

## Property Assumptions

### Property and purchase assumptions

Property size	150 units
Rent	\$1,000.00
Vacancy allowance	5.00%
Operating expense ratio	25.00%
Purchase price	\$16,000,000
Acquisition costs	\$320,000
Date property will be put in service	1/1/2004

### Loan assumptions

Maximum LTV ratio	80.00%
Minimum debt-coverage ratio	1.00
Mortgage interest rate	6.75%
Amortization length	20 years
Loan term	10 years
Loan fees	2.50 points

### Depreciation assumptions

Depreciable life	27.5 years
Tax assessor building value	\$10,200,000
Tax assessor land value	\$1,800,000
Appraised building value	\$12,000,000
Appraised land value	\$3,000,000

### Tax assumptions

Ordinary income tax rate	35.00%
Capital gains tax rates	20.00%
Depreciation recapture tax rate	25.00%

### Sale assumptions

Cap rate at sale	9.00%
Sale costs	6.00%
Date property will be sold	12/31/2008
Year 6 NOI	\$1,451,031

### Other assumptions

After-tax equity discount rate	10.00%
Rent growth rate	2.50%
Operating expense growth rate	2.50%

**Pro Forma Operating Statement (First Year)**

Potential gross income	\$	1,800,000	= 150 units x \$1000.00 x 12
- Vacancy & collection @ 5.00%	\$	90,000	
<b>Effective gross income</b>	\$	<b>1,710,000</b>	
- Operating expenses @ 25.00%	\$	427,500	
<b>Net operating income</b>	\$	<b>1,282,500</b>	
- Annual debt service	\$	1,167,919	
<b>Before-tax cash flow</b>	\$	<b>114,581</b>	
- Taxes from operations	\$	(30,568)	
<b>After-tax cash flow</b>	\$	<b>145,149</b>	
<b>Capitalization rate</b>		<b>8.02%</b>	= NOI ÷ purchase price
<b>Cash-on-cash return</b>		<b>3.58%</b>	= BTCF ÷ (purchase price – loan amount)

**Mortgage Calculations**

Property value		\$16,000,000	
Maximum loan-to-value ratio		80.00%	
<b>LTV-based maximum loan amount</b>	\$	<b>12,800,000</b>	
Net operating income	\$	1,282,500	
÷ Minimum debt coverage ratio		1.00	
Maximum annual debt service	\$	1,282,500	
Maximum monthly payment	\$	106,875	= Maximum ADS ÷ 12
<b>DCR-based maximum loan amount</b>	\$	<b>14,055,768</b>	P/Y = 12, N = 20 x 12, I = 6.75%, PMT = -106,875, FV = 0
<b>Maximum loan amount</b>	\$	<b>12,800,000</b>	= Minimum of LTV- and DCR-based calculations
Monthly payment	\$	97,327	P/Y = 12, N = 20 x 12, I = 6.75%, PV = -12,800,000, FV = 0
<b>Annual debt service</b>	\$	<b>1,167,919</b>	Monthly payment x 12
<b>Debt coverage ratio</b>		<b>1.10</b>	= NOI / ADS
<b>Mortgage constant</b>		<b>9.12%</b>	= ADS / loan amount
<b>Total loan fees</b>	\$	<b>320,000</b>	= \$12,800,000 x 2.50 / 100

## Tax Calculations

### Taxable Income Calculations (First Year)

Net operating income	\$	1,282,500	
– Depreciation allowance	\$	483,418	
– Interest expense	\$	854,419	P1 = 1, P2 = 12
– Amortization expense	\$	32,000	
<b>Taxable income</b>	<b>\$</b>	<b>(87,337)</b>	
x Tax rate		35.00%	
<b>Tax</b>	<b>\$</b>	<b>(30,568)</b>	

### Depreciation Calculations

Assessor's building value ratio	85.00%	= \$10,200,000 / (\$10,200,000 + \$1,800,000)
Appraiser's building value ratio	80.00%	= \$12,000,000 / (\$12,000,000 + \$3,000,000)
Purchase price	\$	16,000,000
+ Acquisition costs	\$	320,000
<b>Initial basis</b>	<b>\$</b>	<b>16,320,000</b>
x Percent of value in building		85.00%
<b>Depreciable basis</b>	<b>\$</b>	<b>13,872,000</b>
÷ Depreciable life		27.5
<b>Annual depreciation allowance</b>	<b>\$</b>	<b>504,436</b>
		Depreciation allowance when held full year
<b>First year depreciation allowance</b>	<b>\$</b>	<b>483,418</b>
		Normal allowance x 11.5 ÷ 12
<b>Last year depreciation allowance</b>	<b>\$</b>	<b>483,418</b>
		Normal allowance x 11.5 ÷ 12
<b>Total straight line depreciation</b>	<b>\$</b>	<b>2,480,144</b>
		= 3 x \$504,436 + \$483,418 + \$483,418

**Amortization Calculations**

Loan amount	\$	12,800,000	
x Points		<u>2.50</u>	
<b>Total loan fees</b>	<b>\$</b>	<b>320,000</b>	
÷ Term of loan		<u>10</u>	
<b>Annual amortization expense</b>	<b>\$</b>	<b>32,000</b>	Amortized expenses when loan is held full year
<b>First year amortized expenses</b>	<b>\$</b>	<b>32,000</b>	Normal expense × 12 ÷ 12
<b>Last year amortized expenses</b>	<b>\$</b>	<b>32,000</b>	Normal allowance × 12 ÷ 12
Total loan fees	\$	320,000	
– Amortized expenses claimed	\$	<u>160,000</u>	= 3 × \$32,000 + \$32,000 + \$32,000
<b>Unclaimed amortized loan fees</b>	<b>\$</b>	<b>160,000</b>	

