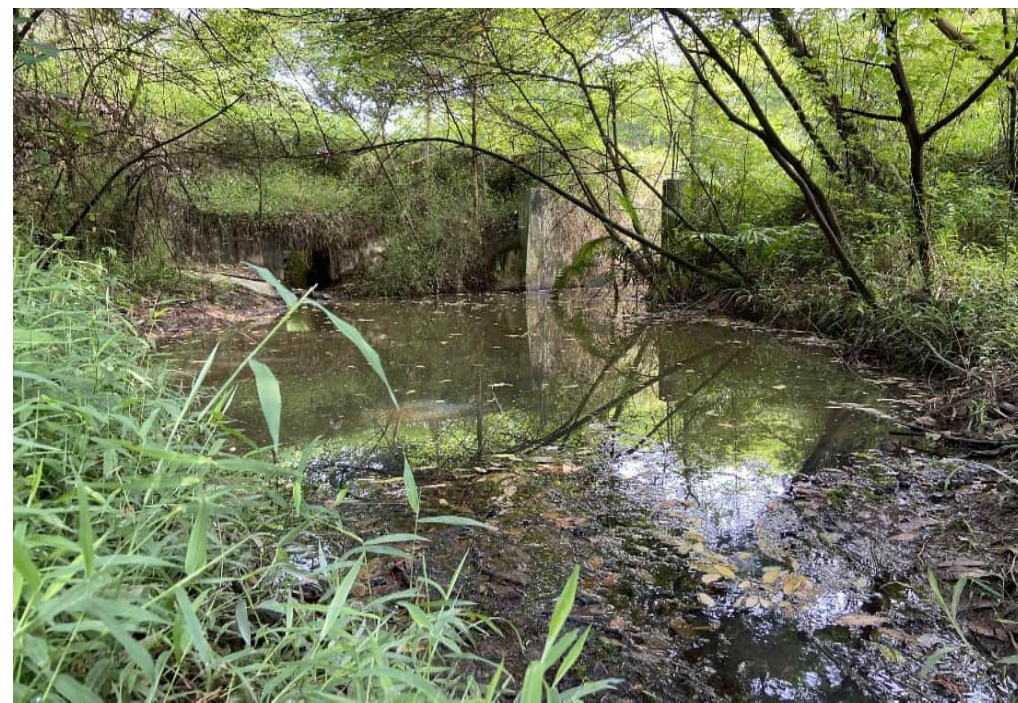
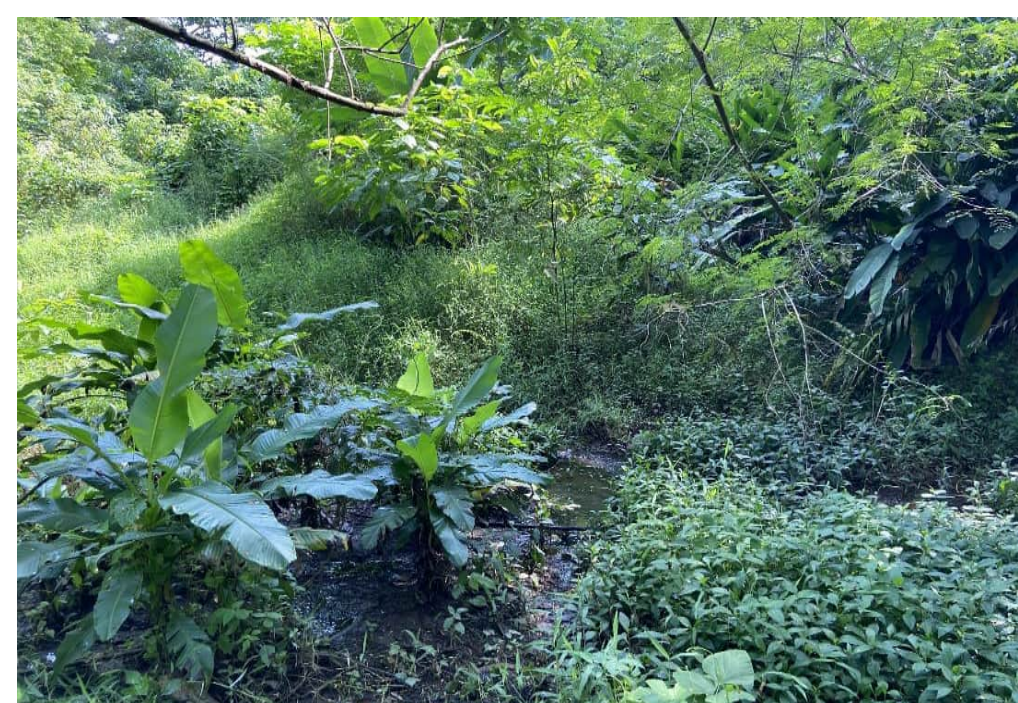
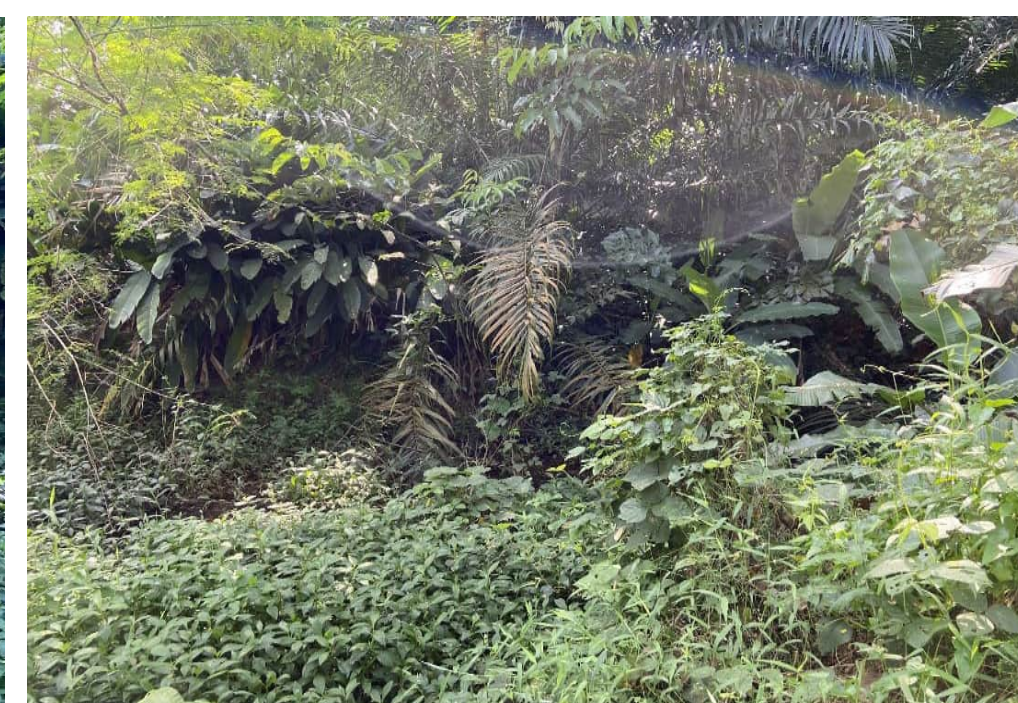
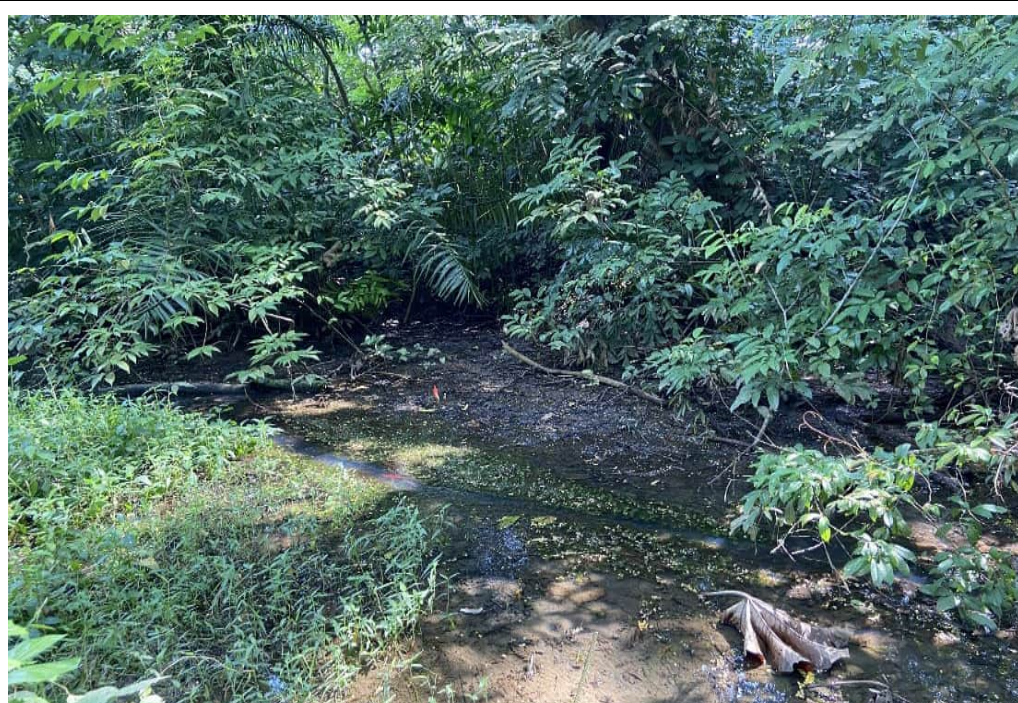
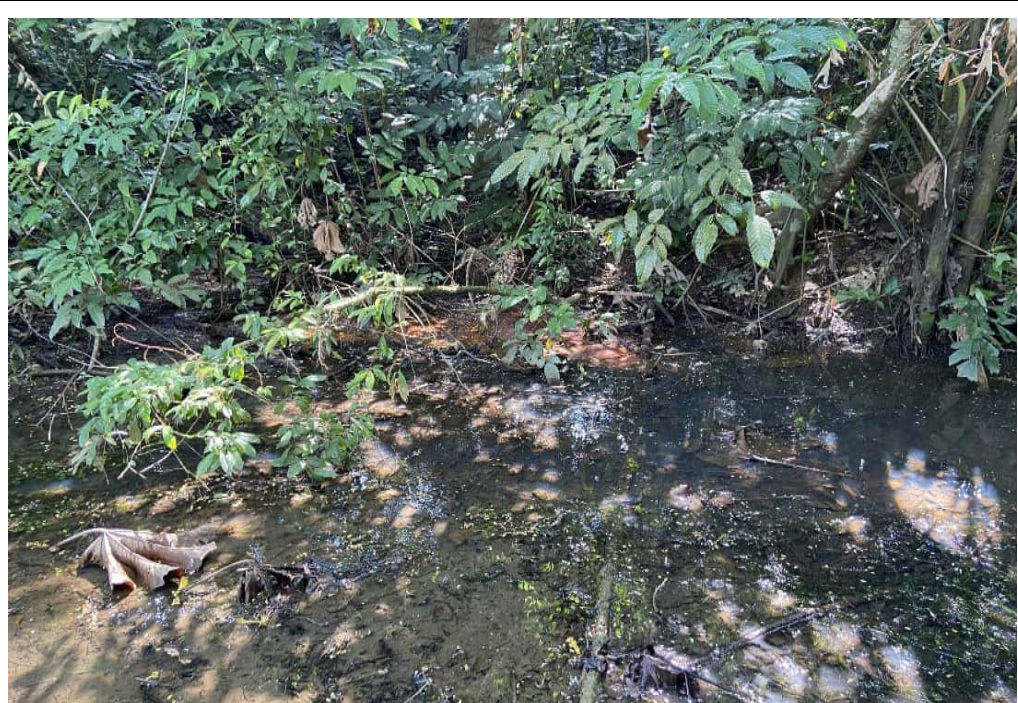
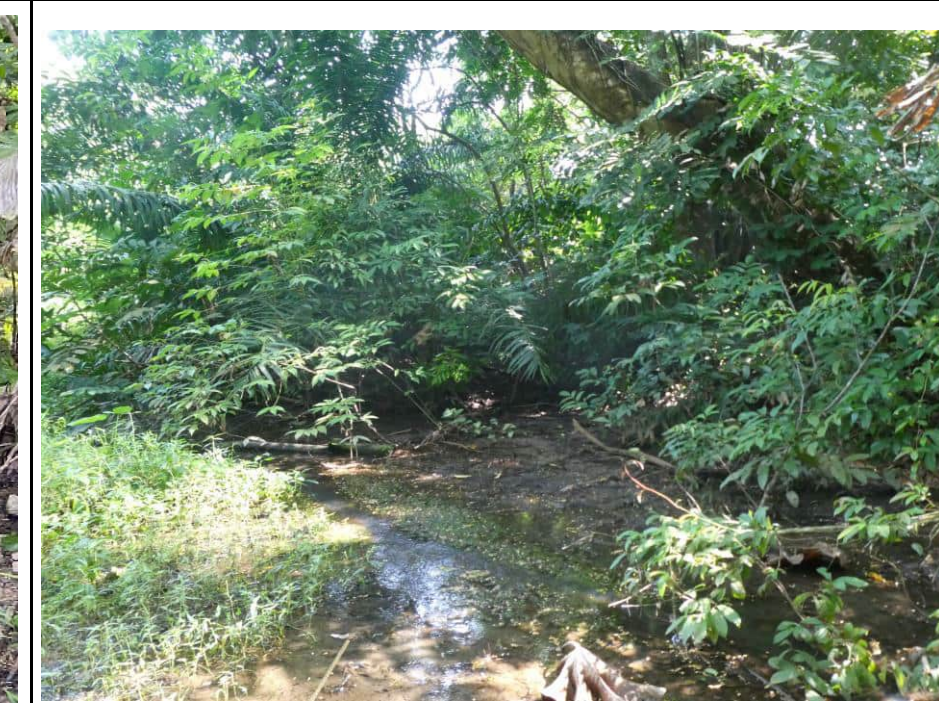
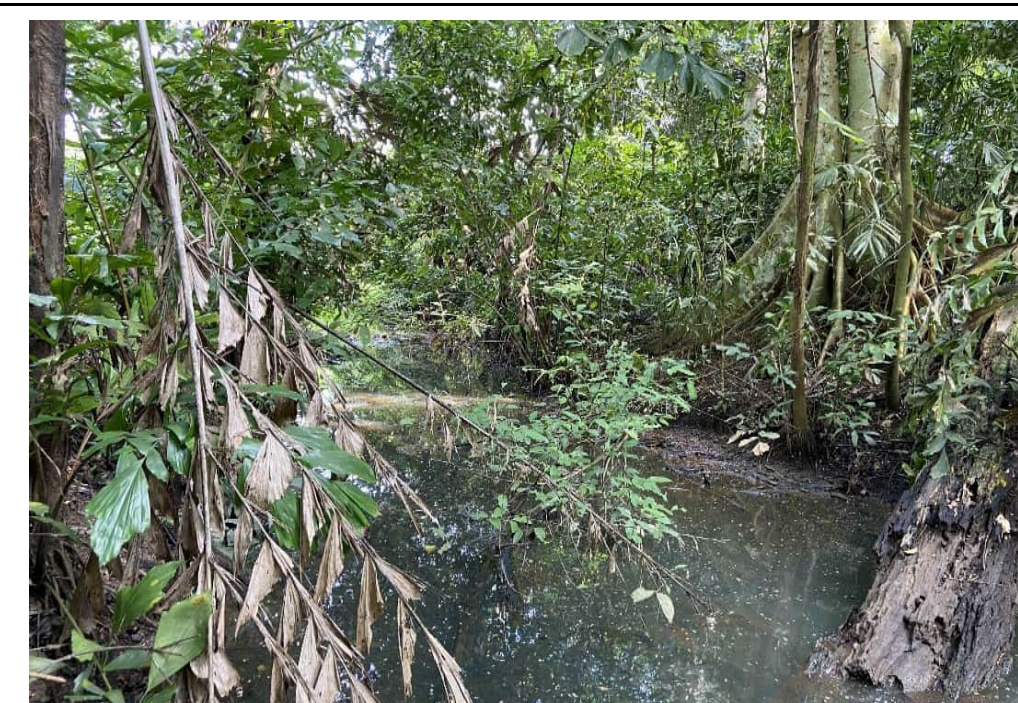
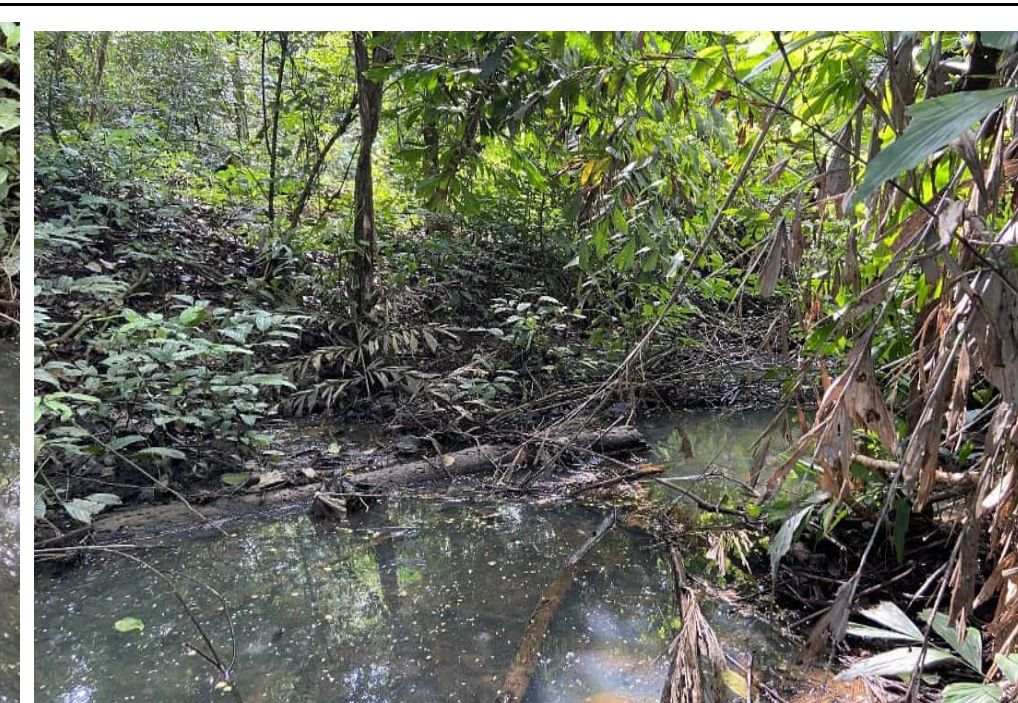
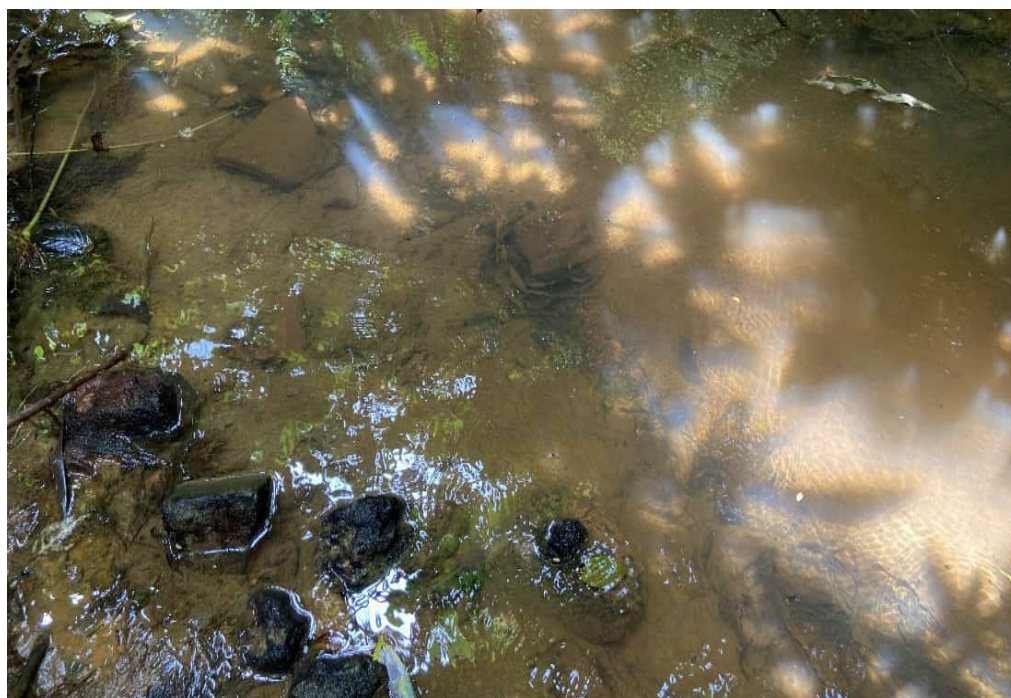
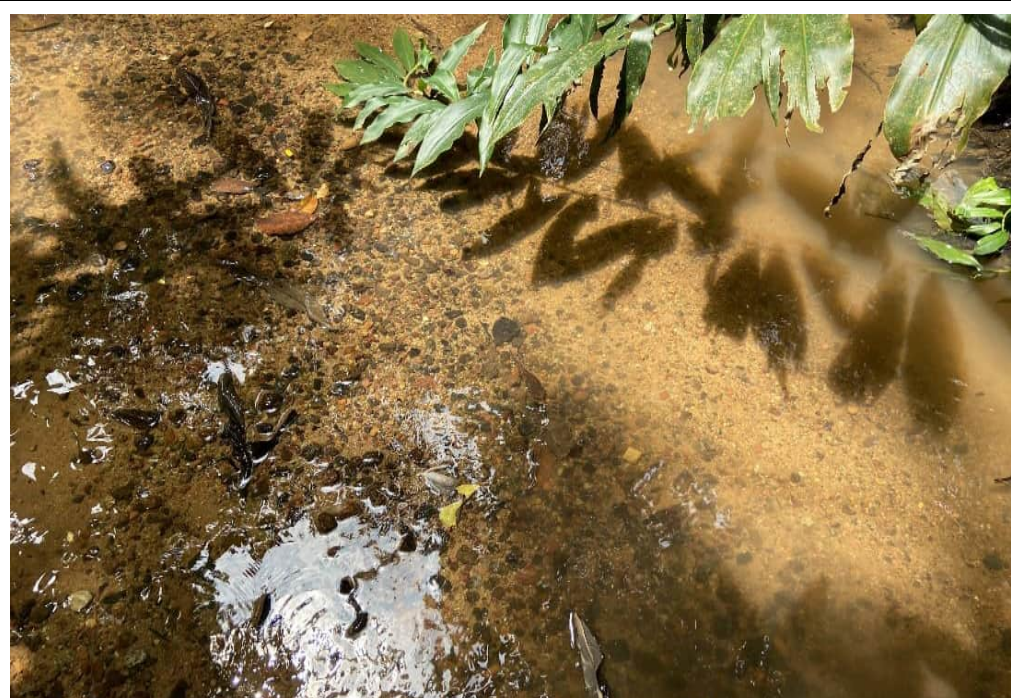
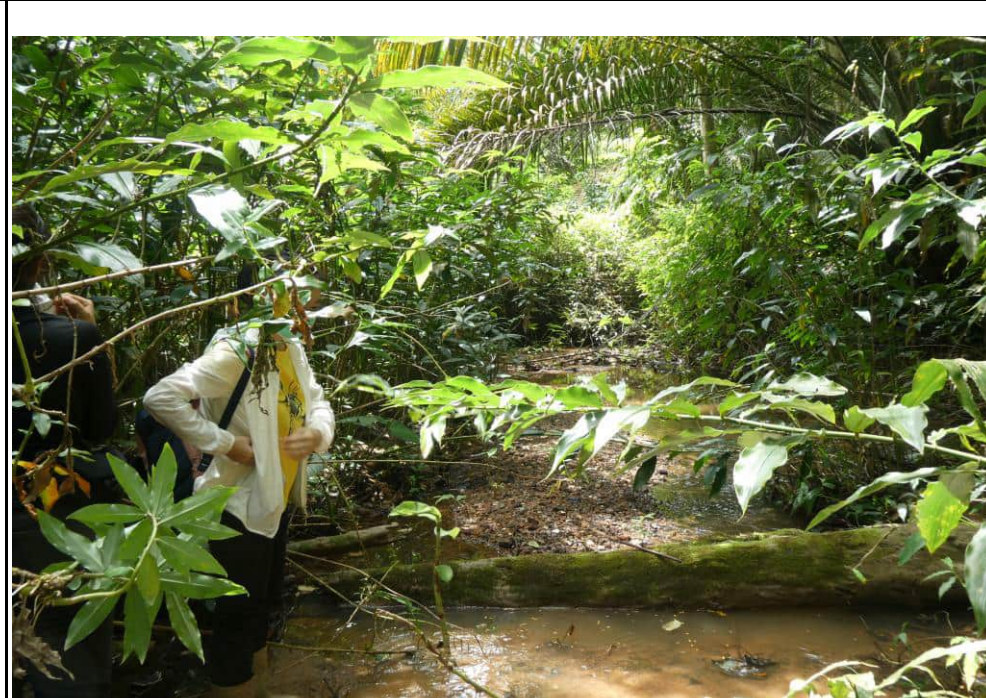
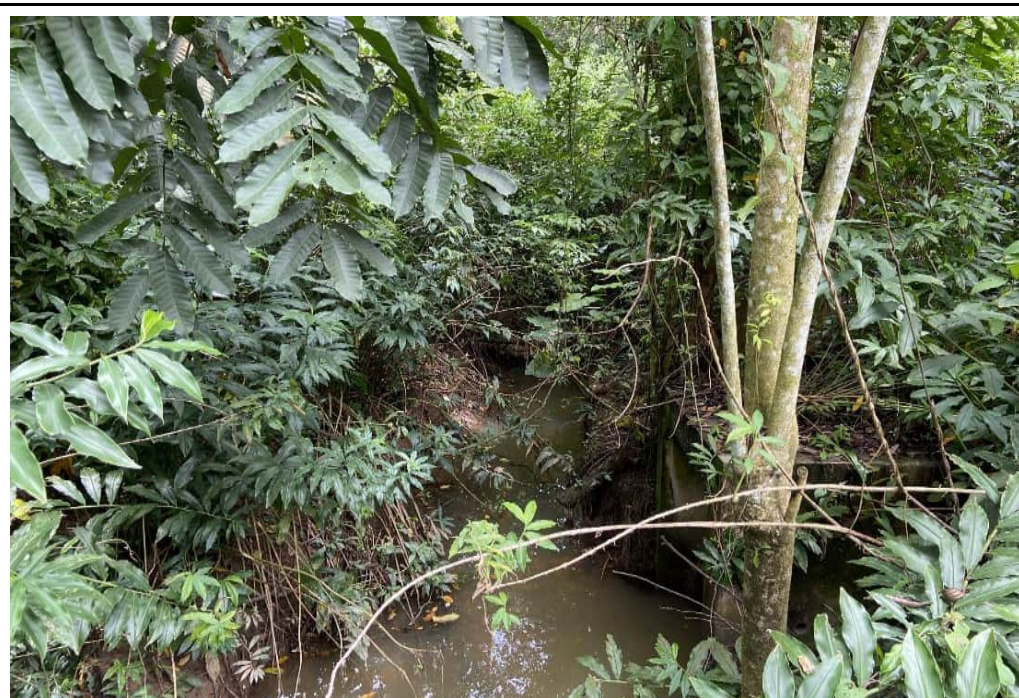


Appendix O Detailed Records of Stream Mapping

