Fina210/2 AA (FALL 2015) **Quiz #1A (worth 5%)** **September 30th, 2015**

NAME: Estelle Chidiac **ID#:** 27[illegible]

- **Period of analysis is 23 years effective put-in-use**
- **Demolition costs: $280,000**
- **Construction Costs: $8,500,000**
- **Land: $5,000,000**
- **Land with building purchased 11 months before demolition starts, and financed at 6.90% p.a. compounded monthly**
- **Building (Existing): $320,000**
- **Demolition time: 1 months**
- **Construction time: 9 months (including demolition time)**
- **Demolition costs financed at 5.70% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.25% per annum, compounded quarterly**
- **Financing of demolition costs: 48% down, and balance (52%) paid on completion of demolition**
- **Financing of construction costs: 56% down, and balance (44%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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3

COMPLETE THE TABLES

Land costs + financing costs	$ 5 650 384
Existing building + financing costs	$ 0
Demolition costs + financing costs	$ 0
Construction costs + financing costs	$ 9 308 445
TOTAL COSTS OF PROJECT at piu	$ 14 958 829

piu = put-in-use

Building costs at put-in-use	$ 9 308 445
CCA Year 1	$ 186 169
CCA Year 2	$ 364 891
CCA Year 3	$ 350 295
CCA Year 4	$ 336 284

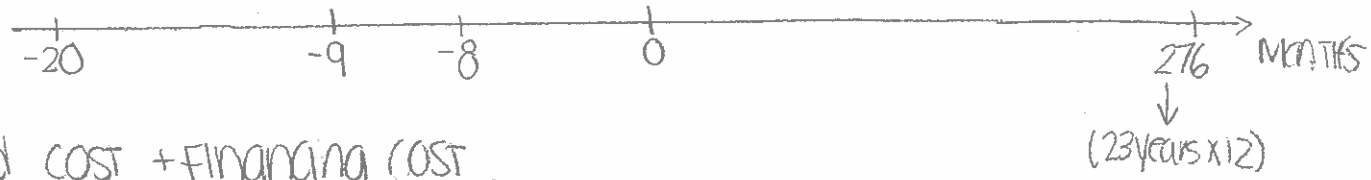
5

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use this table if you find it useful

Period	Beginning Balance	CCA (4%)	Ending Balance
1	9 308 445	2% → 186 169	9 122 276
2	9 122 276	4% → 364 891	8 757 385
3	8 757 385	4% → 350 295	8 407 090
4	8 407 090	4% → 336 284	8 070 806



① Land cost + Financing cost

$5\,000\,000 \times \left(1 + \frac{.069}{12}\right)^{20} = \$5607\,519.97 \approx \boxed{\$5\,607\,520}$

② Building cost + Financing cost

$320\,000 \times \left(1 + \frac{.069}{12}\right)^{20} = \$358\,881.28 \approx \boxed{\$358\,881}$

③ Demolition cost + Financing cost

$280\,000 \times .48 \times \left(1 + \frac{.057}{52}\right)^{(9/12)\times 52} + 280\,000 \times .52 \times \left(1 + \frac{.057}{52}\right)^{(8/12)\times 52}$

$= 140\,266.90 + 151\,236.12$

$= \$291\,503.02 \approx \boxed{\$291\,503}$

④ Construction cost + Financing cost

$= 8\,500\,000 \times .56 \times \left(1 + \frac{.0625}{4}\right)^{8/3} + 8500\,000 \times .44 \times \left(1 + \frac{.0625}{4}\right)^{8/3}$

$= 4960\,924.75 + 3740\,000$

$= \$8700\,924.75 \approx \boxed{\$8700\,925}$

⑥ 3 assumptions

$FC = 5607520 - 5000000$

$LC + FC = 5607\,520 - \overbrace{607\,520}^{FC} + 358\,881 + 291\,503 = \boxed{5650\,384}$

$EB + FC = 358\,881 - 358\,881 = \boxed{0}$

$DC + FC = 291\,503 - 291\,503 = \boxed{0}$

$CC + FC = 8700\,925 + 607520 = \$9\,308\,445$

TOTAL $= \$14\,958\,829$

⑤ TCOP

$= 5\,607\,520 + 358\,881 + 291\,503 + 8700\,925$

$= \$14\,958\,829$

* COST OF LAND $= \$5650\,384$

COST OF BUILDING $= \$9\,308\,445 \rightarrow$ use for CCA.

