

## 6.0 Developing Previous Facilities

*Construction Management Depth  
MAE Requirement*

### 6.1 Introduction

Developing land or existing facilities is a great way to earn a profitable return on an investment purchase. However, it can be risky and the margin for error can be slim. The development's success hinges on great planning, execution, and analysis of possible development explorations. Many newly constructed facilities leave behind an opportunity for a wise investment by the owner.

### 6.2 Problem Statement

With the construction of the new facility, The Washington County Regional Medical Center, the old facility will become vacant and unused. What to do with the old building becomes the main problem. Current financial times will make it hard to allow the facility to sit idle because of the money it will cost the owner. Additionally, the bonds used to fund the new medical center will soon begin their maturation and money will be needed to assist in the repayment of these bonds.

### 6.3 Goal

The goal of this analysis is to be able to generate additional income for the owner by developing the former facility with minimal expense. By developing the existing facility the owner is essentially investing in themselves and shouldering the risks. This should create a more secure investment for the owner. The additional income will hopefully be helpful in aiding the ability of the medical center to repay their bonds.

### 6.4 Methodology

The following steps will be taken to adequately research this topic:

1. Identify the need for an Extended Care / Nursing Home facility development with the current economic situation in mind.
2. Determine baseline cost and schedule information as would be used for development purposes.
3. Analyze different ways of developing the existing facility.
4. Use financial models to determine possible investment strategies.
5. Evaluate different development types and determine the best investment.
6. Explain the best development model to ensure security in the end result.
7. Analyze the site for possible constructability and logistical challenges.
8. Recommend the development for the former facility.

## 6.5 Tools and Resources

1. Washington County Regional Medical Center Construction Documents and Specifications
2. Gilbane Building Company
3. Penn State Architectural Engineering Faculty
4. R.S. Means 2008/2009
5. Financial Analysis Models
6. Regional Market and Tax Documents

## 6.6 Expectations

I expect the development model to be useful for implementation into the old facility. Since the existing facility is a hospital and the proposed development will be an extend care / nursing home facility, the cost to renovate should be minimal. I expect to be able to generate additional monies to help the owner pay off debt or use elsewhere in the healthcare facility.

## 6.7 Quick Background

The old hospital facility is a 550,000 square foot, seven floor facility located in the downtown area of Hagerstown, Maryland. It current serves as a 264 bed acute care facility and provides emergency services. For the purpose of this development, it will be utilized as a 264 bed nursing home facility, providing care to the elderly with various health issues. It has all the necessary zoning permits and contains all the additional spaces needed in a hospital for conversion to a nursing home such as the kitchen, laundry room, and CUP to name a few. The site contains two different parking decks and is connected to The Washington County Health Services' office building through a pedestrian bridge. The old hospital is located about 2.5 miles from the new facility. Figure 6.1 and Figure 6.2 show a satellite image of the old hospital's site and the proximity of the old hospital to the new medical center, respectively.

Figure 6.1: Satellite Image



Image courtesy of Google Earth

Figure 6.2: Proximity Map

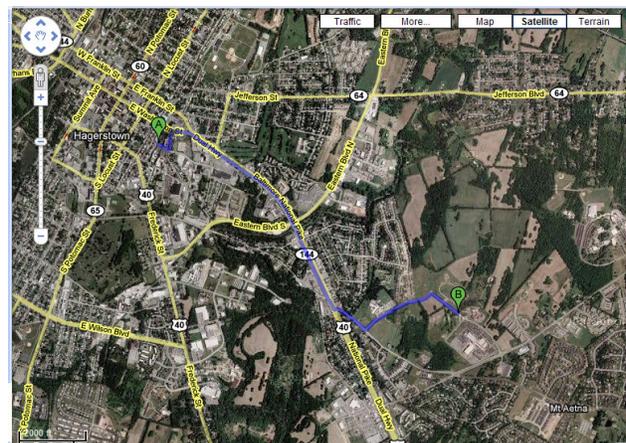


Image courtesy of Google Maps  
 (Top Left – Old Hospital  
 Bottom Right – New Medical Center)

