

WASTEWATER IMPACT FEE
CAPITAL IMPROVEMENTS PLAN
FOR THE CITY OF ROLLINGWOOD

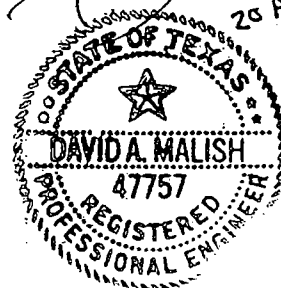
Prepared for:

Lower Colorado River Authority
P. O. Box 220
Austin, Texas 78767

Prepared by:

Murfee Engineering
1101 Capital of Texas Highway, South
Building D
Austin, Texas 78746
(512) 327-9204

April 2000



Wastewater Impact Fee Capital Improvements Plan
For the City of Rollingwood
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Executive Summary

This Capital Improvements Plan (CIP) and associated Land Use Assumptions (LUA) document were prepared for public review and acceptance as a statutory requirement to allow the Lower Colorado River Authority, as wholesale provider, the empowerment to impose an impact fee on future tie-ins to a proposed wastewater collection and transportation system designed to serve the City of Rollingwood, Texas. These reports have been prepared in accordance with the Texas Local Government Code, Chapter 395. The LUA was developed to document existing and projected population equivalents within the impact fee service area. The CIP was developed to describe existing and proposed wastewater improvements; analyze the capacity of the improvements; describe costs of the improvements applicable to new development; and determine the maximum allowable impact fees. Maximum allowable impact fees were developed for both residential and commercial development.

In addition to the calculation of maximum allowable impact fees, the CIP recommends values for the assessed impact fees and the collected impact fees. The recommended assessed and collected impact fees are not based on specific calculations, but were set below the maximum allowable calculated fees.

Recommended
Impact Fee Schedule

	<u>Residential</u>	<u>Commercial</u>
Maximum allowable fees	\$32,920.58	\$8,147.97
Assessed fees	\$6,500.00	\$6,500.00
Collected fees	\$2,000.00	\$5,000.00

I. Introduction

The Lower Colorado River Authority (LCRA) has entered into an agreement with the City of Rollingwood, Texas, whereby, the LCRA will design, construct, and maintain a wastewater collection system for the City of Rollingwood. The collected wastewater will then be pumped into the City of Austin wastewater collection system for treatment and disposal as per agreement between the Cities of Austin and Rollingwood. This Capital Improvement Plan (CIP), along with The Land Use Assumptions (LUA) report are prepared in conformance with Texas Local Government Code, Chapter 395, to empower the LCRA with the ability to impose impact fees on new development within the City of Rollingwood's service area that requests service from the LCRA's wastewater collection system. Chapter 395 defines "new development" to include the "construction, reconstruction, redevelopment, conversion structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units.

The Texas Local Government Code Chapter 395 establishes requirements for calculating the cost of capital improvements attributable to new growth based on a specified planning period. By expressing both the planning period population that necessitates the facility and the capacity of the facility in terms of "service units", the cost of the facility attributable to the planning period population and, hence, the maximum fee per service unit may be readily determined.

II. Existing and Proposed Facilities

With the exception of a section in the southwest corner of Rollingwood, shown in Figure 1, there is no organized wastewater collection system within the City. The area that is currently served consists of commercial development that use several lift stations to transfer wastewater into the City of Austin's sewer system.

The proposed facilities for the wastewater collection system are shown in Figure 2. The major components of the facilities include 8 and 12 inch gravity wastewater lines, 3 small lift stations and associated force mains, and the primary 300 gpm lift station and force main. The smaller lift stations and gravity lines will collect and transport wastewater to the primary lift station located in the southeast side of Rollingwood, which will pump the collected wastewater through a force main to a tie-in point within the City of Austin's wastewater collection system. In addition to these major components, the proposed facilities will connect to, or allow the potential to connect to, each lot within the City of Rollingwood that is currently using an on-site wastewater disposal facility or is vacant. Due to the level of development within the City, most of the wastewater lines will be designed to lie within existing streets. Most lots will be served by gravity service lines; however, due to the rolling topography, approximately two dozen lots will be served by grinder pumps. Connection to existing on-site facilities where the owner has requested wastewater collection service are included in the proposed facilities. Where a

lot is vacant or service was not requested, the design provides the potential for wastewater collection service by extending a stub to the property line.