Fina210/2 AA (FALL 2015) **Quiz #1A (worth 5%)** **September 30th, 2015**

NAME: JACQUES, SIMON **ID#:** 2[illegible]

- **Period of analysis is 23 years effective put-in-use**
- **Demolition costs: $280,000**
- **Construction Costs: $8,500,000**
- **Land: $5,000,000**
- **Land with building purchased 11 months before demolition starts, and financed at 6.90% p.a. compounded monthly**
- **Building (Existing): $320,000**
- **Demolition time: 1 months**
- **Construction time: 9 months (including demolition time)**
- **Demolition costs financed at 5.70% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.25% per annum, compounded quarterly**
- **Financing of demolition costs: 48% down, and balance (52%) paid on completion of demolition**
- **Financing of construction costs: 56% down, and balance (44%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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EXISTING BUILDING: 320 000 $ @ 6.90% p/a Monthly

DEMOLITION: 280 000 $ @ 5.70% p/a Weekly → 48% @ -9M, 52% @ -8M

CONSTRUCTION: 8 500 000 $ @ 6.25% p/a Quarterly → 56% @ -8M, 44% @ 0yr

LAND: 5 000 000 $ @ 6.90% p/a Monthly

-20 Months	Land costs	$5\,000\,000\left[1+\frac{6.90\%}{12}\right]^{20} = 5\,607\,520\$$
-20 Months	EXISTING BUILDING	$320\,000\left[1+\frac{6.90\%}{12}\right]^{20} = 358\,881\$$
-9 Months	DEMOLITION COSTS (1)	$48\% * 280\,000\left[1+\frac{5.70\%}{52}\right]^{\left(\frac{9}{12}\right)\cdot 52} = 223\$$ / $140\,267\$$
-8 Months	DEMOLITION COSTS (2)	$52\% * 280\,000\left[1+\frac{5.70\%}{52}\right]^{\left(\frac{8}{12}\right)\cdot 52} = 151\,236\$$
-8 Months	CONSTRUCTION COSTS (1)	$56\% * 8\,500\,000\left[1+\frac{6.25\%}{4}\right]^{\frac{8}{3}} = 4\,960\,925\$$
0yr (P.I.U)	CONSTRUCTION COSTS (2)	$44\%\left[8\,500\,000\right] = 3\,740\,000\$$

DEMOLITION COSTS (1) + DEMOLITION COSTS (2) = 291 503 $

CONSTRUCTION COSTS (1) + CONSTRUCTION COSTS (2) = 8 700 925 $

Fina210/2 AA (FALL 2015)	Quiz #1A (worth 5%)	September 30th, 2015

COMPLETE THE TABLES

Land costs + financing costs	**$** 5 607 520
Existing building + financing costs	**$** 358 881
Demolition costs + financing costs	**$** 291 503
Construction costs + financing costs	**$** 8 700 925
TOTAL COSTS OF PROJECT at piu	**$** 14 958 829

piu = put-in-use

Building costs at put-in-use		**$** 9 308 445
CCA Year 1	$ 186 164	**$**
CCA Year 2	$ 364 891	**$**
CCA Year 3	$ 350 295	**$**
CCA Year 4	$ 336 284	**$**

DEMOLITION → LAND [5 607 520 + 291 503]

EXISTING BUILDING → LAND [5 899 023 + 358 881]

FINANCING COST OF LAND → CONSTRUCTION [5 899 023 − 607 520]

[8 700 925 + 607 520]

CCA = 4% by/r

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

LAND COSTS: 5 291 503 $

CONSTRUCTION COST: 9 308 445 $

$$FV = (1+r)^{n} * PV$$

5

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	9 308 445 $	2% (186 169 $)	9 122 276 $
2	9 122 276 $	4% (364 891 $)	8 757 385 $
3	8 757 385 $	4% (350 295 $)	8 407 090 $
4	8 407 090 $	4% (336 284 $)	8 070 806 $

