Arizona Water Company Water Report Checklist

Water Main Extension

Cover Sheet

- ☐ Project Name: _____
- ☐ Prepared for: _____
- ☐ Prepared by: _____
- ☐ Stamped by registered Arizona Professional Engineer

Table of Contents

- ☐ A table of contents is used in the report.

Abbreviations

- ☐ List of abbreviations used in the report is included.

Introduction

- ☐ Arizona Water Company System (Service Area/[1]Pressure Zone):_____
- ☐ Project Name: _____
- ☐ Project location (include section, township and range): _____
- ☐ Project size (acres): _____
- ☐ General land use: _____
- ☐ Number of dwelling units or equivalent: _____
- ☐ Vicinity map clearly identifying project location.

Demand Calculation

- ☐ [1]Average day demand (ADD) is calculated using AWC's water demands per land use.
- ☐ Maximum day demand (MDD) is 2.0 x ADD.
- ☐ Peak hour demand (PHD) is 3.0 x ADD.

Fire Flow Requirement

- ☐ Fire flow required by fire authority (flow rate and duration); letter from the fire authority must be included as an appendix in the report.

System Pressure

- ☐ [1]Pressure zone hydraulic grade ("HGL") in the report matches pressure zone HGL in Company's master plan.

Distribution Water Main Sizing

- ☐ 6-inch minimum diameter water main.
- ☐ 8-inch minimum diameter water main along mid-section line or equivalent or per AWC master plan.
- ☐ 12-inch minimum diameter water main along section line or equivalent or per AWC master plan.

Water Model

- ☐ Description of the water model and the assumptions used in developing the model.
- ☐ Reference the fire flow test used for setting up the model if the water model evaluates connecting to the existing water system for water supply.
- ☐ Provide Calibration results that show that the model is behaving similarly to the fire flow test results.
    - When there are no demands being modeled, display a similar static pressure at the pressure hydrant junction as the test results.
    - Model the available flow at the flow hydrant junction and display a similar residual pressure at the pressure hydrant junction as the test results.
- ☐ Show model results for average day, maximum day and peak hour scenarios.
- ☐ Show model results for the distribution system.
- ☐ Minimum static pressure is 55 PSI.
- ☐ Pressure for all junctions for average day, maximum day and peak hour scenarios are between 40 and 80 PSI.
- ☐ Minimum pressure during MDD plus fire flow is 20 PSI.
- ☐ Velocities for all water mains during MDD plus fire flow and PHD do not exceed 8-feet per second.
- ☐ Maximum headloss in transmission mains does not exceed 6-feet per 1,000 feet.
- ☐ Maximum headloss in distribution mains does not exceed 10-feet per 1,000 feet.
- ☐ Hazen Williams roughness coefficient for new water main is C=120.

Fire Flow Model

- ☐ Clearly list fire flow requirement (flow rate in GPM and duration in hours).
- ☐ Show fire flow result for all hydrant junctions.
- ☐ Comply with fire flow requirement at all hydrant junctions.
- ☐ Pressure is greater than 20 PSI at all junctions for MDD plus fire flow scenario.

Conclusion

- ☐ Summarize the key findings and proposed improvements discussed in the report.

Appendices Demand Calculation

- ☐ Water demand calculations by parcel.

Development Phasing and Land Use Maps

- ☐ Land use map.
- ☐ Parcel phasing map if applicable.
- ☐ Distribution water main phasing map if applicable.

Water Model Exhibits

- ☐ Overall development layout identifying parcels and street layouts and names.
- ☐ Clearly label all junction and pipe IDs.
- ☐ Color code all pipe by diameter.
- ☐ Identify any proposed water mains located outside of dedicated right-of-way if applicable.

Model Results

- ☐ Average day: junction and pipe reports.
- ☐ Maximum day: junction, pipe, and available fire flow reports.
- ☐ Peak hour: junction and pipe reports.
- ☐ All results sorted in numerical order by node or pipe ID.

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[1] Contact Arizona Water Company, Development Services Department to obtain requested information.

Project Submittals To:

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