburg would be required to commit to in order to maintain long term system integrity and accountability for permit compliance
- How would violations and enforcement be handled
- Ownership and maintenance of major facilities such as large force mains and pump stations
- How to address long-rang community growth implications relative to the Eugene-Springfield Metropolitan Area General Plan, and the MWMC partner governing bodies' objectives
- How to address/amend existing Metro Plan policies and constraints
- How Boundary Commission approval would be sought and by whom, and whether the Boundary Commission would be likely to approval such a request as consistent with the policies of the Metro Plan and state law
- The relationship of the Coburg request to other potential extra-territorial extension requests for service (such as the Short Mountain Landfill leachate line, and/or other community requests that might arise out of the Region 2050 planning effort), and whether criteria should be applied determine when MWMC could authorize certain service connections in the future