

3.0 PROJECTED WASTEWATER FLOWS AND MODEL UPDATE

3.1 Projected Wastewater Flows

The Texas Commission on Environmental Quality (TCEQ) recommends a minimum of 100 gallons per capita per day (gpcd) for municipal base flow. The 2012 master plan determined that the existing loading for the City of Fort Worth and its wholesale customers is 91 gpcd based on flow monitoring data. The 2012 master plan recommends using 110 gpcd and an additional 10 gpcd to account for groundwater infiltration (GWI), resulting in a total per capita for future growth of 120 gpcd. The 2012 master plan determined that the current usage per employee per day for the City of Fort Worth is 37 gallons per employee per day. Additionally, the master plan recommends using 40 gpcd for future commercial growth.

In order to calculate the annual average day wastewater flows, the population and employment growth projections were taken from *Exhibit B: Land Use Assumptions- Wastewater Facilities*.

The 2012 *Wastewater System Master Plan* did not use a straight average flow to peak flow peaking factor because the City utilized an extended period simulation model to determine the projected peak flows. The model used the RTK method, which calculates a different peaking factor for each scenario dependent on amount of rainfall, peaking time, and recession time. From the 2012 *Wastewater System Master Plan*, the historical annual average flow to peak hour flow ratio is 3.03 and was used to calculate the peak flows. **Table 3-1** summarizes the projected wastewater flows for the City of Fort Worth and its wholesale customers.

Table 3-1 Projected Wastewater Flows

Planning Year	Residential Average Day Flow (MGD)	Non-Residential Average Day Flow (MGD)	Total Average Day Flow (MGD)	Peak Wet Weather Flow (MGD)
2017	121	26	147	445
2027	150	32	182	552