## 6.8 Establishing the Need

### 6.8.1 Market Research

In an economic situation as the country is in now, it is hard to convince people to invest in construction projects. However, as stated before, this project is applying the owner's money into an investment that they can control. This may prove to be more secure than investing money into other projects where you cannot control the risk as much. Furthermore, the following table, Table 6.1, shows the construction market economic growth for the last quarter of 2008 and projected through 2009. The information is broken into specific market and the growth is analyzed by construction spending.

**Table 6.1:** Construction Market Study

MARKET ANALYSIS	
Market	Construction Spending
Retail and Office Construction	-20%
Hotel Market (Typically Resorts)	-10%
K through 12	-0.6%
Higher Education	17%
Healthcare	26%
Religious	-8%
Public Construction	13%

Data courtesy of the publication Consulting-Specifying Engineer titled 2009 Economic Outlook and was published January 1, 2009

As the table shows, a projected 26% growth can be expected in the healthcare field. This is higher than any other market shown including the broad, publicly funded construction market. However, the healthcare market projection includes public healthcare construction. Higher education is the only other market to show growth in 2009. This is mainly because of private funds expected to continue to flow in for the construction of new projects. Much of this information is also echoed by other publications. For example, according to FMI Management and Investment Banking for the Construction Industry, market segments such as office, commercial, religious, and amusement and recreation will see declines due to the economy. Conversely, healthcare, education, public safety, and Homeland Security construction should fare much better. Turner Construction Company, a leader in the construction industry, says that their construction activity in the education, healthcare, and public sectors continue to grow. These projects will see stimulus money to achieve this more stable environment. Also, new technology in the healthcare industry, which broadens constantly, increases the demand for upgraded and new facilities.

The healthcare market in the 2009 Economic Outlook article covered facilities such as hospitals, nursing homes, and assisted living facilities. A more detailed nursing home facilities study produced by MetLife shows a growth for nursing homes. Although the growth

is lower than previous years, it shows the market demand to grow by almost 1.5%. This shows an increase in fragile economic times. Also, Plunkett Research, Ltd. estimated there are 77 million baby boomers in America that continue to age and require more medical care. These staggering numbers will surely create the demand to fill nursing home facilities as time progresses.

### 6.8.2 Local Conditions Research

There are only three other facilities such as this in the surrounding and they are much smaller. According to the United States Census Bureau, Washington County Maryland has an estimated population of 143,000 people. Of this total, 13.7% of these people are 65 years of age or older. The US average is only 12.5%. This data shows that the surrounding area has a higher population of older people than many places across the country. These reasons all illustrate the need for extra facilities to help and serve the elderly people of the community.

The Washington County Health System has the premier healthcare services in the region which includes West Virginia, Virginia, Pennsylvania, and Maryland. This constant influx of trusting people shows that the Washington County Health System does and will continue to generate income. The income will create the availability of funds to build the new nursing home.

Perhaps the most intriguing argument for having a nursing home is the integration of healthcare from one primary provider. Washington County Health Services are creating the new regional medical center for acute care and control Robinwood Medical Center for outpatient procedures. Adding a nursing home would complete the full realm of services and ultimately enhance the patient's spectrum of care.

### 6.9 Initial Budget Establishment

The initial budget establishment is a crucial factor to possible development opportunity. It needs to be fairly accurate for this early stage of planning, but also it needs to be slightly conservative because once the number is used a developer will not want to spend any more than originally calculated. Any overages will directly take away from the developer's profit margin.

Since Washington County Health Services will be the developer and the owner, they will need to have tight control over the budget. They will also have to resist varying from the initial design and budget for fear of change orders and schedule elongation. A crucial benefit to Washington County Health Services is that they currently own the property and the facilities on the property. They will have no additional purchase costs and no additional mortgage payments; a huge benefit when considering development returns. This also plays a factor in the development costs. Since the old facility was used as a hospital, renovations to a nursing home should be fairly easy: this includes renovation costs and schedule.

