

# **A Break Even Analysis and Potential Profitability of a Proposed Residential Development within the City of La Crosse, Wisconsin USA**

Chad M. Clower

*Department of Resource Analysis, Saint Mary's University of Minnesota, Winona, MN 55987*

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## **Abstract**

A break-even analysis was conducted on a proposed residential subdivision development for a 79-acre farmstead on the southern fringe of La Crosse, Wisconsin USA. Potential profitability of the development was ascertained by this project. Both the current market for residential building sites and past sales of lots within existing subdivisions within the city were analyzed to help determine pricing for lots within this new proposed subdivision. Past and present real estate data were gathered from Multiple Listing Service data and La Crosse area periodicals. Map data was acquired from the La Crosse city planner's office and a private engineering firm. Investment costs or outflows were land acquisition costs, development costs, marketing costs, and various indirect costs. These costs were provided by La Crosse area contractors and real estate companies. Project revenue was attained strictly through the sale of individual building sites. An analysis of the projected cash flow over an eight year project timeframe was conducted to provide the investor with the needed management information for decision-making.

## **Introduction**

La Crosse, Wisconsin USA is a city of approximately 51,000 people located on the Western border of the state. The city has exhausted the available land to grow within its natural borders, the Mississippi River to the west, towering bluffs to the east and south, and the city of Onalaska to the north. Five subdivisions serve as La Crosse's primary source of new housing starts, with an occasional vacant lot popping up in established neighborhoods as homes are torn down or parcels are subdivided into smaller lots. The scope of this study examines the dedicated subdivisions as the comparable marketplace for the proposed development and not

individual city lots that are sold in established neighborhoods within the city.

To support estimated growth within the city (US Bureau of the Census, 2000), La Crosse is expected to need approximately 40 new households per year between the years 2005 and 2010.

With this estimated growth rate considered, all 5 existing residential subdivisions in the city will be at least 95% full in the next five years (MLS Data, 1998-2006). This indicates that by 2010, with conservative estimates, there will be less than 10 building sites available in only 2 subdivisions in the entire city of La Crosse (Table 1).

Table 1. Projected growth of residential developments in La Crosse, Wisconsin.

<b>Subdivision</b>	<b># of lots</b>	<b># remaining 2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Pammel Creek	101	49	30	19	11	4	0
Jorgensen Flatts	20	20	10	5	0	0	0
Waterford Valley	52	10	7	4	0	0	0
Vista del Rio	31	10	7	3	1	0	0
Baier Nursery	29	16	10	6	2	1	0
<b>LOTS REMAINING</b>		<b>105</b>	<b>64</b>	<b>37</b>	<b>14</b>	<b>5</b>	<b>0</b>
<b>LOTS SOLD</b>			<b>41</b>	<b>27</b>	<b>23</b>	<b>9</b>	<b>0</b>
<b>PROJECTED HOUSING STARTS</b>			<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>
<b>POTENTIAL LOT SHORTAGE</b>			<b>0</b>	<b>13</b>	<b>17</b>	<b>31</b>	<b>40</b>

### **The Opportunity for Growth**

A prime parcel of land was listed on the market for sale in October of 2006. It consisted of a rarely sold, 4<sup>th</sup> generation 79-acre family farmstead on the southern fringe of La Crosse. This prime location is the closest undeveloped land adjacent to the city that is not already provided city water, sewer, police and fire protection services. It is situated between two subdivisions that are considered part of the city, Jorgensen Flatts to the west and Waterford Valley to the north, and are provided the city's appealing services like sanitary sewer and water (Kirsch, 2006). Currently, most of the 79-acre farmstead is located in the town of Shelby.

### **Proposal for Development**

After being approached by an investor, a study was conducted to determine the feasibility of purchasing the property and developing it into a residential subdivision with the intention of making

a profit from the sales of the lots. Within this study was an analysis of past sales data from existing subdivisions in the city of La Crosse, an analysis of the parcel for potential building site and street layouts, the determination of preliminary investment costs, including land and development costs and the projected cash flow, with a break even point and profitability determined.

### **The Current Market for New Home Construction**

The five residential subdivisions in La Crosse are the Baier Nursery Subdivision, Pammel Creek Addition, Waterford Valley, Jorgensen Flatts, and Vista del Rio (Figure 1). Data regarding these subdivisions was gathered from Multiple Listing Service (MLS) data and periodical articles written about the subdivisions. Each subdivision has covenants that guide or otherwise restrict the kind of homes that can be built, from entry level homes built in the low to mid-\$100,000's, to fourth-time

homebuyers with homes that reach \$250,000 and above. Lots within these subdivisions ranged from \$3 per square foot in the Pammel Creek addition to over \$6 per square foot in the Baier Nursery subdivision (MLS Data, 1998-2006).

