WORKSHEET 6-1: ERU Determinations

Water System Physical Capacity Documentation based on MDD

Note: *Capacity determinations are only for existing facilities that are operational for the water system.*

Specific Single-Family Residential Connection Criteria (measured or estimated demands) (see Chapter 5):

Average Day Demand (ADD): 502 gpd/ERU

Maximum Day Demand (MDD) 1,473 gpd/ERU

Water System Service Connections correlated to ERUs			
Service Classification	**Total MDD for the classification, gpd**	**Total # Connections in the classification**	**ERUs**
Residential			
Single-family	916,206	622	622
Multifamily			
Nonresidential			
Industrial			
Commercial	312,276	143	212
Governmental			
Agricultural			
Recreational			
Other (specify)			
DSL 65MG ÷ 365	178,655	N/A	356
Other (identify)			
Total existing ERUs (Residential + Nonresidential + Non-revenue + Other) =			

Physical Capacity as ERUs	
Water System Component (Facility)	**Calculated Capacity in ERUs for each component**
Source(s)	3,089
Treatment	
~~Equalizing~~ Storage	1,266
~~Standby Storage~~	
Distribution	
Transmission	
Other (specify) WATER RIGHTS	Q_i = 3,813 Q_a = 8,402
Water System Physical Capacity (ERUs) = 1,266 **(based on the limiting water system component shown above)**	

Note: *If multiple-day storage is needed to meet MDD, another approach to estimate the ERU capacity is necessary.*

Summary of System Capacity

Description of Facility	1,190 Current ERUs			GPM, MGD, AF, MG				
	Capacity	Reserve Capacity	Reserve Capacity (%)	Present Capacity	Units	Required Capacity	Reserve Capacity	Reserve Capacity (%)
Supply Facilities (1)	3,089	1,899	61%	4.550	MGD	1.753	2.798	61%
Water Rights (1)								
Qi	3,813	2,623	69%	3,900	GPM	1,217	2,683	69%
Qa	8,402	7,212	86%	4,725	AF	773	3,952	84%
Storage Facilities, Current Avail FF (2)	1,266	76			MG	0.990	-0.99	
(1) Based on supplying MDD								
(2) Current distribution system hydraulic capacity								

Capacity Analysis Calculations

Current System ERU's and Demands

ERU's	1,190	ERU's	ERU's (2010)	
ADD	0.690	MGD	ADD (2010)	
	502	gpd/ERU	ADD (2010)	
MDD	1,473	gpd/ERU	1.753	MGD per current City records
	1.02	gpm/ERU	1,473	gpd / 1,190 ERU's
PHD	1.62	gpm/ERU	1,923	gpm (per DOH formula) / 1,190 ERU's

Supply Analysis

Existing Supply Facilities				
	Total Supply Capacity	3,950	gpm	(total well capacity)
		4.550	MGD	(total well capacity x 1440 min/day x 80%)
Capacity Analysis Based on Supplying MDD				
All current supply systems working at full capacity				
	Total allowable ERUs = supply capacity / MDD ERU = 4.550 MGD / 1,473 gpd/ERU			
	Total allowable ERUs =	**3,089 ERUs**		

Water Rights Analysis

Capacity Based on Current Town Water Rights					
Qi =	3,900	gpm	Current Required = MDD/1440 =	1217	gpm
Qa =	4,725	ac-ft	Current Required = ADD x 365 =	773	ac-ft
	1,540	MG/yr		252	MG/yr
Qi	Total allowable Qi ERUs = Qi / (MDD ERU)				
	Total allowable Qi ERUs =	**3,813 ERUs = 500 gpm / (0.99 gpm/ERU)**			
Qa	Total allowable Qa ERUs = Qa / (ADD ERU x 365)				
	Total allowable ERUs =	**8,402 ERUs = 36 MG / (665gpd/ERU x 365)**			