**Hydraulic Model Data Summary**

Brief Description of Project:

**Hydraulic Model Input Summary:**

* Entire distribution system is modeled
* Part of the distribution system is modeled
* Node map is provided

If only part of the distribution is modeled, what is the basis for model development:

☐ Hydrant flow test: gpm @ psi residual pressure

☐ Gravity from storage tank: water surface elevation feet

☐ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Residential Water Demand: Q = \_\_\_\_\_\_\_ gpd per household

Based Upon: ☐ Census data x \_\_\_\_ gpcd

☐ Historical Usage Data

☐ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Commercial and Industrial Demand: \_\_\_\_\_\_\_\_\_\_\_\_\_ gpd, or \_\_\_\_\_\_\_\_\_\_\_gpm

Total Demand: Qavg = \_\_\_\_\_\_\_ gpm

Maximum Day Demand: Qavg  x \_\_\_\_\_ peak factor = \_\_\_\_\_\_\_ gpm

Based Upon: ☐ 2.0 peaking factor

☐ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Peak Hour Demand: Qavg  x \_\_\_\_\_ peak factor = \_\_\_\_\_\_\_ gpm

Based Upon: ☐ 4.0 peaking factor

 ☐ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Is fire protection included in the project: ☐ Yes ☐ No

If Yes, Design fire flow and duration: gpm for hours

Does the project include gravity storage? ☐ Yes ☐ No

(If more than one tank is included in the model, provide additional tank information on attached sheets.)

If Yes, Storage tank nominal capacity: gallons

 Tank overflow elevation: feet

 Tank base elevation: feet

 Typical tank control low elevation: feet

 Typical tank control high elevation: feet

Does the project include pumps? ⬜ Yes ⬜ No

(If more than one pumping station is included in the model, provide additional tank information on attached sheets.)

If Yes, Number of pumps provided:

 Single pump capacity: gpm @ feet TDH

 Combined pump capacity: gpm @ feet TDH

Has the model been calibrated based on actual hydrant testing? ⬜ Yes ⬜ No

Pipe material: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pipe Roughness Coefficient: C =

**Hydraulic Model Output Summary:**

**Peak Flow Evaluation**:

The model output must demonstrate that a 20 psig minimum pressure can be maintained at all locations during peak hour demand or maximum day demand plus a simultaneous fire flow event, whichever is greater. Typically, the starting tank elevation should be the normal low tank level. The model should perform an extended period simulation to run through the entire designated fire flow event (i.e., 500 gpm for 2-hours) during max day demand. A simple snap shot of max day + fire flow at the beginning of the fire duration may be appropriate in simple models. Model must also assign a node and appropriate demand at the highest elevation.

Reports submitted: ☐ Junction Report for Max Day + Fire Flow

(or peak hour if greater)

 ☐ Pipe Report for Max Day + Fire Flow

(or peak hour if greater)

 ☐ Tank Report, as needed

 ☐ Pump Report, as needed

 ☐ Fire Flow Report (in lieu of Junction Report)

Critical Node Output:

Node Identification: Node Elevation:

Flow: Pressure:

**Effective Storage Evaluation**:

Available effective storage is determined based on the minimum storage tank water surface elevation necessary to maintain a minimum pressure of 20 psig at all locations in the distribution system during maximum day flow.

Reports submitted: ⬜ Junction Report for Max Day

 ⬜ Pipe Report for Max Day

 ⬜ Tank Report

 ⬜ Pump Report, as needed

Critical Node Output:

Node Identification: Node Elevation:

Flow: Pressure:

Storage Tank Identification: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(If more than one tank is included in the model, provide additional tank information on attached sheets.)

Minimum elevation necessary under maximum day domestic flow: feet

Overflow elevation: feet

Tank bottom elevation: feet

Effective storage volume: gallons