Hydraulic Model Data Summary

Brief Description of Project: _____

_____

_____

_____

<u>Hydraulic Model Input Summary</u>:

      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: _____

                           _____

Commercial and Industrial Demand: _____ gpd, or _____ gpm

Total Demand: $Q_{avg} =$ _____ gpm

Maximum Day Demand: Q_{avg} x _____ peak factor = _____ gpm

Based Upon: 2.0 peaking factor

              Other: _____

                         _____

Peak Hour Demand: Q_{avg} x _____ peak factor = _____ gpm

Based Upon: 4.0 peaking factor

              Other: _____

                         _____

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 psi 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 psi 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