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WOODARD &CURRAN

January 25, 2019

Via Electronic Mail

Jed M. Nosal, Esquire
Brown Rudnick LLP
One Financial Center
Boston, MA 02111

RE: Milford Water Company Valuation; D.P.U. 18-60 – RCN Analysis

Dear Mr. Nosal:

This letter details the findings of Woodard & Curran relative to our assessments of the Reproduction Costs New ("RCN") of the existing water treatment, storage, transmission, and distribution system (collectively, "water system") owned by the Milford Water Company (MWC) ("Report"). Our analysis included the review of records and the physical inspection of accessible water system assets, not including tangible property, real estate, nor improvements thereupon.

Our assessments were based upon a combination of standard industry practices and the professional judgment of staff with expertise in the design, construction, and operation of potable water systems. The goal of these analyses was to provide RCN estimates for use in the Reproduction Cost New Less Depreciation Analysis provided in the Report of Richard Fedder of Woodard & Curran, TOWN-Exhibit-TF-3. Our findings are presented below, and a description of the process by which the assessment was completed is detailed in this Report.

Summary of Findings

The table below summarizes our findings as to the RCN of the water system owned by MWC.

	RCN
Horizontal Assets	
Distribution Pipes	$105,945,539
Transmission Pipes	$4,516,654
Valves	$3,174,349
Meters	$3,240,031
Hydrants	$2,655,850
Subtotal - Horizontal	$119,532,423
Vertical Assets	
Treatment Plants	$30,750,000
Pumping Facilities	$3,075,000
Tanks/Standpipes	$5,340,000
Subtotal - Vertical	$39,165,000
Total	$158,697,423

Definitions

To ensure that all parties understand the calculations documented in this Report, the following definitions describe the meaning of the following terms:

Horizontal Asset

For the purposes of this assessment, horizontal assets are defined as the network of assets which allow for the transmission and distribution of potable water to the customers of MWC. These assets include distribution pipes, meters, valves, and other assets owned by MWC, but do not include assets that are connected to the system, but which are owned by other parties. The reproduction costs of these assets are based upon linear footage and asset counts.

Vertical Asset

For the purpose of this assessment, vertical assets are defined as the assets that treat, pump, and store potable water. These assets include treatment plants, wellfields, pump stations, and storage tanks. The reproduction costs for these facilities are based upon Woodard & Curran's experience in the design, and construction of similar facilities.

Reproduction Cost New (RCN)

RCN is the engineering estimate of the present cost of replacing an existing asset with a new asset of similar construction and operational utility. These estimates were prepared using the RS Means construction cost guidelines, which is a standard cost estimation method in the construction industry. The RCN does not take into account depreciation which may have been applied to the asset by the owner, and RCN is usually higher that the item's book value.

List of the MWC Assets included in this analysis

The following lists outline the water system assets which were included in this evaluation:

Assets which were physically inspected:

Wells and Pump Stations:

- Godfrey Brook Wells
- Clark's Island Wellfield (Angle Wells) and Pump Station
- Charles River Raw Water Pump Station
- Congress Street Booster Pump Station
- Dilla Street Wells and Pump Station

Water Treatment Facilities:

- Godfrey Brook Water Treatment Plant
- Dilla Street Water Treatment Plant

Storage Tanks:

- Bear Hill Tank
- Congress Street Tank
- Highland Street Tank

Buried / Inaccessible Assets, not inspected:

- Distribution Mains
- Transmission Mains
- Valves
- Meters
- Hydrants

Findings of Physical Asset Inspections

Our evaluation of the vertical assets included a site visit on November 20, 2018 to complete a high-level condition assessment of each facility in the distribution system and a review of discovery documents provided by MWC. Representatives of Woodard & Curran, the MWC and legal counsel for MWC and the Town attended the site visit to assess the wells, pump stations, treatment facilities, and storage tanks in the distribution system. The principal assumptions used in developing the cost estimates to replace these assets (RCN) included the visual observations made during our site visit, a review of the discovery documents provided, and our experience with cost estimating and pricing received for similar types of facilities. The vertical assets visited during our November 20, 2018 site visit included the following sites.

