Best Practices

Valuing a Going-Concern Location-Specific Business Operation in an Eminent Domain or Expropriation Matter

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Eminent domain and expropriation actions, whether brought about for reasons such as for the good of the general public or for project-specific procurement objectives, may result in significant damage to a business entity. In certain cases, primarily in businesses that are property-specific or location-specific, the damage may be all-encompassing. For property-specific or location-specific businesses, the reasonable compensation for the "taking" may be greater than the value of the tangible assets. The measurable loss can include (1) tangible assets, (2) intangible assets, and (3) future earning potential. This discussion provides insight into the types of business operations that are most at risk of total loss as a result of an eminent domain action. An illustrative example is presented to show what types of factors are typically considered in the valuation of a location-specific business involved in an expropriation action.

Introduction

When a location-specific, going-concern business is subject to an eminent domain or expropriation action, the result is often the end of the subject business operations. Location-specific business operations may include (1) utilities operations (i.e., water, wastewater, electric, natural gas, and communications); (2) resort/hotel operations (e.g., beachfront, ocean view, ski resort operations, and destination-specific); and (3) customer-specific (e.g., church operations, restaurants, and entertainment and sports-related).

Business success is often predicated on business location. This statement is particularly true for location-specific business operations.

For example, a resort's earnings typically depend on the resort's location. That is, a resort located in Maui on the beach may not be able to be replicated. This is because, in many communities, new building permits are restricted. And, in certain communities, zoning regulations preclude specific building activity.

That preclusion may relate to property designated as protected land or property zoned for a specific type of use—such as residential use versus commercial use. When a business can no longer operate as it had prior to the eminent domain taking, then not only is there a loss of tangible asset value, there is often a loss of intangible asset value as well.

Even in the case of a partial business disruption, whereby a business can relocate its operations, the subject business may have lost a significant amount of profit. This lost profit is easily quantifiable for a discrete period; however, the business damage is often long term in nature. In order to quantify the long-term damage implications, a thorough analysis is required.

To illustrate the lost value of going-concern business operations due to an eminent domain taking action, this discussion presents an illustrative reasonable compensation example. This illustrative example involves a hypothetical water utility business that is subject to an eminent domain taking action by a not-for-profit public entity acquirer.

What makes this illustrative example interesting, more than what would otherwise be the case in the typical going-concern business valuation, is the significant consideration of the (1) hypothetical buyer, (2) regulatory environment, (3) cost of capital, and (4) prominent role of the asset-based approach in the valuation analysis.

Hypothetical Example: Alex-town Water System Background

The Alex-town water system (the "system") is located in upstate New York in Lake County (the "County"). The system serves the city of Alex-town and unincorporated portions of the County.

The Alex-town service area primarily consists of residential and institutional users (e.g., the Prestige Worldwide College). It also provides water to commercial and industrial users. The system serves approximately 15,000 residents and has more than 4,000 retail water connections.

The system is comprised of five ground water wells. The system's water is collected from the ground wells and is then treated at the system's water treatment plant. After treatment to remove contaminants, the water is delivered to the service area through the water distribution system. The water distribution system consists of water mains, tanks, and pumps.

Premise of Value and Purpose of the Analysis

For the purpose of this analysis, we relied on legal counsel to provide us with the appropriate standard, or definition, of value.

In certain cases, the appropriate standard of value may be fair market value or a prescribed formula price based on a charter or other agreement between a business and a public entity (e.g., a township, city, or municipality). In the case of a prescribed formula price, the following example may not be as relevant as it is in a fair market value matter.

However, for the purposes of this illustrative example, let's assume that the standard of value is fair market value.

Fair market value is often defined as the price at which an asset would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, and both parties have reasonable knowledge of the relevant facts. Legal counsel concurred with our definition of fair market value.

For this example, we analyzed the system operating assets based on the premise of value in continued use, as a going-concern business enterprise. The system includes both operating assets and a nonoperating asset. These assets collectively comprise the total system assets.

