

Los Diamantes Regional Pond
Pond Outlet / Ported Riser Rating Curve Calculations

Contour Elevation (NAVD88)	Depth	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)	1st Row of Reverse Incline Ports Discharge	2nd Row of Reverse Incline Ports Discharge	3rd Row of Reverse Incline Ports Discharge	Principal Spillway Weir Discharge	Principal Spillway Culvert Discharge	Controlling Principal Spillway Discharge	Emergency Spillway Discharge	Total Discharge Rating Curve	Comment
		Orifice Diameter / Weir Length		0.577	0.577	0.577	14			214		
		Number of Orifices / Culverts		11	9	11						
(ft)	(ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	
				(a)	(a)	(a)	(b)	(c)		(d)		
5490.00	0.00	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	
5490.58	0.58	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	First Row Invert
5491.00	1.00	0.1	0.1	5.0	0.0	0.0	0	7	0	0	5.0	
5491.15	1.15	0.0	0.1	7.3	0.0	0.0	0	9	0	0	7.3	First Row Top
5491.73	1.73	0.2	0.3	12.8	0.0	0.0	0	19	0	0	12.8	Second Row Invert
5492.00	2.00	0.1	0.4	14.7	0.0	0.0	0	25	0	0	14.7	
5492.31	2.31	0.2	0.6	16.6	6.1	0.0	0	31	0	0	22.7	Second Row Top
5492.89	2.89	0.4	1.0	19.6	10.5	0.0	0	45	0	0	30.2	Third Row Invert
5493.00	3.00	0.1	1.1	20.2	11.2	0.0	0	48	0	0	31.3	
5493.46	3.46	0.5	1.6	22.2	13.6	7.3	0	60	0	0	43.1	Third Row Top
5493.85	3.85	0.5	2.0	23.8	15.3	11.3	0	70	0	0	50.4	Slated top grate lowest elevation (top of concrete)
5494.00	4.00	0.2	2.2	24.4	15.9	12.5	2	74	2	0	55.3	
5494.34	4.34	0.5	2.8	25.7	17.2	14.9	14	82	14	0	72.2	
5495.00	5.00	1.3	4.0	28.1	19.5	18.6	52	97	52	0	97.0	Top of side face slopes for grate
5496.00	6.00	2.3	6.3	31.3	22.5	23.2	132	116	116	0	116.0	
5497.00	7.00	3.0	9.3	34.2	25.2	27.0	235	133	133	0	133.0	
5498.00	8.00	3.7	13.0	36.9	27.6	30.3	355	147	147	0	147.0	
5499.00	9.00	4.4	17.4	39.4	29.8	33.3	491	160	160	0	160.0	
5500.00	10.00	4.7	22.1	41.7	31.9	36.1	641	172	172	0	172.0	
5501.00	11.00	5.0	27.1	43.9	33.8	38.6	803	183	183	0	183.0	
5502.00	12.00	5.4	32.5	46.1	35.7	41.0	977	193	193	0	193.0	
5503.00	13.00	5.7	38.1	48.1	37.4	43.3	1162	203	203	0	203.0	
5504.00	14.00	6.0	44.1	50.0	39.1	45.4	1358	212	212	0	212.0	
5505.00	15.00	6.3	50.4	51.9	40.7	47.5	1564	220	220	0	220.0	
5506.00	16.00	6.6	57.0	53.7	42.2	49.4	1779	229	229	0	229.0	
5506.25	16.25	2.1	59.1	54.1	42.6	49.9	1834	231	231	0	231.0	Emergency spillway EL
5507.00	17.00	4.9	64.0	55.4	43.7	51.3	2003	237	237	368	605.0	
5508.00	18.00	7.3	71.3	57.1	45.1	53.1	2236	245	245	1313	1558.0	Top of pond

- (a) Orifice equation $Q = C \cdot a \cdot (2 \cdot g \cdot h)^{0.5}$, $C = 0.598$, $g = 32.2 \text{ ft/sec}^2$, $a = \text{area (sq ft)}$, $h = \text{head (ft)}$
- (b) Weir equation $Q = CLH^{3/2}$, $C = 3.0$, $L = \text{length (ft)}$, $H = \text{head (ft)}$
- (c) Culvert flow determined using HY-8 culvert analysis software, 48" RCP, $n = 0.013$, $s = 0.034 \text{ ft/ft}$, tailwater elevation set to HGL elevation at Station 19+15.10 of storm drain system
- (d) Weir equation $Q = CLH^{3/2}$, $C = 2.65$, $L = \text{length (ft)}$, $H = \text{head (ft)}$