Wells and Pump Stations:

- Godfrey Brook Wells
- Clark's Island Wellfield (Angle Wells) and Pump Station
- Charles River Raw Water Pump Station
- Congress Street Booster Pump Station
- Dilla Street Wells and Pump Station

Water Treatment Facilities:

- Godfrey Brook Water Treatment Plant
- Dilla Street Water Treatment Plant

Storage Tanks:

- Bear Hill Tank
- Congress Street Tank
- Highland Street Tank

Each of the above assets was rated based on our visual inspections as better than expected, in-line with expectations or worse than expected based on the age of each facility. These ratings are defined as:

- Better than Expected – Facilities are operational, and no immediate improvements are necessary
- In-line with Expectations – Facilities are operational but are likely to require rehabilitation or other improvements to ensure long-term operability/reliability
- Worse than Expected – Facilities may or may not be operational, and likely require extensive repairs or need to be replaced.

The following summarizes Woodard & Curran's visual observations of the vertical assets inspected during our November 20, 2018 site inspection. The summary includes a high-level condition assessment of each asset based on our observations and the estimated RCN for each of the facilities inspected. The RCN for each vertical asset inspected is also tabulated in Table 1.

Wells and Pump Stations

Godfrey Brook Wells

Summary

The Godfrey Brook Wells consist of five gravel packed wells installed in 1983 with submersible pumps and pitless adaptors. The wells reportedly have an approved maximum daily pumping volume of 0.79 million gallons per day (MGD). The water from the Godfrey Brook Wells is pumped to the Godfrey Brook Water Treatment Plant for treatment.

Condition and RCN

A visual assessment of the wells could not be performed since the wells, submersible pumps, and pitless adapters are buried and cannot be accessed. It is our understanding that several of the Godfrey Brook Wells were recently redeveloped and that Well #4 is the worst quality well, requiring iron and manganese treatment to improve pumping capacity from this well. We further understand improvements to Well #4 have been delayed until design of improvements to the Godfrey Brook Water Treatment Plant advanced. The treatment plant is discussed later in this report.

In general, the condition of the Godfrey Brook Wells is in-line with expectations. Four of the five wells have been rehabilitated and only Well #4 appears to need additional work based on the discovery documentation provided. The RCN for the five wells is estimated at $1,125,000. This estimate assumes

a reproduction cost of $225,000 per well, which is the typical price received when these types of wells are bid for construction.

Clark's Island Wellfield and Pump Station

Summary

The Clark's Island Wellfield consists of two directionally drilled, naturally developed angle wells installed to replace an abandoned tubular wellfield. Water is withdrawn from the angle wells via a horizontal split case pump with a vacuum priming system. The pump and associated fittings, valves, piping, and electrical/controls are housed in a concrete building. Water from the wellfield is pumped to the Dilla Street Water Treatment Plant. The approved maximum daily pumping volume is noted to be 0.80 MGD.

Condition and RCN

A visual assessment of the wells could not be performed. Replacement wells appear to have been installed and brought into service in November 2015, based on the discovery information provided in Town-MWC-3-2 Attachment. The vacuum priming system and Supervisory Control and Data Acquisition ("SCADA") communications have also been updated.. The condition of this asset is in-line with expectations given its age. We have estimated the RCN at $500,000 based on our experience and bid prices typically received to replace similar facilities.

Charles River Raw Water Pump Station

Summary

The Charles River Raw Water Pump Station consists of a Concrete Masonry Unit ("CMU") block building with flat roof and below grade wet well. The intake for the wet well includes a relatively new stainless-steel drum screen and air burst compressed air, screen cleaning system. The pump station contains one vertical turbine pump and associated valves, fittings, and piping for pumping the raw water to the Dilla Street Water Treatment Plant.