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Fina210/2 AA (FALL 2015)	Quiz #1B (worth 5%)	September 30th, 2015

NAME: Demetrios Georgoudes **ID#:** 2[illegible]

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $270,000**
- **Construction Costs: $8,400,000**
- **Land: $5,000,000** ✓
- **Land with building purchased 7 months before demolition starts, and financed at 6.90% p.a. compounded <u>monthly</u>**
- **Building (Existing): $320,000** ✓
- **Demolition time: 1 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at <u>5.70</u>% per annum, compounded <u>weekly</u>, *assume 52 weeks per annum***
- **Construction costs financed at 6.25% per annum, compounded <u>quarterly</u>**
- **Financing of demolition costs: 52% down, and balance (48%) paid on completion of demolition**
- **Financing of construction costs: 44% down, and balance (56%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

<u>ASSUMPTIONS:</u>

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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Depreciation:

Land financing cost =

[redacted]

5,543,585.00
− 5,000,000.00
543,585.00

Transfer Financing of Land to Building =

543,585.00 +
+ 8,596,032.14
9,139,617.14 = Begining Balance @ PIU.

Fina210/2 AA (FALL 2015)	Quiz #1B (worth 5%)	September 30th, 2015

COMPLETE THE TABLES

Land costs + financing costs	$5,543,585.00
Existing building + financing costs	$ 354,789.44
Demolition costs + financing costs	$ 283,828.70
Construction costs + financing costs	$ 8,596,033.14
TOTAL COSTS OF PROJECT at piu	$14,778,235.28

piu = put-in-use

Building costs at put-in-use	$ 9,139,617.14
CCA Year 1	$ 182,792.34
CCA Year 2	$ 358,272.00
CCA Year 3	$ 343,942.07
CCA Year 4	$ 330,184.39

careful

5

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	9,139,617.14	(2%) 182,792.34	8,956,824.80
2	8,956,824.80	(4%) 358,272.00	8,598,551.80
3	8,598,551.80	(4%) 343,942.07	8,254,609.73
4	8,254,609.73	(4%) 330,184.39	7,924,425.34

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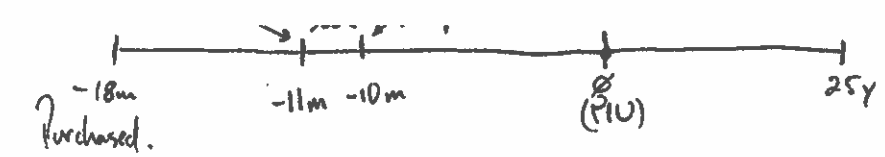

a) Land Cost + Financing:

$$FV = PV(1+r)^n.$$

$$FV = 5{,}000{,}000.00\left(1+\frac{0.069}{12}\right)^{18}$$

$$FV = 5{,}000{,}000.00\ (1.00575)^{18}$$

$$FV = 5{,}000{,}000.00\ (1.108717).$$

$$\boxed{FV = 5{,}543{,}585.00}$$

---

b) Building Cost + Financing:

$$FV = PV(1+r)^n.$$

$$FV = 320{,}000\left(1+\frac{0.069}{12}\right)^{18}.$$

$$FV = 320{,}000 \cdot (1.108717)$$

$$FV = 354{,}789.44$$

---

c) Demolition Cost + Financing:

a)	270,000 ·	52%	= 140,400
b)	270,000 ·	48%	= 129,600

→ b) $FV = PV(1+r)^n$

$$FV = 129{,}600\left(1+\frac{0.057}{52}\right)^{52\cdot\frac{10}{12}}.$$

$$FV = 129{,}600(1.001096)^{43.333333}$$

$$FV = 129{,}600 \cdot 1.048612.$$

$$\boxed{FV = 135{,}900.12.}$$

a) $FV = PV(1+r)^n$

$$FV = 140{,}400\left(1+\frac{0.057}{52}\right)^{52\cdot\frac{11}{12}}.$$

$$FV = 140{,}400\ (1.001096)^{47.666667}.$$

$$FV = 140{,}400 \cdot 1.053601$$

$$\boxed{FV = 147{,}925.58}$$

$$\begin{array}{r} {\scriptstyle 11\ 1} \\ 147{,}925.58 \\ +\ 135{,}900.12. \end{array}$$

