

**RE 614 – Real Estate Appraisal**  
**Fall 2008**

Homework 2 – Land Values as Residual and Highest & Best Use – Due Sept. 18

*Dr. Stanley D. Longhofer*

*TTh 9:30-10:45*

- 1) Brian recently entered into a 99-year ground lease on land owned by Larry. The present value of the rent from this ground lease is \$2 million. Brian develops an office building on the property that cost \$5 million to construct. Based on the market rent this office building will command, the total market value of this property is \$8 million.
  - a) Given the above information, how much of the property’s value can be attributed to the land and how much to the building?
  - b) What is the value of Larry’s leased fee interest? Why isn’t this simply the value of the land?
  - c) What is the value of Brian’s leasehold interest? What is the total value of the interests owned by Brian?
  - d) Suppose now that market office rents rise so that the total property value is \$9 million. How does this change affect the value of the following interests:
    - Building value
    - Total land value
    - Leased fee interest
    - Leasehold interest
    - Total of all interests owned by Brian
    - Total of all interests owned by Larry
  
- 2) Consider a property that is zoned for industrial uses. The current use of the property is an older, 100,000 square foot warehouse, which generates \$250,000 per year in net operating income (NOI).

An appraiser has determined that in addition to the current use, there are two other potential uses that are physically possible and legally permissible for the site. The first is a new 150,000 square foot office/warehouse building. The second is a 125,000 square foot light manufacturing building. Relevant information about the three possible uses is provided in the table below:

	<u>100k sf Old Warehouse</u>	<u>150k sf New Warehouse</u>	<u>125k sf New Light Mfg. Bldg.</u>
Construction cost	\$20 psf	\$35 psf	\$40 psf
NOI	\$250,000	\$600,000	\$500,000
Market cap rate	12%	10%	8.5%

Recall that the market value of a property can be estimated by dividing the net operating income (NOI) by the cap rate (R).

- a) Calculate the highest-and-best use of this site as though vacant.
- b) Under the current use (100,000 sf warehouse), what is the total value of the property, the value of the building and the value of the land?
- c) Suppose that it would cost \$500,000 to demolish the existing building and prepare the site for new construction. Explain why the highest and best use as improved is now the current use (100,000 sf warehouse). What would need to be true in order for the highest-and-best use as improved to be the same as your answer from part (a) above?