Condition and RCN

Visual inspection indicates the Charles River Raw Water Pump Station is in-line with expectations. Town-MWC-3-2 Attachment indicates the pump was replaced in April 2015. The pump station has a new intake, including a new stainless-steel drum screen and air burst compressed air, screen cleaning system, and a new air compressor. The building and roofing system need repair but, in general, the equipment appears to be in good condition. We have estimated the RCN of this asset at $500,000 based on our experience and bid prices typically received to replace similar facilities.

Congress Street Booster Pump Station

Summary

The Congress Street Booster Station is located at the Congress Street Water Storage Tank. The booster pump station consists of a masonry CMU block building with a wood framed gable roof with asphalt shingles. The station is surrounded by a chain link fence. The booster station contains two 800 gallons per minute (GPM) end suction centrifugal pumps. Town-MWC-3-2 Attachment indicates these pumps were put into service in May 2016 and January of 2017. The booster pumps are in the basement of the building. Access to the basement is provided by an aluminum ladder. SCADA communications are through phone lines. A sodium hypochlorite feed and monitoring system is no longer being used.

It appears above grade connections to the yard piping have been made to permit installation of a temporary skid-mounted pump to maintain acceptable system pressure when the Highland Street tank is taken off-line for maintenance or repairs. Information included in Town-MWC-3-2 Attachment indicates this is not in service, but based on visual observations made during our site inspection, it appears the above grade connections have been made.

Condition and RCN

Visual inspection of this asset indicates the facility is in-line with expectations for the age of the asset. The roof of the building should be replaced and maintenance, including painting, fence replacement and basement access, controls, and communication improvements could be made, but, in general, the equipment appears to have been maintained. We have estimated the RCN of this asset at $500,000 based on our experience and bid prices typically received to replace similar facilities.

Dilla Street Wells and Pump Station

Summary

The Dilla Street Wells consist of two gravel packed wells with submersible pumps and pitless adapters. The wells were installed in 1984 and have an approved maximum daily pumping volume of 0.675 MGD. The water from the Dilla Street Wells is pumped to the Dilla Street Water Treatment Plant for treatment.

Condition and RCN

Since the wells contain submersible pumps with pitless adapters, a visual assessment of the wells could not be performed. Based on this understanding, the information provided in discovery and our visual inspection, we have assessed the Dilla Street Wells as in-line with expectations. The RCN for the wells is estimated at $450,000. This estimate assumes a reproduction cost of $225,000 per well, which is the typical price received when these types of wells are bid for construction.

Cedar Swamp Well

Summary

The Cedar Swamp Well consists of one gravel packed well with a submersible pump and pitless adaptor. The well is currently inactive and it is our understanding the wells were an emergency supply.

Condition

Since the Cedar Swamp Well consists of a well with a submersible pump, a visual assessment of the well could not be performed. Due to the inactivity of this well, we were unable to render an assessment. It is our understanding that MWC does not have control/ownership of the Massachusetts Department of Environmental Protection (MassDEP) required 400-foot protective radius surrounding the well. Therefore, the well must remain inactive. We did not estimate the RCN for this asset as a result of its inactivity and the inability to permit the asset for use.

Water Treatment Plants

Godfrey Brook Water Treatment Plant

Summary

The Godfrey Brook Water Treatment Plant treats water produced from the Godfrey Brook Well #4. It's reported that the plant was originally designed with a capacity of 1.44 MGD, but due to lost capacity in the Godfrey Brook Wells, the current output is approximately 0.72 MGD. The lost capacity is reported to be due to elevated levels of iron/manganese. The Plant consists of a CMU block building with a two-level flat roof. The building contains two aeration towers for pH adjustment, a clearwell located beneath the building and two vertical turbine pumps for pumping from the clearwell and into the distribution system. The building has space for adding a third vertical turbine pump. Potassium hydroxide is added for additional pH adjustment, zinc orthophosphate for corrosion control and sodium hypochlorite for disinfection. The plant has a connection for a portable standby generator. SCADA communications is via radio.

