



**ERM**

ANNEX J

SOFT SHORE ECOLOGY



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ANNEX J1

MONITORING SCHEDULE

**Tung Chung New Town Extension (East)**  
**Post-Construction Soft Shore Ecological Monitoring Schedule (September 2024)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep	7-Sep
	Soft Shore Monitoring at Tai Ho Bay					
8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep
15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep
	Soft Shore Monitoring at Tung Chung Bay					
22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep
					Soft Shore Monitoring at Tung Chung Bay	
29-Sep	30-Sep					



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ANNEX J2

MONITORING RESULTS

**Table J2.1 Results for Horseshoe Crabs during Qualitative Walk-through Surveys in September 2024**

Sighting #	Species	Prosomal Width (cm)	Total Length (cm)
<b>Monitoring Date: 2 September 2024</b>			
<b>Monitoring Station: THW</b>			
1	<i>Tachypleus tridentatus</i>	2.6	5.1
2	<i>Tachypleus tridentatus</i>	0.8	1.2
3	<i>Tachypleus tridentatus</i>	0.9	1.1
4	<i>Tachypleus tridentatus</i>	2.4	2.9
5	<i>Tachypleus tridentatus</i>	3.0	5.0
6	<i>Tachypleus tridentatus</i>	3.0	5.5
7	<i>Tachypleus tridentatus</i>	0.9	1.0
8	<i>Tachypleus tridentatus</i>	1.5	2.2
9	<i>Tachypleus tridentatus</i>	2.5	3.7
10	<i>Tachypleus tridentatus</i>	2.1	3.3
11	<i>Tachypleus tridentatus</i>	1.7	2.5
12	<i>Tachypleus tridentatus</i>	1.0	1.2
13	<i>Tachypleus tridentatus</i>	1.6	2.4
14	<i>Tachypleus tridentatus</i>	0.8	1.0
15	<i>Tachypleus tridentatus</i>	1.6	2.2
16	<i>Tachypleus tridentatus</i>	0.8	1.1
17	<i>Tachypleus tridentatus</i>	1.9	3.5
18	<i>Tachypleus tridentatus</i>	2.9	5.2
19	<i>Tachypleus tridentatus</i>	1.0	1.2
20	<i>Tachypleus tridentatus</i>	2.6	5.2
21	<i>Tachypleus tridentatus</i>	1.6	2.5
22	<i>Tachypleus tridentatus</i>	1.4	2.4
23	<i>Tachypleus tridentatus</i>	1.3	3.0
24	<i>Tachypleus tridentatus</i>	2.0	3.5
25	<i>Tachypleus tridentatus</i>	1.4	2.1
26	<i>Tachypleus tridentatus</i>	1.0	1.4
27	<i>Tachypleus tridentatus</i>	0.9	1.2
28	<i>Tachypleus tridentatus</i>	1.9	3.1
29	Unidentified (a)	0.5	0.7
30	<i>Tachypleus tridentatus</i>	1.8	3.5
31	<i>Tachypleus tridentatus</i>	2.0	3.3
32	<i>Tachypleus tridentatus</i>	2.0	4.0
	<b>Mean (Range)</b>	<b>1.7 (0.5 – 3.0)</b>	<b>2.7 (0.7 – 5.5)</b>
<b>Monitoring Date: 16 September 2024</b>			
<b>Monitoring Station: TCB3</b>			
1	<i>Tachypleus tridentatus</i>	2.6	4.8
2	Unidentified (a)	0.6	0.8
3	Unidentified (a)	0.6	0.7
4	Unidentified (a)	0.6	0.6
5	<i>Tachypleus tridentatus</i>	1.3	1.0
6	Unidentified (a)	0.7	0.7
7	Unidentified (a)	0.6	0.7
8	Unidentified (a)	0.6	0.7
9	<i>Tachypleus tridentatus</i>	2.4	3.8
10	<i>Tachypleus tridentatus</i>	2.1	5.0
11	<i>Tachypleus tridentatus</i>	2.7	4.0
12	<i>Tachypleus tridentatus</i>	2.7	5.0
13	<i>Tachypleus tridentatus</i>	2.5	4.8
14	<i>Tachypleus tridentatus</i>	2.9	5.5
15	<i>Tachypleus tridentatus</i>	3.2	6.3
16	<i>Tachypleus tridentatus</i>	3.8	6.8
17	<i>Tachypleus tridentatus</i>	3.2	5.7
18	<i>Tachypleus tridentatus</i>	2.7	5.0
19	<i>Tachypleus tridentatus</i>	3.0	5.5