The design capacity of each facility is limited to the existing and proposed development noted in the LUA document. As the 10-year population forecast is the ultimate development density, no capacity beyond that forecast is required in any of the proposed facilities. The minimum size line that can be constructed for wastewater collection systems, due to maintenance issues, is an 8 inch line. An 8-inch line may serve a single customer at the end of the line or up to several hundred customers if the slope is appropriate. Nevertheless, each line in the Rollingwood Service Area is intended to serve only the existing and proposed development within the design growth period and only the existing and proposed development. No excess capacity is reserved for future use, and therefore the entire cost of the lines is used to determine the maximum allowable impact fee. Table 1 presents a summation of the proposed facilities and their estimated capital costs. As seen in Table 1, the estimated project capital cost is \$7,353,255. Because impact fees are being developed for both residential and commercial development, Table 2 presents a breakout of the facilities shown in Table 1 in terms of allocation to residential or commercial service units.

III. Service Units

As described on the LUA, the impact fee derivation is based on a derived "Rollingwood Service Unit" (RSU) which was calculated to equate a water usage to the average Rollingwood residential customer, i.e. one RSU is equivalent to the average annual residential water usage per connection, in gallons per minute. Table 3 presents the derivation of the Rollingwood Service Unit. A Rollingwood Service Unit for water is calculated to be 0.38 gpm. The RSU for water was divided into the recent historical water use records for commercial tracts to determine an RSU equivalence for the commercial areas. Table 4 presents those calculations and the RSU equivalents for the Rollingwood commercial area. The analysis presented in the LUA indicates that the residential and commercial RSUs attributable to new development within the 10-year growth period are 560 and 517 service units, respectively.

IV. Maximum Allowable Wastewater Impact Fee Calculation

As previously discussed, the design growth period capacity of the facilities is the total design capacity of the proposed facilities. In addition, all existing tracts not currently served by an organized collection system and all of the remaining tracts of developable land within the City of Rollingwood constitute the "new development" that necessitate the proposed facilities. All projected facilities capital costs are therefore attributable to new development.

In order to determine the maximum allowable wastewater impact fees for residential and commercial development, the proposed project costs are first separated into those costs

that are allocated to residential service and those costs that are allocated to commercial service. Where both residential and commercial services utilize the same facility, the cost of that facility is allocated based on the pro rata shares of the residential and commercial use of that facility. Table 2 presents the determination of capital cost allocation for all of the facilities. As seen in this table, 81.4% of the estimated project capital cost is allocated to residential development and 18.6% is allocated to commercial development.

After projected capital costs are allocated, a cost of financing service factor that includes one year of capitalized interest along with debt issuance costs is added to the projected capital costs. The cost of financing factor is estimated at 10% of the capital improvements costs. To this subtotal, a debt service factor is added. The debt service factor is equal to 1.80 times the total of the projected capital costs and the cost of financing service factor. The 1.80 multiplier represents estimating the Rollingwood wastewater system financing through LCRA issued bonds on an estimated interest rate of 6.0% through a total bond life of 40 years. Table 5 presents results of the total cost derivations, the numbers of service units that necessitate those costs (from Table 1), and the determination of the maximum allowable impact fees. The maximum allowable wastewater impact fees are calculated to be:

Residential \$ 32,920.58 per RSU
 Commercial \$ 8,147.97 per RSU

V. Assessed and Collected Impact Fee

The Texas Impact Fee Act provides for the assessment and collection of impact fees. Assessed fees may not exceed the maximum allowable fee per service unit, and once assessed, may not change unless there is an increase in the number of service units attributable to new development on the specific tract or lot. The collected fee may not exceed the assessed fee. Impact fees may not be collected in areas where service is not currently available unless the political subdivision has committed to commence construction on the capital improvement within two years.