With respect to the system operating assets, these assets are used in the normal course of business operations. The operating assets directly contribute to the profit or loss of the system business operations. The operating assets typically include the real estate, tangible personal property, and contributory intangible assets of the system business operations.

The system also owns a nonoperating asset. Nonoperating assets may contribute to the profit or loss of the subject business operations, but they are generally nonessential to the on-going business operations.

In this illustrative example, the nonoperating asset could be sold independently from the operating assets, and such a sale would not materially affect the system operations. Nonoperating assets are sometimes referred to as excess assets or investment assets.

Hypothetical Willing Buyers

To estimate the value of system total assets for this example, we considered the likely population of hypothetical willing buyers. Based on the characteristics of (1) the system and (2) the population of buyers who are likely to invest in a water distribution system, in our opinion, the likely population of hypothetical willing buyers of the system includes not-for-profit public entities.

This willing buyer determination is made on a case-by-case basis. In certain cases, the likely buyer is an investor-owned utility (IOU) corporate acquirer.

For this particular example, the conclusion of a not-for-profit willing-buyer acquirer is based, in part, on the following facts:

1. The majority (approximately 85 percent) of water systems that are members of the American Water Works Association in the United States are owned by public entities.[1]
2. According to the U.S. Environmental Protection Agency (EPA), among the privately owned community water systems, the vast majority are run as not-for-profit entities.[2]

3. Based on the New York Utility Regulatory Commission (NYURC) report titled *Annual Report to the Regulatory Flexibility Committee of the New York General Assembly 2013*, National Water System (NWS), an IOU, reported the most operating revenue of any New York water utility operation. However, the system is located in a geographic territory that is far away from the NWS business operations.

   Therefore, a purchase by NWS would be unlikely. This is because NWS does not have a significant amount of assets employed in this geographic area. Therefore, NWS would not be able to leverage its large size to create economies of scale. These economies of scale are essential to NWS business operations in order to provide a return to its shareholders.

4. There are numerous public entities that may acquire the system. Potential public entity buyers include the County or any nearby incorporated municipality (i.e., city, village, town, or township). This group of potential acquirers includes other counties and municipalities that are within/near the area, such as Alex-town.

5. Because the system can be sold to and operated by any municipality in the County, there are many other potential public entity acquirers. These potential acquirers include the city of John-town and the towns of Greg, Peter, Tom, and Roger. All of these potential acquirers own and operate their own water utility operations. None of these public entities that own and operate water utility operations are subject to the regulatory jurisdiction of the NYURC with respect to water rates and charges.

   If the system is purchased by any of these acquirers, the NYURC withdrawal right will also apply to the system.

6. Other groups of potential public entity acquirers include existing and yet-to-be formed joint water agencies, districts, or commissions. Any of the above-mentioned municipal or public entity acquirers could join together to acquire the system. Any of these jurisdictions represents potential public entity buyers of the system.

These considerations suggest that the hypothetical buyers of the system include a not-for-profit public entity or a group of such entities.

In the acquisition of a going-concern business, the market participants with the greatest expected acquisition synergies will typically set the range of market prices. The expected acquisition synergies of a population of willing buyers can be strategic, operational, and/or financial.

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By considering the acquisition synergies of various populations (or categories) of business buyers, the valuation analyst may identify the population of likely buyers for the subject operating business assets.

In an actual acquisition offering, many types of buyers may bid for the target entity. However, the market participants with the greatest expected synergies will set the price range that all serious potential bidders will have to match.

In the case of the system, a public entity buyer (1) will not have to pay income tax, (2) will have access to municipal financing, and (3) will not be subject to the same regulatory environment as an IOU buyer.

Therefore, public entity buyers will be able to set the range of market prices in which all potential buyers (i.e., public entities and IOUs) will have to bid. This conclusion is appropriate regardless of the ownership status or the likely intentions of any particular potential buyer (including the actual condemnor).

Regional Outlook

The regional outlook is an important factor that we typically consider in the valuation of a location-specific business. Any hypothetical buyer of the system would be affected by the economic condition of the system geographic area.

