



PHI - mm CONVERSION $\phi = \log_2 (d \text{ in mm})$ $1 \mu = 0.001 \text{ mm}$		Fractional mm Decimal inches	SIZE TERMS (after Wentworth, 1922)	SIEVE SIZES		Intermediate diameters of natural grains equivalent to sieve size	Number of grains per mg		Settling Velocity (Quartz, 20°C)	Threshold Velocity for traction cm/sec
ϕ	mm		ASTM No. (U.S. Standard)	Tyler Mesh No.	Quartz spheres		Natural sand	Sphere (Clibbe, 1971) cm/sec	Crushed	(Nevin, 1946) modified from (Fisher, 1959)
-6	256	10.1"	BOULDERS (2-64)							
-200	128	5.04"		COBBLES						
-100										
-6	64.0	2.52"								
-50	53.9			2 1/2"	2"					
-40	45.3			2.12"						
-30	33.1			1 1/2"	1 1/2"					
-20	32.0	1.26"		1 1/4"	1.05"					
-10	26.9			1.06"						
-4	22.6			3/4"	.742"			100	50	
-2	17.0	0.63"		5/8"	.525"			90	40	100
-1	13.4			1/2"	.525"			80	30	80
0	11.3			7/16"	.371"			70	20	60
1	9.52	0.32"		3/8"				60	10	50
2	8.00			5/16"				50	5	40
3	6.73			.265"	3			40	2	30
4	5.66							30	1	20
5	4.76	0.16"		4	4			20	0.5	10
6	4.00			5	5			10	0.25	5
7	3.36			6	6			8	0.125	4
8	2.83			7	7			7	0.085	3
9	2.38			8	8			6	0.063	2
10	2.00			10	10			5	0.05	1
11	1.63	0.08"		12	12			4	0.04	0.5
12	1.41	inches		14	14			3	0.032	0.25
13	1.19	mm		16	16			2	0.025	0.1
14	1.00			18	18	1.2	.72	1	0.02	0.08
15	.940			20	20			1	0.018	0.063
16	.707			25	24	.86	2.0	1	0.015	0.05
17	.545	1/2		30	28			1	0.012	0.04
18	.420			35	32	.59	5.6	1	0.01	0.032
19	.354			40	35			1	0.008	0.025
20	.297	1/4		45	42	.42	15	1	0.006	0.02
21	.250			50	48			1	0.005	0.018
22	.210			60	60	.30	43	1	0.004	0.015
23	.177			70	65			1	0.003	0.012
24	.149			80	80	.215	120	1	0.002	0.01
25	.125	1/8		100	100			1	0.0015	0.008
26	.105			120	115	.155	350	1	0.001	0.006
27	.088			140	150			1	0.0008	0.005
28	.074	1/16		170	170	.115	1000	1	0.0006	0.004
29	.062			200	200			1	0.0005	0.003
30	.053			230	250	.080	2900	1	0.0004	

Reference	Pool Length (m)	Step Height (mm)
Step 1–Step 2	10	400
Step 3–Step 4	9.5	400
Step 5–Step 6	10	400
Step 7–Step 8	13.4	400
Step 8–Step 9	13.4	400
Step 9–Step 10	10.5	400
Step 10–Step 11	9	400
Step 11–Step 12	9	400
Step 12–Step 13	9	400
Step 13–Step 14	10	400
Step 14–Step 15	10.2	400
Step 15–Step 16	9	400
Step 16–Step 17	9	400
Step 17–Step 18	9	400
Step 18–Step 19	8.2	400
Step 19–Step 20	9	400
Step 20–Step 21	9	400
Step 21–Step 22	9	400
Step 22–Step 23	9	400

1. All sediment sizes and depths to be confirmed by a suitably qualified geomorphologist.
2. Supervision of watercourse channel construction is to be undertaken by a suitably qualified geomorphologist.
3. All dimensions are in millimeters unless specified otherwise.
4. All specified stone to be naturally shaped clean grey/white carboniferous granite
5. Channel to be clay lined where necessary

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Job Title

Proposed Residential Development
Former Tetrosyl Site
Walmersley old Road
Bury

Drawing Title

Proposed Watercourse Geomorphology
Sheet 2 of 2

Date	January 2021	Scale	As Shown @ A1
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