Economic and Engineering Services, Inc.

EXHIBIT 1 (Res 97-55)

March 17, 1997

Mr. David Wimmer
City of Oregon City
320 Warner Milne Rd.
Oregon City, OR 97045

Subject: Update of Stormdrain System Development Charges

Dear Mr. Wimmer:

Presented herein is Economic and Engineering Services, Inc.'s (EES's) letter report on the update of the stormdrain system development charges (SDCs) for the City of Oregon City (City). The conclusions and recommendations contained within this report should enable the City to implement SDCs which are cost-based.

Introduction

Presented in this letter report are the detailed calculations for determination of system development charges (SDCs) for the City's stormdrain system. The calculation of SDCs presented in this report are based on historical investments of the City, future capital improvements as identified in the City's capital improvement plan and planning criteria used in the report entitled "Oregon City Drainage Master Plan", dated January 1988, prepared by OTAK Incorporated and the basin reports entitled "Hydrologic Study of Park Place Basin", "Hydrologic Study of South End Basin" and "Hydrologic Study of Caufield Basin", dated February 1996, prepared by Kampe Associates, Inc. To the extent that the timing and cost of future capital improvements change, then the SDCs presented in this section will require updating to reflect the costs of these adjustments.

Disclaimer

EES, in its calculation of the SDCs presented in this report, has used the City's engineering design criteria and generally accepted rate making principles. This should not be construed as a legal opinion with respect to Oregon law or property tax limitations. If a legal opinion is required, EES would recommend that the City have the SDC as provided in this report reviewed by its legal counsel to determine if it is in compliance with Oregon law and would not be considered property taxes applicable to property tax limitations.

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Present System Development Charges

The city currently has an SDC for new developments or substantial redevelopment deemed to increase the impervious surface areas contributing to stormwater runoff. These changes are based on a concept of equivalent residential units. Equivalent residential units are defined as an area which is estimated to place approximately equal demand on the City's storm drainage system as a single-family dwelling unit. Other non-residential units are calculated based on size and development intensity. A summary of the current charge is provided in Table 1.

Table 1
City of Oregon City
Present System Development Charge

Storm Drain SDC	$385.00/ERU
Reimbursement Fee	$145.00/ERU
Improvement Fee	$240.00/ERU

For determination of ERUs for various land use types see Exhibit 4

Based on a review of the City's costs and system characteristics, EES has determined new SDCs for connection to the storm drain system.

Proposed System Development Charges

EES has calculated SDCs for the City's storm drain system for 1997 based on generally accepted rate making principles. Details of the calculations used in determining the SDCs are provided in later in the report. The cost and timing for future capital improvements used in the calculations of SDCs were based on information provided by the City and the report entitled "Oregon City Drainage Master Plan", dated January 1988, prepared by OTAK Incorporated, and the basin reports entitled "Hydrologic Study of South End Basin", "Hydrologic Study of Park Place Basin" and "Hydrologic Study of Caufield Basin", dated February 1996, prepared by Kampe Associates, Inc. Other financial and accounting information utilized has been provided by the City.

The SDCs for the City's stormdrain system presented in this report are calculated on an equivalent residential unit basis. A single family residential customer is

considered to be one ERU. Other land use type ERUs are calculated based on area and development intensity factors.

Presented in Table 2 are the proposed SDCs for the City's stormdrain system for the year 1997. These are the maximum charges allowed under Oregon law. As required and defined under Oregon law, the portion of the SDC which is considered a reimbursement fee and an improvement fee is presented on an equivalent residential unit basis.

Table 2
City of Oregon City
Proposed System Development Charge

Description	Charge
Storm Drain SDC	$495/ERU
Reimbursement Fee	$380/ERU
Improvement Fee	$115/ERU

For determination of ERUs for various land use types see Exhibit 4

Based on a review of the City's costs and system characteristics, EES has determined new SDCs for connection to the storm drain system.

Recommendations

Based on its review and analysis in the determination of SDCs for the City, EES makes the following recommendations:

1. That the City establish by resolution or ordinance that any capital improvement being funded wholly or in part with SDC revenues shall be included in an approved capital improvements plan, public facilities plan, master plan or comparable plan which lists the capital improvements which may be funded with improvement fee revenues and the estimated cost and timing for each improvement.

