Sampling Locations / Sampling Grid	Ground / Seabed Level (mPD)	Details of Proposed S	De	Sediment Sample Sed Depth (m bgl)		diment Sample Category / Disposal Depth Type ⁽²⁾		Descriptions ⁽³	(m bgl)		Represented Depth (mPD)		Thickness of Sediment (m)	Thickness of Sediment to be removed (m)	Volume of Sediment (by Depth) (m ³)	Volume of S	Sediment (by Grid &	c Category) (m³)	Volume of Sediment (by Grid & Disposal Type) (m ³)				
		Works Type ⁽¹⁾	Sediment Removal Area (m²)	Maximum Sediment Removal Thickness (m)	From	То	From	То			From	То	From	То				Category L Sediment	Category M Sediment	Category H Sediment (does not require biological screening)	Type 1 - Open Sea Disposal	Type 2 – Confined Marine Disposal	Type 3 – Special Treatment/ Disposal
MEA1 ⁽⁴⁾	-11.59	Reclamation works;	5099.67	2.0		SURF			Cat L/Type 1	MD	0.00	0.90	-11.59	-12.49	0.90	0.90	4589.7						
		maximum sediment removal			0.20	0.90		-12.49	Cat M/Type 2	MD								540.0	4500.7	5000 7	540.0	0500.4	
		to 2m below seabed level			0.90 1.90	1.90 2.90	-12.49 -13.49	-13.49 -14.49	Cat H/Type 2 Cat L/Type 1	MD MD	0.90 1.90	1.90 2.90	-12.49 -13.49	-13.49 -14.49	1.00	1.00	5099.7 510.0	510.0	4589.7	5099.7	510.0	9689.4	0.0
					2.90	5.90	-13.49	-14.49	Cat L/Type 1 Cat L/Type 1	MD	2.90	5.90	-13.49	-14.49	3.00	0.10	0.0				<u> </u>		
MEA2	-11.26	-	-	-	-	-	-14.45	-17.43	NA NA	IVID	2.50		Sediment R			0.00	-	0.0	0.0	0.0	0.0	0.0	0.0
MEA3/MEA3a	-13.46	Reclamation works;	237.90	2.0		SURF	FACE	-	NA NA	FILL	T		- Jument N					5.0	0.0	1	0.0	3.0	5.0
,		maximum sediment removal			0.40	0.90	-13.86	-14.36	NA	FILL		-	-	-	-	-	-						
		to 2m below seabed level			0.90	1.90	-14.36	-15.36	Cat M/Type 2	MD	0.90	1.90	-14.36	-15.36	1.00	1.00	237.9	0.0	237.9	23.8	0.0	261.7	0.0
					1.90	2.90	-15.36	-16.36	Cat H/Type 2	MD	1.90	2.90	-15.36	-16.36	1.00	0.10	23.8						
					2.90	5.90	-16.36	-19.36	Cat L/Type 1	MD	2.90		-16.36	-19.36	3.00	0.00	0.0						