The County posted positive job growth in each year from 2008 to 2014. The County gained 3,000 jobs since the beginning of the recession in 2008. Total employment trends are indicating improvement in new job creation.

The County utilities sector experienced significant employment stability in the 2008 to 2014 time period. The utilities sector had no change in both employment and total establishments from 2008 to 2014.

The U.S. Census Bureau reported that New York state had a population of 19.7 million in 2013. That

figure represents a 1 percent increase from the population of 19.5 million in 2012. The population of Alex-town, New York, was 30,000 in 2014, a 2 percent increase from the population of 29,400 in 2013.

The population of the County was 90,000 in 2014. In 2015, the population of the County is projected to be approximately 91,800.

Water Distribution Industry Regulation

The water distribution and wastewater treatment industry is highly regulated. Businesses operating in this industry are subject to both federal and state regulation.

Federal Regulation

Numerous federal drinking water regulations have been in place in the United States since the passage of the Safe Drinking Water Act in 1974.

The Safe Drinking Water Act established criteria and procedures for the EPA to develop national drinking water quality standards. Regulations issued pursuant to the Safe Drinking Water Act set standards on the amount of certain microbial and chemical contaminants and radionuclides allowable in drinking water.

The Safe Drinking Water Act was most recently amended in 1996. Additional water quality standards set by the EPA were implemented over time.

Disinfection by-product limits were lowered in 1998, and these limits took effect in 2002. More stringent surface water treatment performance standards also became effective in 2002. In 2001, the EPA adopted a limit for arsenic in water of 10 parts per billion.

The new limit, which was adopted in 2001 and became effective in 2006, is one-fifth of the previous allowable level. Compliance to the new arsenic limit required investment spending from the water suppliers who did not meet the standard.

The Clean Water Act of 1972 regulates the discharges from drinking water and wastewater treatment facilities into lakes, rivers, streams, and groundwater.

State Regulation

In addition to federal regulation, state commissions also regulate water utilities. These commissions have broad authority to establish rates for service, to prescribe service standards, and to review and approve rules and regulations.

In most instances, long-term financing programs, transactions between water utilities and affiliated interests, reorganizations, and mergers and acquisitions also require state commission approval to proceed. The jurisdiction exercised by each commission is prescribed by state legislation and, therefore, varies from state-to-state.

The regulatory rate-setting process is time consuming. After considering the time required to complete the regulatory process, water utilities file for rate adjustments that will reflect as closely as possible the cost of providing service during the time new rates are intended to be effective. Attempts are also made to offset any adverse financial impact arising from regulatory lag.

For example, some states employ some form of forward-looking test year, such as a future test year, or recognition of known and measurable changes for some period beyond a historical test year.

Such mechanisms result in rates that are more reflective of costs that are likely to be incurred during the period the rates will be in effect. Rate orders may also allow for the recovery of interest expense and depreciation expense related to the interim period from the time a major construction project is placed into service until new rates reflecting the cost of the project become effective.

In New York state, the NYURC is the economic regulator over many of the state's water providers. The NYURC regulates 200 of the 1224 water utilities and 43 of the 1,000 wastewater utilities throughout New York. These NYURC-regulated entities serve approximately 45 percent of the New York population.

Selection and Application of Valuation Methodology

There are various methods for estimating the value of the total operating assets of a going-concern business enterprise. All business valuation methods can be categorized into three generally accepted business valuation approaches.

Valuation analysts use one or more of these three approaches to estimate the value of business operating assets. The objective of using more than one approach is to develop mutually supporting evidence as to the value conclusion.

The three generally accepted business valuation approaches are as follows:

1. The income approach
2. The asset-based approach
3. The market approach

The income, asset-based, and market approaches represent general valuation approaches. The specific methods and procedures that are associated with these approaches may or may not be applicable to the valuation of the system operating assets.