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)				Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks																					
AW1	CS14 (Site A)	103.80176	1.34329					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>3.80</td><td>25.96</td><td>25.17</td><td>24.15</td><td>23.79m</td><td>24.41</td><td>24.41</td><td>25.02</td><td>26.02</td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td></td><td></td><td></td><td></td><td>14.51</td><td>16.79</td><td>19.26</td><td></td></tr></table> CROSS SECTION : CS14-CS14' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		3.80	25.96	25.17	24.15	23.79m	24.41	24.41	25.02	26.02	DISTANCE	0.00						14.51	16.79	19.26		5 - 5.8 m	1 - 1.1 m	stagnant	Unable to identify bed substrate type due to deep turbid waters. Likely muddy clay sediments, based on observed bank conditions. Earth banks with different steepness and vegetation cover (i.e. steep earth bank with dense vegetation on one side, and a less-steep earth bank which is covered by coir nets and sparsely covered by vegetation on other bank).	<i>Acrostichum aureum</i> , <i>Davallia denticulata</i> , <i>Cyclosorus polycarpus</i> , <i>Flagellaria indica</i> , <i>Muntingia calabura</i>	5-10%	72.8	No	Water was turbid.
ELEVATION		3.80	25.96	25.17	24.15	23.79m	24.41	24.41	25.02	26.02																													
DISTANCE	0.00						14.51	16.79	19.26																														
AW2	CS15	103.80180	1.3432140					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>5.77</td><td>25.37</td><td>24.90</td><td></td><td>23.54</td><td>23.97m</td><td>23.93</td><td>24.89</td><td>25.99</td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td>8.36</td><td></td><td></td><td>14.66</td><td>15.99</td><td>16.68</td><td>25.00</td><td>27.47</td></tr></table> CROSS SECTION : CS15-CS15' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		5.77	25.37	24.90		23.54	23.97m	23.93	24.89	25.99	DISTANCE	0.00		8.36			14.66	15.99	16.68	25.00	27.47	0.8 -1 m	17 cm	0.05 -0.1 m/s	Clayey bed with a layer of dead leaves. Earth banks with very mild slope and covered with vegetation.	<i>Leea indica</i> , <i>Ottochloa nodosa</i> , <i>Neptunia plena</i> , <i>Muntingia calabura</i> , <i>Pueraria phaseoloides</i>	10-15%	51.8	No	Water was clear.