The type of demolition that will be utilized will be selective demolition. For reasons explained above, the renovations will include demolition of only selective areas and items. Selective demolition is selection of certain demolition areas to be removed with minimal harm to the adjacent areas. The old hospital will be brought up to date, but will use a lot of the features it currently contains. This will keep development costs low and returns high.

The following table, Table 6.2, shows how the budget for the development costs were established. Due to the early planning phase and for simplification purposes, all costs were calculated as total square foot costs. There were also relative percentages used because not the entire building will need complete work. All the mechanical, electrical, and plumbing items will be inspected for new use, cleaned, and upgraded as necessary.

**Table 6.2:** Initial Budget

BUDGET		
Demolition		
Item	Cost (\$/SF)	Total Cost
Demolition (All)	\$19.50	\$10,725,000.00
Renovation		
Item	Cost (\$/SF)	Total Cost
Replacement Windows		\$300,000.00
New Roofing	\$3.03	\$238,070.13
Upgrades, Cleaning, Inspection		
Mechanical	\$17.98	\$5,735,620.00
Electrical	\$8.06	\$1,152,580.00
Plumbing	\$4.96	\$436,480.00
Elevator Inspections, Repairs, and Upgrades		\$95,000.00
All Interior Work	\$18.45	\$10,147,500.00
<b>Total Renovation Costs</b>		<b>\$28,830,250.13</b>

As the table shows, the total estimated renovations costs for the old hospital is just under \$30 million. For development calculations, \$30 million will be used.

**6.10 Initial Schedule Development**

The schedule development is formulated from the same basic principles as the budget. As a developer, the schedule is crucial; if the project runs over schedule, these are days the developer is not making money or receiving a return on their investment. This risk may be cause for a developer to include a liquidated damages clause into the contract with the contractor. This will help mitigate the profit losses for the developer if the project runs over schedule.

From a developer’s standpoint, the schedule is just as critical to their success as it is to a contractor. Just like the budget, the schedule needs to be as accurate as possible for

calculation purposes, but contain some buffer because of the early planning phase of the development project.

The following table , Table 6.3, shows an initial schedule for the renovations of the old hospital. The production numbers were gathered using the outputs for the crews currently working on the new medical center. Again, many of these are calculated on a rough daily output (SF/Day) then multiplied by the same relative percentages of square footage of the old hospital used in calculating the budget.

**Table 6.3:** Initial Schedule

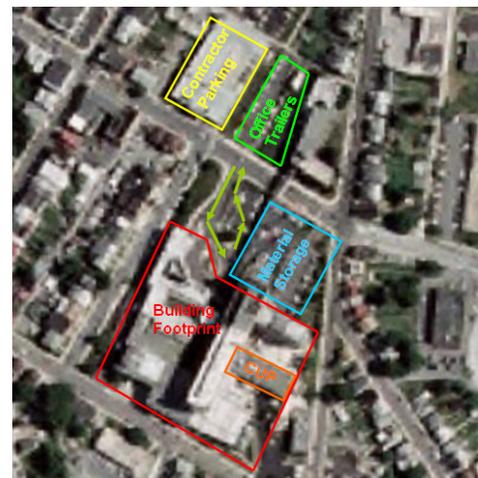
SCHEDULE		
<b>Demolition</b>		
Item	Daily Output (SF/Day)	Total Duration
Demolition (All)	500	55
<b>Renovation</b>		
Item	Daily Output (SF/Day)	Total Duration
Replacement Windows	-----	10
New Roofing	50	20
Upgrades, Cleaning, Inspection		
Mechanical	200	28
Electrical	250	22
Plumbing	415	13
Elevator Inspections, Repairs, and Upgrades	-----	5
All Interior Work	610	90
<b>Total Renovation Schedule</b>		<b>243</b>

The table shows the renovation schedule to be 243 days. With a working week being 5 days a week and 52 weeks in a year, this is just under 1 full year. Therefore, 1 year will be the number used for the renovation schedule in the development calculations.