Based on the quantity and quality of available data, and based on the purpose and objective of this analysis, we relied on the following valuation approaches and methods to estimate the fair market value of the system operating assets:

1. The income approach, using the yield capitalization method (often referred to as a discounted cash flow method)
2. The asset-based approach, using the asset accumulation method

Income Approach—Yield Capitalization Method

This valuation method is based on the principle that the value of a business entity is the present value of the future income (as defined) to be derived by the entity. In this analysis, we used net cash flow as the measure of future income.

The yield capitalization method requires (1) a projection of future cash flow and (2) the selection of a present value discount rate that appropriately reflects the risk inherent in the projected cash flow.

There are two components of value that are encompassed in this method: (1) the present value of the expected net cash flow during the discrete projection period and (2) the present value of the terminal period net cash flow.

The present value of the discrete projection period net cash flow is a function of:

1. the projected net cash flow (for this example we use net cash flow to invested capital) and
2. the present value discount rate (weighted average cost of capital).

The present value of the terminal period net cash flow is a function of the projected results in the terminal year capitalized by a direct capitalization rate that is then discounted to the present.

Weighted Average Cost of Capital

The weighted average cost of capital (WACC) is the appropriate present value discount rate to use in the yield capitalization analysis of net cash flow to invested capital.

Investors have alternative opportunities for their investment of current funds that will provide future returns to compensate them for:

1. the time that the funds are not available at the investor's disposal,
2. the expected rate of inflation, and
3. the relative uncertainty of future returns.

The required rate of return on investment is a function of investment risk. Business risk is generally reflected in the calculation of the cost of equity capital, while financial risk is generally considered in the ratio analysis of debt capital to equity capital.

The cost of capital is the rate of return that an investment should yield in order to provide an adequate rate of return to both sources of capital: (1) equity and (2) long-term debt.

Cost of Equity Capital—Using a Build-Up Model

To estimate the cost of equity capital using the build-up model, we summed (1) the risk-free rate of return of 2.5 percent, (2) the general equity risk premium of 6.1 percent, (3) the size-related equity risk premium of 6.1 percent, (4) the industry-related equity risk premium of negative 4.8 percent, and (5) a company-specific risk factor adjustment of 5 percent.

Based on our build-up model calculation, we arrived at a 15 percent cost of equity capital as of December 31, 2014.

Cost of Debt Capital

In a fair market value analysis, the WACC will typically reflect the cost of capital of the likely population of willing buyers.

To estimate the cost of debt capital component, we analyzed municipal bond yields as of December 2014. Specifically, we reviewed municipal bond yield averages as of December 2014, as published in *Mergent Bond Record*.

Based on these data, we selected a cost of debt capital of 4.2 percent. This cost of debt capital is approximately equal to the average municipal bond yield for bonds rated Baa to A by Moody's bond rating service as of December 31, 2014.

We selected bonds that were rated Baa to A primarily because these bonds were on the lower end of the investment grade bond spectrum. We selected the lower level investment grade bond indications because the system (1) is relatively small and (2) had experienced—to a certain extent—some earnings volatility.

Weighted Average Cost of Capital Conclusion

To calculate the system WACC, based on the appropriate capital structure, we weighted (1) the 15 percent cost of equity capital estimate and (2) the 4.2 percent cost of debt capital estimate.

To estimate the appropriate capital structure, we considered the capital structure of the likely population of willing buyers (including public entities).

Public entities typically have a capital structure that is comprised of nearly 100 percent debt capital. This capital structure conclusion is evidenced by the following facts:

1. Public entities do not have equity owners.
2. Public entities do not raise equity capital; they issue debt securities.
3. Based on our research, in nearly all transactions involving the purchase of a water system by a public entity, the acquisitions were typically financed using 100 percent debt capital.

While most transactions involving the purchase of a water utility system by a public entity are financed almost entirely with debt capital, public entities can and do use cash to pay for a small part of the total transaction consideration (e.g., cash deposits, payments of professional advisor fees).

Therefore, to calculate the system WACC, we used a capital structure of 5 percent equity capital and 95 percent debt capital.

This capital structure weighting of (1) 5 percent equity capital and (2) 95 percent debt capital results in (3) a WACC of 5 percent. This WACC calculation is presented in Exhibit 1.