MEA4 MEA5	-11.27	-	-	-	-	-	-	-	NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA6	-15.14	-	-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA7	-16.01 -14.05	-	-	-	-	-	-	-	NA NA				Sediment Ro				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA8	-14.03	-	-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA9	-14.12	-	-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA10	-18.06	-	-		-	-	-	-	NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA11	-14.38	-	-	-	-	-	-	-	NA			No	Sediment R	emoval Exp	ected		-	0.0	0.0	0.0	0.0	0.0	0.0
MEA12	-18.34	-	-	-	-	-	-	-	NA			No	Sediment R	emoval Exp	ected		-	0.0	0.0	0.0	0.0	0.0	0.0
MEA13	-16.66	-	-	-	-	-	-	-	NA			No	Sediment R	emoval Exp	ected		-	0.0	0.0	0.0	0.0	0.0	0.0
MEA14	-18.58	-	-	-	-	-	-	-	NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA15	-17.05	-	-	-	-	-	-	-	NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA16 MEA17 ⁽⁵⁾	-18.61 -18.35	Reclamation works; maximum sediment removal to 2m below seabed level	10944.25	2.0	-	-	-	-	NA NA				No Sediment Ro				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA18	-18.40		-	-														0.0	0.0	0.0	0.0	0.0	
	-18.48	Reclamation works;	3863.54	2.0	-	- SURF	-	-	NA Cat L/Type 1	MD	_	No	Sediment R	emoval Exp	ected	T	-	0.0	0.0	0.0	0.0	0.0	0.0
MEA19 ⁽⁵⁾	-10.40	maximum sediment removal	3603.34	2.0	0.00	0.90	-18.48	-19.38	Cat L/Type 1	MD	0.00	0.90	-18.48	-19.38	0.90	0.90	3477.2	7727.1	0.0	0.0	7727.1	0.0	0.0
		to 2m below seabed level			0.90	1.90	-19.38	-20.38	Cat L/Type 1	MD	0.90	1.90	-19.38	-20.38	1.00	1.00	3863.5	7727.2	0.0	0.0	7727.2	0.0	0.0
					1.90	2.90	-20.38	-21.38	Cat L/Type 1	MD	1.90	2.90	-20.38	-21.38	1.00	0.10	386.4	0.0			0.0	0.0	
MEA20 MEA21	-14.73	-	-	-	-	-	-	-	NA NA				Sediment Ro				-	0.0	0.0	0.0	0.0	0.0	0.0
IVIEAZI	-18.51		-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
		-	-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	5.0	0.0	0.0
MEA22	-18.51	-	-	-	-	-	-	-	NA NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA23	-	-	-	-	-	-	-	-	NA				Sediment R				-	0.0	0.0	0.0	0.0	0.0	0.0
MEA24	-	-	-	-	-	-	-	-	NA			No	Sediment R	emoval Exp	ected		-	0.0	0.0	0.0	0.0	0.0	0.0
																	GRAND TOTAL	8237	4828	18188	8237	9951	18188