2. That the City establish SDCs for new development which are no greater than the SDCs set forth in this report.

3. That the City update the actual calculations for SDCs based on the methodology as approved by the resolution or ordinance setting forth the methodology for SDCs on an annual basis or at such time when a

new capital improvement plan, public facilities plan, master plan or a comparable plan is approved or updated by the City.

4. That the City set up an accounting system that provides an annual accounting of SDC revenue collected from improvement fees and the projects that were funded with the revenue.

5. That the City establish in the resolution or ordinance enacting the methodology used in the determination of SDCs a provision for administrative procedures for protests with 60 days following the adoption or modification of the SDC methodology.

6. That the City provide for an administrative review procedure by which any citizen or other interested party may challenge the expenditure of SDC funds. Such procedure shall provide that a challenge must be filed within two years of the expenditure of SDC funds.

7. That the City adopt by resolution or ordinance that "reimbursement fees" as such term is defined in ORS 223.299 shall be spent only on capital improvements associated with the systems for which the fees were assessed, including expenditures related to the repayment of indebtedness.

8. That the City establish by resolution or ordinance that "improvement fees" as such term is defined in ORS 223.299 shall be spent only on capacity increasing capital improvements, including expenditures related to the repayment of the debt for such improvements.

9. That the City establish by resolution or ordinance that a list of persons who have made a written request for notification prior to adoption or amendment of a methodology for any system development charge maintained by the City. Furthermore, that the City provide written notice by mail to persons on the list at least 45 days prior to the first hearing to adopt or amend a system development charge and the methodologies supporting the adoption or amendment be available at least 30 days prior to the first hearing to adopt or amend.

Implementation

The methodology used to calculate the system development charge takes into account the cost of money or interest charges and inflation. Therefore, EES would recommend that the City examine the SDC each year to determine the effect of interest costs and inflation on the calculation. The charge should be increased by

an escalation factor each year to reflect the cost of borrowing and/or inflation. This method for escalation of the charge can be used for a four- to five-year period. After this, EES would recommend that the City update the charge based on the actual cost of infrastructure and new facilities based on the master plan or capital improvement plan.

System Development Charge Calculations

Development of Equivalent Residential Units (ERUs)

The number of equivalent residential units (ERUs) are based on the examination of the City's records for fiscal year 1995. An ERU was assumed to be equal to the drainage for a single family residential customer or ERU.

The City performed a detailed on site inspection of parcels in 1988, and subsequently developed its storm drain rate which is $2.00 per month per ERU. Being that there is no actual drainage data, ERUs were calculated in this report by reviewing the City's billing data by major class for June 1994 to July 1995. Assuming billings at the rate of $2.00/ERU, ERUs were calculated by dividing total billed revenues by $2.00. The results are summarized in Table 3 and details are provided in Exhibit 1.

A summary of the ERUs for 1996 and the ERU conversion factor are presented in Table 3. Details of the calculations and the projection of ERUs are provided in Exhibit 1. Projected ERUs are based on a growth rate of 4% annually from 1996 through 2005 and 2.0% thereafter.

Table 3
City of Oregon City
Equivalent Residential Units

Total Annual Revenue	$360,443
Monthly Change/ERU	$2.00
Total ERUs	15,018

Existing and Future Facilities

The SDC for existing and future plants normally consists of two parts. The first is the investment in historical plant and equipment. The second is future investment in facilities as identified in the capital improvement schedule to provide additional drainage capabilities to minimize the impact

for new development creating additional run-off from greater impervious surface area.

The City did not have adequate asset records to determine the historical plant investment in storm drains. Therefore, it was necessary to estimate this investment by reviewing the existing facilities in place (feet of storm drains) and multiply by a construction cost index. The City was able to provide broad groupings of drains by size and year of construction. The costs per ERU were also adjusted to reflect interest charges. To determine the number of ERUs for which the improvement will provide service, an analysis of the area in each drainage basin was undertaken. The analysis assumed 5,000 sq.ft. per ARN and a development intensity factor of 0.55. Details of the calculation are provided in Exhibit 1. Based on the cost of existing plant and the number of ERUs served, the SDC for existing plant is $379.56 per ERU. Details of the calculation are provided in Exhibit 2.