Condition and RCN

The condition of the Godfrey Brook Water Treatment Plant is rated as worse than expected, because it is operating at a reduced capacity due to a reduced pumping capacity at the Godfrey Brook Wells. It is our understanding construction of treatment plant improvements were scheduled to be bid in 2018. However, it appears improvements to this facility are behind schedule. According to Town-MWC-3-1, the final design basis memorandum for the proposed improvements is not available. Town-MWC-3-1 Attachment included a letter dated January 22, 2018 from Tata & Howard suggesting a reproduction budget for this facility would range between $5,000,000 and $9,000,000. Woodard & Curran agrees the reproduction cost new for this facility would fall in this range and estimate an RCN of $8,000,000 based on our experience designing and bidding similar facilities.

Dilla Street Water Treatment Plant

The Dilla Street Water Treatment Plant treats all of the MWC's water supply sources with the exception of the Godfrey Brook Wells. The treatment plant contains two pre-engineered metal buildings with concrete foundation and floors and one combination pre-engineered metal building and brick and block building which includes the high lift pumps and, also serves as storage and office space. The treatment plant was constructed in 2013 and has a peak capacity of 5.0 MGD. The 2013 plant includes two pre-engineered metal buildings; one building houses the backwash water supply clearwell and backwash pumps, and the second houses the main process equipment including the rapid mix basins, flocculation basins, dissolved air floatation (DAF) units, three granulated activated carbon (GAC) filters, and associated chemical storage and feed equipment; zinc orthophosphate, potassium permanganate, potassium hydroxide, PAC, and sodium hypochlorite. After passing through the GAC filters, the filtered water flows to an exterior chlorine contact tank and is then pumped by the high lift pumps into the distribution system.

Condition and RCN

High Lift Pump Station – The High Lift Pump Station is located in an older brick and block building that is also used as a garage for storage and office/crew space. Based on our inspection, the roof is in need of repair and three of the high service pumps including motors and VFD's are relatively new. Town-MWC-3-2 Attachment includes information that carries $8,000 to repair this roof, but no completion date is listed. Our visual inspection indicates this work was not done. The original brick floor

in the pump area has been partially replaced with a concrete floor. Based on the age of the building, mechanical and electrical systems and the need for a new roof, the condition of the High Lift Pump Station is rated as in-line with expectations for the age of the asset.

Dilla Street Water Treatment Plant (exclusive of High Lift Pump Station) – The Dilla Street Water Treatment Plant was built in 2013, and due to its relatively new age and the visual assessment that was performed, the plant has been rated as better than expected given its age. No improvements were identified as being necessary from our visual assessment. Discovery indicates the cost basis for this plant was $19,603,351 in 2013 dollars. Woodard & Curran has estimated the RCN for this facility at $22,750,000 in 2018 dollars assuming 3% for inflation.

Water Storage Tanks

Bear Hill Tank

Summary

The Bear Hill Tank consists of a welded steel tank with a reported capacity of approximately 2.65 million gallons (MG). The tank was reported to have been constructed in 1987. It was also reported that the interior and exterior surfaces of the Bear Hill Tank were recoated in 2006.

Condition and RCN

Overall, the Bear Hill Tank and the exterior coating system appear to be in-line with expectations based on the visual observations. No improvements were identified as being necessary from this visual assessment. The RCN for this asset is estimated at $3,400,000 based on a typical construction cost of $1.30/gallon for a new concrete tank on an existing site.

Congress Street Tank

Summary

The Congress Street Tank consists of a riveted steel tank that was reported to have been constructed in 1927 and has a reported capacity of 1.1 MG. The height of the tank was extended with a welded steel extension and an aluminum roof added in 2009.