Notes:

1. Refer to Drawing 60720423/B30/FIGURE 7.3 for works types

2. Cat L: Category L sediment
Cat M: Category M sediment
Cat H: Category H sediment (≤10xLCEL)
Type 1: Type 1 - Open Sea Disposal
Type 2: Type 2 - Confined Marine Disposal
NA - Not applicable.

MD: MARINE DEPOSIT
 NA: Not applicable
 Descriptions based on borehole logs.

- 4. For sampling locations MEA1, the surface grab samples were classified as Category L / Type 1 sediment while the vibrocore samples) were used to represent the top sediment profile.

 5. The sediment removal area for sampling grids of MEA17 and MEA19 includes sediment removal area adjacent to but outside the corresponding sampling grids.

Sediment Removal Sediment Removal Thickness Volume		(m) removed (m) [C]	Depth) (m ³) ⁽⁴⁾ [D]		
Works Type ¹⁻⁷ (m) (m³) [A] [B]	From To From To	To		ediment Sediment Sediment Sediment Sediment Sediment Sediment Sediment Sediment (do not require biological screening)	
MEB1 ⁽⁵⁾ Reclamation works: SURFACE Cat / Type 1 DMD		8.33 0.50 0.50	4792.76 ₅	5446.1 0.00 0.00	5446.1 0.00 0.0
	0.50 1.00 -8.33 -8.8	8.83 0.50 0.50	653.32		
below seabed level	0.00 0.90 -11.02 -11.	1.92 0.90 0.50	6933.41 69	6933.4 0.00 0.00	6933.4 0.00 0.0
below seabed level	0.00 0.90 -12.32 -13.	3.22 0.90 0.50	6534.56 6	6534.6 0.00 0.00	6534.6 0.00 0.0
	0.00 0.90 -12.60 -13.	3.50 0.90 0.50	170.74 1	170.7 0.00 0.00	170.7 0.00 0.0
- sediment removal to 1.0m below seabed level 0.00 0.90 -9.12 -10.02 Cat M/Type 2 BD	0.00 0.90 -9.12 -10.0 0.90 1.75 -10.02 -10.3	.0.02 0.90 0.90 .0.87 0.85 0.10	4097.34 455.26	0.0 4097.34 455.26	0.0 4552.60 0.0
- sediment removal to 1.0m below seabed level 0.00 0.90 -10.78 -11.68 Cat M/Type 2 DMD	0.00 0.90 -10.78 -11.0 0.90 1.92 -11.68 -12.		7547.13 838.57	0.0 7547.13 838.57	0.0 8385.70 0.0
MEB7 -12.40 Reclamation works: 0.5 6035.62 SURFACE Cat L/Type 1 MD 0.0		2.70 1.02 0.10 2.90 0.50 0.50	7269.29		
0.90 1.90 -13.30 -14.30 Cat L/Type 1 MD 0.		4.30 1.00 0.10	246.73	0.00 0.00	8502.95 0.00 0.0
		.5.30 1.00 0.00 3.47 0.90 0.50	0.00 140.45	140.45 0.00 0.00	140.45 0.00 0.0
ALERO ⁽⁷⁾ -10.10 Reclamation works: 1.0 2124.92 SURFACE Cat M/Type 2 MD		1.10 1.00 1.00	2124.92	0.0 2124.92 0.00	0.0 2124.92 0.0
MEB10 -10.57 Reclamation works: 1.0 3135.90 - NA NA	No Sediment Encou	ountered	-	0.0 0.00 0.00	0.0 0.00 0.0
- maximum sediment removal to 0.5m below seabed level 0.00 0.90 -12.76 -13.66 Cat M/Type 2 DMD	0.00 0.50 -12.76 -13.		8797.37	0.0 10975.83 544.61	0.0 11520.4 0.0
- sediment removal to 1.0m below seabed level 1.0 5446.15 0.90 1.20 -13.66 -13.96 Cat H/Type 2 DMD 0.	0.50 0.90 -13.26 -13.6 0.90 1.30 -13.66 -14.0	4.06 0.40 0.10	2178.46 544.61		
Mr.043 ⁽⁶⁾ .11.36 Reclamation works: 1698.22	0.00 0.90 -12.82 -13.			0.0 72.84 0.00	0.0 72.84 0.0
- maximum sediment removal to 0.5m below seabed level SURFACE Cat L/Type 1 DMD	0.00 0.50 -11.36 -11.3 0.50 1.00 -11.86 -12.3		2741.79 1043.56	3785.4 0.00 0.00	3785.4 0.00 0.0
