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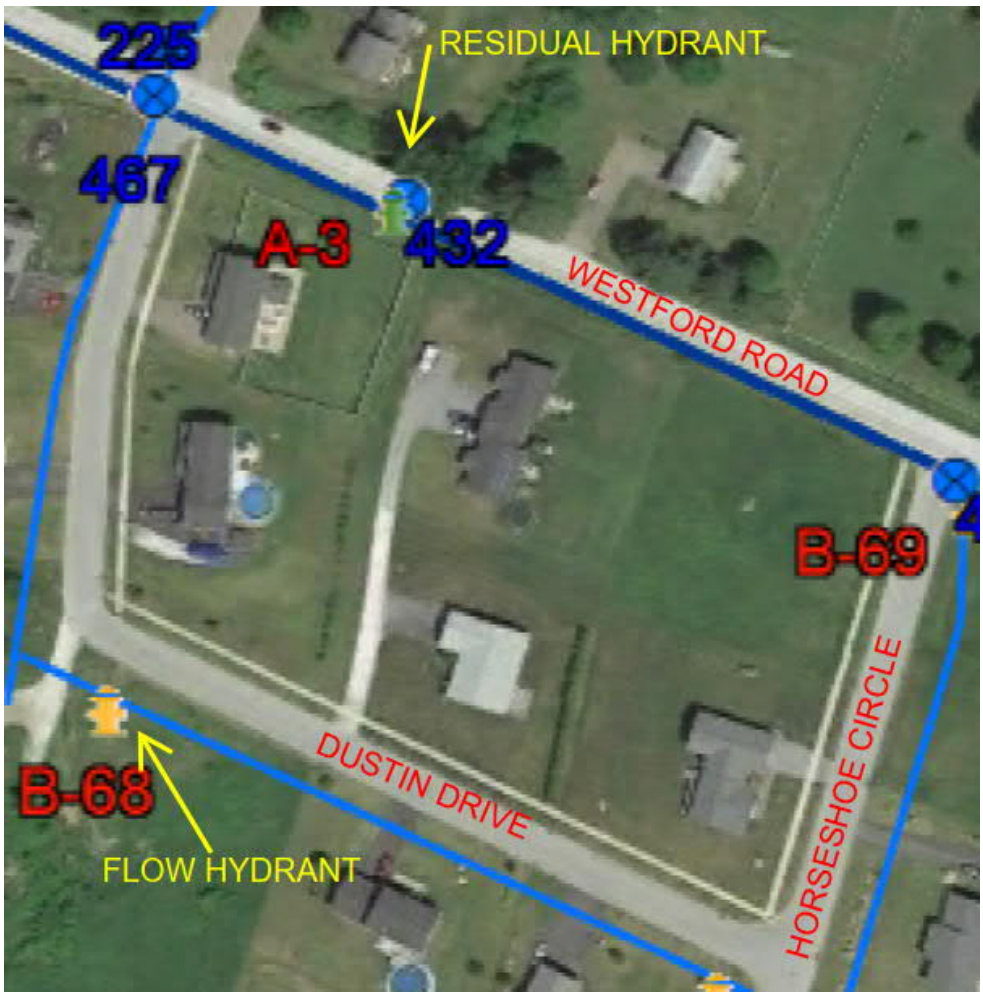
HYDRANT FLOW TEST

PROJECT *Clearview Estates – Westford Road / Dustin Drive / Horseshoe Circle, Milton* PROJECT NO. *17059*
DATE *July 2, 2020 – 9:45 AM*
BY *Andy Rowe, Doug Goulette, Milton Water Dept (Dave Allerton, Tom Elwood, Jim, Jay)*

SKETCH LAYOUT (N.T.S.)



MEASUREMENTS:

1. Static Pressure *55 psi at hydrant A-3 on Westford Road, ground elevation at hydrant = 439'*

2. Flow Readings *hydrant B-68 near westerly intersection of Dustin Drive & Horseshoe Circle*
1114 GPM through 2 ½" nozzle (pitot pressure = 44 psi), ground elev = 436'

3. Residual Pressure *51 psi at hydrant A-3. Although the pressure did not drop the desired 10 psi during the test, the test location is near the storage tank, on a looped segment along Dustin Dr / Horseshoe Circle, and the observed flow of 1114 GPM exceeds the minimum required for the project,*

4. Discharge at 20 psi residual not calculated – see note above GPM (Use formula 2).

FORMULAS:

1) $Q = 29.83\ Cd^2\ P^{½}$

Q = Discharge in GPM
C = Hydrant Coefficient (0.90)
d = Diameter of outlet in inches

P = Velocity Pressure in psi

2) $Q_{20} = Q_F \frac{H_R^{0.54}}{H_F^{0.54}}$

Q_{20} = Discharge at 20 psi
Q_F = Actual Test Discharge
H_R = Drop from original static pressure to 20 psi residual
H_F = Pressure drop during test in psi