Condition and RCN

The Congress Street Tank is rated as better than expected given the age of the asset. Our visual inspections noted the exterior coating system requires recoating and some foundation repairs are needed. The interior coating system could not be inspected. The RCN for this asset is estimated at $3,400,000 based on a typical construction cost of $1.30/gallon for a new concrete tank on an existing site.

Highland Street Tank

Summary

The Highland Street Tank consists of a riveted steel tank that was reported to have been constructed in 1964 and has a reported capacity of 0.271 MG. Based on visual inspection and input from the MWC, the tank requires recoating of both the interior and exterior coating systems.

Condition and RCN

Overall, the condition of the Highland Street Tank is in-line with expectations. It requires recoating of both the interior and exterior coating systems. The RCN for this asset is estimated at $540,000 based on a typical construction cost of $2.00/gallon for a new tank on an existing site.

Summary of Vertical Assets

Overall, the condition of the existing MWC water supply, storage, and treatment plants appear to be in-line with expectations. Two facilities, the Dilla Street Water Treatment Plant and Congress Street Tank, were rated as better than expected given the age of the asset. The Dilla Street Water Treatment Plant was constructed in 2013 and is relatively new. The Congress Street Tank, while originally constructed in 1927, has had recent improvements and only requires recoating and general maintenance. One facility, the Godfrey Brook Water Treatment Plant, was rated as worse than expected. The treatment plant was off-line during our inspection, and it appears plans to design and construct improvements have been delayed. A reproduction cost for one facility, the Cedar Swamp Wells, could not be determined. The facility is off-line and cannot be permitted for use due to the lack of ownership/control of the surrounding watershed. A condition assessment and RCN for the Echo Lake Reservoir Dam was beyond the scope of this report.

TABLE 1: SUMMARY OF VERTICAL ASSETS

Asset	Condition Rating	Reproduction Cost New (RCN)
Godfrey Brook Wells	In-line with expectations	$1,125,000
Clark's Island Wellfield and Pump Station	In-line with expectations	$500,000
Charles River Raw Water Pump Station	In-line with expectations	$500,000
Congress Street Booster Pump Station	In-line with expectations	$500,000
Dilla Street Wells and Pump Station	In-line with expectations	$450,000
Cedar Swamp Wells	No assessment	Inactive
Godfrey Brook Water Treatment Plant	Worse than expected	$8,000,000
Dilla Street Water Treatment Plant	Better than expected	$22,750,000
Bear Hill Tank	In-line with expectations	$3,400,000
Congress Street Tank	Better than expected	$1,400,000
Highland Street Tank	In-line with expectations	$540,000
	Estimated RCN – Vertical Assets	**$39,165,000**

Inventory of Buried/Inaccessible Assets

As part of discovery, Woodard & Curran was provided with documentation on the list of buried or otherwise inaccessible assets of the MWC which were to be included in our evaluation, as follows:

Distribution Mains

MWC provided a list of streets with had water mains, along with the size, material, and date of construction. Additionally, MWC provided a map booklet which provided the layout of the system. In many instances, important information on the water mains was either omitted or provided in general format (i.e. construction during a decade rather than a specific year). The versions used in our analysis were provided as discovery document TOWN-MWC-2-9 Attachment and TOWN-MWC-1-23-C Attachment.

Transmission Mains

A list was provided of the transmission mains indicating size, material, and linear footage as provided as discovery document TOWN-MWC-2-9 Attachment and TOWN-MWC-1-23-C Attachment.

Valves

MWC provided a list of the valves within the system as discovery document Town-MWC-2-6-C Attachment. The file contains information on the size, material and date of installation.

Meters

MWC provided a list of the valves within the system as discovery document Town-MWC-2-6-B Attachment. The file contains information on the size, model, and purchase/installation date.

Hydrants

MWC provided a list of the valves within the system as discovery document Town-MWC-1-23-C Attachment. While the document provides the number of hydrants, it contains no information on installation date.