The basis for setting the assessed fee and collected fee is somewhat subjective, but it is generally practical to set the assessed fee and collected fee lower than the maximum calculated allowable fees to avoid the potential need to revise the assessed fees if construction costs are lower than estimated. By the same logic, the assessed fee and collected fee should not be set excessively lower than the maximum calculated allowable fee in case construction costs are higher than estimated. The assessed and collected fees for the Rollingwood wastewater impact fee are proposed to be as follows:

	Maximum Allowable	Assessed	Collected
Residential:	\$32,920.58	\$6,500	\$2,000
Commercial:	\$8,147.97	\$6,500	\$5,000

Table 1 - Cost Estimate

City of Rollingwood Wastewater Improvements

Construction Cost	Amount	Units	Unit Cost	Cost
<u>Standard Construction Contract</u>				
2" SCH-40 Pipe	3,000	LF	\$20.00	\$60,000
3" SCH-40 Pipe	2,000	LF	\$21.00	\$42,000
4" SCH-40 Pipe	2,200	LF	\$22.00	\$48,400
8-in SDR 26 Pipe (0-10 ft)	15,750	LF	\$30.00	\$472,500
8-in SDR 26 Pipe (10-18 ft)	23,500	LF	\$35.00	\$822,500
12-in SDR 26 Pipe (0-10 ft)	4,600	LF	\$40.00	\$184,000
12-in SDR 26 Pipe (10-18 ft)	2,000	LF	\$48.00	\$96,000
Concrete Cap	6,600	LF	\$25.00	\$165,000
Manhole (0-10 ft)	75	EA	\$3,000.00	\$225,000
Manhole (10-18 ft)	110	EA	\$4,000.00	\$440,000
Cleanouts	30	EA	\$20.00	\$600
Valves	60	EA	\$20.00	\$1,200
Pavement Restoration	47,745	LF	\$7.50	\$358,088
Easement Restoration	5,305	LF	\$5.00	\$26,525
150 gpm Lift Station No. 1	1	EA	\$100,000.00	\$100,000
100 gpm Lift Station No. 2	1	EA	\$95,000.00	\$95,000
50 gpm Lift Station No. 3	1	EA	\$90,000.00	\$90,000
300 gpm CoA Lift Station	1	EA	\$1,100,000.00	\$1,100,000
6" Force Main	1,800	LF	\$150.00	\$270,000
Bore under Mopac	300	LF	\$250.00	\$75,000
Permanent Flow Meter	1	EA	\$40,000.00	\$40,000
Traffic Control	1	LS	\$35,000.00	\$35,000
Rock Berm	528	LF	\$20.00	\$10,560
Silt Fence	2,293	LF	\$3.00	\$6,878
Total Construction Cost				\$4,613,850
Contingencies @ 10%				\$461,385
Subtotal				\$5,075,235
Engineering + Surveying @ 15%				\$761,285
Total Project Cost				\$5,836,520
 <u>Field Design-Build</u>				
Wastewater Service Line (Avg 50 ft per Lot)	27,250	LF	\$14.00	\$381,500
Wastewater Service Connection	545	EA	\$1,500.00	\$817,500
Total Construction Cost				\$1,199,000
Contingencies @ 10%				\$119,900
Subtotal				\$1,318,900
Engineering + Surveying @ 15%				\$197,835
Total Project Cost				\$1,516,735
 Combined Project Cost				 \$7,353,255

