

FIGURE 3.3
Design @ 99% Confidence Level

ADAM COUNTY HEALTH DEPARTMENT EVAPOTRANSPIRATION BED WATER BALANCE SIZING SPREADSHEET							ADAMS COUNTY HEALTH DEPARTMENT EVAPOTRANSPIRATION BED WATER BALANCE SIZING SPREADSHEET									
USER INPUT PARAMETERS							TOTAL STORAGE IN BED (No Water in Bed)				INITIAL WATER CONTENT WITHIN BED (Assumes Bed Has Operated for 1 Year)					
TRIAL BED AREA? (Square Feet)	# Bedrooms?	Avg Daily Flow per Bedroom? (gpd)	Avg Daily Flow	Long Term Acceptance Rate (LTAR), gal/day/sqft. (Table 10, O-17)	MONTHLY PRECIP.? (SEE BELOW)	MONTHLY ET? (SEE BELOW)	(cubic feet)	VOL/VOL	(Inches)	(Gallons)	(cubic feet)	(VOL/VOL)	(gallons)	(cubic feet)		
2250	3	150	450	0.20			5063	0.437	11.80	16548	2212	0.2858	10823	1447		
TOTAL AVAILABLE STORAGE IN BED (Total Storage - Initial Water)							TOTAL AVAILABLE STORAGE IN BED (Total Storage - Initial Water)				% TOTAL STORAGE					
							7.72				65%					
WATER STORAGE IN BED AT END OF MONTH							WATER STORAGE IN BED AT END OF MONTH				PERCENT TOTAL STORAGE UTILIZED					
MONTH	PRECIP. @ UPPER 99% CONFID. LEVEL ? (IN.)	AVERAGE RUNOFF (IN.)	NET INFILTRA- TION (INCHES)	ET @ LOWER 99% CONFID. LEVEL (IN.)	MONTH	PERCENT TOTAL BED STORAGE UTILIZED	(Inches)	ACTUAL STORAGE (Inches)	(Gallons)	ACTUAL STORAGE (Gallons)	(Cu.Ft.)	ACTUAL STORAGE (Cu.Ft.)	PERCENT TOTAL STORAGE UTILIZED			
JANUARY	0.58	0.09	0.49	0.50	JANUARY	65%	8	8	10823	10823	1447	1447	65%			
FEB	0.93	0.21	0.72	0.46	FEB	68%	8	8	10809	10823	1445	1447	65%			
MARCH	1.50	0.13	1.37	0.69	MARCH	73%	9	9	11187	11187	1496	1496	68%			
APRIL	2.05	0.04	2.01	1.18	APRIL	80%	10	10	12141	12141	1623	1623	73%			
MAY	2.86	0.14	2.72	2.09	MAY	86%	10	10	13305	13305	1779	1779	80%			
JUNE	1.86	0.03	1.83	4.67	JUNE	65%	7	8	14189	14189	1897	1897	86%			
JULY	2.45	0.06	2.39	8.25	JULY	65%	2	8	10205	10823	1364	1447	65%			
AUGUST	1.76	0.04	1.72	2.53	AUGUST	65%	7	8	2604	10823	348	1447	65%			
SEPT	1.76	0.04	1.72	3.62	SEPT	65%	6	8	9687	10823	1295	1447	65%			
OCT	1.10	0.02	1.08	2.04	OCT	65%	7	8	8158	10823	1091	1447	65%			
NOV	1.02	0.01	1.01	0.72	NOV	65%	8	8	9476	10823	1267	1447	65%			
DEC	0.71	0.05	0.66	0.61	DEC	68%	8	8	11229	11229	1501	1501	68%			
TOTAL	19	0.86	17.72	27	TOTAL	68%	8	8	11299	11299	1511	1511	68%			
WATER AND EFFLUENT INTO BED							STATISTICAL ANALYSIS OF PRECIPITATION , RUNOFF AND EVAPOTRANSPIRATION									