ELEVATION		5.77	25.37	24.90		23.54	23.97m	23.93	24.89	25.99																													
DISTANCE	0.00		8.36			14.66	15.99	16.68	25.00	27.47																													
AW3	CS16	103.80192	1.3429990					DATUM= 15M <table><tr><td>ELEVATION</td><td></td><td>4.08</td><td>27.07</td><td></td><td>24.91</td><td></td><td>21.91</td><td>20.90</td><td>22.81</td><td>23.81</td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td>4.08</td><td></td><td>4.08</td><td></td><td>14.71</td><td>16.68</td><td>18.65</td><td>20.62</td></tr></table> CROSS SECTION : CS16-CS16' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		4.08	27.07		24.91		21.91	20.90	22.81	23.81	DISTANCE	0.00		4.08		4.08		14.71	16.68	18.65	20.62	8 - 10 m	28 cm	stagnant	Unable to identify bed substrate type due to deep turbid waters. Likely muddy clay sediments, based on observed bank conditions. Asymmetrical earth banks with different steepness and width (i.e. steep earth bank with a shorter width on one side, and earth bank with a longer width and milder slope on the other bank). The bank with milder slope was waterlogged.	<i>Muntingia calabura</i> , <i>Caryota mitis</i> , <i>Leea indica</i> , <i>Ludwigia peruviana</i> , <i>Gluchion Species (like zeylanicum)</i> , <i>Cinnamomum iners</i> , <i>Merremia umbellata</i> , <i>Isachne globosa</i>	0-5%	0	No	
ELEVATION		4.08	27.07		24.91		21.91	20.90	22.81	23.81																													
DISTANCE	0.00		4.08		4.08		14.71	16.68	18.65	20.62																													
AW4	CS17	103.80204	1.3427680					DATUM= 15M <table><tr><td>ELEVATION</td><td></td><td></td><td>24.92</td><td>25.93</td><td>25.93</td><td>23.93</td><td>23.93</td><td>23.93</td><td>24.94</td><td>25.94</td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td>1.96</td><td>3.92</td><td>5.88</td><td>7.84</td><td>9.80</td><td>11.76</td><td>13.72</td><td>15.68</td></tr></table> CROSS SECTION : CS17-CS17' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION			24.92	25.93	25.93	23.93	23.93	23.93	24.94	25.94	DISTANCE	0.00		1.96	3.92	5.88	7.84	9.80	11.76	13.72	15.68	0.2 - 0.5 m	1- 5 cm	0.5 m/s	Bed covered with dead leaves. Many dead logs blocking the stream flow. Earth banks with mild slopes, covered by dense vegetation. Banks are also waterlogged.	<i>Asystasia gangetica</i> ssp. <i>Micrantha</i> , <i>Isachne globosa</i> , <i>Mikania micrantha</i> , <i>Pueraria phaseoloides</i> , <i>Strachum sparganophorum</i> , <i>Musa cultivar</i> , <i>Leucaena leucocephala</i> , <i>Caryota mitis</i> , <i>Heliconia cultivar</i> (Golden Torch) <i>Claoxylon indicum</i>	0	24.2	No	
ELEVATION			24.92	25.93	25.93	23.93	23.93	23.93	24.94	25.94																													
DISTANCE	0.00		1.96	3.92	5.88	7.84	9.80	11.76	13.72	15.68																													
AW5	CS18	103.80210	1.34267					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td></td><td>24.98</td><td>24.90</td><td>23.76</td><td>23.66m</td><td>24.49</td><td>25.02</td><td>25.65</td><td></td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td>6.85</td><td>8.11</td><td>11.11</td><td>14.23</td><td>17.74</td><td>21.28</td><td>23.56</td><td></td></tr></table> CROSS SECTION : CS18-CS18' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION			24.98	24.90	23.76	23.66m	24.49	25.02	25.65		DISTANCE	0.00		6.85	8.11	11.11	14.23	17.74	21.28	23.56		4 - 6 m	2 - 5 cm	stagnant	Bed covered with dead leaves, muddy clay bed substrate. Earth banks with mild slopes, covered with dense vegetation and are waterlogged.	<i>Pueraria phaseoloides</i> , <i>Isachne globosa</i> , <i>Tetracera indica</i> , <i>Leea indica</i> , <i>Caryota mitis</i>	5	69.1	No	
ELEVATION			24.98	24.90	23.76	23.66m	24.49	25.02	25.65																														
DISTANCE	0.00		6.85	8.11	11.11	14.23	17.74	21.28	23.56																														
AW6	CS19	103.80216	1.342537					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td></td><td>24.92</td><td>24.45</td><td>24.17</td><td>23.89m</td><td>24.63</td><td>24.63</td><td>25.22</td><td>25.22</td></tr><tr><td>DISTANCE</td><td>0.00</td><td></td><td>3.15</td><td>6.04</td><td>7.19</td><td>12.43</td><td>13.37</td><td>16.69</td><td>18.65</td><td></td></tr></table> CROSS SECTION : CS19-CS19' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION			24.92	24.45	24.17	23.89m	24.63	24.63	25.22	25.22	DISTANCE	0.00		3.15	6.04	7.19	12.43	13.37	16.69	18.65		3 - 4 m	10 - 20 cm	stagnant	Bed covered with dead leaves. Earth banks with steep slopes, covered with dense vegetation.	<i>Caryota mitis</i> , <i>Piper sarmentosa</i> , <i>Leea indica</i> , <i>Ficus variegata</i> , <i>Ptychosperma macarthurii</i>	0-5%	68.5	No	
ELEVATION			24.92	24.45	24.17	23.89m	24.63	24.63	25.22	25.22																													
DISTANCE	0.00		3.15	6.04	7.19	12.43	13.37	16.69	18.65																														

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)				Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks																							
AW7	CS20	103.80229	1.342273					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>4.46</td><td>25.12</td><td>24.87</td><td>23.83</td><td>11.51</td><td>23.78m</td><td>12.88</td><td>24.21</td><td>25.38</td><td>25.63</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>4.60</td><td>9.50</td><td>10.03</td><td>11.51</td><td>12.88</td><td>17.22</td><td>19.54</td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS20-CS20' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		4.46	25.12	24.87	23.83	11.51	23.78m	12.88	24.21	25.38	25.63	DISTANCE	0.00	4.60	9.50	10.03	11.51	12.88	17.22	19.54				3 - 6 m	10 - 20 cm	stagnant	Bed covered with dead leaves. Assymmetric earth banks (i.e. steep earth bank with a shorter width on one side, and earth bank with a longer width and milder slope on the other bank), covered by dense vegetation. Banks are waterlogged.	<i>Ficus heteropleura</i> , <i>Elea's guineensis</i> , <i>Leucaena leucocephala</i> , <i>Quisqualis cf. indica</i> , <i>Delinia suffruticosa</i> , <i>Leea indica</i>	5	60.6	No	
ELEVATION		4.46	25.12	24.87	23.83	11.51	23.78m	12.88	24.21	25.38	25.63																														
DISTANCE	0.00	4.60	9.50	10.03	11.51	12.88	17.22	19.54																																	
AW8	CS24	103.80253	1.341683					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>4.60</td><td>26.64</td><td>25.88</td><td>24.49</td><td>13.97</td><td>23.57m</td><td>12.94</td><td>24.32</td><td>24.47</td><td>27.76</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>9.79</td><td>13.97</td><td>15.84</td><td>18.76</td><td>24.44</td><td>30.18</td><td></td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS24-CS24' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		4.60	26.64	25.88	24.49	13.97	23.57m	12.94	24.32	24.47	27.76	DISTANCE	0.00	9.79	13.97	15.84	18.76	24.44	30.18					3 - 5 m	20 - 40 cm	stagnant	Bed covered with dead leaves. Earth banks with mild slopes, covered by dense vegetation. Banks are waterlogged.	<i>Aglaonema commutatum</i> , <i>Leea indica</i> , <i>Caryota mitis</i>	5	48.5	No	Layer of oil observed near the banks.