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Cost Estimate

Table 2 - Cost Share Allocation
City of Rollingwood Wastewater Improvements

Construction Cost	Cost	% Commercial	Commercial Cost	% Residential	Residential Cost
Standard Construction Contract					
2" SCH-40 Pipe	\$60,000	0%	\$0	100%	\$60,000
3" SCH-40 Pipe	\$42,000	0%	\$0	100%	\$42,000
4" SCH-40 Pipe	\$48,400	0%	\$0	100%	\$48,400
8-in SDR 26 Pipe (0-10 ft)	\$472,500	0%	\$0	100%	\$472,500
8-in SDR 26 Pipe (10-18 ft)	\$822,500	0%	\$0	100%	\$822,500
12-in SDR 26 Pipe (0-10 ft)	\$184,000	75%	\$138,000	25%	\$46,000
12-in SDR 26 Pipe (10-18 ft)	\$96,000	30%	\$28,800	70%	\$67,200
Concrete Cap	\$165,000	61%	\$100,650	39%	\$64,350
Manhole (0-10 ft)	\$225,000	7%	\$15,000	93%	\$210,000
Manhole (10-18 ft)	\$440,000	7%	\$32,000	93%	\$408,000
Cleanouts	\$600	0%	\$0	100%	\$600
Valves	\$1,200	0%	\$0	100%	\$1,200
Pavement Restoration	\$358,088	8%	\$28,647	92%	\$329,441
Easement Restoration	\$26,525	65%	\$17,241	35%	\$9,284
150 gpm Lift Station No. 1	\$100,000	0%	\$0	100%	\$100,000
100 gpm Lift Station No. 2	\$95,000	0%	\$0	100%	\$95,000
50 gpm Lift Station No. 3	\$90,000	0%	\$0	100%	\$90,000
300 gpm CoA Lift Station	\$1,100,000	48%	\$528,000	52%	\$572,000
6" Force Main	\$270,000	48%	\$129,600	52%	\$140,400
Bore under Mopac	\$75,000	48%	\$36,000	52%	\$39,000
Permanent Flow Meter	\$40,000	48%	\$19,200	52%	\$20,800
Traffic Control	\$35,000	10%	\$3,500	90%	\$31,500
Rock Berm	\$10,560	30%	\$3,168	70%	\$7,392
Silt Fence	\$6,878	20%	\$1,376	80%	\$5,502
Total Construction Cost	\$4,613,850		\$1,081,182		\$3,532,668
Contingencies @ 10%	\$461,385		\$108,118		\$353,267
Subtotal	\$5,075,235		\$1,189,300		\$3,885,935
Engineering + Surveying @ 15%	\$761,285		\$178,395		\$582,890
Total Project Cost	\$5,836,520		\$1,367,695		\$4,468,825
Field Design-Build					
Wastewater Service Line (Avg 50 ft per Lot)	\$381,500	0%	\$0	100%	\$381,500
Wastewater Service Connection	\$817,500	0%	\$0	100%	\$817,500
Total Construction Cost	\$1,199,000		\$0		\$1,199,000
Contingencies @ 10%	\$119,900		\$0		\$119,900
Subtotal	\$1,318,900		\$0		\$1,318,900
Engineering + Surveying @ 15%	\$197,835		\$0		\$197,835
Total Project Cost	\$1,516,735		\$0		\$1,516,735
Combined Project Cost	\$7,353,255		\$1,367,695		\$5,985,560

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Costs % Comm + Res

Table 3 - Rollingwood Service Unit Derivation (RSU)
Rollingwood Wastewater System

Month	Total Water Use	Commercial Use	Residential Use	Average Demand per Connection (gpm)
January	7,685,000	1,871,000	5,814,000	0.26
February	6,202,000	1,661,000	4,541,000	0.23
March	10,098,000	2,605,000	7,493,000	0.34
April	9,035,000	2,545,000	6,490,000	0.30
May	10,170,000	2,093,000	8,077,000	0.36
June	18,152,000	3,652,000	14,500,000	0.68
July	20,182,000	4,549,000	15,633,000	0.70
August	15,004,000	3,101,000	11,903,000	0.54
September	12,291,000	2,668,000	9,623,000	0.45
October	9,436,000	2,654,000	6,782,000	0.31
November	5,102,000	1,461,000	3,641,000	0.17
December	6,005,000	1,451,000	4,554,000	0.21
	129,362,000	30,311,000	99,051,000	0.38

Note: Average Demand is based on 497 existing residential connections.