$$\boxed{283{,}825.70}$$

---

d) Construction Cost + Finance: Cost: 8,400,000.00 / 6.25% / Quarterly /

$8{,}400{,}000 \times 44\% = 3{,}696{,}000.00$

$$FV = PV(1+r)^n$$

$$FV = 3{,}696{,}000.00\left(1+\frac{0.0625}{4}\right)^{\frac{10}{3}}$$

$$FV = 3{,}696{,}000.00\ (1+0.015625)^{3.333333}$$

$$FV = 3{,}696{,}000.00 \cdot 1.053039.$$

$$\boxed{FV = 3{,}892{,}032.14}$$

$8{,}400{,}000 \times 56\% = 4{,}704{,}000$

$$FV = PV(1+r)^n$$

$$FV = 4{,}704{,}000\left(1+\frac{0.0625}{4}\right)^{\frac{0}{3}}$$

$$FV = 4{,}704{,}000$$

Total: $4{,}704{,}000.00 + 3{,}892{,}032.14$

$$\boxed{8{,}596{,}032.14}$$

Fina210/2 AA (FALL 2015) **Quiz #1B (worth 5%)** **September 30th, 2015**

NAME: SIMON HUANG **ID#:**

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $270,000**
- **Construction Costs: $8,400,000**
- **Land: $5,000,000**
- **Land with building purchased 7 months before demolition starts, and financed at 6.90% p.a. compounded monthly**
- **Building (Existing): $320,000**
- **Demolition time: 1 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at 5.70% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.25% per annum, compounded quarterly**
- **Financing of demolition costs: 52% down, and balance (48%) paid on completion of demolition**
- **Financing of construction costs: 44% down, and balance (56%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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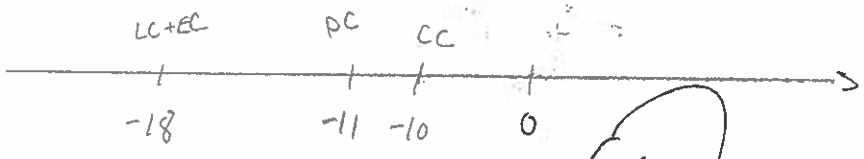
DC : 270 000
LC : 5 000 000
EC : 320 000
CC : 8 400 000



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COMPLETE THE TABLES

Land costs + financing costs	$ 5 638 617
Existing building + financing costs	$ ø
Demolition costs + financing costs	$ ø
Construction costs + financing costs	$ 9 139 619
TOTAL COSTS OF PROJECT at piu	$ 14 778 236

piu = put-in-use

Building costs at put-in-use	$ 9 139 619
CCA Year 1	$ 8 956 827
CCA Year 2	$ 8 598 554
CCA Year 3	$ 8 254 612
CCA Year 4	$ 7 924 428

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

4% HYL

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	9 139 619	(182 792) 2%	8 956 827
2	8 956 827	(358 273) 4%	8 598 554
3	8 598 554	(343 942) 4%	8 254 612
4	8 254 612	(330 184) 4%	7 924 428