ELEVATION		4.60	26.64	25.88	24.49	13.97	23.57m	12.94	24.32	24.47	27.76																														
DISTANCE	0.00	9.79	13.97	15.84	18.76	24.44	30.18																																		
AW9	CS25	103.80247	1.341469					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>5.12</td><td>27.59</td><td>25.49</td><td>23.79</td><td>18.84</td><td>23.56m</td><td>17.51</td><td>24.04</td><td>25.28</td><td>28.15</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>10.88</td><td>14.73</td><td>16.84</td><td>18.84</td><td>23.56m</td><td>28.85</td><td></td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS25-CS25' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		5.12	27.59	25.49	23.79	18.84	23.56m	17.51	24.04	25.28	28.15	DISTANCE	0.00	10.88	14.73	16.84	18.84	23.56m	28.85					1.5 - 3 m	30 - 40 cm	stagnant	Bed covered with rocks of various sizes and dead tree branches. Earth banks with steep slopes, covered with dense vegetation and rocks.	<i>Alcoccia macrorrhizos</i> , <i>Ptychosperma macarthurii</i> , <i>Leea indica</i> , <i>Aglaonema commutatum</i> , <i>Piper sarmentosa</i> , <i>Ficus heteropleura</i>	0-5%	37.9	No	Less leaf litter in the stream bed than before.
ELEVATION		5.12	27.59	25.49	23.79	18.84	23.56m	17.51	24.04	25.28	28.15																														
DISTANCE	0.00	10.88	14.73	16.84	18.84	23.56m	28.85																																		
AW10	CS26	103.80245	1.341337					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>3.74</td><td>27.41</td><td>27.03</td><td>23.81</td><td>13.87</td><td>23.59m</td><td>14.37</td><td>24.37</td><td>24.73</td><td>26.63</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>7.71</td><td>11.87</td><td>13.71</td><td>15.51</td><td>21.00</td><td>23.92</td><td></td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS26-CS26' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		3.74	27.41	27.03	23.81	13.87	23.59m	14.37	24.37	24.73	26.63	DISTANCE	0.00	7.71	11.87	13.71	15.51	21.00	23.92					1 - 1.5 m	5 - 10 cm	0.5 m/s	Sandy bed, covered with rocks of various sizes. Earth banks with steep slopes, covered with dense vegetation and rocks.	<i>Leea indica</i> , <i>Aphananix polystachya</i> , <i>Bridelia tomentosa</i> , <i>Christella sp.</i>	0-5%	50.8	Yes	360
ELEVATION		3.74	27.41	27.03	23.81	13.87	23.59m	14.37	24.37	24.73	26.63																														
DISTANCE	0.00	7.71	11.87	13.71	15.51	21.00	23.92																																		
AW11	CS28	103.80254	1.341052					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>8.34</td><td>27.00</td><td>26.47</td><td>23.96</td><td>14.81</td><td>23.06m</td><td>18.51</td><td>23.52</td><td>26.57</td><td>28.21</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>11.28</td><td>14.81</td><td>16.81</td><td>18.51</td><td>26.09</td><td>29.54</td><td></td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS28-CS28' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		8.34	27.00	26.47	23.96	14.81	23.06m	18.51	23.52	26.57	28.21	DISTANCE	0.00	11.28	14.81	16.81	18.51	26.09	29.54					1 - 3 m	5 - 10 cm	0.5 m/s	Sandy bed, covered with rocks of various sizes. Rocks were covered with algae. Earth banks with steep slopes, covered with dense vegetation and rocks.	<i>Leea indica</i> , <i>Claoxylon indicum</i> , <i>Christella sp.</i> , <i>Alcoccia macrorrhizos</i> , <i>Asystasia gangetica ssp. Micrantha</i> , <i>Caryota mitis</i>	0-5%	72.5	Yes	360
ELEVATION		8.34	27.00	26.47	23.96	14.81	23.06m	18.51	23.52	26.57	28.21																														
DISTANCE	0.00	11.28	14.81	16.81	18.51	26.09	29.54																																		
AW12	CS31	103.80277	1.340576					DATUM= 15 M <table><tr><td>ELEVATION</td><td></td><td>3.18</td><td>27.88</td><td>26.81</td><td>23.76</td><td>13.23</td><td>21.87m</td><td>16.78</td><td>23.02</td><td>26.94</td><td>28.52</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>8.33</td><td>13.23</td><td>15.53</td><td>18.78</td><td>23.50</td><td>28.13</td><td></td><td></td><td></td><td></td></tr></table> CROSS SECTION : CS30-CS30' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION		3.18	27.88	26.81	23.76	13.23	21.87m	16.78	23.02	26.94	28.52	DISTANCE	0.00	8.33	13.23	15.53	18.78	23.50	28.13					1 - 1.7m	8 - 22cm	0.02 - 0.03m/s	Sandy bed with many rocks of various sizes and some dead leaves. Discarded concrete blocks observed near the edges of the banks. Earth banks with steep slopes, covered with dense vegetation.	<i>Leea indica</i> , <i>Piper sarmentosa</i> , <i>Ficus fistulosa</i> , <i>Caryota mitis</i>	5-10%	80.30%	Yes	
ELEVATION		3.18	27.88	26.81	23.76	13.23	21.87m	16.78	23.02	26.94	28.52																														
DISTANCE	0.00	8.33	13.23	15.53	18.78	23.50	28.13																																		

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)				Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks
AW13	CS33	103.80277	1.340179						1 - 2m	4 - 10cm	0.25 m/s	Sandy bed with large rocks and broken bricks. Earth banks with steep slope, covered with vegetation.	<i>Leea indica</i> , <i>Piper sarmentosa</i> , <i>Cyclosorus polycarpus</i>	5-10%	71.20%	Yes		
AW14	CS34	103.80273	1.339914						1 - 2m	8 - 20cm	0.08 m/s	Sandy bed, with numerous rocks of various sizes. Broken slabs of concrete and bricks were present in the stream as well. Earth banks with steep slope, covered by dense vegetation.	<i>Caryota mitis</i> , <i>Piper sarmentosa</i> , <i>Leea indica</i> , <i>Christella dentata</i>	0-5%	83.50%	Yes		
AW15	CS36	103.80284	1.339667						2 - 3 m	10 cm	0.2 - 0.25 m/s	Sandy bed with a few small and medium size rocks. Earth banks with relatively gentle slope covered with dense vegetation.	<i>Albizia macrorrhizos</i> , <i>Cyclosorus polycarpus</i> , <i>Piper sarmentosa</i> , <i>Commelina diffusa</i> , <i>Leea indica</i> , <i>Pipturus argenteus</i> , <i>Pueraria phaseoloides</i> , <i>Cheilocostus speciosus</i>	5	40.9	No	After this point (AW15), the stream splits into two distributaries, as shown by the photo of the downstream. - Point AW17 and AW18 are mapping points located along the 1st distributary (i.e. has a larger flow) which is located on the left in	
AW16	CS37	103.80297	1.339321						0.4 - 1m	3 - 5cm	0.1 m/s	Sandy bed with small rocks. Presence of litter (e.g. amber glass bottle). Earth banks with gentle slope, covered by vegetation. Presence of broken glass along the banks as well.	<i>Cheilocostus speciosus</i> , <i>Spathodea campanulata</i> , <i>Albizia latebrosa</i> , <i>Aphananix polystachya</i> , <i>Albizia macrorrhizos</i>	5-10%	51.7	No	As mentioned above, the tributary merges with the 2nd distributary (i.e. has a smaller flow) at this point.	
