									Table	2.3				
								Elevation Stora John	ige Discharge - Jol Street Feasibility D	hn Street Gravity Design Analysis Ro	Pond Option 2 eport			
Contour Elevation NAVD 1988	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume	1st Row of Ports Discharge	2nd Row of Ports Discharge	3rd Row of Ports Discharge	4th Row of Ports Discharge	Principal Spillway Grate Discharge	Principal Spillway Outfall Pipe Discharge	Total Principal Spillway / Outfall Pipe Discharge	Emergency Spillway Discharge	Total Disch Rating Cu
		Orfice Diame	ter (inches)			6" x 8"	6	6	0	6'-8" x 6'-8"	15			
		Number of O	penings			3	6	6	0	1	1			
(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)		(cfs)		(cfs)	(cfs)	(cfs)
(d)						(a)	(a)	(a)	(a)	(a)	(a,b)	(e)	(c)	
4947.40	0.00	28181	0	0.0000	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4948.03	0.63	29387	18134	0.4163	0.42	3.8	0.0	0.0	0.0	0.0	2.3	2.3	0.0	2.3
4948.40	1.00	30660	11109	0.2550	0.67	4.7	3.4	0.0	0.0	0.0	4.5	4.5	0.0	4.5
4948.65	1.25	31521	7773	0.1784	0.85	5.3	4.4	0.0	0.0	0.0	4.6	4.6	0.0	4.6
4949.00	1.60	32725	11243	0.2581	1.11	6.0	5.5	0.0	0.0	0.0	5.7	5.7	0.0	5.7
4950.00	2.60	35866	34296	0.7873	1.90	7.6	7.8	5.6	0.0	0.0	8.2	8.2	0.0	8.2
4950.57	3.2	39071	21357	0.4903	2.39	8.4	8.9	7.0	0.0	0.0	9.3	9.3	0.0	9.3
4951.00	3.6	40054	17012	0.3905	2.78	9.0	9.6	7.9	0.0	138.1	10.0	10.0	0.0	10.0
4952.00	4.6	42339	41196	0.9457	3.72	10.2	11.1	9.7	0.0	251.9	11.6	11.6	0.0	11.6
4953.00	5.6	45679	44009	1.0103	4.73	11.2	12.4	11.2	0.0	328.4	13.0	13.0	0.0	13.0
4954.00	6.6	49091	47385	1.0878	5.82	12.2	13.6	12.5	0.0	390.1	14.2	14.2	0.0	14.2
4955.00	7.6	52569	50830	1.1669	6.99	13.1	14.7	13.7	0.0	443.4	15.3	15.3	0.0	15.3
4956.00	8.6	56090	54330	1.2472	8.23	13.9	15.7	14.8	0.0	490.8	16.4	16.4	0.0	16.4
4956.20	8.8	56755	11285	0.2591	8.49	14.0	15.9	15.0	0.0	499.8	16.6	16.6	18.6	35.2
4956.40	9.0	57421	11418	0.2621	8.76	14.2	16.1	15.2	0.0	508.6	16.8	16.8	52.6	69.4
4956.60	9.2	58086	11551	0.2652	9.02	14.4	16.3	15.4	0.0	517.3	17.0	17.0	96.7	113.7
4956.80	9.4	58752	11684	0.2682	9.29	14.5	16.5	15.6	0.0	525.8	17.2	17.2	148.8	166.0
4957.00	9.6	59417	11817	0.2713	9.56	14.7	16.7	15.8	0.0	534.1	17.4	17.4	208.0	225.4
NOTES:														
(a) Orifice equat	ion and coeff	icient were obta	nined from Equati	ion 4-10 and Tabl	e 4-3 from "Han	dbook of Hydraulic	s" Sixth Edition, by	Brater & King, 1976	j.					
$Q = C a \sqrt{2a}$	<i>h</i> C-	0 500	a-22.2 ft/coo	12 a=aroa (ca ft)	h-hood (ft)									
$Q = Ca\sqrt{2g}$	<i>n</i> 0-	0.590	y-32.2 17 sec	~2, a-area (sq rt)	II-IIeau (II)									
	W	eir equation an	d "C" coefficients	s were obtained fi	om Equation 5-	10 and Table 5-3 fr	om "Handbook of H	lydraulics" Sixth Edi	tion, by Brater & Kir	ng, 1976.				
$a = \pi D^2 / A$	(full are	a formula of a c	ircle)											
/ 4	F													
			k	Material	"""	Slope (ft/ft)								
(h) Manning's Fo	wation Paran	neters	1 /96	Concrete	0.012	0.005								
Manning's Four	tion (equation	101013 1912(h)) and '	'k" value (nage 10	9-4) were obtaine	d from from "PF	Civil Reference M	anual" 16th edition	by Michael R. Linde	abura P.F. 2019					
Flow depth incre	ements wette	d nerimeter and	flow area of pip	e were computed	using Bentlev F	lowMaster.		, by Michael R. Elliad	,buig 1 .E, 2010					
				o noro computou	uonig Donio j i									
(c)Emergency Sp Q = CI H^ 1.5	oillway flows v C = dischar	were computed ae coefficient	based on the foll I = spillway lengt	owing data used i h perp. to flow (ff	in the weir equa) H = head (ft)	tion								
Emero	gency Spillwa	v C =	2.60	L=	80	Eme	rgency Spillwav Ele	vation =		4956.00				
Length assumed	l along top of	pond embankm	ent and elevation	ns extended abov	e emergency sp	illway to allow for r	ating curve to func	tion if flow spills ove	er top of emergency	spillway.				
					0 9 4	• • • • •	•	r						
(d) Data Source :	Contours ge	nerated from D	Ms provided by	MRCOG 2018.										
(e) The combine	d discharge o arev box mea	t the reverse in ans must input (cline ports and th data	າe grate (A), will ູ	jovern the disch	arge until the princ	cipal spillway outfa	ll pipe becomes fully	submerged. When	the sum of (A)s is	greater than outfa	II pipe capacity ther	i outfall pipe cap	acity governs