LAND EC

0,069 $\left[1 + \frac{0,069}{12}\right]^{12} - 1 = 0,071224495$

DEMO

0,057 $\left[1 + \frac{0,057}{52}\right]^{52} - 1 = 0,058622762$

CONST

0,0625 $\left[1 + \frac{0,0625}{4}\right]^{4} - 1 = 0,063980162$

DC + fc

$0,52 * 270\,000 (1 + 0,058622762)^{11/12} = 147\,927$

$0,48 * 270\,000 (1 + 0,058622762)^{10/12} = 135\,901$

} **283 828**

CC + fc

$0,44 * 8\,400\,000 (1 + 0,063980162)^{10/12} = 3\,892\,034$

$0,56 * 8\,400\,000 (1 + 0,063980162)^{9/12} = 4\,704\,000$

} **8 596 034**

LC + fc

$5\,000\,000 (1 + 0,071224495)^{18/12} =$ **5 543 585**

EC + fc

$320\,000 (1 + 0,071224495)^{18/12} =$ **354 789**

DC + fc = 283 828 − 283 828 = ∅

CC + fc = 8 596 034 + 543 585 = 9 139 619

LC + fc = 5 543 585 − 543 585 + 283 828 + 354 789 = 5 638 617

EC + fc = 354 789 − 354 789 = ∅

TCoP: 14 778 236

Fina210/2 AA (FALL 2015)	Quiz #1C (worth 5%)	September 30th, 2015

NAME: Jeannine Balabanian **ID#:** [redacted]

- **Period of analysis is 18 years effective put-in-use**
- **Demolition costs: $240,000**
- **Construction Costs: $8,200,000**
- **Land: $5,100,000**
- **Land with building purchased 7 months before demolition starts, and financed at 6.75% p.a. compounded monthly**
- **Building (Existing): $330,000**
- **Demolition time: 3 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at 5.20% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.35% per annum, compounded quarterly**
- **Financing of demolition costs: 53% down, and balance (47%) paid on completion of demolition**
- **Financing of construction costs: 48% down, and balance (52%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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COMPLETE THE TABLES

Land costs + financing costs	$ 5641821
Existing building + financing costs	$ 365059
Demolition costs + financing costs	$ 250184
Construction costs + financing costs	$ 8368836
TOTAL COSTS OF PROJECT at piu	$ 14625900

piu = put-in-use

Building costs at put-in-use		$ 8910657
CCA Year 1	178213	$ 8732444
CCA Year 2	349298	$ 8383146
CCA Year 3	335326	$ 8047820
CCA Year 4	321913	$ 7725907

LC+fc	5641821 + 365059 + 250184 - 541821	5715243
EB+fc	365059 - 365059	∅
DC+fc	250184 - 250184	∅
CC+fc	8368836 + 541821	8910657
	14625900	14625900

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Land Cost = 5715243
Building Cost = 8910657
14625900

@4% HYR

42

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	$ 8910657	2% (178213)	$ 8732444
2	$ 8732444	4% (349298)	$ 8383146
3	$ 8383146	4% (335326)	$ 8047820
4	$ 8047820	4% (321913)	$ 7725907

OK

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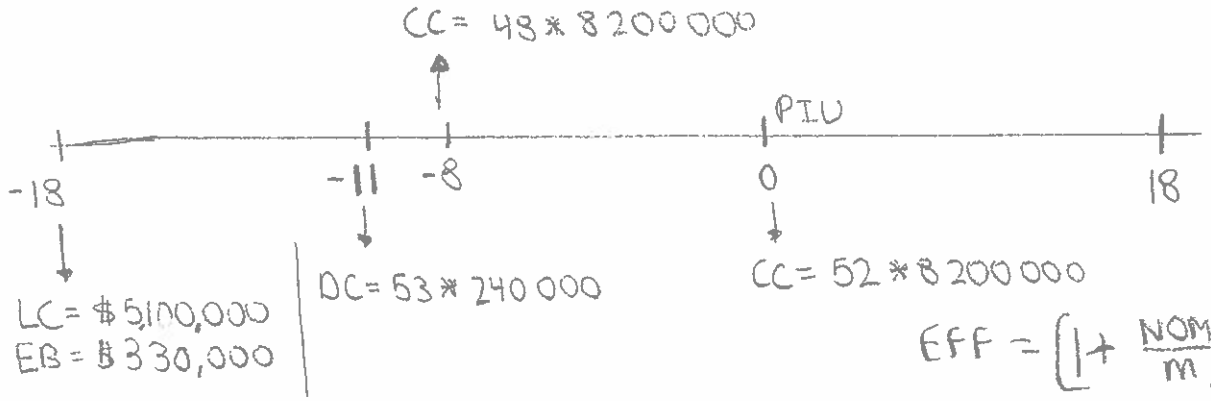

$$EFF = \left[1 + \frac{NOM}{m}\right]^m - 1$$

Land Cost	Demolition Cost	Construction cost
NOM = 6.75% pa comp. monthly	NOM = 5.20% comp. weekly	NOM = 6.35% comp. quarterly
EFF = 6.962793 %	Eff = 5.334838 %	EFF = 6.502816%