Estimated Value of the Total Operating Assets

For this illustrative example, we applied a 5 percent present value discount rate based on the selected system WACC to the discrete period net cash flow projections to conclude a discrete period present value of $8 million (rounded).

To estimate a terminal period value, we applied the Gordon growth model. The Gordon growth model estimates the value of the expected cash flow beyond the discrete projection period.

This method of estimating a terminal period value is based on the expectations that (1) the system will continue to generate cash flow beyond the last year of the discrete projection period and (2) the net cash flow will increase into perpetuity at a constant rate.

In order to estimate the normalized terminal period net cash flow—the economic benefit to capitalize in the Gordon growth model—we used the projected 2020 net cash flow.

Exhibit 1
Income Approach—Yield Capitalization Method
Weighted Average Cost of Capital Calculation
As of December 31, 2014

Cost of Equity Capital (Build-Up Model):		**Source**
Cost of Equity Capital (rounded)	15%	
Cost of Debt Capital:		
Cost of Debt Capital	4.2%	Average bond yield indiciation of A and Baa Municipal Debt from Moody's Municipal Bond Yield Average, from *Mergent Bond Record*, as of December 2014
Capital Structure:		
Common Equity / Invested Capital	5%	Analyst estimate based on the typical capital structure of a municipal (not-for-profit) public utility acquirer
Long-Term Debt / Invested Capital	95%	
Total Invested Capital	100%	
Weighted Average Cost of Capital:		
System Weighted Average Cost of Capital (rounded)	5%	

We projected that capital expenditures and depreciation expense would be equal to each other. For this example, the normalization adjustment implies that maintenance capital expenditures will be equal to depreciation expense in perpetuity. We projected the terminal net working capital charge to normalize at the level needed to support the expected long-term growth rate, or $3,000.

Based on these calculations, the terminal period cash flow equals $2.5 million. The fiscal year 2020 net cash flow equals $2.55 million (i.e., $2.5 million fiscal 2019 normalized cash flow increased by the expected long-term growth rate of 2 percent).

The indicated terminal period value of $84.9 million is calculated by capitalizing, or dividing, the $2.55 million estimated fiscal year 2020 terminal cash flow by the 3 percent direct capitalization rate.

We estimated the 3 percent direct capitalization rate by subtracting the 2 percent system expected long-term growth rate from the selected 5 percent present value discount rate.

The terminal period present value is calculated by discounting the future terminal value at the 5 percent present value discount rate. The December 31, 2020, terminal period value is equal to a present value of $68.2 million as of December 31, 2014.

We added the present value of the (1) discrete period net cash flow value of $8 million and (2) terminal period net cash flow value of $68.2 million.

Yield Capitalization Method Conclusion

Based on the yield capitalization method, the fair market value of the system total operating assets was $76.2 million (rounded), as of December 31, 2014. We present this calculation in Exhibit 2.

Asset-Based Approach

The asset-based business valuation approach often involves the application of the cost approach to value the tangible personal property owned and operated by that business entity.

The various cost approach valuation methods are based on these economic principles:

1. Substitution—No prudent buyer would pay more for an item of fungible tangible property or contributory property than

Exhibit 2
Yield Capitalization Method
Fair Market Value of Total Operating Assets Summary
As of December 31, 2014

	Years Ending December 31,					Normalized Terminal Period
Discrete Projection Period Valuation Variables	2015 ($000)	2016 ($000)	2017 ($000)	2018 ($000)	2019 ($000)	($000)
Earnings before Interest and Taxes (EBIT)	2,400	2,300	2,381	2,452	2,501	2,501
Depreciation and Amortization Expense	308	318	334	353	368	-
Capital Expenditures	(1,500)	(1,000)	(800)	(800)	(439)	-
Changes in Net Working Capital	(36)	(7)	(5)	(5)	(5)	(3)
Net Cash Flow	1,172	1,611	1,910	2,000	2,424	2,498
Period	0.50	1.50	2.50	3.50	4.50	
Present Value Factor @ 5 Percent	0.9759	0.9294	0.8852	0.8430	0.8029	
Present Value of Cash Flow	1,143	1,497	1,690	1,686	1,946	
Total Present Value of Discrete Period Cash Flow ($000)	7,963					
Terminal Period Value Calculation						
Fiscal Year 2020 Net Cash Flow ($000)	2,548					
÷ Direct Capitalization Rate	3%					
Terminal Period Value ($000)	84,930					
Present Value Factor @ 5 Percent	0.8029					
Present Value of Terminal Period Value ($000)	68,191					
Indicated Fair Market Value of Total Operating Assets (rounded)	76,200					