The SDC for future investments was made based on the projection of capital improvements and the number of customers for which the capital improvements will provide service. The capital improvement assumptions were provided by the City based on the master plan and basin studies.

Using the future capacity approach, and based on the costs of future investments, the timing of future investments and the number of customers for which these investments provide service results in an SDC for future facilities of $107.69 per ERU. Details of the calculation are provided in Exhibit 3.

Compliance Costs

The cost to the City for compliance with Oregon law in the determination of SDCs includes the cost of engineering, legal and administrative costs. Also included in the cost of compliance are the costs of establishment and conducting review procedures and the cost of accounting for revenues and expenditures. The cost for each of these items has been conservatively estimated for the period from 1997-2002. The ERUs added during this period are discussed in the subsection entitled "Equivalent Units". A summary of the compliance cost SDC is provided in Table 4.

Table 4
City of Oregon City
Compliance Costs

Year	Cost	Cost ($1997)	Additional ERUs
1997	$5,000	$5,000	625
1998	5,225	4,929	650
1999	5,460	4,859	676
2000	5,706	4,791	703
2001	5,963	4,723	731
2002	6,231	4,656	760
Total	$33,584	$28,958	4,144
Compliance Cost SDC			**$6.99**

Credits

In reviewing the financing practices of the City with respect to the storm drain utility, it was found that no credits were applicable to the SDC. The City has not assessed any property taxes or issued revenue bonds for the construction of utility infrastructure.

Net System Development Charge

Based on the components costs calculated for the SDC as detailed in this section of the report, the net SDC is determined. Details of the net SDC for the City are provided in Table 5. These figures are provided on an equivalent residential unit basis.

Table 5
City of Oregon City
Allowable System Development Charges

Description	Charge
Existing Plant	$379.56
Future Facilities	107.69
Compliance Costs	6.99
Total	$494.24
Net System Development Charge	**$495/ERU**

Conclusions

The system development charges as presented in this letter are based on the engineering design criteria of the City's system, historical costs, future capital improvements and generally accepted SDC methodologies.

As always, EES appreciates the opportunity to provide service to the City. If you have may questions, please call.

Very Truly Yours,

ECONOMIC AND ENGINEERING SERVICES, INC.

Randall P. Goff
Vice President

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Exhibit 1

Equivalent Residential Units

City of Oregon City
Storm Drain
Determination of ERU's

Classification	Number of Accounts June 1995	Revenue July 1994 to June 1995	Number of ERUs (1)
Residential	4,469	$114,419.22	4,767
Instututional	94	48,041.76	2,002
Commercial	395	133,946.09	5,581
Industrial	4	3,055.00	127
Multiple Units	335	56,992.01	2,375
Senior Citizens	170	3,988.50	166
Total	**5,467**	**$360,442.58**	**15,018**

(1) - Based on a charge of $2.00 per ERU per month.

City of Oregon City
Storm Drain
Estimated ERU Growth

Year	Total ERUs	Additional ERUs	Total Added ERUs
1995	15,018		
1996	15,619	601	601
1997	16,244	625	1,226
1998	16,894	650	1,875
1999	17,569	676	2,551
2000	18,272	703	3,254
2001	19,003	731	3,985
2002	19,763	760	4,745
2003	20,554	791	5,535
2004	21,376	822	6,357
2005	22,231	855	7,213
2006	22,676	445	7,657
2007	23,129	454	8,111
2008	23,592	463	8,573
2009	24,064	472	9,045
2010	24,545	481	9,526
2011	25,036	491	10,017
2012	25,536	501	10,518
2013	26,047	511	11,029
2014	26,568	521	11,550
2015	27,099	531	12,081