arge rve	Comment
	Principal Spillway Invert/Pond Invert/1st row of ports
	2nd row of ports
	3rd row of ports
	Tar of Dringing Could wate
	l op of Principal Spillway Grate
	Emergency Spillway
	Ton of Dand (ortificial)
	ו טף טו אטווע (מרנוווכומו)

s the discharge.

						John Stree John Street F	Table 2.4 It Pump Station Pond easibility Design Anal	Option 2 lysis Report		
Contour Elevation NAVD 1988	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume	Principal Spillway Outfall Pipe Discharge	Total Principal Spillway / Outfall Pipe Discharge	Emergency Spillway Discharge	Total Discharge Rating Curve	c
		Principal Spil	lway Diameter (ii	nches)		48				
		Number of Op	enings			1				-
(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
(d)						(a,b)	(e)	(c)		
4931.00	0	0	0	0.0000	0.00	0.0	0.0	0.0	0.0	Wet Well Invert
4932.00	1.0	8422	4211	0.0967	0.10	16.7	16.7	0.0	16.7	Invert of Storm Drain Inlet
4933.00	2.0	9871	9147	0.2100	0.31	61.1	61.1	0.0	61.1	
4934.00	3.0	10599	10235	0.2350	0.54	84.1	84.1	0.0	84.1	
4935.00	4.0	11342	10971	0.2518	0.79	103.1	103.1	0.0	103.1	
4936.00	5.0	12102	11722	0.2691	1.06	119.0	119.0	0.0	119.0	
4937.00	6.0	12878	12490	0.2867	1.35	133.0	133.0	0.0	133.0	
4938.00	7.0	13670	13274	0.3047	1.65	145.7	145.7	0.0	145.7	
4939.00	8.0	14478	14074	0.3231	1.98	157.4	157.4	0.0	157.4	
4940.00	9.0	15302	14890	0.3418	2.32	168.3	168.3	0.0	168.3	
4941.00	10.0	16142	15722	0.3609	2.68	178.5	178.5	0.0	178.5	
4942.00	11.0	16999	16571	0.3804	3.06	188.2	188.2	0.0	188.2	
4943.00	12.0	17871	17435	0.4003	3.46	197.3	197.3	0.0	197.3	
4944.00	13.0	18760	18316	0.4205	3.88	206.1	206.1	0.0	206.1	
4945.00	14.0	19663	19212	0.4410	4.32	214.5	214.5	0.0	214.5	
4946.00	15.0	20582	20123	0.4619	4.78	222.6	222.6	0.0	222.6	Top of Wet Well
a) Orifice equatio $Q = Ca\sqrt{2gh}$	on and coeffi C =	cient were obtai - 0.590	ined from Equatio g=32.2 ft/sec ⁷ Weir equat	on 4-10 and Table ^2, a=area (sq ft) ion and "C" coeff	4-3 from "Hand h=head (ft) cients were obta	book of Hydraulics" Si ained from Equation 5-	xth Edition, by Brater & 10 and Table 5-3 from	& King, 1976. "Handbook of Hydr	aulics" Sixth Edition,	by Brater & King, 1976.
$a = \pi D^2 / 4$	(full are	ea formula of a ci	rcle)	Material	"n"	Slope (ff/ft)				
(b) Manning's Fou	ation Param	eters	1 486	PVC	0.010	0.004				
Manning's Equation	on (equation	19 12(h)) and "	k" value (nage 19	-4) were obtained	from from "PF (Civil Reference Manua	l" 16th edition by Mich	hael R. Lindeburg P	F 2019	
Flow denth incren	nonte wotto	d porimotor and	flow area of nine	were computed i	rion Rontlov Ela	wMactor	rourculton, by who	acin. Enacourgi.	2013	
			non alca or pipe	nore compated t	bing benney rie					
(c)Emergency Spi	llway flows y	vere computed b	ased on the follo	wing data used in	the weir equation	on				
$\Omega = \Omega H^{1}$	C = dischar	ne coefficient I	= snillway length	nern to flow (ft)	H = head (ft)					
E - OEII 1.5 Fmerov	ency Snillwa		2 60		0	Emergency Sni	lway Flevation =			
Length assumed a	along top of	pond embankm	ent and elevation	s extended above	emergency spil	lway to allow for rating	g curve to function if flo	ow spills over top of	emergency spillway.	
a) Data Source : C	ontours ger	nerated from DE	ws provided by N	IRCUG 2018.				.		
(e) The combined of (A)s is greater t	discharge o han outfall p	t the reverse inc pipe capacity the	line ports and the en outfall pipe cap	e grate (A), will go pacity governs the	overn the discha e discharge.	rge until the principal	spillway outfall pipe be	ecomes fully submer	rged. When the sum	
		grey box mear	ns must input data	а						

Comment	