Derivation of RSU:

$$1 \text{ RSU} = (99,051,000 \text{ gallons/year}) * (1 \text{ year}/525,600 \text{ minutes}) * (1/497 \text{ connections}) = 0.38 \text{ gpm}$$

Table 4 - Commercial Rollingwood Service Units (RSUs)

Legal Description	Business Name	Annual Water Use (1,000 gals)	% of Total Water Use	Rollingwood Service Units	CoA Service Units
Resubd. Of Blk A, Timberline Terrace Sec. 1	Western Hills	1,063	3.4%	5	N/A
		2,432	7.8%	12	N/A
Timberline Terrace, Section 3A Amend.	B. Kendrick	1,400	4.5%	7	N/A
	Texas ERW	60	0.2%	1	N/A
	Chas Diseker	26	0.1%	1	N/A
Bee Cave Road Office Park	Clay Morgan	185	0.6%	1	N/A
Bee Caves Bend	Pamela Reese	114	0.4%	1	N/A
Timberline Terrace	The Palisades	1,930	6.2%	10	N/A
Rollingwood West	Finish Line	5,182	16.7%	N/A	26
Resub. Of Lot 2, Rollingwood West	Goodyear Tire	213	0.7%	1	N/A
	Quick Lube	95	0.3%	1	N/A
Timberline Terrace Commercial Sec. 1	Shelnutt & Gen.	15	0.0%	1	N/A
	Quick Print		0.0%	1	N/A
	D S Residential	175	0.6%	1	N/A
Timberline Terrace Commercial	Kovar Texaco	144	0.5%	1	N/A
Westpark Square Professional Center			0.0%	1	N/A
Resub. Of Lots 5A and 6A, Westpark SPC Ph 2	Rollingwood Plaza		0.0%	1	N/A
Westpark Square Professional Center Ph. 2	Broaddus Bee Caves	1,814	5.9%	9	N/A
	RWF Investments	1,151	3.7%	6	N/A
	Michael Quigley	70	0.2%	1	N/A
	Tor Gotun	109	0.4%	1	N/A
	Progressive Realty	507	1.6%	3	N/A
Rollingwood Engineering Center		743	2.4%	4	N/A
Resubd. Of Lots 2 and 3, Rollingwood Eng. Ctr			0.0%	1	N/A
The Corners (Amended Plat)	Harbinger Center	473	1.5%	N/A	2
		1,839	5.9%	N/A	9
Renaissance Women's Center of Austin		1,806	5.8%	N/A	9
		2,065	6.7%	N/A	10
Village at Treemont		227	0.7%	N/A	1
Treemont Phase D	Bee Cave Properties	185	0.6%	N/A	1
		733	2.4%	N/A	4
		2,372	7.7%	N/A	12
Treemont Phase C	Heritage Square	1,629	5.3%	N/A	8
Unknown	Avallon-Brake	2,191	7.1%	11	N/A
	Dr Buckman	3	0.0%	1	N/A
	Ed Ingram	42	0.1%	1	N/A
	Total	30,993		82	83
	Equivalent RSUs	155			