City of Oregon City
Storm Drain
Development of ERUs at Saturation

Basin	Area (Acres)
Singer	
	19.0
	51.0
	116.0
	26.0
	57.0
	19.0
	18.0
	24.0
	29.0
	30.0
	7.0
Total	**396.0**
John Adams	49.0
	19.0
	15.0
	55.0
	27.0
	21.0
	32.0
	16.0
Total	**234.0**
Livesay	83.0
	132.0
	111.0
	33.0
Total	**359.0**
Mud	112.0
	77.0
	120.0
	91.0
	59.0
	75.0
Total	**534.0**

City of Oregon City
Storm Drain
Development of ERUs at Saturation

Basin	Area (Acres)
Central Point	79.0
	66.0
	85.0
Total	**230.0**
Coffee	160.0
	51.0
	164.0
	70.0
Total	**445.0**
Tumwater	45.0
	32.0
	12.0
Total	**89.0**
Clinton	43.0
	14.0
Total	**57.0**
Newel	82.0
	107.0
	107.0
	139.0
	128.0
	107.0
	188.0
	87.0
	53.0
	170.0
	176.0
	96.0
	118.0
	108.0
	124.0
Total	**1790.0**

City of Oregon City
Storm Drain
Development of ERUs at Saturation

Basin	Area (Acres)
Park Place	24.5
	12.8
	10.5
	41.1
	7.9
	9.0
	40.0
	8.8
Total	**154.6**
South End	46.8
	55.1
	45.8
	69.4
	114.5
	88.9
	48.3
	113.8
Total	**582.6**
Caufield	73.8
	92.2
	153.6
	49.7
	42.6
	25.5
	30.2
	174.0
	27.9
Total	**669.5**
Total All Basins	**5,540.7**
Equvialent Residential Units (1)	**26,604**

(1) - Based on total Acres, 5000 sq ft per ERU and an development intensity factor of 0.55.

Exhibit 2

Existing Plant

City of Oregon City
Storm Drains
Existing Plant

Asset	Actual Cost	Year	ERU's	Cost/ ERU	Cost/ ERU $97 1997
Storm Drain	$398,350	1959	26,604	$14.97	$35.88
Storm Drain	2,779,323	1971	26,604	104.47	250.37
Storm Drain	974,864	1981	26,604	36.64	87.82
Center Street Rehab	$50,000	1995	26,604	1.88	2.11
Falcon Drive Crossing	37,000	1996	26,604	1.39	1.47
Glen Oak Drainage	20,000	1995	26,604	0.75	0.84
Park Place Drainage Study	4,000	1995	26,604	0.15	0.17
South End Drainage Study	21,000	1995	26,604	0.79	0.89
Total Exsiting Plant					**$379.56**

Exhibit 3

Future Plant

City of Oregon City
Storm Drains
Future Projects

Project	Cost 1996	Year	Actual Cost	ERUs	$/ERU	$/ERU 1997
Development Match Monies						
	$100,000	1998	$109,203	26,604	4.10	3.87
	100,000	1999	114,117	26,604	4.29	3.82
	100,000	2000	119,252	26,604	4.48	3.76
	100,000	2001	124,618	26,604	4.68	3.71
	100,000	2002	130,226	26,604	4.90	3.66
	100,000	2003	136,086	26,604	5.12	3.61
	100,000	2004	142,210	26,604	5.35	3.56
	100,000	2005	148,610	26,604	5.59	3.50
McCord Road Drainage	155,000	1997	161,975	26,604	6.09	6.09
Park Place Basin 1	123,000	1998	134,319	26,604	5.05	4.76
South Caufield Basin 1	62,400	1999	71,209	26,604	2.68	2.38
South End Basin 1	83,000	1999	94,717	26,604	3.56	3.17
Basin Studys						
	50,000	1997	52,250	26,604	1.96	1.96
	50,000	1998	54,601	26,604	2.05	1.94
	50,000	1999	57,058	26,604	2.14	1.91
	50,000	2000	59,626	26,604	2.24	1.88
	50,000	2001	62,309	26,604	2.34	1.86
	50,000	2002	65,113	26,604	2.45	1.83
	50,000	2003	68,043	26,604	2.56	1.80
	50,000	2004	71,105	26,604	2.67	1.78
	25,000	2005	37,152	26,604	1.40	0.88
Holmes Lane Drainage (Phase C)	25,000	1997	26,125	26,604	0.98	0.98
Master Plan Update	120,000	2000	143,102	26,604	5.38	4.52
McCord/Pease Road Crossing	25,000	1998	27,301	26,604	1.03	0.97
Park Place Basin 2	85,000	2001	105,925	26,604	3.98	3.15
South Caufield Basin 2	8,000	2004	11,377	26,604	0.43	0.28
South End Basin 2						
	50,000	2000	59,626	26,604	2.24	1.88
	50,000	2001	62,309	26,604	2.34	1.86
	75,000	2002	97,670	26,604	3.67	2.74
	50,000	2003	68,043	26,604	2.56	1.80
	111,000	2004	157,853	26,604	5.93	3.95
	50,000	2000	59,626	26,604	2.24	1.88