Calculation of RCN Values

For each of the assets that were physically inspected as part of this work, Woodard & Curran has presented our professional estimate of what each facility would cost to construct. Our estimates are based upon our experience with recent construction projects in New England with similar characteristics.

For the buried/inaccessible assets, Woodard & Curran calculated the RCN by developing a unit price for each size/type of asset and extended those values based upon asset quantity. For pipe, the quantity was linear feet, and for all other assets, the quantity was asset count (by size).

Description of Unit Price Development

Woodard & Curran estimated the construction cost of replacing the water distribution system based on unit price cost data from *RSMeans Heavy Construction Cost Data*, 2012. RSMeans provides **material** costs, **labor** costs, and **equipment** costs related to all construction activities to estimate cost for individual activities on a "per unit" basis. Material cost for each line item represents the average, bare cost for the item based on data collected from manufacturers, dealers, distributors, and contractors

from the United States (US) and Canada. Labor costs are dependent on crew size, crew daily output, and labor hours necessary to complete the work specified for each item. Labor cost data is based on the average wage rates from 30 major US cities and are determined by labor union agreements for a given year. Equipment costs include rental and operating costs for all the equipment necessary to complete the work for the specified construction activity. This includes costs of routine maintenance and operating expendables such as fuel and electricity where applicable.

The distribution system reproduction estimate is based on the unit price cost of each activity related to replacing the infrastructure and the total quantity of items to be replaced. Construction activities listed in the estimate include, but are not limited to, pavement sawcutting, trench excavation for pipe removal and installation, pipe removal and installation, hauling material to and from site, removal and installation of new water services and appurtenances, and paving activities.

RSMeans provides location and historical cost indices to consider varying construction costs based on geography and inflation, respectively. The historical cost index specifically updates past RSMeans Edition for future use. The construction cost estimate was adjusted from RSMeans' average cost data using these indices to reflect inflation of construction costs from 2012 to 2019, as well as the Town's higher-than-national-average locational construction costs. RSMeans' index to inflate cost from 2012 to 2019 is 116.8 or a 16.8% cost increase. Milford, MA has a location factor of 110.2, or 10.2% higher than average costs. With the given index factors, the estimate was inflated from the 2012 national average cost to a 2019 cost in the Town.

The table on the following page presents our unit cost estimates for horizontal assets.

UNIT PRICING FOR BURIED / INACCESSIBLE ASSETS

Distribution Piping	Units	Unit Cost
Furnish and Install 16" Cement Lined Ductile Iron Pipe	LF	$ 250.67
Furnish and Install 14" Cement Lined Ductile Iron Pipe	LF	$ 208.40
Furnish and Install 12" Cement Lined Ductile Iron Pipe	LF	$ 198.34
Furnish and Install 10" Cement Lined Ductile Iron Pipe`	LF	$ 192.08
Furnish and Install 8"Cement Lined Ductile Iron Pipe	LF	$ 174.78
Furnish and Install 6"Cement Lined Ductile Iron Pipe	LF	$ 156.50

Transmission Piping		
Furnish and Install 24" Cement Lined Ductile Iron Pipe	LF	$ 298.44
Furnish and Install 20" Cement Lined Ductile Iron Pipe	LF	$ 268.62
Furnish and Install 16" Cement Lined Ductile Iron Pipe	LF	$ 236.76
Furnish and Install 12" Cement Lined Ductile Iron Pipe	LF	$ 184.43

Valves		
Furnish and Install 24-inch Gate Valve and Box	EA	$ 30,751.40
Furnish and Install 20-inch Gate Valve and Box	EA	$ 20,557.29
Furnish and Install 16-inch Gate Valve and Box	EA	$ 9,810.99
Furnish and Install 14-inch Gate Valve and Box	EA	$ 6,625.33
Furnish and Install 12-inch Gate Valve and Box	EA	$ 3,439.67
Furnish and Install 10-inch Gate Valve and Box	EA	$ 2,760.06
Furnish and Install 8-inch Gate Valve and Box	EA	$ 2,080.45
Furnish and Install 6-inch Gate Valve and Box	EA	$ 1,698.17