20	<i>Tachypleus tridentatus</i>	2.4	4.0
21	<i>Tachypleus tridentatus</i>	2.8	4.9
22	<i>Tachypleus tridentatus</i>	3.0	4.7
23	<i>Tachypleus tridentatus</i>	3.8	5.5
24	<i>Tachypleus tridentatus</i>	4.2	5.5
	<b>Mean (Range)</b>	<b>2.3 (0.6 – 4.2)</b>	<b>3.8 (0.6 – 6.8)</b>

**Monitoring Date: 27 September 2024**

**Monitoring Station: TCB1**

1	<i>Tachypleus tridentatus</i>	4.0	8.0
2	<i>Tachypleus tridentatus</i>	3.8	7.3
3	<i>Tachypleus tridentatus</i>	4.0	7.5
4	<i>Tachypleus tridentatus</i>	4.0	8.0
5	<i>Tachypleus tridentatus</i>	3.8	7.5
6	<i>Tachypleus tridentatus</i>	4.1	8.2
7	<i>Tachypleus tridentatus</i>	2.5	5.2
8	<i>Tachypleus tridentatus</i>	2.6	4.8
9	<i>Tachypleus tridentatus</i>	1.8	3.2
10	<i>Tachypleus tridentatus</i>	4.0	7.0
11	<i>Tachypleus tridentatus</i>	2.1	3.8
	<b>Mean (Range)</b>	<b>3.3 (1.8 – 4.1)</b>	<b>6.4 (3.2 – 8.2)</b>

**Monitoring Date: 27 September 2024**

**Monitoring Station: TCB2**

1	<i>Tachypleus tridentatus</i>	1.9	3.8
2	<i>Tachypleus tridentatus</i>	1.2	2.0
3	Unidentified <sup>(a)</sup>	0.7	0.8
4	<i>Tachypleus tridentatus</i>	1.0	1.2
5	<i>Tachypleus tridentatus</i>	2.4	4.0
6	<i>Tachypleus tridentatus</i>	2.1	3.7
7	<i>Tachypleus tridentatus</i>	0.9	1.0
8	<i>Tachypleus tridentatus</i>	3.0	3.5
9	<i>Tachypleus tridentatus</i>	2.5	5.0
	<b>Mean (Range)</b>	<b>1.7 (0.7 – 3.0)</b>	<b>2.8 (0.8 – 5.0)</b>

Note:

- a) Eight (8) horseshoe crab individuals, one (1) at THW, six (6) at TCB3 and one (1) at TCB2 were recorded with prosomal width of 0.5-0.7 cm and total length of 0.6-0.8 cm. These individuals were considered to be too small for species identification by the naked eye and were recorded as unidentified species.

**Table J2.2 Results for Seagrass during Qualitative Walk-through Surveys in September 2024**

Sighting #	Species	Area (m <sup>2</sup> )	Area Coverage (%)	Seagrass Area (m <sup>2</sup> )
<b>Monitoring Date: 16 September 2024</b>				
<b>Monitoring Station: TCB3</b>				
1	<i>Halophila ovalis</i>	12.0	30%	3.6
2	<i>Halophila ovalis</i>	1.5	90%	1.4
3	<i>Halophila ovalis</i>	260.0	60%	156.0
4	<i>Halophila ovalis</i>	60.0	80%	48.0
<b>Monitoring Date: 27 September 2024</b>				
<b>Monitoring Station: TCB2</b>				
1	<i>Halophila ovalis</i>	6.0	40%	2.4
2	<i>Halophila ovalis</i>	2.0	20%	0.4
3	<i>Halophila ovalis</i>	6.0	30%	1.8