City of Oregon City
Storm Drains
Future Projects

Project	Cost 1996	Year	Actual Cost	ERUs	$/ERU	$/ERU 1997
Urban Reserve Study						
CIP Update	9,000	1997	9,405	26,604	0.35	0.35
	10,000	2002	13,023	26,604	0.49	0.37
Meyers Road Crossing	74,000	2002	96,367	26,604	3.62	2.71
Park Place Basin 3	35,000	2002	45,579	26,604	1.71	1.28
South End Basin 4	103,000	2003	140,169	26,604	5.27	3.71
Lazy Creek Lane Crossing	59,000	2003	80,291	26,604	3.02	2.13
Leland Road Crossing	24,000	2002	31,254	26,604	1.17	0.88
Redland Road Inlet	4,000	2000	4,770	26,604	0.18	0.15
Leland/Hiefield/Kaen Drainage	64,500	2004	91,725	26,604	3.45	2.29
Warner Milne Crossing	7,000	2000	8,348	26,604	0.31	0.26
South Caufield Basin 5	223,000	2005	331,399	26,604	12.46	7.82
Total	**$2,909,900**		**$3,685,086**			**$107.69**

Exhibit 4

Equivalent Residential Unit Definitions

Exhibit 4 – Updated by Resolution 04-47
(Replaces Exhibit 4 from Resolution 97-55)

Stormdrain System Development Charge
Equivalent Residential Unit Definitions

To determine the system improvement charge for non-single family residential properties the representative number of equivalent residential units for that property must be determined. The equivalent residential units (ERU) of a non-single family residential property are computed by multiplying the property's area range number (ARN) by its development intensity factor (DIF) as follows:

$$ERU = ARN \times DIF$$

The area range number (ARN) groups non-single family residential properties into groups of similar parcel size. All parcels with gross areas of 1 to 5,000 square feet would be assigned an area range number (ARN) of 1. Parcels with gross areas of 5,001 to 10,000 square feet would have an ARN of 2. Parcels with gross areas of 10,001 to 15,000 square feet would have an ARN of 3 and so on.

The development intensity factor (DIF) is the runoff coefficient that is indicative of the land use of impervious coverage of each property. The following table represents the DIFs for each of the existing land uses and zoning in use in the calculations:

	Land Use or Zoning	Development Intensity Factor
R1O	(10,000 sq.ft./dwelling unit)	0.25*
R8	(8,000 sq.ft./dwelling unit)	0.50*
R6	(6,000 sq.ft./dwelling unit)	0.50*
RD-4MDP	Manufactured Dwelling Unit	0.60*
R3.5	(3,500 sq.ft./dwelling unit)	0.60*
R-2	Multi-Family	0.65*
LO	Limited Office	0.80
NC	Neighborhood Commercial	0.80
HC	Historical Commercial	0.70
C	General Commercial	0.90
GI	General Industrial	0.75
CI	Campus Industrial	0.80
MUC1	Mixed Use Corridor 1	0.80
MUC2	Mixed Use Corridor 2	0.90
MUD	Mixed Use Downtown	0.90
MUE	Mixed Use Employment	0.80
I	Institutional District	Use Actual Impervious**

* These districts allow conditional uses that present such a wide range of impervious surface development that it is best to use the actual developed impervious area for the non-residential uses.

** This district presents such a wide range of impervious surface development patterns that it is best to use the actual developed impervious area for calculating the DIF.

Exhibit D