- maximum sediment removal to 0.5m below seabed level	0.00 0.50 -9.52 -10.0 0.50 0.90 -10.02 -10.0	0.02 0.50 0.50 0.42 0.40 0.40	2177.40		
- maximum sediment removal to 4m below seabed level 4.0 0.90 1.90 -10.42 -11.42 Cat L/Type 1 FILL/DMD 0.		1.42 1.00 1.00	704.92 704.92	1480.3 3164.29 0.00	1480.3 3164.29 0.0
2.90 4.00 -12.42 -13.52 Cat L/Type 1 FILL/DMD 2.	2.90 4.00 -12.42 -13.		775.41		
- maximum sediment removal to 0.5m below seabed level	0.00 0.50 -10.97 -11.4 0.50 0.90 -11.47 -11.3		7544.78 1411.52		
- maximum sediment removal to 4m below seabed level 4.0 11675.82 0.90 1.90 -11.87 -12.87 NA FILL				2919.0 12167.15 0.00	2919.0 12167.15 0.0
- maximum sediment removal to 4m below seabed level 4.0 1.90 2.90 -12.87 -13.87 Cat L/Type 1 MD 1.	1.90 2.90 -12.87 -13.8 2.90 5.90 -13.87 -16.8		2918.96 3210.85		
MEB16 ⁽¹¹⁾ -12.44 Maximum sediment removal to 1.5m below seabed level 1.5 1.39 SURFACE Cat L/Type 1 NA 0.	0.00 0.90 -12.44 -13.	3.34 0.90 0.90	0.84	0.84 0.56 0.00	0.84 0.56 0.0
MEB17 ⁽¹²⁾ -11.71 Reclamation works: - 0.5 2937.90 SURFACE NA FILL - maximum sediment removal to 0.5m below seabed level	0.90 1.90 -13.34 -14.	4.34 1.00 0.60 	0.56		
- sediment removal to 1.0m below seabed level 1.0 403.69 0.25 0.90 -11.96 -12.61 NA FILL			-	9599.5 8690.15 0.00	9599.5 8690.15 0.0
- maximum sediment removal to 3m below seabed level 3.0 26070.44 U.90 1.90 -12.61 -13.61 Cat L/Type 1 FILL/DMD 1.0	0.90 1.00 -12.61 -12. 1.00 1.90 -12.71 -13.	3.61 0.90 0.90	909.38 7821.13	9599.5 8690.15 0.00	9599.5 8690.15 0.0
2.90 5.90 -12.04 -15.04 Cat L/Type 1 FILL/DMD 2.	1.90 2.90 -13.61 -14.61 2.90 5.90 -14.61 -17.0		8690.15 869.01		
- maximum sediment removal to 0.5m below seabed level		- -	-		
I- maximum sediment removal to 3m below seabed level		1.04 1.00 1.00	20297.35	23636.2 20297.35 0.00	23636.2 20297.35 0.0
2.90 5.90 -12.04 -15.04 Cat I/Type 1 FILL/DMD 2.	1.90 2.90 -11.04 -12.04 2.90 3.00 -12.04 -12.04	2.14 0.10 0.10	20297.35 2029.74		
- maximum sediment removal to 4m below seabed level 4.0 5236.42 3. MEB19 ⁽⁶⁾⁽¹³⁾ -10.53 Reclamation works: 5421.32 SURFACE Cat L/Type 1 FILL/DMD 0.0	3.00 5.90 -12.14 -15.0 0.00 0.90 -10.53 -11.0		1309.10 7993.11		
- maximum sediment removal to 1.5m below seabed level 1.5 - 1.5 - 1.5 - 1.5 - 1.5 - 1.6 - 1.78				5267.0 13786.83 0.00	5267.0 13786.83 0.0
- maximum sediment removal to 4m below seabed level 1.90 2.90 -12.43 -13.43 Cat L/Type 1 MD 1. 2.90 5.90 -13.43 -16.43 Cat M/Type 2 MD 2.	1.90 2.90 -12.43 -13.4 2.90 5.90 -13.43 -16.4		5267.02 5793.72		
MEB20 ⁽¹³⁾ -12.68 Maximum sediment removal to 1.5m below seabed level 1.5 0.03 SURFACE Cat L/Type 1 FILL/DMD 0.20 0.90 -12.88 -13.58 Cat L/Type 1 FILL/DMD	0.00 0.90 -12.68 -13.	3.58 0.90 0.90	0.02		
0.90 1.90 -13.58 -14.58 Cat M/Type 2 MD 0.1.50 Cat M/Type 2 MD 1.50 Cat	0.90 1.90 -13.58 -14.8 1.50 1.90 -14.18 -14.1 1.90 2.90 -14.58 -15.1	4.58 0.40 0.00	0.00	0.02 0.01 0.00	0.02 0.01 0.0
	1.90 2.90 -14.58 -15.5 2.90 5.90 -15.58 -18.5 No Sediment Encou	8.58 3.00 0.00	0.00	0.00 0.00 0.00	0.0 0.00 0.0