### The 79-Acre Farmstead

An interview was conducted with the La Crosse city planner, Lawrence Kirsch, and an aerial photograph of the 79-acre farmstead was attained. This image

reflected current and future land use of the parcel. The current land use reflects approximately 22 acres of non-developable floodplain and a five acre campus with the homestead and outbuildings, with the balance being used as pasture and crop land. The future land use of the study area includes ten acres that would be required to be sold back to the Wisconsin Department of Transportation for the future expansion of Wisconsin State Highways 14 and 61, one acre required to be reserved for the

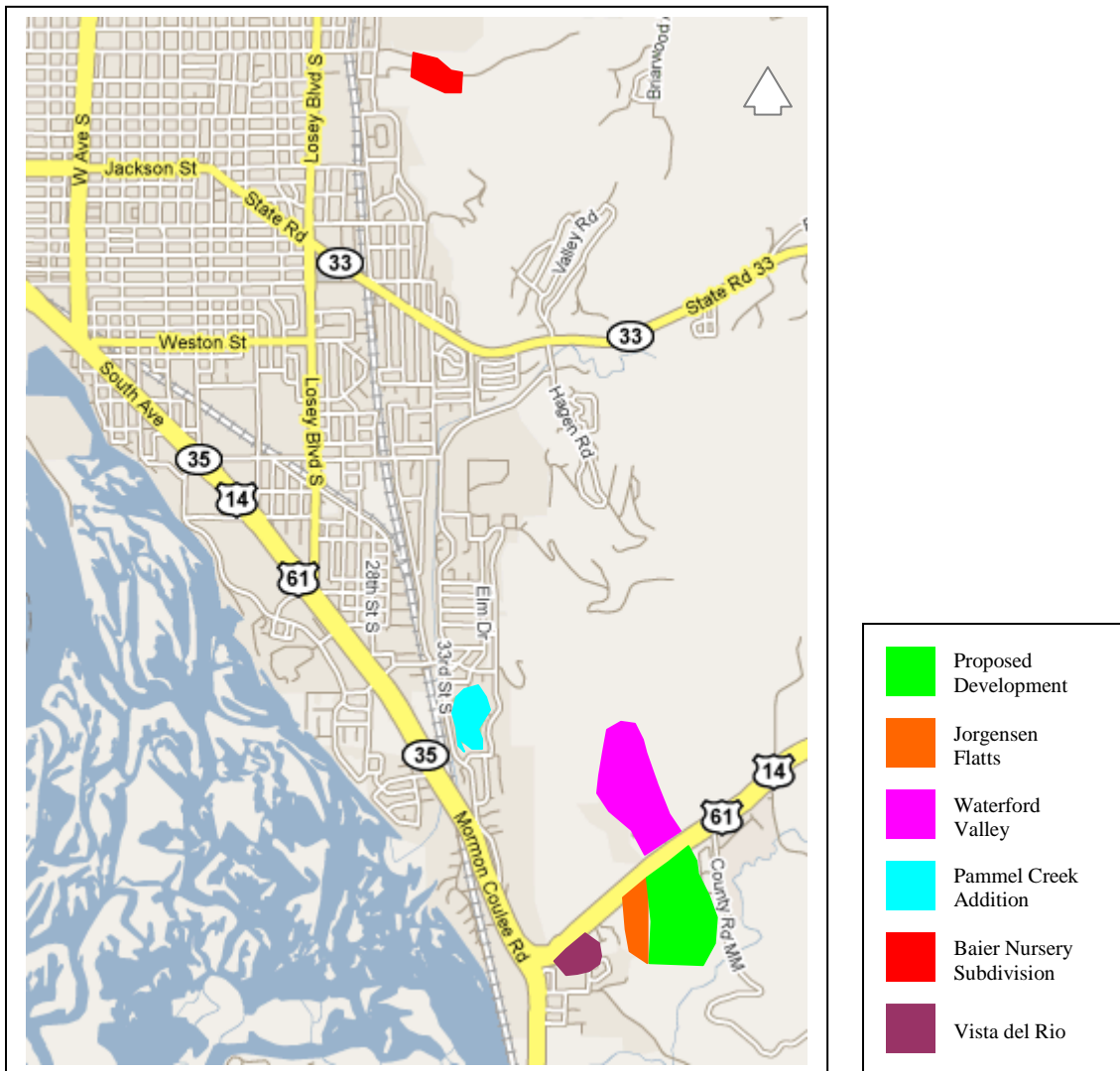


Figure 1. Overview map of existing and proposed La Crosse, Wisconsin subdivisions.

future construction of a city fire station, 22 acres of non-developable floodplain could be rededicated to the city for use as park reserves, 6 acres would be considered for the rerouting of County Trunk Highway MM to the west of its present location, and 40 acres would be developed into residential building sites (Kirsch, 2006).