**Table J2.3 Results for Other Intertidal Soft Shore Communities during Qualitative Walk-through Surveys in September 2024**

Monitoring Station	Shore Height *	No. of Species
TCB1	H	24
	M	23
	L	15
	<b>Overall</b>	<b>32</b>
TCB2	H	25
	M	25
	L	17
	<b>Overall</b>	<b>30</b>
TCB3	H	23
	M	26
	L	25
	<b>Overall</b>	<b>35</b>
THW	H	21
	M	18
	L	13
	<b>Overall</b>	<b>28</b>

\* H: +2mCD; M: +1.5mCD; L: +1mCD



**Table J2.4 Results for Other Intertidal Soft Shore Communities during Quantitative Transect Surveys in September 2024**

Monitoring Station	Shore Height *	Top Three Dominant Species	Density (ind. / m <sup>2</sup> )
TCB1	H	1 <i>Cerithidea cingulata</i>	138.4
		2 <i>Cerithidea diadjariensis</i>	12.0
		3 <i>Batillaria multiformis</i>	73.6
	M	1 <i>Cerithidea cingulata</i>	85.6
		2 <i>Cerithidea diadjariensis</i>	68.8
		3 <i>Batillaria zonalis</i>	38.4
	L	1 <i>Batillaria zonalis</i>	27.2
		2 <i>Sipunculus sp.</i>	4.0
		3 <i>Barbatia virescens</i> <b>and</b> <i>Oligochaete sp.</i>	3.2
TCB2	H	1 <i>Cerithidea diadjariensis</i>	41.6
		2 <i>Cerithidea cingulata</i>	12.0
		3 <i>Metaplex longipes</i>	11.2
	M	1 <i>Cerithidea cingulata</i>	172.8
		2 <i>Cerithidea diadjariensis</i>	153.6
		3 <i>Batillaria zonalis</i>	52.0
	L	1 <i>Macrophthalmus sp.</i> <b>and</b> <i>Uca borealis</i> <b>and</b> <i>Ceratonereis sp.</i>	3.2
		2 <i>Cerithidea cingulata</i>	2.4
		3 <i>Uca lacteal</i> <b>and</b> <i>Batillaria zonalis</i> <b>and</b> <i>Cerithidea diadjariensis</i>	1.6
TCB3	H	1 <i>Batillaria multiformis</i>	1852.0
		2 <i>Batillaria zonalis</i>	1660.8
		3 <i>Nassarius festivus</i>	259.2
	M	1 <i>Batillaria multiformis</i>	559.2
		2 <i>Batillaria zonalis</i>	332.8
		3 <i>Cerithidea diadjariensis</i>	154.4
	L	1 <i>Batillaria multiformis</i>	98.4
		2 <i>Cerithidea diadjariensis</i>	85.6
		3 <i>Batillaria zonalis</i>	58.4
THW	H	1 <i>Cerithidea diadjariensis</i>	207.2
		2 <i>Cerithidea cingulata</i>	182.4
		3 <i>Geloina erosa</i>	23.2
	M	1 <i>Cerithidea diadjariensis</i>	328.0
		2 <i>Cerithidea cingulata</i>	174.4
		3 <i>Batillaria zonalis</i>	64.8
	L	1 <i>Cerithidea cingulata</i>	156.0
		2 <i>Cerithidea diadjariensis</i>	148.8
		3 <i>Nassarius festivus</i>	144.8