Metering		
Furnish and Install 12" Turbine/flanged Meter	EA	$ 12,674.69
Furnish and Install 8" Compund Meter	EA	$ 19,428.29
Furnish and Install 6" Compund Meter	EA	$ 12,615.22
Furnish and Install 4" Compund Meter	EA	$ 7,985.39
Furnish and Install 3" Compund Meter	EA	$ 4,884.68
Furnish and Install 2" Threaded/flanged Meter	EA	$ 772.20
Furnish and Install 1 1/2" Threaded/flanged Meter	EA	$ 570.87
Furnish and Install 1" Domestic/threaded Meter	EA	$ 255.70
Furnish and Install 3/4" Domestic/threaded Meter	EA	$ 180.10
Furnish and Install 5/8" Domestic/threaded Meter	EA	$ 115.53

Hydrants		
Furnish and Install Hydrants (Public)	EA	$ 2,967.68

Modifications to MWC Provided Data in the RCN Analysis

Distribution and Transmission Pipe

Due to limitations within the data set on horizontal assets provided by MWC, Woodard & Curran made significant adjustments to allow for our analysis. The process used in making these adjustments and the assumptions used to make the data set useful are outlined below.

Distribution Pipes

a. The basis is the Excel file cataloging water mains by street, as provided in Town-MWC-2-9 Attachment.

b. Using the scale shown on the provided maps, the linear footage of MWC distribution mains was measured.

c. Due to the incomplete list of mains provided in Excel (in comparison to the mains shown on the maps in TOWN-MWC-23C Attachment), mains which were not under streets referenced in Town-MWC- 2-9 Attachment were added to the list of assets.

d. The total length of mains from this analysis suggested about 500,000 linear feet of distribution main were present in the system, which was roughly 100,000 less than was expected based upon other public documentation.

e. Double checking the scale on the maps provided by MWC, it was discovered that the noted scale was incorrect. Comparing the measured length of the pipes (from the documentation provided) against scaling from Google maps, it was determined that the linear footage measured from the maps was uniformly 15% shorter (+/- 3%) than the measured distances from Google maps.

f. A 15% correction factor was applied to all mains lengths measured from the maps provided.

Metering Assets

The data set provided by MWC has a number of meters with missing dates of install or purchase of meters. To allow for the depreciation to be calculated, the following modifications were made for meters with missing data:

a. In cases where both dates were provided, the later of the two dates was used for the beginning of the depreciation period;

b. In cases where only one of the dates was provided, it was used as the date for the beginning of depreciation; and

c. In cases where neither date was provided, it was assumed that the meter had been installed in 2009 (10 years ago). This assumption is based upon the fact that the average “in service” life of meters in the system is approximately 10.8 years.

Valves

The valve data set provided by MWC was used without adjustments or modifications.

Hydrants

The hydrant data set contained no data of install, so the assumption was made that all hydrants were installed in 1982, giving them an age of one year less than half of useful life.

Many of the installed assets are made of obsolete materials or in sizes no longer in use in the water industry. The RCN calculations were made assuming the installation of assets of current standard materials and sizes. Due to the number of smaller mains, this provides an RCN which is likely higher than the cost of original installation.

We are confident that the figures included in the tables above are an accurate representation of the reproduction cost new for the subject assets based on the information provided to Woodard & Curran in discovery and a group of reasonable assumptions. We reserve the right to supplement this testimony and the Report based on any additional information and analysis that comes into the record in this proceeding.

Should you have any questions or concerns, please do not hesitate to contact me at 978-482-7878.

Sincerely,

WOODARD & CURRAN

James R. Rivard, P.E.
Senior Vice President

JR/TF