the total cost to construct one of equal desirability and utility.

2. Supply and Demand—Shifts in supply and demand cause costs to increase and decrease and cause changes in the need for supply of different types of assets.
3. Externalities—Gains or losses from external factors may accrue to tangible property or contributory property. External conditions may cause a newly constructed asset to be worth more or less than its cost.

Types of Cost Approach Methods

There are several cost approach methods to value tangible personal property. Each of these methods uses a similar definition—or type—of cost. Two common cost measurements are:

1. reproduction cost new and
2. replacement cost new.

The reproduction cost new of an asset is the total cost, at current prices, to construct an exact duplicate or replica of the subject asset. This duplicate asset would be created using the same materials, standards, design, layout, and quality of workmanship used to create the original asset.

The replacement cost new (RCN) of an asset is the total cost to create, at current prices, an asset having equal functionality or utility of the subject asset.[3] However, the replacement asset would be created with modern methods and constructed according to current standards, state-of-the-art design and layout, and the highest available quality of workmanship.

Accordingly, the replacement asset may have greater utility than the subject asset. If this is the case, the analyst should adjust the RCN for depreciation and obsolescence.

We based the cost approach analysis of the system tangible personal property on the replacement cost new less depreciation (RCNLD) method.

The cost (whether measured as replacement cost or reproduction cost) of an asset typically includes (1) all direct costs (e.g., materials), (2) all indirect costs (e.g., construction interest, engineering and design labor), (3) developer's profit (on direct and indirect cost investment), and (4) entrepreneurial incentive related to the development of the asset.

Once the replacement cost new or reproduction cost new is estimated, the cost measurement should be adjusted for losses in value due to all forms of depreciation.

Based on our analysis of the system, we determined that the system owned the following tangible assets: (1) working capital, (2) tangible personal property (i.e., water distribution system including system wells), (3) real property easements, and (4) real estate sites.

We valued the working capital at its accounting book value, for this example. We relied on third-party appraisal professionals to provide the value of tangible personal property, real property easements, and real estate sites.

In addition to the tangible assets we determined that the system had the following intangible assets (1) trained and assembled workforce, (2) system records and reports, and (3) engineering studies and software. Based on management input and on our calculations, we estimated the fair market value of the intangible assets.

The fair market value of system assets prior to

Exhibit 3
Asset-Based Approach—Asset Accumulation Method
Fair Market Value of the System Operating Assets
As of December 31, 2014

System Operating Assets	Value as of 12/31/2014 ($000)
Working Capital (rounded)	2,000
Real Estate and Tangible Personal Property:	
Tangible Personal Property	35,000
Real Property Easements	500
Real Estate Sites	200
Total Real Estate and Tangible Personal Property (rounded)	35,700
Contributory Intangible Personal Property :	
Trained and Assembled Workforce	100
System Records and Reports	700
Engineering Studies and Software	100
Total Intangible Personal Property (rounded)	900
Indicated Value of Total System Operating Assets Not Including Goodwill or Obsolescence	38,600

consideration of goodwill or economic obsolesce is presented in Exhibit 3.

Contributory Value in the Nature of Goodwill/ Economic Obsolescence

Any asset-based approach valuation of a company's operating assets should include an analysis to determine (1) if the company enjoys intangible value in the nature of goodwill or (2) if the company's tangible assets experience economic obsolescence. To estimate value in the nature of goodwill, or the amount (if any) of economic obsolescence, we used the capitalized excess earnings method.