**6.11 Constructability and Logistics**

One of the final decisions that will affect the development decision is the constructability and logistics of the renovations. The old hospital site is unlike the new medical center site because space is very restricted. However, the good news is that major equipment should not be needed during renovations. That leaves space for parking and material storage area. As Figure 6.3 to the right shows, the parking deck across the street from the site should be adequate for contractor parking. There is also a parking lot beside the deck. This would be a good for contractor

**Figure 6.3:** Site Utilization Plan



trailer area. This leaves the parking deck and all the other area around the building for material storage and other working space. The figure also shows the location of the CUP. If replacement equipment parts need to be hoisted into this area, a crane can operate from the road adjacent to the CUP. This is a very low traffic road; therefore, it should not affect traveling patterns around the hospital if it were to be shut down for work to proceed. Scaffolding will be needed to replace the windows. This can be fixed to the roof and suspended over the sides of the building.

The renovations should be able to be constructed fairly easily since no major adjustments to the structure or façade will be taking place. The only major issue will be the movement of supplies throughout the building. The elevators can be used, but capacity limits and damage will have to be monitored closely.

## 6.12 Development Options

As the owner and developer of the facility, multiple options will be considered to provide different financial situations. The best choice for Washington County Health Systems can then be chosen. As presented earlier in this report, a nursing home development will be used for this facility. These options provide a broad look at development opportunities for the owner. There will be four different ways of development considered. They are:

- Develop to sell
- Develop to run
- Partially develop to run
- Develop to lease

The following is a list of assumptions that may or may not apply in all four different development situations, but were used uniformly across all options where they were applied. Additional individual option assumptions will be listed in their respective portion of the report.

- Preconstruction / Approvals = 6 months
- Construction time period = 12 months
- Construction cost escalation<sup>1</sup> = 4% per annum
- Sales cost escalation<sup>1</sup> = 1.1% per annum
- Capitalization Rate<sup>2</sup> = 12.75%
- Marketing / Advertising<sup>3</sup> = 1%
- Agent Commission<sup>3</sup> = 1.5%
- Legals<sup>3</sup> = 5%
- Holding charges<sup>3</sup> = 2%
- Real Estate Taxes<sup>4</sup> = 1.858%

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<sup>1</sup>The MetLife Market Survey of Nursing Home and Assisted Living Costs

<sup>2</sup>National Investment Center for the Seniors Housing and Care Industry

<sup>3</sup>Estimated from previous examples

<sup>4</sup>Washington County Treasurer's Office – Tax Rate Schedule

### 6.12.1 Develop to Sell

This analysis looks into developing the property for immediate sale after development. The benefit of this would be a short term, lump sum return on the development investment. The sales value was found by performing a residual property value assessment. This complete assessment can be found in Appendix G. Table 6.4, shows a summary of the results.

**Table 6.4:** Summary Table of Residual Analysis

<b>DEVELOP TO SELL SUMMARY</b>	
Total Design and Construction Costs	\$34,475,474
Net Development Return	\$94,238,703
Gross Residual Value	\$59,763,229
Sale Price	\$126,799,059
Land Value <sup>1</sup>	\$1,915,000
Return on Investment	\$92,323,585

<sup>1</sup>Source: Maryland Department of Assesment and Taxation

An efficiency rate of 75% was used in these calculations because most nursing home facilities only range from 150 to 175 beds. This facilities capacity is 264 beds; it is not reasonable to assume the whole building will be filled. This summary table shows a \$92 million return on the development investment. This return uses the maximum amount of money somebody should be willing to pay for the property. Therefore, a slightly lower sale value should be anticipated. Regardless, this could be a very valuable amount of money that could help Washington County Health Systems. It would also provide a large amount of money upfront and ultimately they would not have to worry about the ownership of the old facility.

