

CITY OF DUPONT
FLOW AND PRESSURE FOR FIRE SUPPRESSION DESIGN

Project Name: **Taco Bell**
Project Location: **700 Station Drive**
Developer's Engineer: **TerraForma Design Group, Inc.**

Date: **September 23, 2019**

Minimum Fire Flow per Ordinance No 10-905: 1550 gpm for min. of two (2) hours
(see note 1)

Required Fire Flow per I.F.C. 2009: 1500 gal (Bldg area= 2887 sf, Type VB construction)

Location Information:

Nearest Street Intersection: **DuPont-Steilacoom Highway & Station Drive (south loop)**
Model Node Location: **Approx. 170' East of Center of Intersection**
Model Node ID: **J-208**

2019 Water System Model Results (see notes 2, 3, 4, and 5 below):

Static Pressure: **55 psi**
Fire Flow: **3,241 gpm**
Residual Pressure: **25 psi (at 3,241 gpm)**

Fire Suppression System Design Criteria (see note 6 below):

Static Pressure: **45 psi**
Fire Flow: **2,917 gpm**
Residual Pressure: **25 psi (at 3,241 gpm)**

Notes:

1. Actual fire flow will be based on building construction type and building square footage with credits for fire sprinklers.
2. The 2018 Water System Model results are based on available fire flow during projected 2038 Maximum Day Demand conditions as discussed in the 2018 Water System Plan.
3. Available fire suppression storage is based on the criteria presented in the 2018 Water System Plan, which is defined as 4,000 gpm for 4 hours, or 960,000 gallons.
4. Pipe velocities are limited to 10 feet/second in pipes used for fire flow runs.
5. Four of the six pumps at the Bell Hill booster station were assumed to be operational during fire flow conditions: one 15 HP pump, two 20 HP pumps, and one 50 HP pump.
6. The model results have been adjusted per City policy. The policy reduces the model results as follows:
 - static pressure is reduced by 10 psi
 - available fire flow is reduced by 10% at a minimum allowable pressure of 20 psi

cc: **Public Works Department**
Building Department
Fire Department