\* H: +2mCD; M: +1.5mCD; L: +1mCD

Group	Species	TCB1			TCB2			TCB3			THW		
		H (Qual)	M (Qual)	L (Qual)	H (Qual)	M (Qual)	L (Qual)	H (Qual)	M (Qual)	L (Qual)	H (Qual)	M (Qual)	L (Qual)
Algae	<i>Gelidium sp.</i>							+					
Barnacle	<i>Balanus amphitrite</i>	+		+	+	+	+	+	+	+	+	+	+
Barnacle	<i>Fistulobalanus albicostatus</i>	+											
Bivalve	<i>Anomalocardia squamosa</i>		+	+						+			
Bivalve	<i>Arcuatula senhousia</i>								+				
Bivalve	<i>Barbatia virescens</i>		+	+	+	+							
Bivalve	<i>Cyclina sinensis</i>	++						+		+		+	+
Bivalve	<i>Geloina erosa</i>	+				+		+	+	+	+++	++	+
Bivalve	<i>Gafrarium tumidum</i>									+			
Bivalve	<i>Laternula anatina</i>										+	++	
Bivalve	<i>Saccostrea cucullata</i>	+	+	+++	++	+	+	++	++	+++	+	++	+
Bivalve	<i>Septifer virgatus</i>		+	+		+		+	+	+			
Bivalve	<i>Ruditapes philippinarum</i>									+			
Crab	<i>Ilyoplax spp.</i>						+						
Crab	<i>Macrophthalmus sp.</i>	+			+	+							
Crab	<i>Metaplex longipes</i>				+	+							
Crab	<i>Metapograpus frontalis</i>	+	+	+	+	+		+	+	+			
Crab	<i>Metapograpus quadridematus</i>	+	++	+	++	+	+	+	+	+			
Crab	<i>Parasesarma pictum</i>				+		+	+				+	
Crab	<i>Perisesarma bidens</i>							+			+++		
Crab	<i>Uca arcuata</i>	+	+					+	+	+	+		
Crab	<i>Uca borealis</i>					++	+		++		+		
Crab	<i>Uca lactea</i>	+	+			+++	++	+	++	+	+	+	
Crab	<i>Uca splendida</i>										+		
Fish	<i>Periophthalmus modestus</i>	+	+		++	++		+	+	+	+	+	
Gastropod	<i>Batillaria multiformis</i>	++	++	+	+	+	+	+++	+++	++	+	+	+
Gastropod	<i>Batillaria zonalis</i>	++	++	++	+	++	+	+++	+++	++	+	++	+++
Gastropod	<i>Cerithidea cingulata</i>	++	++		+	++	+	++	++	+	+++	+++	+++
Gastropod	<i>Cerithidea diadjarimensis</i>	++	++		++	++	+	+++	+++	++	+++	+++	+++
Gastropod	<i>Cerithidea microptera</i>				+								
Gastropod	<i>Cerithidea rhizophorarum</i>	+									++	+	
Gastropod	<i>Clithon spp.</i>	+	+					+	+			+	+
Gastropod	<i>Echinolittorina vidua</i>								+				
Gastropod	<i>Littoraria ardouiniana</i>	+						+			+		
Gastropod	<i>Littoraria articulata</i>	++	++	+	+	+	+	++	+	+		+	+
Gastropod	<i>Littoraria melanostoma</i>	+			+			+			+		
Gastropod	<i>Lunella coronata</i>	+	++		+	+	+		+	+			
Gastropod	<i>Monodonta labio</i>	+	++	+	++	+	+	+	+	++			
Gastropod	<i>Nassarius festivus</i>							+++	++		+	+++	+++
Gastropod	<i>Nerita albicilla</i>				+	+	+		+	+			
Gastropod	<i>Nerita chamaeleon</i>									+			
Gastropod	<i>Nerita polita</i>	+	+		+	+	+	+	+	+		+	+
Gastropod	<i>Terebralia palustris</i>										+		
Gastropod	<i>Terebralia sulcata</i>				+	+					++	+	
Gastropod	<i>Thais clavigera</i>												+
Hermit Crab	<i>Clibanarius sp.</i>		+	+	+	+					+		
Hermit Crab	<i>Diogenes sp.</i>		+	+									
Horseshoe Crab	<i>Tachypleus tridentatus</i>	+	+	+	+	+		++	++	+	++	++	+
Horseshoe Crab	Unidentified sp.							+	+			+	
Seagrass	<i>Halophila ovalis</i>					+		++	+++	++			
Sea Slater	<i>Ligia oceanica</i>				+++	+							
Worm	<i>Ceratonereis sp.</i>		+		+		+						
Worm	<i>Oligochaete sp.</i>	+	+	+					+	+			
Worm	<i>Sipunculus sp.</i>			+					+	+			
Worm	Ribbon Worm sp.		+		+	+							

Remark: '+' denotes the species was relatively uncommon at the area;  
 '++' denotes the species was relatively common at the area;  
 '+++ ' denotes the species was relatively abundant at the area.