The first procedure in the capitalized excess earnings method is to estimate a prospective normalized level of income associated with the subject system. The second procedure is to estimate the fair rate of return on the assets that are used in the production of the system's income. The third procedure is to estimate an indication of the system's goodwill (or economic obsolescence) by capitalizing the excess earnings (or earnings shortfall). This is the amount of actual income minus the fair rate of return on the tangible personal property and real estate.

In order to apply the capitalized excess earnings method, we used a 5 percent rate of return to estimate the required level of income related to the system (1) working capital, (2) real estate, (3) tangible personal property, and (4) contributory intangible personal property (collectively, the "associated assets"). This rate of return is equal to the system WACC.

We multiplied (1) the required rate of return by (2) the fair market values of the associated assets in order to estimate (3) the required return on the system's assets. We arrived at the required return on the associated assets of $1.9 million.

We based the normalized future period income estimate on the 2015 EBITDA indication of $2.7 million.

From the normalized future period income indication, we subtracted the $1.9 million required return on the system associated assets. This calculation resulted in an excess earnings of $780,000.

Exhibit 4
Asset-Based Approach
Contributory Value in the Nature of Goodwill/Economic Obsolescence
Capitalization of Excess Earnings Method
As of December 31, 2014

System Operating Assets	Value as of 12/31/2014 ($000)	Required Rate of Return	Required Economic Income	Indicated Value of Goodwill ($000)
Working Capital (rounded)	2,000	5%	100	
Real Estate and Tangible Personal Property:				
Tangible Personal Property	35,000			
Real Property Easements	500			
Real Estate Sites	200			
Total Real Estate and Tangible Personal Property (rounded)	35,700	5%	1,785	
Contributory Intangible Personal Property :				
Trained and Assembled Workforce	100			
System Records and Reports	700			
Engineering Studies and Software	100			
Total Intangible Personal Property (rounded)	900	5%	45	
Total Required Return on Real Estate, Tangible Personal Property, and Contributory Intangible Property	38,600		1,930	
Normalized 2015 EBITDA				2,710
Less: Required Return on the Total Operating Assets				1,930
Equals: Excess Earnings/(Income Shortfall)				780
Divided by: Excess Earnings Direct Capitalization Rate				3%
Contributory Value in the Nature of Goodwill/(Economic Obsolescence) (rounded)				**26,000**

The excess earnings of the system assets provides an indication that the system assets are generating more than the required rate of return and, therefore, the system has goodwill value.

To estimate the system's contributory value in the nature of goodwill, first we divided the excess earnings indication of $780,000 (determined in our capitalized excess earnings analysis) by a direct capitalization rate of 3 percent. This direct capitalization rate is equal to (1) the 5 percent system WACC minus (2) the 2 percent system expected long-term growth rate.

Based on the capitalization of excess earnings method, the indicated contributory value in the nature of goodwill adjustment to the RCNLD of the associated assets is $26.0 million (rounded), as of December 31, 2014.

We present this value calculation in Exhibit 4.

Asset Accumulation Method Conclusion

Based on the asset-based approach and the asset accumulation method, the indicated fair market value of the system total operating assets was $65.3 million (rounded), as of December 31, 2014. We present this value conclusion in Exhibit 5.

Total System Assets Summary and Conclusion

In our valuation synthesis, we assigned a 50 percent weighting to the asset-based approach asset accumulation method value indication and a 50 percent weighting to the income approach yield capitalization method value indication.

Based on (1) a 50 percent weighting of the income approach yield capitalization indicated value of $76.2 million and (2) a 50 percent weighting of the asset-based approach asset accumulation method indicated value of $65.3 million, we arrived at a fair market value of the system total operating assets of $70.8 million (rounded), as of December 31, 2014. This fair market value estimate is before consideration of the value of the system nonoperating asset.

Based on our analysis, the indicated fair market value of the system nonoperating asset was $2 million (rounded), as of December 31, 2014.