MONTHLY PRECIPITATION INFILTRATION INTO BED			MONTHLY AVERAGE EFFLUENT FLOW INTO BED				AVERAGE PRECIPI- TATION	STANDARD DEVIATION PRECIP	99% C.I. UPPER LIMIT	AVERAGE RUNOFF	STANDARD DEVIATION RUNOFF	99% C.I. UPPER LIMIT				
(inches)	(Gallons)	(Cubic Feet)	(inches)	(Gallons)	(Cubic Feet)			PRECIP								
JANUARY	0.49	687	92	9.95	13950	1865	JANUARY	0.46	0.34	0.58	0.09	0.142	0.14			
FEB	0.72	1010	135	8.98	12600	1684	FEB	0.77	0.44	0.93	0.21	0.32	0.33			
MARCH	1.37	1921	257	9.95	13950	1865	MARCH	1.25	0.68	1.50	0.133	0.301	0.24			
APRIL	2.01	2819	377	9.63	13500	1805	APRIL	1.71	0.94	2.05	0.041	0.074	0.07			
MAY	2.72	3815	510	9.95	13950	1865	MAY	2.35	1.41	2.86	0.143	0.239	0.23			
JUNE	1.83	2567	343	9.63	13500	1805	JUNE	1.52	0.93	1.86	0.033	0.075	0.06			
JULY	2.39	3352	448	9.95	13950	1865	JULY	2.05	1.11	2.45	0.061	0.122	0.11			
AUGUST	1.72	2412	323	9.95	13950	1865	AUGUST	1.45	0.86	1.76	0.038	0.095	0.07			
SEPT	1.72	2412	323	9.63	13500	1805	SEPT	1.49	0.75	1.76	0.04	0.068	0.06			
OCT	1.08	1515	203	9.95	13950	1865	OCT	0.86	0.66	1.10	0.016	0.049	0.03			
NOV	1.01	1417	189	9.63	13500	1805	NOV	0.81	0.59	1.02	0.012	0.044	0.03			
DEC	0.66	926	124	9.95	13950	1865	DEC	0.59	0.34	0.71	0.045	0.115	0.09			
TOTAL							TOTAL	15		18.61			1.46			
WATER OUT OF BED							MONTH	AVG ET	STD. DEV. ET	99% C.I. ET	YEAR 2 Gallons	Gallons	% Avail. Storage	YEAR 3 Gallons	Gallons	% Avail. Storage
MONTHLY SOIL ABSORPTION RATE			MONTHLY EVAPOTRANSPIRATION RATE				JANUARY	0.577	0.225	0.50						
JANUARY	9.95	13950	1865	0.50	701	94	FEB	0.548	0.233	0.46	11285	11285	68%	11285	11285	68%
FEB	8.98	12600	1684	0.46	645	86	MARCH	0.847	0.427	0.69	11650	11650	70%	11650	11650	70%
MARCH	9.95	13950	1865	0.69	968	129	APRIL	1.476	0.801	1.18	12604	12604	76%	12604	12604	76%
APRIL	9.63	13500	1805	1.18	1655	221	MAY	2.477	1.06	2.09	13768	13768	83%	13768	13768	83%
MAY	9.95	13950	1865	2.09	2931	392	JUNE	4.928	0.716	4.67	14651	14651	89%	14651	14651	89%
JUNE	9.63	13500	1805	4.67	6550	876	JULY	8.352	0.285	8.25	10668	10823	65%	10668	10823	65%
JULY	9.95	13950	1865	8.25	11571	1547	AUGUST	2.8	0.753	2.53	2604	10823	65%	2604	10823	65%
AUGUST	9.95	13950	1865	2.53	3548	474	SEPT	3.887	0.726	3.62	9687	10823	65%	9687	10823	65%
SEPT	9.63	13500	1805	3.62	5077	679	OCT	2.21	0.459	2.04	8158	10823	65%	8158	10823	65%
OCT	9.95	13950	1865	2.04	2861	383	NOV	0.837	0.314	0.72	9476	10823	65%	9476	10823	65%
NOV	9.63	13500	1805	0.72	1010	135	DEC	0.702	0.253	0.61	11229	11229	68%	11229	11229	68%
DEC	9.95	13950	1865	0.61	856	114	TOTAL	29.641		27.36	11299	11299	68%	11299	11299	68%