Group	Species	TCB1																	
		H1	H2	H3	H4	H5	Density (ind. / m <sup>2</sup> or % cover)	M1	M2	M3	M4	M5	Density (ind. / m <sup>2</sup> or % cover)	L1	L2	L3	L4	L5	Density (ind. / m <sup>2</sup> or % cover)
Algae	<i>Gelidium sp.</i>						0%						0%						0%
Barnacle	<i>Balanus amphitrite</i>						0%						0%						0%
Bivalve	<i>Anomalocardia squamosa</i>						0	2			1		2.4			1	1		1.6
Bivalve	<i>Arcuatula senhousia</i>						0						0						0
Bivalve	<i>Barbatia virescens</i>						0						0		4				3.2
Bivalve	<i>Cyclina sinensis</i>	10				1	1	9.6					0						0
Bivalve	<i>Geloina erosa</i>				1			0.8					0						0
Bivalve	<i>Gafrarium tumidum</i>							0					0						0
Bivalve	<i>Laternula anatina</i>							0					0						0
Bivalve	<i>Saccostrea cucullata</i>				5%	5%		2%	5%	10%	10%	20%	10%	11%	25%	10%	15%	10%	12%
Bivalve	<i>Septifer virgatus</i>							0%					0%					10%	2%
Bivalve	<i>Ruditapes philippinarum</i>							0					0						0
Crab	<i>Ilyoplax spp.</i>							0					0						0
Crab	<i>Macrophthalmus sp.</i>			1				0.8					0						0
Crab	<i>Metaplex longipes</i>							0					0						0
Crab	<i>Parasesarma pictum</i>							0					0						0
Crab	<i>Uca borealis</i>							0					0						0
Crab	<i>Uca lactea</i>							0					0						0
Fish	<i>Periophthalmus modestus</i>							0					0						0
Gastropod	<i>Batillaria multiformis</i>	4		24		64	73.6	12	34				36.8				2		1.6
Gastropod	<i>Batillaria zonalis</i>	25	6	12	2	14	47.2	6	10	16	2	14	38.4	13	14			7	27.2
Gastropod	<i>Cerithidea cingulata</i>	72	42	8	3	48	138.4	32	2	8	9	56	85.6						0
Gastropod	<i>Cerithidea diadjarimensis</i>	36	18	42	28	26	120.0	30	28	2	6	20	68.8						0
Gastropod	<i>Cerithidea rhizophorarum</i>						0						0.0						0
Gastropod	<i>Clithon spp.</i>						0		3				2.4						0
Gastropod	<i>Echinolittorina vidua</i>						0						0						0
Gastropod	<i>Littoraria articulata</i>						0						0						0
Gastropod	<i>Lunella coronata</i>						0			3			2.4						0
Gastropod	<i>Monodonta labio</i>						0			8			6.4						0
Gastropod	<i>Nassarius festivus</i>						0						0						0
Gastropod	<i>Nerita chamaeleon</i>						0						0						0
Gastropod	<i>Nerita polita</i>						0						0						0
Gastropod	<i>Terebralia palustris</i>						0						0						0
Gastropod	<i>Terebralia sulcata</i>						0						0						0
Gastropod	<i>Thais clavigera</i>						0						0						0
Hermit Crab	<i>Clibanarius sp.</i>						0			2			1.6						0
Hermit Crab	<i>Diogenes sp.</i>						0			4			3.2						0
Worm	<i>Ceratonereis sp.</i>						0		1				0.8						0
Worm	<i>Oligochaete sp.</i>				3		2.4			2			1.6		1	3			3.2
Worm	<i>Sipunculus sp.</i>						0						0			5			4
Worm	Ribbon Worm sp.						0	2		2			3.2						0

