VII. STORMWATER IMPACT FEES

7.1 General

This chapter presents a summary of the funding and financing mechanism necessary to implement the drainage improvements identified within this master drainage plan. The underlying purpose of the funding and financing mechanism is to provide monies for the construction, operation and maintenance of stormwater drainage facilities necessary for the public health, safety, and welfare of the citizens of the Town of Windsor.

Typically, stormwater fees consist of: (a) annual operation and maintenance fees and, (b) basin impact fees. The annual operation and maintenance fee provides for the maintenance of all improvements and existing facilities as well as the administration of the stormwater program within the Town. Basin impact fees provide for the construction of the major and minor capital improvement projects. The basin impact fees provide a funding mechanism through which owners of properties that develop in the future share in the cost of projects built in anticipation of their needs. In addition, the basin impact fees may be allocated to individual users as a service charge for the construction of capital improvements associated with stormwater management.

The stormwater drainage improvements for each basin are identified in this master drainage plan. The revenue requirement, assuming implementation of these capital improvements, are estimated to be approximately $15 million. This revenue requirement provides the basis for establishing the rate structure for both the basin impact fees for new development as well as the monthly user fees.

It is acknowledged that the Town of Windsor presently assesses new development a storm water drainage fee (referred to as a plant investment fee) and residents a monthly storm water drainage fee. During the completion of this master drainage plan, revisions to the methods for calculating the fees became necessary given the revenue requirements associated with implementation of future drainage improvement projects. The paragraphs below summarize the methodologies and results related to the fees established for implementation of the storm drainage improvements, as well as the operation and maintenance associated existing and future storm water facilities.

7.2 Development of Basin Impact Fee

Development of the Basin Impact Fee is typically based on the potential for stormwater runoff from each parcel along with the cost of the drainage improvements. Specifically, the

calculation of the Basin Impact Fee for the Town of Windsor was based on the following formula:

Basin Impact Fee = (Impervious Rate Factor)*(Basin Impact Fee Factor)*(Area)

where,

- the Impervious Rate Factor is the average percent of impervious area associated with each property;
- the Basin Impact Fee Factor is based on the cost of the drainage improvements divided by the impervious area associated with future development ($/ft^2); and
- the Area is the size of the parcel (ft^2).

7.2.1 Impervious Rate Factor

The Impervious Rate Factor is commonly used to account for differences in runoff due to different types of land use. Typical impervious values were assigned to development categories as indicated below.

Development Category	% Impervious
Very Low Density Single Family Residential (VLDSFR)	10%
Single Family Residential (SFR)	40%
Light Industrial (LI)	80%
Heavy Industrial (HI)	90%
Commercial (C)	95%
Multi-Family Residential (MFR)	70%
Residential Mixed Use (RMU)	50%

7.2.2 Basin Impact Fee Factor

Development of the Basin Impact Fee Factor was based on the following assumptions:

- a planning window for implementation of the drainage improvements of 30 years;

- average growth of development in the last five years (approximately 400 building permits/yr);
- potential growth within the Growth Management Boundary during the 30-year planning window (50% of the undeveloped land within the Growth Management Boundary was assumed to be developed);
- future land use plans within the Growth Management Boundary that identified the categories of development; and
- a revenue requirement of $15 million associated with the drainage improvements.

With these assumptions, the basin impact fee factor was determined to be $\$0.1838/ft^2$.

7.2.3 Basin Impact Fee Structure

Given this information, the formula for Basin Impact Fees was determined to be:

Basin Impact Fee = (Impervious Rate Factor)*($0.1838)*(Area)

Utilizing this formula, the fee structure for new development within the Growth Management Boundary was generated and is presented in Table 7.1.

Table 7.1 Basin Impact Fee Structure for New Development.

Development Category	Basin Impact Fee Formula	Basin Impact Fee
VLDSFR (1.5 AC)	1.5 AC x 43,560 ft^2/AC x $0.1838 x 0.1	$1,200
(2.5 AC)	2.5 AC x 43,560 ft^2/AC x $0.1838 x 0.1	$2,000
SFR	7,000 ft^2 x $0.1838 x 0.4	$515
	10,000 ft^2 x $0.1838 x 0.4	$735
Light Industrial	43,560 ft^2 x $0.1838 x 0.8	$6,400
Heavy Industrial	43,560 ft^2 x $0.1838 x 0.9	$7,200
Commercial	43,560 ft^2 x $0.1838 x 0.95	$7,600
MFR	43,560 ft^2 x $0.1838 x 0.7	$5,600
RMU	43,560 ft^2 x $0.1838 x 0.5	$4,000

7.3 Conceptual Financing Plan

The fee structure in Table 7.1 was utilized to prepare conceptual financing plans to demonstrate the economic feasibility associated with implementation of the drainage improvements. Several iterations were involved to determine the extent that monthly user fees are necessary to create income to cover the remainder of the debt service. The approach and assumptions that were used to create the conceptual financing plans are presented below.

