



NORTH CITY WATER DISTRICT

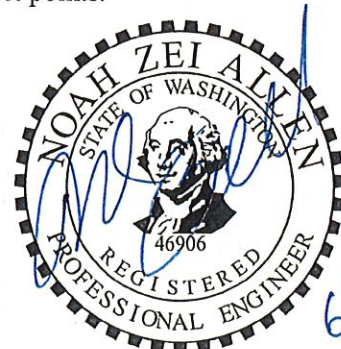
FIRE FLOW ANALYSIS INFORMATION

Task Order No.: 1540 Date: June 16, 2017
Applicant Name: Brian Highberger Project Location: 3030 NE 200th St, LFP
Proposed Use: Single Family Residential (7 units)
Static Pressure Range at Project Location: 62 psi (minimum); 73 psi (maximum)
Available Fire Flow (@ 20 psi min or 10 fps max): 1,545 GPM
Minimum Required Fire Flow (NCWD Comp Plan): 1,000 GPM
Minimum Required Fire Flow (LFP FD): 1,500 GPM
Distance from Property to Fire Flow Hydrant: Adjacent (refer to map)
Location of Fire Hydrant (Refer to Attached Map): 3030 NE 200th St (Hydrant D2-36, 432 Zone)
Fire Flow Analysis Expiration Date: (one year from date of issuance)

A hydraulic analysis of the District's water distribution system was performed to determine available fire flow at the above-referenced project location. The analysis was conducted in accordance with WAC 246-290-230. Specific analysis criteria and operational conditions are as follows:

- This analysis is based on the District's existing water distribution system configuration and includes improvements associated with expansion of the 615 pressure zone.
Analysis results indicate the capacity of the distribution system (as opposed to a given fire hydrant) to produce the required fire flow with a minimum residual pressure of 20 psi at all points throughout the distribution system (not including transmission piping). Actual fire flows may vary due to distribution system changes, variations in system demand and operational conditions.
Fire hydrant distance is measured from the project line fronting the right-of-way, to the hydrant. Results of this analysis do not include potential new project site piping or hydrants.
Minimum static pressure is based on Peak Hour Demand and reservoirs at the bottom of their respective equalizing ranges.
Maximum static pressure is based on minimum system demand and reservoirs full.
Fire flow demand is superimposed over existing Maximum Day Demand (MDD).
Minimum required fire flow is based on Zoning/Land-Use type, as defined in the Comprehensive Plan and does not consider actual structures proposed by the applicant.
Maximum allowed velocity in the distribution system is 10 feet per second for existing mains and 8 feet per second for new mains, during MDD plus fire flow conditions.
The 2.0 million gallon 432 Zone Tank level is set at a depth of 18.53 feet (420.51' water surface elev.), representing depletion of operational, equalizing and fire suppression storage.
All pressure reducing stations are operating at their normal set points.

Noah Allen, P.E., Project Engineer
BHC Consultants, LLC



6/15/17

# North City Water District TO 1540

## Junction PRESSURE

- less than 20 psi
- greater than 20 psi

## Pipe VELOCITY

- Less than 10 ft/s
- Greater than 10 ft/s

Proposed Project

Hydrant Location