Group	Species	TCB2																	
		H1	H2	H3	H4	H5	Density (ind. / m <sup>2</sup> or % cover)	M1	M2	M3	M4	M5	Density (ind. / m <sup>2</sup> or % cover)	L1	L2	L3	L4	L5	Density (ind. / m <sup>2</sup> or % cover)
Algae	<i>Gelidium sp.</i>						0%						0%						0%
Barnacle	<i>Balanus amphitrite</i>						0%			>5%			>5%			>5%	>5%		>5%
Bivalve	<i>Anomalocardia squamosa</i>						0						0						0
Bivalve	<i>Arcuatula senhousia</i>						0						0						0
Bivalve	<i>Barbatia virescens</i>						0						0						0
Bivalve	<i>Cyclina sinensis</i>						0						0						0
Bivalve	<i>Geloina erosa</i>						0			2			1.6						0
Bivalve	<i>Gafrarium tumidum</i>						0						0						0
Bivalve	<i>Laternula anatina</i>						0						0						0
Bivalve	<i>Saccostrea cucullata</i>		>5%				>5%		>5%	>5%	5%		1%						0%
Bivalve	<i>Septifer virgatus</i>						0%						0%						0%
Bivalve	<i>Ruditapes philippinarum</i>						0						0						0
Crab	<i>Ilyoplax spp.</i>						0						0			4			3.2
Crab	<i>Macrophthalmus sp.</i>		2			4	4.8					2	1.6						0
Crab	<i>Metaplex longipes</i>	2	6		2	4	11.2		6		6		9.6						0
Crab	<i>Parasesarma pictum</i>						0						0						0
Crab	<i>Uca borealis</i>						0						0	4					3.2
Crab	<i>Uca lactea</i>						0						0	2					1.6
Fish	<i>Periophthalmus modestus</i>				1		0.8						0						0
Gastropod	<i>Batillaria multiformis</i>						0	8	4	10		4	20.8						0
Gastropod	<i>Batillaria zonalis</i>						0	14	2	22	10	17	52.0	2					1.6
Gastropod	<i>Cerithidea cingulata</i>	2	6	3		4	12.0	33	26	29	42	86	172.8		3				2.4
Gastropod	<i>Cerithidea diadjarimensis</i>	10	16	7	6	13	41.6	30	20	52	40	50	153.6		2				1.6
Gastropod	<i>Cerithidea rhizophorarum</i>						0						0						0
Gastropod	<i>Clithon spp.</i>						0						0						0
Gastropod	<i>Echinolittorina vidua</i>						0						0						0
Gastropod	<i>Littoraria articulata</i>						0						0						0
Gastropod	<i>Lunella coronata</i>						0						0						0
Gastropod	<i>Monodonta labio</i>						0						0						0
Gastropod	<i>Nassarius festivus</i>						0						0						0
Gastropod	<i>Nerita chamaeleon</i>						0						0						0
Gastropod	<i>Nerita polita</i>						0						0						0
Gastropod	<i>Terebralia palustris</i>						0						0						0
Gastropod	<i>Terebralia sulcata</i>						0						0						0
Gastropod	<i>Thais clavigera</i>						0						0						0
Hermit Crab	<i>Clibanarius sp.</i>						0						0						0
Hermit Crab	<i>Diogenes sp.</i>						0						0						0
Worm	<i>Ceratonereis sp.</i>	4	2				4.8						0		2	2			3.2
Worm	<i>Oligochaete sp.</i>						0						0						0
Worm	<i>Sipunculus sp.</i>						0						0						0
Worm	Ribbon Worm sp.			6	2		6.4	2					1.6						0