### Potential Site Layout and Land Use

The map acquired from the La Crosse city planner was provided to the private engineering firm BT<sup>2</sup>, Inc. to determine a possible lot and road layout suitable for the remaining 40 developable acres. The goal was to maximize the use of the space while providing a range of lot sizes to accommodate first through fourth time homebuyers. BT<sup>2</sup>, Inc. subdivided the land into 106 different building sites with a total area of

1,566,575 square feet (Figure 2). The lot sizes ranged from just under 12,000 square feet (0.275 acres) to over 34,000 square feet (0.781 acres). The range in lot size reflected the desire of the investor to have the widest possible market of buyers. The price per square foot was conservatively determined to be \$3.25 per square foot (MLS Data, 1998-2006), with entry level lots starting under \$39,000 and the upper end lots priced around \$110,000.

### Preliminary Development Costs

The new map generated by BT<sup>2</sup>, Inc. as a possible layout for the development was analyzed for preliminary development costs associated with converting this farmstead into a residential development. The main initial costs include site and retention pond

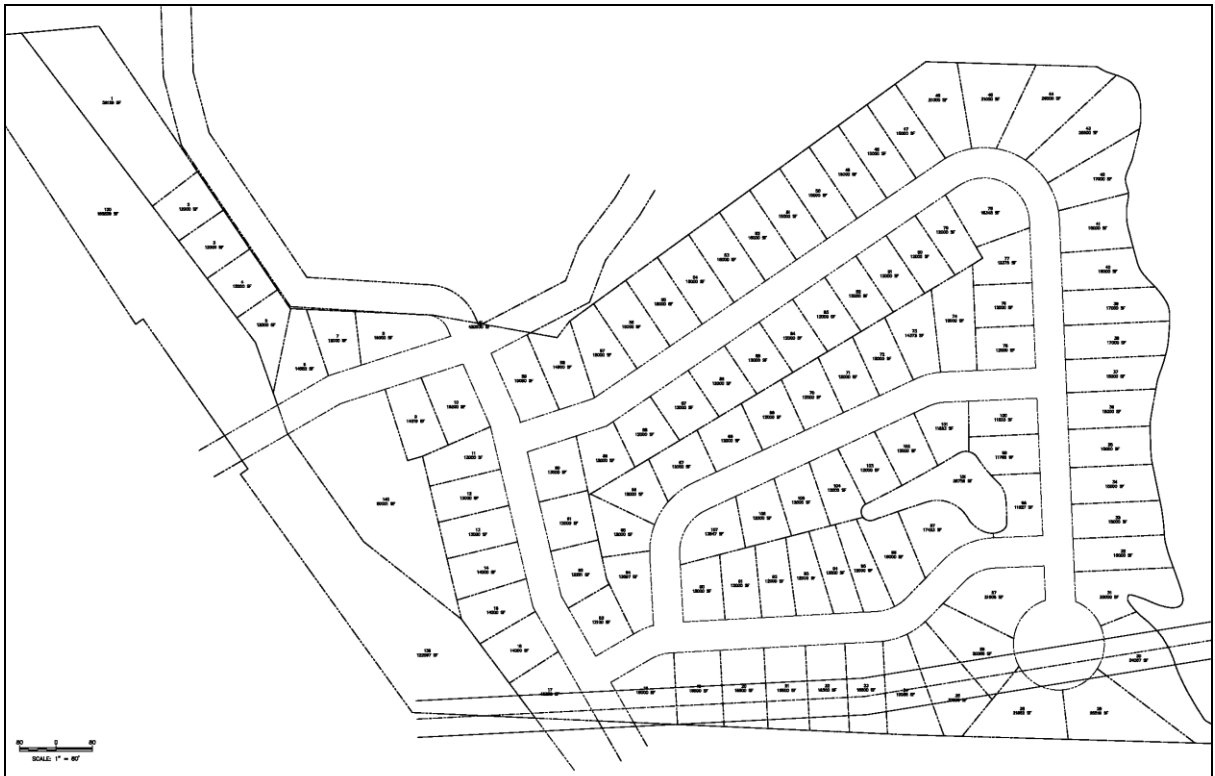


Figure 2. Development site with proposed road and building site layout.