- Funding for the proposed improvements was assumed to be through revenue bonds. The principal and interest on the bonds are assumed to be paid through Basin Impact Fees and, if necessary, monthly user fees. The monthly user fees, if required, are intended to be for all existing and future residents.

- Each revenue bond is assumed to be 20 years in duration, 6% interest rate, and fully amortized with constant principal and interest payments throughout the 20-year period of the bonds.

- Basin impact fees were assigned to all new development projected within the Growth Management Boundary. The projected growth assumed development of 50% of the undeveloped land within the Growth Management Boundary (400 new building units/yr).

- Projected revenue requirements associated with future development were based on the concept of an Equivalent Development Unit (EDU). A typical EDU within the Growth Management Boundary was determined to be:

Typical EDU	10,000 ft^2
Average % Impervious	26%
Impervious Area	2,600 ft^2
Cost/EDU (2,600 x $0.1838)	~$480

The results of the initial conceptual financing plan indicated that monthly user fees will be necessary to cover the debt service associated with the revenue bonds. The monthly fee associated with all existing and future residents was determined to be $\$0.000458/ft^2$/month. The monthly fees relate to the impervious area associated with existing and future residents. Based on these results, the formula for calculating the monthly user fees is:

Monthly User Fee = (Impervious Rate Factor)*($0.000458)*(Area)

Utilizing this formula, an estimate of the monthly user fees associated with new development within the Growth Management Boundary was generated and is presented in Table 7.2.

Table 7.2 Monthly Basin User Fee Structure.

Development Category	Basin Impact Fee Formula	Basin Impact Fee
VLDSFR (1.5 AC)	1.5 AC x 43,560 ft^2/AC x \$0.000458 x 0.1	\$2.99
(2.5 AC)	2.5 AC x 43,560 ft^2/AC x \$0.000458 x 0.1	\$4.99
SFR	7,000 ft^2 x \$0.000458 x 0.4	\$1.28
	10,000 ft^2 x \$0.000458 x 0.4	\$1.83
Light Industrial	43,560 ft^2 x \$0.000458 x 0.8	\$15.96
Heavy Industrial	43,560 ft^2 x \$0.000458 x 0.9	\$17.96
Commercial	43,560 ft^2 x \$0.000458 x 0.95	\$18.95
MFR	43,560 ft^2 x \$0.000458 x 0.7	\$13.96
RMU	43,560 ft^2 x \$0.000458 x 0.5	\$9.98

The final conceptual financing plan utilized to demonstrate the economic feasibility associated with implementation of the drainage improvements is provided in Appendix C.

7.4 Operation and Maintenance Fees

Operation and maintenance fees are presently determined on a monthly basis in accordance with the following formula:

O&M Fee = \$1.70 + (Impervious Area x 0.00011)

The base fee of \$1.70 is necessary to pay for the routine operation and maintenance expenses. The remaining items account for the impervious area of a parcel and an operation and maintenance rate factor of 0.00011. Presently, a credit of 75% is also given to those parcels providing detention. This credit is applied to the product relating impervious area to the operation and maintenance rate factor.

Given the detention requirements associated with the master drainage plan, the formula for calculating the operation and maintenance fees was revised. This work effort focused on the determination of a revised operation and maintenance rate factor. Following an evaluation of existing fees presently collected by the Town, the revised rate factor was determined to be 0.00009 and resulted in the revised formula:

O&M Fee = $1.70 + (Impervious Area x 0.00009)

Based on the revised formula, an indication of the operation and maintenance fees associated with the property development within the Town is presented in Table 7.3.

Table 7.3 Monthly Operation and Maintenance Fees.

Development Category	O&M Fee Formula	O&M Fee
VLDSFR (1.5 AC)	1.5 AC x 43,560 ft^2/AC x $0.00009 x 0.1 + $1.70	$2.28
(2.5 AC)	2.5 AC x 43,560 ft^2/AC x $0.00009 x 0.1 + $1.70	$2.68
SFR	7,000 ft^2 x $0.00009 x 0.4 + $1.70	$1.95
	10,000 ft^2 x $0.00009 x 0.4 + $1.70	$2.06
Light Industrial	43,560 ft^2 x $0.00009 x 0.8 + $1.70	$4.84
Heavy Industrial	43,560 ft^2 x $0.00009 x 0.9 + $1.70	$5.23
Commercial	43,560 ft^2 x $0.00009 x 0.95 + $1.70	$5.42
MFR	43,560 ft^2 x $0.00009 x 0.7 + $1.70	$4.44
RMU	43,560 ft^2 x $0.00009 x 0.5 + $1.70	$3.66

Detailed documentation related to the development of the basin impact fees as well as the monthly operation and maintenance fees is provided in the project notebook.