Group	Species	TCB3																	
		H1	H2	H3	H4	H5	Density (ind. / m <sup>2</sup> or % cover)	M1	M2	M3	M4	M5	Density (ind. / m <sup>2</sup> or % cover)	L1	L2	L3	L4	L5	Density (ind. / m <sup>2</sup> or % cover)
Algae	<i>Gelidium sp.</i>						0%						5%						0%
Barnacle	<i>Balanus amphitrite</i>						0%						0%						0
Bivalve	<i>Anomalocardia squamosa</i>						0						0	1			1		1.6
Bivalve	<i>Arcuatula senhousia</i>						0			1			0.8						0
Bivalve	<i>Barbatia virescens</i>						0						0						0
Bivalve	<i>Cyclina sinensis</i>		1				0.8						0	1					0.8
Bivalve	<i>Geloina erosa</i>						0	1					0.8					1	0.8
Bivalve	<i>Gafrarium tumidum</i>						0						0		1				0.2
Bivalve	<i>Laternula anatina</i>						0						0						0
Bivalve	<i>Saccostrea cucullata</i>		5%				4%	10%	20%	10%	20%	25%	17%	5%	25%	15%	5%		10%
Bivalve	<i>Septifer virgatus</i>						0%						0%		5%				1%
Bivalve	<i>Ruditapes philippinarum</i>						0						0		1				0.8
Crab	<i>Ilyoplax spp.</i>						0						0						0
Crab	<i>Macrophthalmus sp.</i>						0						0						0
Crab	<i>Metaplex longipes</i>						0						0						0
Crab	<i>Parasesarma pictum</i>						0						0						0
Crab	<i>Uca borealis</i>						0						0						0
Crab	<i>Uca lactea</i>						0						0						0
Fish	<i>Periophthalmus modestus</i>						0						0					1	0.8
Gastropod	<i>Batillaria multififormis</i>	566	808	228	386	327	1852.0	130	219	262	42	46	559.2	44	74		5		98.4
Gastropod	<i>Batillaria zonalis</i>	444	500	336	474	322	1660.8	148	118	98	14	38	332.8	50	9	6	8		58.4
Gastropod	<i>Cerithidea cingulata</i>	6	21	24	58	12	96.8	8	30	38	44	32	121.6	10	2				9.6
Gastropod	<i>Cerithidea diadjarimensis</i>	10	40	44	59	9	129.6	12	45	20	30	86	154.4	24	41	28	14		85.6
Gastropod	<i>Cerithidea rhizophorarum</i>						0						0						0.0
Gastropod	<i>Clithon spp.</i>						0						0						0
Gastropod	<i>Echinolittorina vidua</i>						0		14				11.2						0
Gastropod	<i>Littoraria articulata</i>						0	6	6				9.6						0
Gastropod	<i>Lunella coronata</i>						0			1			0.8		5				4
Gastropod	<i>Monodonta labio</i>						0	2	7				7.2		11				8.8
Gastropod	<i>Nassarius festivus</i>	86	106	60	20	52	259.2	16	58	54			102.4						0
Gastropod	<i>Nerita chamaeleon</i>						0						0		1	1			1.6
Gastropod	<i>Nerita polita</i>						0					3	2.4		1				0.8
Gastropod	<i>Terebralia palustris</i>						0						0						0
Gastropod	<i>Terebralia sulcata</i>						0						0						0
Gastropod	<i>Thais clavigera</i>						0						0						0
Hermit Crab	<i>Clibanarius sp.</i>						0						0						0
Hermit Crab	<i>Diogenes sp.</i>						0						0						0
Worm	<i>Ceratonereis sp.</i>						0						0						0
Worm	<i>Oligochaete sp.</i>						0	1					0.8					1	0.8
Worm	<i>Sipunculus sp.</i>						0		1				0.8	1					0.8
Worm	Ribbon Worm sp.						0						0						0