Development of Tseung Kwan O Area 137 and Associated Reclamation Sites – Investigation, Design and Construction

Sampling Locations /	Seabed Level	Details of Proposed Sediment Removal Works				t Sample									Thickness of	Thickness of	Volume of	Volume of Sec	liment (by Grid 8	Category) (m ³)	Volume of Sediment (by Grid & Disposal Type) (m3)		
Sampling Grid	(mPD)				Depth		Depth		Type ⁽²⁾		(m bgl)		(m	PD)	Sediment	Sediment to be	Sediment (by						
					(m	(m bgl)		nPD)							(m)	removed (m)	Depth) (m ³) ⁽⁴⁾						
																[C]	[D]						
																		Category L	Category M	Category H		Type 2 – Confined	Type 3 – Special
			Sediment Removal	Sediment Removal														Sediment	Sediment	Sediment (does	Disposal	Marine Disposal	Treatment/
		Works Type ⁽¹⁾	Thickness	Volume																not require			Disposal
			(m) (m³)																	biological			
			[A]	[B]	.			То			.									screening)			
== 0.0(13)	-5.80	Mar. 1	2.0	25422.45	From	To	EACE	10	Coll France	5111 (DA4D	From	То	From	То					_				
MEB22 ⁽¹³⁾	-5.80	Maximum sediment removal to 3m below seabed level 3.0 25422.15			0.62	0.90	SURFACE		Cat L/Type 1	FILL/DMD	0.00	0.90	-5.80	-6.70	0.90	0.90	7626.64						
						1.90	-6.42 -6.70	-6.70 -7.70	Cat L/Type 1 Cat L/Type 1	FILL/DMD FILL/DMD	0.90	1.90	-6.70	-7.70	1.00	1.00	8474.05						
				1.90	2.90		FILL/DMD	1.90	2.90	-6.70	-8.70	1.00	1.00	8474.05	16100.7	9321.45 0.000	0.000	16100.7	9321.45	0.0			
					2.90	3.90	-8.70	-9.70	Cat M/Type 2 Cat M/Type 2	FILL/DIVID	2.90	3.90	-8.70	-9.70	1.00	0.10	8474.03				1		
					3.90	4.90	-9.70	-10.70	Cat L/Type 1	DMD	3.90	4.90	-9.70	-10.70	1.00	0.00	0.00						
MEB23	-9.70				3.90	4.30	-9.70	-10.70	NA NA	DIVID	3.30		Sediment R			0.00	-	0.0	0.00	0.00	0.0	0.00	0.0
MEB24	-12.63		_		-	-	-	-	NA NA				Sediment R				-	0.0	0.00	0.00	0.0	0.00	0.0
MEB25	-8.07		-		-	-	-	-	NA NA	No Sediment Removal Expec						-	0.0	0.00	0.00	0.0	0.00	0.0	
MEB26	-4.77		-		-	-	-	-	NA				Sediment R				-	0.0	0.00	0.00	0.0	0.00	0.0
MEB27	-11.45		-		-	-	-	-	NA	No Sediment Removal Expect					ected		-	0.0	0.00	0.00	0.0	0.00	0.0
MEB28	-14.22								temoval Exp	ected		-	0.0	0.00	0.00	0.0	0.00	0.0					
MEB29	-13.64		-		-	-	-	-	NA			No	Sediment R	temoval Exp	ected		-	0.0	0.00	0.00	0.0	0.00	0.0
MEB30	-13.95	OS NA No Sediment Removal E							temoval Exp	ected		-	0.0	0.00	0.00	0.0	0.00	0.0					
									•	•	·					TOTAL (BY	DISPOSAL TYPE)	90517	92246	1838	90517	94084	0
																G	RAND TOTAL			184601			184601

- Refer to Drawing 60720423/B30/FIGURE 7.4 for works types

- Refer to Drawing 60720423/B30/FIGURE 7.
 Cat L: Category L sediment
 Cat M: Category M sediment
 Cat H: Category M sediment (s 10xLCEL)
 Type 1: Type 1 Open Sea Disposal
 Type 2: Type 2 Confined Marine Disposal
 NA Not applicable.