<b>PRELIMINARY DEVELOPMENT COSTS</b>	
■ Sewer main	\$ 150,000
□ \$30/ft. x 5000 ft.	
■ Water main	\$ 150,000
□ \$30/ft. x 5000 ft.	
■ Site grading	\$ 400,000
□ \$2/cubic yard x 200,000 yards	
■ Curb & gutter	\$ 76,000
□ \$8.25/ft x 9200 ft.	
■ Blacktop & gravel	\$ 805,000
□ \$5.00/square ft. x (35 ft. wide x 4600 ft. long)	
■ Engineering	\$ 95,000
□ 6% of development costs	
■ Indirect Costs	<u>\$ 154,000</u>
□ Marketing Costs	
□ Legal and Accounting Fees	
<b>TOTAL COSTS</b>	<b>\$ 1,830,000</b>

Figure 3. Preliminary development cost breakdown.

Table 2. Projected cash flow from lot sales.

<b>Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Totals</b>
Projected Lot Sales		12	24	24	22	13	6	6	106
<b>Gross Sales</b>		<b>576K</b>	<b>1.15M</b>	<b>1.15M</b>	<b>1.06M</b>	<b>624K</b>	<b>289K</b>	<b>241K</b>	<b>5.09M</b>
Less Outflows:									
4% Commiss.		(23K)	(46K)	(46K)	(42K)	(25K)	(12K)	(10K)	(204K)
Land Costs	(1.20M)	0	0	0	0	0	0	0	(1.20M)
Dev. Costs	(1.50M)	(330K)	0	0	0	0	0	0	(1.83M)
Total Expenses	(2.70M)	(354K)	(46K)	(46K)	(42K)	(25K)	(12K)	(10K)	(3.24M)
<b>Net Operating Incomes</b>	<b>(2.70M)</b>	<b>222K</b>	<b>1.10M</b>	<b>1.10M</b>	<b>1.02M Break Even</b>	<b>599K</b>	<b>277K</b>	<b>231K</b>	<b>1.85M</b>
<b>Investment Balance</b>	<b>(2.70M)</b>	<b>(2.48M)</b>	<b>(1.38 M)</b>	<b>(274K)</b>	<b>744K</b>	<b>1.34M</b>	<b>1.62M</b>	<b>1.85M</b>	

grading, sewer and water lateral preparation, installation, and attachment to present sewer and water mains, curb and gutter installation costs, road construction costs, engineering costs, and any possible associated indirect costs such as legal and accounting fees (Figure 3). All cost estimates were provided by La Crosse area contractors.

### **Projected Cash Flow**

The projected cash flow of the development was determined using projected lot sales (MLS Data, 1998-2006), less total expenses for each year (Table 2). All lot sales would be conducted with a La Crosse area broker for a commission of 4% of the sales price. The first year of the project reflects outflows associated with land acquisition and development costs, the second year reflects expenses associated with the remaining development costs and real estate commissions, with the remaining expenses over the life of the project associated strictly with real estate commissions.

### **Conclusions**

The advertised 79-acre farmstead listed for sale was determined to have only 40 acres of land developable for use as residential building sites. About half of the remaining 39 acres would be used to rebuild and reroute state and county highways and the other half, situated in the flood plain, could be dedicated to the city as park and preserve land (Kirsch, 2006). The actual amount of developable land to be used for residential building sites was determined to be 1,556,575 square feet. The cash inflow from lot sales was thereby calculated to be \$5,058,868.75. The cash outflows of the

development totaled \$3,234,000, and included land acquisition costs, development costs, marketing costs and miscellaneous indirect costs. The time frame to sell all 106 lots was figured at seven years, per direction of the investor. The break-even point, where sales revenue matched total expenses, occurred in the middle of the fourth year of the project. Total potential profit at the end of the seventh year, with all lots sold, totaled \$1,856,000.

### **Discussion**

There are many steps involved with developing a raw piece of land into a residential subdivision. The idea for development is first, and arose when the aforementioned property was listed on the market for sale. Secondly, a market feasibility study, or needs analysis, must be completed. Following this, preliminary plans must be drawn, with specifications matching the desire of the investor considered. After these steps are executed, a final feasibility study must be completed to determine if the market has changed during preparations for the development. Final investment costs must then be determined, and all risks must be analyzed. A discounted cash flow could also be computed to calculate the value of the profit over the time of the investment. This study did not seek to determine this figure and only analyzed the data for the break-even point of the investment as well as profit remaining once the project was completed .

### **Disclaimer**

All figures representing costs and financial projections were based on the preliminary plans and specifications of

the development and do not necessarily reflect the final costs of construction once a developers agreement with the city of La Crosse, the WI Department of Transportation, and the contracted engineering firm can be reached.

## **References**

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