Example of Fair Market Value Conclusion

Based on the weighted value indication using the income approach and the asset-based approach, and based on our valuation of the system nonoperating asset, the fair market value of the system total assets, as of December 31, 2014, is $72.8 million (rounded).

We present this value conclusion in Exhibit 6.

Exhibit 5
Asset-Based Approach—Asset Accumulation Method
Value Summary
As of December 31, 2014

Operating Asset Category	Indicated Value ($000)
Working Capital (current assets minus current liabilities, not including short-term debt)	2,000
Real Estate and Tangible Personal Property:	
Tangible Personal Property (rounded)	35,000
Real Property Easements	500
Real Estate Sites	200
Total Real Estate and Tangible Personal Property (rounded)	35,700
Contributory Intangible Personal Property:	
Trained and Assembled Workforce	200
System Records and Reports	1,200
Engineering Studies and Software	200
Contributory Value in the Nature of Goodwill (rounded)	26,000
Total Contributory Intangible Personal Property (rounded)	27,600
Fair Market Value of Total Operating Assets (rounded)	**65,300**

Summary and Conclusion

There are many illustrative and hypothetical figures used in the Alex-town example. In fact, Alex-town is a fictional township. However, in our experience, the eminent domain authority, be it a township or city, may offer to the subject business owner an amount of reasonable compensation that is only sufficient to purchase the tangible assets of the subject going-concern business operation.

Because a water utility is a monopoly, if an eminent domain action occurs, the owner is typically forced out of business. In

this case, the loss to the owner is much greater than the tangible asset value. The difference in this illustrative example is $32.2 million (calculated from $70.8 million minus $38.6 million).

The business operations subject to the eminent domain action do not need to be of a monopolistic nature in order to incur total loss. As in the previously mentioned example of the Maui beach resort, the inability to replicate a business operation is essentially a total business taking action by the eminent domain authority.

In that beachfront resort case, as in the water company illustrative example, the amount of the amount of the owner's reasonable compensation should be greater than the amount of the entity's tangible asset value.

Exhibit 6
Alex-town Water System
Fair Market Value of the System Total Assets
Valuation Synthesis and Conclusion
As of December 31, 2014

Valuation Approach and Method	Indicated Value $000	Weight Assigned %
Income Approach		
Yield Capitalization Method	76,200	50
Asset-Based Approach		
Asset Accumulation Method	65,300	50
Fair Market Value of the System Total Operating Assets (rounded)	70,800	
Plus: Fair Market Value of System Nonoperating Asset	2,000	
Fair Market Value of the System Total Assets (Operating Assets plus Nonoperating Asset)	72,800	

Even in situations where a business owner can replicate or replace the subject business operations, the business owner may still suffer lost profits. In this case, several questions should be asked. Such questions may include the following:

1. How long did the business shut its door due to the taking action?
2. What did the business's customers do in the entity's absence?
3. How does the entity's new location compare with the entity's old location?
4. How does the entity's current business performance compare to the entity's prior business performance?

The ultimate reasonable compensation conclusion in an eminent domain taking action may not be decided until the courts are involved. One issue is that the condemning authority may have access to a limited amount of funds in order to pay for the taking of the location-specific business operation.

In that case, the municipal acquirer may be required to obtain the approval of its voters in order to increase the initial taking offer price. In other matters, the municipal acquirer may agree on a price and settle with the owner of the subject business operation. However, it is important that, in an eminent domain action, the business owner (or the business owner's financial adviser) quantifies the appropriate amount of reasonable compensation related to the subject business taking.

Notes:

1. Statistic provided by an email from Deirdre Mueller, product relations manager of the American Water Works Association, dated March 18, 2013.
2. As stated in the U.S. EPA report, *Community Water System Survey Report: Volume 1*, ownership of community water systems are evenly split, although "of the 49 percent of [water] systems that are privately owned, [only] 22 percent are run as for-profit businesses."
3. Functionality is an engineering concept that means the ability of the subject asset to perform the task for which it was designed. Utility is an economics concept that means the ability of the subject asset to provide an equivalent amount of satisfaction.

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