-18m
$$LC+fc = 5100000\left(1+\frac{6.75\%}{12}\right)^{18} = 5641821$$ ✓

18m
$$EB+fc = 330000\left(1+\frac{6.75\%}{12}\right)^{18} = 365059$$ ✓

-11m
53 x 240 000 =
$$DC+fc = 127200\left(1+\frac{5.20}{52}\right)^{11/12 \times 52} = 133407$$ ✓

-8m
47 x 24000 =
$$DC+fc = 112800\left(1+\frac{5.20}{52}\right)^{8/12 \times 52} = 116777$$ ✓

DC+fc = 250184

-3m
48 x 8200000 =
$$CC+fc = 3936000\left(1+\frac{6.35}{4}\right)^{8/3} = 4104836$$ ✓ CC+fc

0m
52 x 8200000
$$CC+fc = 4264000\left(1+\frac{6.35}{4}\right)^{0/3} = 4264000$$ ✓

8368836

TCOP = 14625900

Fina210/2 AA (FALL 2015) **Quiz #1C (worth 5%)** **September 30th, 2015**

NAME: Juliette Russell **ID#:** [redacted]

- **Period of analysis is 18 years effective put-in-use**
- **Demolition costs: $240,000**
- **Construction Costs: $8,200,000**
- **Land: $5,100,000**
- **Land with building purchased 7 months before demolition starts, and financed at 6.75% p.a. compounded monthly**
- **Building (Existing): $330,000**
- **Demolition time: 3 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at 5.20% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.35% per annum, compounded quarterly**
- **Financing of demolition costs: 53% down, and balance (47%) paid on completion of demolition**
- **Financing of construction costs: 48% down, and balance (52%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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DO NOT REMOVE STAPLE, complete NAME and ID before starting

Demolition @ 5.20% weekly 53% down 47% After

- $.53 \times 240{,}000\left(1+\frac{.052}{52}\right)^{47.667} = \$133{,}406.8969$
- $.47 \times 240{,}000\left(1+\frac{.052}{52}\right)^{34.667} = \$116{,}776.9864$

Land @ 6.75% monthly @ 18 months

$5{,}100{,}000 \times \left(1+\frac{.0675}{12}\right)^{18} = \$5{,}641{,}826.728$

Building

$330000 \times \left(1+\frac{.0675}{12}\right)^{18} = \$365{,}058.91983$

5

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Fina210/2 AA (FALL 2015)	Quiz #1C (worth 5%)	September 30th, 2015

COMPLETE THE TABLES

Land costs + financing costs	$ 5,641,820.778
Existing building + financing costs	$ 365,058.9883
Demolition costs + financing costs	$ 250,183.9883
Construction costs + financing costs	$ 8,368,836.063
TOTAL COSTS OF PROJECT at piu	$ 14,625,899.60

piu = put-in-use

Building costs at put-in-use	$ 8,910,656.791
CCA Year 1	$ 178,213.1358
CCA Year 2	$ 349,297.7462
CCA Year 3	$ 335,325.8364
CCA Year 4	$ 321,912.8029

Demo = $133,406.8969
$116,776.9864

Land = $5,641,820.726

Building = $365,058.9883
+ 541,820.778
= 906,879.7163

Construct = $41,104,836.063
= $4,264,000

= 8,910,656.791

$$EAR = \left[1 + \frac{NOM}{m}\right]^m - 1$$

$$FV = (1+r)^n * PV$$

5

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
Yr 1	8,910,656.791	x21. (178,213.1358)	8732443.655
Yr 2	8732443.655	x41. 349,297.7462	8383,145.909
Yr 3	8383,145.909	335,325.8364	8047,820.073
Yr 4			

