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February 6, 2013

“DRAFT”

Mr. John DuRocher
Executive Director
Northwest Water Commission
1525 North Wolf Road
Des Plaines, IL 60016

Reference: Northwest Water Commission
Study for Proposed Water Supply to Village of Long Grove
AECOM Project No.: 60279184

Dear Mr. DuRocher:

At the meeting held in your offices on December 14, 2013 between the Water Commission and representatives of the Village of Long Grove, it was decided to look at serving only the current Village of Long Grove water requirements. Subsequently, we have received the following water demands from the Village of Long Grove.

Year 2012	Average Day (gpd)	Maximum Day (gpd)
Briarcrest Subdivision System	49,766	89,579
Village of Long Grove System	12,764	22,975
Properties Along Route 83	38,928	62,328
Few Dozen Single Family Homes	<u>9,000</u>	<u>16,200</u>
	110,458	191,081

We have included fire flow in the maximum day demand where it was indicated.

Based on the above, we modeled a maximum day demand of 191,081 gpd using the hydraulic model of the Commission's water distribution system with a connection to the Commission's future 16-inch diameter on Arlington Heights Road, just north of Illinois Route 83. This proposed 12-inch diameter connection is approximately 750 LF from the Village's existing reservoir, though this proposed route likely goes through a private property. A complete routing study should be performed at a later time if this is determined to be a feasible option.

Assuming a present day maximum day demand of 40.77 mgd on the Commission's existing system, the additional demand from Long Grove brings the total demand placed on the system to 40.96 mgd. Based on the model, the pressure just downstream of the proposed NWC metering station would be approximately 20.4 psi.



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Northwest Water Commission Requirements for A Permanent Connection

The Commission's requirements for both their members and other entities who purchase water are as follows:

- There must be an air gap between the Commission's supply and the receiving reservoir in order to prevent the backflow of water.
- The Commission will own and operate all of the connection facilities to a point ten feet after the metering vault.

The metering vault itself will as a minimum, have intrusion and temperature alarms; be able to measure flow and pressure; and have a control valve. A level transducer will be installed within the receiving reservoir. All of this data will be transmitted back to the Commission's receiving reservoir and pump station through the Commission's SCADA system.

If all of the above are completed and the water is discharged into the Village of Long Grove's reservoir via an air gap and rechlorinated, we do not envision any difficulties with this proposed concept. Again, this letter report is only utilizing the existing Village of Long Grove demands and the existing Northwest Water Commission demands. It is our understanding that if this connection is constructed, the Village of Long Grove would have to ask for additional water from the Commission each time demand exceeds the values above.

Opinion of Probable Construction Costs

In order to provide a realistic basis for the evaluation of the proposed improvements, an estimate of probable construction costs for the recommended improvements are developed below. These estimates are based on recent prices for materials and fixed construction, advice from construction contractors and historical prices from comparable construction obtained from records.

These costs represent February, 2013 dollars based on an Engineering News Record Construction Cost Index (1913 = 100) of 9453. Estimated costs developed for improvements under this report include a 15 percent contractor's overhead and profit multiplier and a 10 percent general construction contingency multiplier. Since AECOM has no control over the cost of labor, material or equipment, or general inflation, the preliminary estimated construction costs provided herein have been prepared on the basis of experience and judgment of an engineering professional. AECOM cannot guarantee that the actual cost for the improvements will not vary from the estimated costs provided below.

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The opinion of probable construction costs is as follows:

Scenario 1

• Connection and valve at the Commission's proposed 16-inch diameter water main.	\$ 25,000
• 750 lineal feet of 12-inch diameter water main at \$160/lineal feet.	\$ 120,000
• Construct meter vault.	\$ 150,000
• SCADA to Northwest Water Commission	\$ 100,000
• Construct piping and chamber on roof of existing reservoir and connection into the top of the reservoir.	\$ 150,000
	Subtotal \$ 545,000
• Construction Contingency	\$ <u>55,000</u>
	Total \$ 600,000*

* Costs for land are not included

We would be happy to discuss this letter report with you in the meantime, should you have any questions, please do not hesitate to contact us.

Very truly yours,

AECOM Technical Services, Inc.

Paul D. St. Aubyn, P.E.
Engineer

Michael H. Winegard, P.E.
Vice President

