



WATER DEMANDS
TOTAL SYSTEM
ELEVATION = 4710 ft

Project: Delta Valley Ranch RV Resort
Project No.: 12471
Date: 10/25/2023

By: Dylan Cooper
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INDOOR WATER DEMANDS

ITEM NO.	TYPE OF USE	UNITS OR BUILDING AREA (UNITS OR SQ FT) (a)	% of ERC (b)	ERCs (c) =(a)*(b)	SOURCE SIZING AND WATER RIGHTS				STORAGE SIZING		DISTRIBUTION SIZING	
					PEAK DAY			AVERAGE YEARLY		UNIT DEMAND (GAL/ERC) (i) (Note 1)	TOTAL DEMAND (GAL) (j) =(c)*(i)	PEAK INSTANTANEOUS DEMAND (GPM) (k) (Note 2)
					UNIT DEMAND (GPD/ERC) (d) (Note 1)	TOTAL DEMAND (GPM) (e) =(c)*(d)/1440	(GPD) (f) =(c)*(d)	UNIT DEMAND (AC-FT/ERC) (g) (Note 1)	TOTAL DEMAND (AC-FT) (h) =(c)*(g)			
1.	Recreational Vehicle Park	69	13.0%	9.0	800	5.0	7,176	0.218	2.0	400	3,588	-
2.	Ammenity Building	1	31.25%	0.3	800	0.2	250	0.218	0.1	400	125	-
3.	Existing House	1	100.0%	1.0	800	0.6	800	0.218	0.2	400	400	-
4.	Pool	1	25.0%	0.3	800	0.1	200	0.218	0.1	400	100	-
5.	Cabins	7	50.0%	3.5	800	1.9	2,800	0.218	0.8	400	1,400	-
6.	Laundry Room in Ammenity Building	2	73%	1.45	800	0.8	1,160	0.218	0.3	400	580	-
INDOOR WATER DEMANDS TOTAL				15		8	11,226		3		5,613	62.36

NOTES:

- The peak day unit demand, average yearly unit demand, and storage unit demand are given in the Utah Admin Code R309-510.
- Unit counts were from the latest site layout.
- The swimming pool capacity was assumed to be 20 people.
- The existing house is assumed to be one ERC.
- Cabins are assumed to one half an ERC.
- The amenity building is being considered an office building with a cafeteria for 10 employees.
- The laundry room within the ammenity building is assumed to have two washers and half the recommended peak day demand from table 510-2 in the Utah State Admin Code.

OUTDOOR WATER DEMANDS

ITEM NO.	TYPE OF USE	UNITS OR LAND AREA (UNITS OR ACRES) (aa)	% IRRIGATED (bb)	IRRIGATED AREA (ACRES) (cc) =(aa)*(bb)	SOURCE SIZING AND WATER RIGHTS				STORAGE SIZING		DISTRIBUTION SIZING	
					PEAK DAY			AVERAGE YEARLY		UNIT DEMAND (GAL/ACRE) (ii) (Note 1)	TOTAL DEMAND (GAL) (jj) =(cc)*(ii)	PEAK INSTANTANEOUS DEMAND (GPM) (kk) =(ee)*2
					UNIT DEMAND (GPM/ACRE) (dd) (Note 1)	TOTAL DEMAND (GPM) (ee) =(cc)*(dd)	(GPD) (ff) =(ee)*1440	UNIT DEMAND (AC-FT/ACRE) (gg) (Note 1)	TOTAL DEMAND (AC-FT) (hh) =(cc)*(gg)			
1.	Landscaping	4.09	100%	4.09	3.96	16.2	23,323	1.87	7.6	2,848	11,648	32.4
OUTDOOR WATER DEMANDS TOTAL				4.1		16.2	23,322.8		7.6		11,648.3	32.4

NOTES:

- The peak day unit demand, average yearly unit demand, and storage unit demand are given in the Utah Admin Code R309-510.
- The only outdoor water use was assumed to be for irrigation and these values will need to be confirmed once irrigated areas are updated.
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FIRE FLOW DEMANDS

ITEM NO.	TYPE OF USE	FLOW	DURATION	STORAGE REQUIREMENT (GAL)
		(GPM)	(HOURS)	
1.	Fire Flow	1,500	2	180,000

NOTES:

- Fire flow is anticipated to be 1,500 gpm for 2 hours, but will need to be confirmed with the Fire Marshal.
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TOTAL SYSTEM DEMANDS

	PEAK DAY DEMAND		AVERAGE YEARLY DEMAND (AC-FT)	STORAGE REQUIREMENT (GAL)	PEAK INSTANTANEOUS DEMAND (GPM)
	(GPM)	(GPD)			
TOTAL (INDOOR + OUTDOOR)	24	34,549	11	17,261	94.8
TOTAL + FIRE FLOW				197,261	