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Construction @ 6.35%. Quarterly 48% down
52% After

$8,200,000 \times .48 \left(1 + \frac{.0635}{4}\right)^{8/3} = \$4,104,836,063$

$52\% \times 8,200,000 \left(1 + \frac{.0635}{4}\right)^{0} = \$4,264,000$

Fina210/2 AA (FALL 2015) **Quiz #1D (worth 5%)** **September 30th, 2015**

NAME: ELINA MERCY SIMEL **ID#:** [redacted]

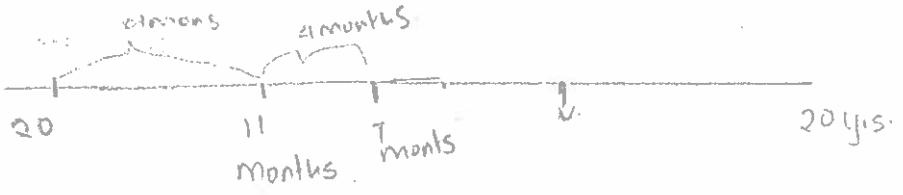
- **Period of analysis is 20 years effective put-in-use**
- **Demolition costs: $275,000**
- **Construction Costs: $8,100,000**
- **Land: $5,300,000**
- **Land with building purchased 9 months before demolition starts, and financed at 6.55% p.a. compounded monthly** (12)
- **Building (Existing): $340,000**
- **Demolition time: 4 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at 5.45% per annum, compounded weekly, *assume 52 weeks per annum***
- **Construction costs financed at 6.95% per annum, compounded quarterly**
- **Financing of demolition costs: 51% down, and balance (49%) paid on completion of demolition**
- **Financing of construction costs: 47% down, and balance (53%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

WARNING: Concordia photo ID, pencil, pen, two calculators, permitted on the desk. Everything else under the chair or desk. No sharing of calculators; No cellphones; *BE TIDY.*

DO NOT REMOVE STAPLE, complete NAME and ID before starting



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52

11/12 x 20

7/12 x 52

L.C + F.C $= 5,300,000\left(1 + \frac{6.55\%}{12}\right)^{20}$

$= 5,909,591.05$

2.3

E.B + f.C $= 340,000\left(1 + \frac{6.55\%}{12}\right)^{20}$

$= \$379,105.84$

DC + f.C $=$ (i) $51\% \times 275,000 \left(1 + \frac{5.45}{52}\right)^{47.6667}$

140,250

$\$147,430.78$

(ii) $49\% \times 275,000 \left(1 + \frac{5.45}{52}\right)^{30.3333}$

134,750

$\$139,100.43$

CC + fc $=$ (i) $47\% \times 8,100,000 \left(1 + \frac{6.95}{4}\right)^{7/3}$

3,807,000

$\$3,963,131.09$

(ii) $53\% \times 8,100,000 \left(1 + \frac{6.95}{4}\right)^{2/3 = 1}$

$= \$4,293,000$

Demolishion Cost $= 147,430.78 + 139,100.43$

$= 286,531.21$

Const Cost $= 3,963,131.09 + 4,293,000$

$= 8,256,131.09$

COMPLETE THE TABLES

Land costs + financing costs	$ 5,909,591.05
Existing building + financing costs	$ 379,105.84
Demolition costs + financing costs	$ 286,531.21
Construction costs + financing costs	$ 8,256,131.09
TOTAL COSTS OF PROJECT at piu	$ 14,831,389.19

piu = put-in-use

Building costs at put-in-use	$ 8,865,722
CCA Year 1	$ 177,314
CCA Year 2	$ 347,536
CCA Year 3	$ 333,635
CCA Year 4	$ 320,289

Building Building Cost -> 5,909,591.05 − 5,300,000
= 609,591.05 + 8,256,131.09
= 8,865,722