Group	Species	THW																	
		H1	H2	H3	H4	H5	Density (ind. / m <sup>2</sup> or % cover)	M1	M2	M3	M4	M5	Density (ind. / m <sup>2</sup> or % cover)	L1	L2	L3	L4	L5	Density (ind. / m <sup>2</sup> or % cover)
Algae	<i>Gelidium sp.</i>						0%						0%						0%
Barnacle	<i>Balanus amphitrite</i>						0%						0%						0%
Bivalve	<i>Anomalocardia squamosa</i>						0						0						0
Bivalve	<i>Arcuatula senhousia</i>						0						0						0
Bivalve	<i>Barbatia virescens</i>						0						0						0
Bivalve	<i>Cyclina sinensis</i>						0		1				0.8			1			0.8
Bivalve	<i>Geloina erosa</i>	6	5	3	12	3	23.2	1	7	8	1	13.6	1		1	2	1	4	
Bivalve	<i>Gafrarium tumidum</i>						0						0						0
Bivalve	<i>Laternula anatina</i>		1				0.2		2	1	1	1	1	1	1				0.4
Bivalve	<i>Saccostrea cucullata</i>						0%	10%	10%		20%	15%	11%				10%		2%
Bivalve	<i>Septifer virgatus</i>						0%						0%						0%
Bivalve	<i>Ruditapes philippinarum</i>						0						0						0
Crab	<i>Ilyoplax spp.</i>						0						0						0
Crab	<i>Macrophthalmus sp.</i>						0						0						0
Crab	<i>Metaplex longipes</i>						0						0						0
Crab	<i>Parasesarma pictum</i>						0					1	0.8						0
Crab	<i>Uca borealis</i>						0						0						0
Crab	<i>Uca lactea</i>				1		0.8		1				0.8						0
Fish	<i>Periophthalmus modestus</i>						0						0						0
Gastropod	<i>Batillaria multiforum</i>						0						0						0
Gastropod	<i>Batillaria zonalis</i>						0	4	20	11	22	24	64.8	22	14	36	16	60	118.4
Gastropod	<i>Cerithidea cingulata</i>		92	100	36		182.4	30	36		80	72	174.4		51	30	96	18	156.0
Gastropod	<i>Cerithidea diadjarimensis</i>	76	34	64	61	24	207.2	62	40	50	82	176	328.0	24	56	20	60	26	148.8
Gastropod	<i>Cerithidea rhizophorarum</i>				2	4	4.8						0						0
Gastropod	<i>Clithon spp.</i>						0					1	0.8						0
Gastropod	<i>Echinolittorina vidua</i>						0						0						0
Gastropod	<i>Littoraria articulata</i>						0						0						0
Gastropod	<i>Lunella coronata</i>						0						0						0
Gastropod	<i>Monodonta labio</i>						0						0						0
Gastropod	<i>Nassarius festivus</i>	2		3			4.0		25	218	92	35	296.0	50	82	18	20	11	144.8
Gastropod	<i>Nerita chamaeleon</i>						0						0						0
Gastropod	<i>Nerita polita</i>						0						0						0
Gastropod	<i>Terebralia palustris</i>		1				0.8						0						0
Gastropod	<i>Terebralia sulcata</i>	3		5		1	7.2		1				0.8						0
Gastropod	<i>Thais clavigera</i>						0						0		2			1	2.4
Hermit Crab	<i>Clibanarius sp.</i>						0						0						0
Hermit Crab	<i>Diogenes sp.</i>						0						0						0
Worm	<i>Ceratonereis sp.</i>						0						0						0
Worm	<i>Oligochaete sp.</i>						0						0						0
Worm	<i>Sipunculus sp.</i>						0						0						0
Worm	Ribbon Worm sp.						0						0						0



**ERM**

ANNEX J3

EVENT AND ACTION PLAN

*Annex J3 Event and Action Plan for Soft Shore Ecological Monitoring*

Event	Action			
	ET	IEC	ER	Contractor
Density or the distribution pattern of horseshoe crab, seagrass and intertidal soft shore communities recorded in the impact or post-construction monitoring are significantly lower than or different from those recorded in the baseline monitoring.	<ol style="list-style-type: none"> <li>1. Review historical data to ensure differences are as a result of natural variation or previously observed seasonal differences;</li> <li>2. Identify source(s) of impact;</li> <li>3. Inform the IEC, ER and Contractor;</li> <li>4. Check monitoring data;</li> <li>5. Discuss additional monitoring and any other measures, with the IEC, ER and Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET;</li> <li>2. Make agreement on the measures to be implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and in writing;</li> <li>2. Discuss with the ET and the IEC and propose measures to the IEC and the ER;</li> <li>3. Implement the agreed measures;</li> <li>4. Resubmit proposals of remedial actions if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>