### 6.12.2 Develop to Run

This analysis looks into developing the old facility and then having Washington County Health Systems run the facility for ten years. There will also be a look into the return with a sale of the facility at the end of the ten years. The major benefit to this type of development is a continuous flow of money from the development over a period of time. Over the ten years this may yield more than a direct sale too. The major risk is not knowing the stability of the markets; however, as established earlier, the need for medical assistance for the elderly care is always needed and projected to be on the rise. A discounted cash flow analysis was used to determine the viability of the development and is shown in Appendix H. The table shown over page, Table 6.5, is a summary of the analysis.

**Table 6.5:** Develop to Run Cash Flow Summary

DEVELOP TO RUN SUMMARY	
Sale Price @ 10 <sup>th</sup> year	\$144,325,571
Return on Investment	\$99,850,097
Internal Rate of Return	32%

A revisionary capitalization rate of 13% was used because, according to the National Investment Center for the Seniors Housing and Care Industry, capitalization rates are on their way back up from previous quarters; however, they are not projected to continue this growth in the short term. It is only reasonable to use a number similar to the rates right now. Also, a 1.5% growth rate in price was used across all ten years because, according to The MetLife Market Survey of Nursing Home and Assisted Living Costs, the past year produced a growth of just under this amount. This is conservative across all ten years. A \$10 million refurbishment cost in year five is also considered. This will be used to further improve the facilities as needed.

The most important number is the Internal Rate of Return (IRR). This analysis provides a considerable IRR at 32%. This can be attributed to the low construction costs and the obsolete purchase price. It is important to notice the operations costs included in the summary. These costs include staffing, utilities, and operations and maintenance costs. They were calculated based on a percentage of the income. It also worth note that the sale price in ten years, assuming the market follows the assumptions made, is not too much higher than the immediate selling of the property. This can be attributed to the conservative capitalization rate. This model also takes work by Washington County Health Systems to keep it operational and successful.

### 6.12.3 Partially Develop to Run

As stated in the report, it is unreasonable to fill this larger than average facility. A third development consideration is to only partially develop the nursing home to run. This will cut down on upfront costs and vacancy rates; however, it will also reduce the IRR and sales price. This may help with starting the development in a fragile economy. The National Investment Center for the Seniors Housing and Care Industry lists the average number of beds in a facility at 125. This will be the partially developed facility size. Also the average occupancy is 85%. This will be the efficiency rate used.

Again, a discounted cash flow analysis will be used to evaluate this investment. For simplification purposes, new construction calculations will be used based on a proportional relationship between the cost and the reduction in size. This relationship is a 46% reduction in size which equates to construction costs of \$18,747,612. Refurbishment costs will also be reduced in the same manner. New net proceeds were calculated with adjustments to the residual analysis. The full analysis is shown in Appendix I. Summary table, Table 6.6, is shown on the next page.

**Table 6.6:** Partially Develop to Run Cash Flow Summary

PARTIALLY DEVELOP TO RUN SUMMARY	
Sale Price @ 10 <sup>th</sup> year	\$74,264,614
Return on Investment	\$50,117,002
Internal Rate of Return	31%

The table shows that the IRR at 31%. This is an intriguing factor to consider when evaluating this analysis. The sale price shows to be just under \$75 million. This shows that partially developing can produce a considerable IRR, but have upfront construction costs and refurbishment cost tremendously reduced. Also, the lower sale price reflects the adage of lower risk, lower reward. However, during these financial times this may be just what Washington County Health System needs to start the development. It is worth note to point out that Washington County Health System needs to run the facility.

#### 6.12.4 Develop to Lease

The final option will look at developing the old hospital and then leasing the facility to a company that manages and runs nursing homes. The major advantage to this type of development is Washington County Health Systems will not have to worry about operating the facility. They will not have to spend any time or resources after the nursing home is constructed. Washington County Health Systems can just collect a flat, stable monthly rental income from the operator.