5

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
y1	8,865,722	177,314	8,688,408
	8,688,408	347,536	8,340,872
	8,340,872	333,635	8,007,237
	8,007,237	320,289.48	

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Fina210/2 AA (FALL 2015) **Quiz #1D (worth 5%)** **September 30th, 20**

NAME: Sha Sha Liu **ID#:**

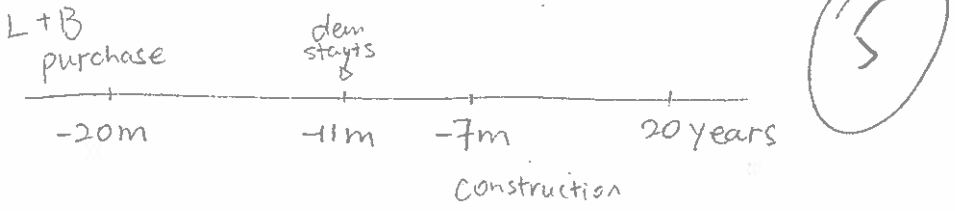
- **Period of analysis is 20 years effective put-in-use**
- **Demolition costs: $275,000** DC
- **Construction Costs: $8,100,000** CC
- **Land: $5,300,000** L
- **Land with building purchased 9 months before demolition starts, and financed at 6.55% p.a. compounded monthly**
- **Building (Existing): $340,000** B
- **Demolition time: 4 months**
- **Construction time: 11 months (including demolition time)**
- **Demolition costs financed at 5.45% per annum, compounded weekly, *assume 52 weeks per annum*** 51% 49%
- **Construction costs financed at 6.95% per annum, compounded quarterly** 47% 53%
- **Financing of demolition costs: 51% down, and balance (49%) paid on completion of demolition**
- **Financing of construction costs: 47% down, and balance (53%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

WARNING: Concordia photo ID, pencil, pen, two calculators, permitted on the desk. Everything else under the chair or desk. No sharing of calculators; No cellphones; *BE TIDY.*

DO NOT REMOVE STAPLE, complete NAME and ID before starting



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Q1

-20m: $LC + FC = 5,300,000\left(1+\frac{6.55\%}{12}\right)^{20} = 5,909,591$

$EB + FC = 340,000\left(1+\frac{6.55\%}{12}\right)^{20} = 379,106$

-11m: $DC + FC = 275,000 \times 0.51\left(1+\frac{5.45\%}{52}\right)^{\frac{52}{12}\times 11} = 147,431$

-7m: $DC + FC = 275,000 \times 0.49\left(1+\frac{5.45\%}{52}\right)^{\frac{52}{12}\times 7} = 139,100$

} 286,531

$CC + FC = 8,100,000 \times 0.47\left(1+\frac{6.95\%}{4}\right)^{\frac{7}{3}} = 3,963,133$

0m: $CC + FC = 8,100,000 \times 0.53\left(1+\frac{6.95\%}{4}\right)^{0} = 4,293,000$

} 8,256,133

Total cost = 14,831,361

Q2

FC of land = 5,909,591 − 5,300,000 = 609,591 → Building

(DC + FC) → Land

(EB + FC) → Land

New $LC + FC = 5,909,591 - 609,591 + 286,531 + 379,106 = 5,965,637$

$EB + FC = 0 + 609,591 = 609,591$

$DC + FC = 0$

$CC + FC = 8,256,133$

Total cost = 14,831,361

COMPLETE THE TABLES

Land costs + financing costs	$ 5,909,591
Existing building + financing costs	$ 379,106
Demolition costs + financing costs	$ 286,531
Construction costs + financing costs	$ 8,256,133
TOTAL COSTS OF PROJECT at piu	$ 14,831,361

piu = put-in-use

Building costs at put-in-use	$ 8,865,724
CCA Year 1	$ 177,314
CCA Year 2	$ 347,536
CCA Year 3	$ 333,635
CCA Year 4	$ 320,290

5

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use this table if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	8865724	2% 177,314	8,688,410
2		4% 347,536	8,340,874
3		4% 333,635	8,007,239
4		4% 320,290	

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