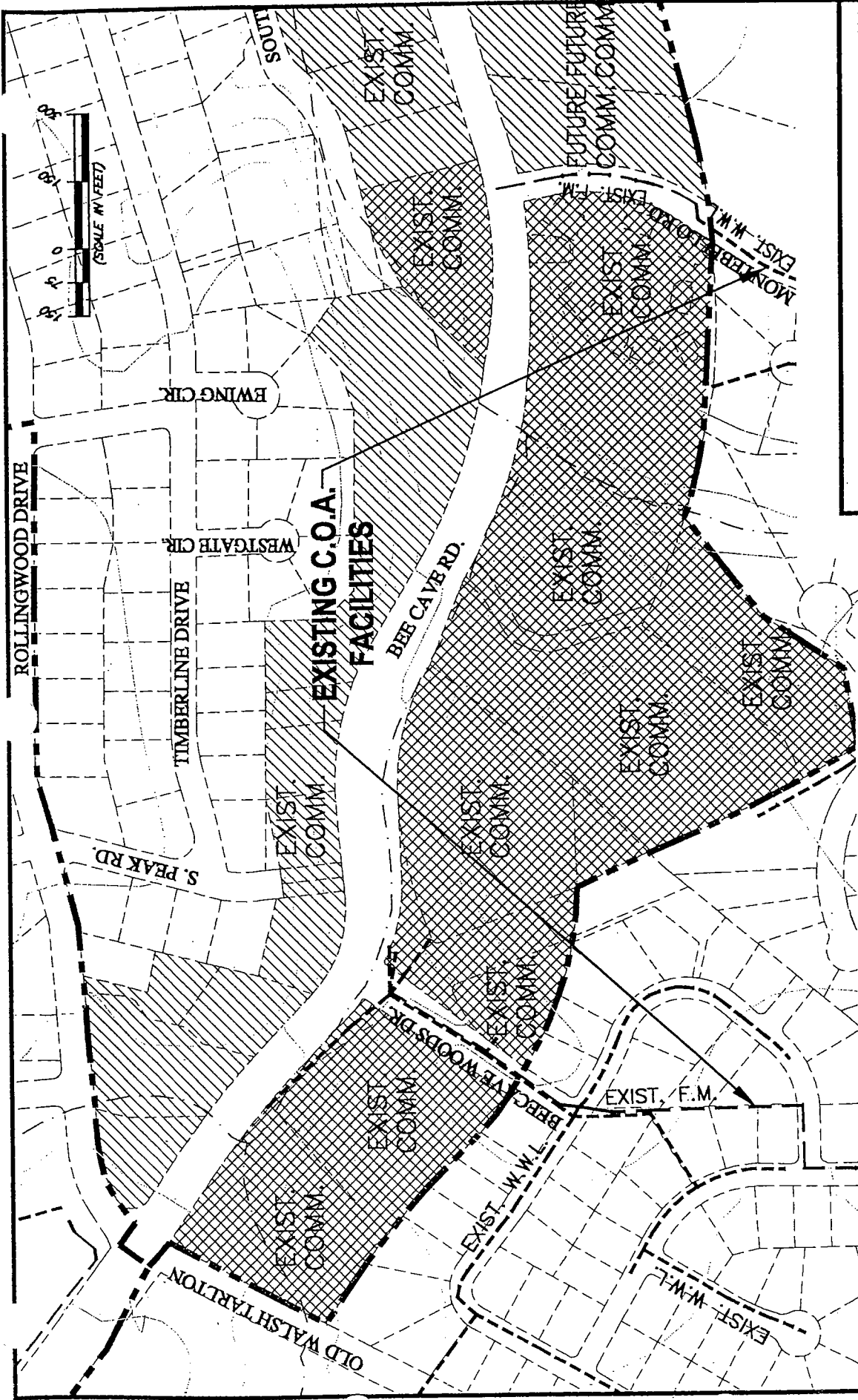
*Note: No user can be assigned less than 1 RSU. Therefore, the sum of all RSUs is 165, while the capacity based calculation indicates 155 equivalent RSUs.

Table 5 - Summary of Cost, Debt Service & Service Units
 City of Rollingwood Wastewater Improvements



	Service Units	Capital Improvements Cost	Cost of Financing	Debt Service	Total Cost	Maximum Allowable Impact Fee
Commercial	517	\$1,367,695	\$136,769	\$2,708,036	\$4,212,500	\$8,147.97
Residential	560	\$5,985,560	\$598,556	\$11,851,409	\$18,435,526	\$32,920.58

Notes:

- 1) Cost of Financing includes one year of debt service plus all financial costs related to issuing debt, and is set at 10% of the Capital Improvements cost.
- 2) Debt Service is a 1.8 multiplier to account for 6% interest over a 40-year period. The debt service factor is applied to both the Capital Improvements cost and the cost of financing.
- 3) Maximum Allowable Impact Fee is the total cost divided by the number of service units.



LEGEND

-  COMMERCIAL AREA ALREADY SEWERED
-  COMMERCIAL AREA



**FIGURE 1 - L.C.R.A.
ROLLINGWOOD WASTEWATER SYSTEM
AREA SERVED BY CITY OF AUSTIN**

1101 South Capital of Texas Highway, Building D, Suite 110, Austin, Texas 78746 (512) 327-9204