This analysis was done differently than the others. Full development numbers were used to maximize the rental return. The gross rent that can be collected from the entire facility at the 75% efficiency rate, \$16,166,880, was multiplied by the operations costs factor. Then a 15% profit margin was subtracted from this sum to receive \$7,832,853. This provides the sum of money the lessee would owe to Washington County Health Systems per year. The monthly rent would then be \$652,738.

The basis behind this math is that no management company would lease the facility at the revenue less the operating expenses. This is why a profit was subtracted out of the rental costs. The final number was formulated with this in mind. A cash flow analysis with a 1.5% growth rate was then explored. The full analysis can be found in Appendix J. Table 6.7, is a summary of the results.

**Table 6.7:** Develop to Lease Cash Flow Summary

DEVELOP TO LEASE SUMMARY	
Sale Price @ 10 <sup>th</sup> year	\$69,925,736
Return on Investment	\$35,450,262
Internal Rate of Return	25%

This table shows a sale price of \$69,925,736 with a return on the investment of \$35,450,262. This investment equates to a 25% IRR. This is a decent IRR for this type of investment. The return is low, but the risk is much lower and Washington County Health Services does not have to run the facility.

### 6.13 Preferred Development Analysis

The preferred development should answer one major question: What is the best investment, considering the financial times, for Washington County Health System to undertake with the best return? The development that best fits the owner at this point in time is the partially develop scenario.

The first development option considered was to develop for immediate sale. The information used to run the analysis was current and accurate; however, to think that the old facility would sell for \$126 million in these financial times is unlikely. It should be an enticing purchase, but buyers are just not willing to sink this level of money into investments in the development industry. Also, the number itself is just too big and sounds like an extreme amount of money right now.

The second development option was to fully develop the building and running it for a period of ten years. It is unlikely that the entire facility would fill, so why waste the money renovating the entire building for less than impressive efficiency rates. The pure numbers are enticing, but risk is higher with this type of development in this financial situation. Also, as touched on earlier, the construction costs to renovate the entire facility may be too high to add to the cost of construction of the new medical center.

The fourth option evaluated was to develop the facility to lease. The main reason this option was analyzed was because the Washington County Health System would not have to operate or maintain the facility; they would only generate a monthly income from the renter. However, the return is much less than the other options and although helpful, the owners can do better.

The third development option was to partially develop the facility to run. This seems to be the best option for the hospital at this time. There are three distinctions that make this the best option:

- The construction costs are relatively low at just under \$19 million especially considering the size of the new medical center.
- The return is very good with an IRR of 31%.
- If the economy regains its former strength, there is room to develop the rest of the facility.

The risk and reward are moderate, but the reward could potentially become much better in a more stable economy. This option allows the Washington County Health System to take this

moderate risk now and expand in the future with less risk, but much higher reward. This option also considers selling the facility in ten years. This will produce a large return after ten years and also has the potential to be much higher because of the market. However, the owner could always continue to run the facility themselves. Operating the facility should be no problem for the owner. They have proved their ability to affectively manage and control multiple different types of healthcare operations.

#### **6.14 Conclusion and Recommendations**

The financial burdens the market has created scare many owners and developers. Washington County Health System can take advatage of the healthcare construction market's vulnerability and the industries realitvly low costs. A new medical center leaves behind a building that can generate income to help repay the bonds taken for the new construction. Developing a building that is already owned by the Washington County Health System presnets tremendous benefits. The report showed great potential for the use of the building and the statistics to show that developing this type of facility in this market may still prove to be a good investment.

I would highly recommend the Washington County Health System to consider developing the old hospital into an extended care facility or nursing home. I think it would help them economically and establish an overall strong investment. I also think it would provide an additional medical service to the surrounding region and show that Washington County Health Service is committed to total patient care throughout life. The risks are present, but the rewards are great. I think considering development of the old hospital instead of some sort of demolition or appraisal sale would prove to be a valuable asset to the Washington County Health Service.