- 3. MD: MARINE DEPOSIT DMD: DISTURBED MARINE DEPOSIT ALLU: ALLUVIUM
- BD: BEACH DEPOSIT
 NA: Not applicable
 Descriptions based on borehole logs.
- 4. Volume of Sediment (by Depth)' [Column D] is calculated by the 'Sediment Removal Volume' [Column B] of the proposed works multiplying the ratio of 'Thickness of Sediment to be removed' [Column C] and 'Sediment Removal Thickness' of the proposed works [Column A] for each of the relevant Works Type.
- 5. Sampling location MEB1 terminated at 0.52 m below seabed level due to encountering of hard materials. For conservative purpose, the result of the sediment sample at 0m bgl to 0.52m bgl to 0.52m bgl to 0.52m bgl to 1.00m bgl.

 6. For sampling location MEB6, MEB11 and MEB19, the surface grab samples were classified as Category L / Type 1 sediment while the vibrocore samples prepresent the top sediment profile.
- 7. Sampling location MEB9 terminated at 0.85 m below seabed level due to encountering of hard materials.

 The surface grab sample was classified as Category M / Type 2 sediment while the vibrocore sample representing 0m bgl to 0.85m bgl was classified as Category L / Type 1 sediment. As a conservative approach, the result from the surface grab sample) was used to represent the the category and disposal type of the sediment layer from 0.00m bgl to 1.00m bgl. 8. Sampling location MEB13 terminated at 0.10 m below seabed level due to encountering of hard materials. For conservative purpose, the result of the surface grab sediment sample as Category L / Type 1 sediment is proposed to represent the category and disposal type of the sediment layer from 0.00m bgl to 1.00m bgl.
- 9. Only surface grab sample was collected for sampling location MEB14. The category and disposal type from 0.9m bgl to 4.0m bgl were determined based on the samples from the nearby sampling location (i.e. MEB18).

 10. Only surface grab sample was collected for sampling location MEB15. The category and disposal type from 0.9m bgl to 5.9m bgl were determined based on the samples from the nearby sampling location (i.e. MEB19).

 11. Only surface grab sample was collected for sampling location MEB16. The category and disposal type from 0.9m bgl to 1.9m bgl were determined based on the samples from the nearby sampling location (i.e. MEB20) as Category M / Type 2 sediment.
- 12. Sampling location MEB17 terminated at 0.55 m below seabed level due to encountering of hard materials. For conservative purpose, the category and disposal type from 0.0m bgl to 3.0m bgl were determined based on the samples from the nearby sampling location (i.e. MEB18).

 13. The descriptions of the fill layers in borehole logs are CLAY and are similar to disturbed marine deposit. For conservative approach, the corresponding depths were included in the quantities estimations.

Assume socketed H piles is used for whole EPP site.

Design assumption:

- 1) Max. water depth = +5.6 (-4.7) = 10.3 m (for Block 1,2,3,4 only), full height of water level.
- 2) Assume 7.5kPa live load for typical floor loading, 2kPa live load for Roof floor for maintenance.
- 3) Only Block 5,6,17 consist 2 storey, others only one storey.
- 4) Assume 10kPa Dead load for each floor
- 5) Assume Pile cap/basement slab thickness is 1.5m depth. (i.e. 1.5*25= 37.5kPa)

For block 1 to 4,

Design load, Q1 = 160 kPa Area of blocks, A1 = 15068 m^2

For block 5,6,17

Design load, Q2 = 74.5 kPaArea of blocks, A2 = 1900 m^2

For block 7-16, 18

Design load, Q3 = 57 kPaArea of blocks, A3 = 4683 m^2

Use UBP 305x305x223 kg/m,

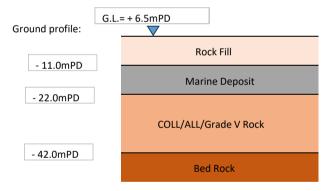
Structural capacity = 0.5xfyxA

6106 kN

total load = Q1xA1+Q2xA2+Q3xA3

= 2819361 kN

Assume 80% of utilization of each socketed H piles No. of piles required = 578 nos.



about 11m thick MD layer

Volume of sediment = 1858.104 m³

Say 2000 m³