City of Kannapolis
Hydraulic Model Requirements

The following items shall be included as part of proposed water system model:

1. Summary of the flow test data used to create model.
2. A schematic of the proposed system with all nodes and pipes clearly labeled.
3. Model should show that average daily use plus minimum fire flow requirements will not drop the pressure below 20 psi anywhere in the system.
4. To simulate the existing system, the connection to the existing system should be modeled using a reservoir and pump. Pump curve should be based on fire hydrant flow data. Pump Report should be provided.
5. Pipe summary table should be provided that includes the following:
    - Pipe label
    - Pipe length
    - Pipe diameter
    - "C" factor (maximum allowable "C" factor = 120)
    - Flow under average daily conditions
    - Hydraulic grade (upstream and downstream)
    - Headloss per 1000' of pipe
6. Junction summary table should be provided that includes the following:
    - Junction label
    - Junction Elevation
    - Junction demand under average daily conditions
    - Static head and pressure
    - Residual head and pressure under average daily conditions.
7. Fire flow summary table should be provided that includes the following:
    - Junction label
    - Available fire flow
    - Available total flow
    - Residual pressure at the fire flow node
    - Minimum system pressure junction
    - Minimum system pressure