### Sale Calculations

#### Sale Cash Flows

<b>Year 6 NOI</b>	<b>\$ 1,451,031</b>
÷ Cap rate at sale	9.00%
<b>Sale price</b>	<b>\$ 16,122,564</b>
– Costs of sale at 6.00%	\$ 967,354
<b>Net sale price</b>	<b>\$ 15,155,210</b>
– Mortgage balance due	\$ 10,998,480
<b>Before-tax equity reversion</b>	<b>\$ 4,156,730</b>
– Taxes from sale	\$ 272,839
<b>After-tax equity reversion</b>	<b>\$ 3,883,892</b>

P2 = 60

#### Adjusted Basis Calculations

Initial basis	\$ 16,320,000
– Straight-line depreciation	\$ 2,480,144
<b>Adjusted basis</b>	<b>\$ 13,839,856</b>

#### Capital Gains Calculations

Net sale price	\$ 15,155,210
– Adjusted basis	\$ 13,839,856
<b>Total gain on sale</b>	<b>\$ 1,315,354</b>
<b>– Straight-line depreciation</b>	<b>\$ 1,315,354</b>
<b>Gain due to appreciation</b>	<b>\$ -</b>

Limited to the greater of the total gain or 0

#### Taxes from Sale

Depreciation recapture at 25.00%	\$ 328,839	= \$1,315,354 × 25.00%
Capital gains at 20.00%	\$ -	= \$0,000 × 20.00%
Unclaimed amortization at 35.00%	\$ (56,000)	= \$160,000 × 35.00%
<b>Total taxes from sale</b>	<b>\$ 272,839</b>	

## NPV and IRR Calculations

### Initial Cash Flow Calculations

Purchase price	\$	16,000,000
+ Acquisition costs	\$	320,000
- Mortgage loan proceeds	\$	12,800,000
+ Mortgage loan fees	\$	320,000
<b>Total date 0 cash flows</b>	<b>\$</b>	<b>3,840,000</b>

### Cash Flow Analysis

<u>Year</u>	<u>Cash Flow</u>
Date 0	\$ (3,840,000)
Date 1	\$ 114,581
Date 2	\$ 146,644
Date 3	\$ 179,508
Date 4	\$ 213,193
Date 5	\$ 4,109,555 = \$225,664 + \$3,883,892

**NPV @ 10.00% = \$ (782,451) Do not invest, because NPV < 0.**

**IRR = 4.72% Do not invest, because IRR < discount rate.**

**Cash Flow Analysis****Annual Operating Statements**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Potential gross income	\$ 1,800,000	\$ 1,845,000	\$ 1,891,125	\$ 1,938,403	\$ 1,986,863	\$ 2,036,535
– Vacancy & collection @ 5.00%	\$ 90,000	\$ 92,250	\$ 94,556	\$ 96,920	\$ 99,343	\$ 101,827
Effective gross income	\$ 1,710,000	\$ 1,752,750	\$ 1,796,569	\$ 1,841,483	\$ 1,887,520	\$ 1,934,708
– Operating expenses @ 25.00%	\$ 427,500	\$ 438,188	\$ 449,142	\$ 460,371	\$ 471,880	\$ 483,677
<b>Net operating income</b>	<b>\$ 1,282,500</b>	<b>\$ 1,314,563</b>	<b>\$ 1,347,427</b>	<b>\$ 1,381,112</b>	<b>\$ 1,415,640</b>	<b>\$ 1,451,031</b>
– Annual debt service	\$ 1,167,919	\$ 1,167,919	\$ 1,167,919	\$ 1,167,919	\$ 1,167,919	
<b>Before-tax cash flow</b>	<b>\$ 114,581</b>	<b>\$ 146,644</b>	<b>\$ 179,508</b>	<b>\$ 213,193</b>	<b>\$ 247,721</b>	
– Taxes from operations	\$ -	\$ -	\$ -	\$ -	\$ 22,058	
<b>After-tax cash flow</b>	<b>\$ 114,581</b>	<b>\$ 146,644</b>	<b>\$ 179,508</b>	<b>\$ 213,193</b>	<b>\$ 225,664</b>	

**Taxable Income Calculations**

Net operating income	\$ 1,282,500	\$ 1,314,563	\$ 1,347,427	\$ 1,381,112	\$ 1,415,640
– Depreciation allowance	\$ 483,418	\$ 504,436	\$ 504,436	\$ 504,436	\$ 483,418
– Interest expense	\$ 854,419	\$ 832,591	\$ 809,242	\$ 784,268	\$ 757,556
– Amortization expense	\$ 32,000	\$ 32,000	\$ 32,000	\$ 32,000	\$ 32,000
Taxable income before passive losses	\$ (87,337)	\$ (54,465)	\$ 1,749	\$ 60,408	\$ 142,666
Passive loss carry-forward	\$ -	\$ (87,337)	\$ (141,802)	\$ (140,053)	\$ (79,644)
Taxable income	\$ -	\$ -	\$ -	\$ -	\$ 63,022
x Tax rate	35.00%	35.00%	35.00%	35.00%	35.00%
<b>Tax</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 22,058</b>