AW17	CS37	103.80302	1.339502						1 - 1.5m	5 - 20cm	0.07 m/s	Sandy bed with numerous medium and large rocks. Earth banks with very mild slopes (i.e. nearly flat), covered with dense vegetation.	<i>Cheilocostus speciosus</i> , <i>Pueraria phaseoloides</i> , <i>Leea indica</i> , <i>Flagellaria indica</i> , <i>Piper betle</i> , <i>Syzgium polyanthum</i>	0-5%	77.40%	No	A mapping point along the 1st distributary.	
AW18	-	103.80308	1.339317					Similar as AW17	1 - 1.2m	2 - 15 cm	0.15 m/s	Sandy bed with many medium and small rocks. Plant roots were observed in the water as well. Earth banks with very mild slopes (i.e. nearly flat), covered with dense vegetation.	<i>Cheilocostus speciosus</i> , <i>Pueraria phaseoloides</i> , <i>Manihot carthagenensis</i> ssp. <i>glaziovii</i>	0-5%	89.90%	No	A mapping point along the 1st distributary.	

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)	Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks
AW19	CS39	103.80314	1.339176	Tributary + 2nd Distributary 1st Distributary Confluence 1st Distributary Tributary + 2nd Distributary Confluence Downstream 	1) 1st distributary: 0.5 m 2) tributary + 2nd distributary: 0.5 - 1 m 3) at the confluence: 1.5 m 4) downstream of the confluence: 2-3m 1) 1st distributary: y: 5 - 7cm 2) tributary + 2nd distributary: y: 2-3 cm 3) at the confluence: 25 cm 4) downstream of the confluence: 10-25 cm 1) 1st distributary: 0.3 m/s 2) tributary + 2nd distributary: 0.1 m/s 3) at the confluence: Not Applicable 4) downstream of the confluence: 0.15 m/s 1) 1st distributary: sandy bed with many medium-large rocks and broken bricks. Earth banks with very mild slopes, covered with vegetation. 2) tributary + 2nd distributary: sandy bed with some small rocks. Presence of litter. Earth banks with asymmetrical slopes (e.g. one is mild slope gradient, while the other very mild slope gradient), covered with vegetation. 3) at the confluence: sandy bed with a few rocks of various sizes. Earth banks with asymmetrical slopes (e.g. one is mild slope gradient, while the other very mild slope gradient), covered with vegetation. <i>Leea indica</i>, <i>Alcoccia macrorrhizos</i>, <i>Cheilocostus speciosus</i>, <i>Cinnamomum iners</i>, <i>Caryota mitis</i>, <i>Syzygium grande</i> 5 80.4 No 3) at the confluence: stream depth is significantly deeper due to turbulent mixing from the merging of the flows.										
AW20	CS40	103.80331	1.339028	   	1) 1st distributary: 0.5 m 2) tributary + 2nd distributary: 0.5 - 1 m 3) at the confluence: 1.5 m 4) downstream of the confluence: 2-3 m 1) 1st distributary: y: 5 - 7cm 2) tributary + 2nd distributary: y: 2-3 cm 3) at the confluence: 25 cm 4) downstream of the confluence: 10-25 cm 1) 1st distributary: 0.3 m/s 2) tributary + 2nd distributary: 0.1 m/s 3) at the confluence: Not Applicable 4) downstream of the confluence: 0.15 m/s 1) 1st distributary: Sandy bed with some dead leaves. Earth banks with very mild slopes, covered with dense vegetation. <i>Elaeis guineensis</i>, <i>Caryota mitis</i>, <i>Cheilocostus speciosus</i>, <i>Stenochlaena palustris</i>, <i>Syngonium podophyllum</i> 50 65.1 No A vegetation strip running through the middle of the stream separates it into two sections: one stagnant and the other with flow. The stagnant section was captured in this stream mapping, due to its larger area. Water from this stagnant area										
AW21	CS41	103.80342	1.338909	   	1) 1st distributary: 0.5 m 2) tributary + 2nd distributary: 0.5 - 1 m 3) at the confluence: 1.5 m 4) downstream of the confluence: 2-3 m 1) 1st distributary: y: 5 - 7cm 2) tributary + 2nd distributary: y: 2-3 cm 3) at the confluence: 25 cm 4) downstream of the confluence: 10-25 cm 1) 1st distributary: 0.3 m/s 2) tributary + 2nd distributary: 0.1 m/s 3) at the confluence: Not Applicable 4) downstream of the confluence: 0.15 m/s 1) 1st distributary: Sandy bed with a few large rocks. Earth banks with very mild slopes, covered with dense vegetation. <i>Cheilocostus speciosus</i>, <i>Syngonium podophyllum</i>, <i>Cinnamomum iners</i>, <i>Nephellium lippaceum</i> 0 70.5 No										
AW22	CS42	103.80360	1.33864	   	1) 1st distributary: 0.5 m 2) tributary + 2nd distributary: 0.5 - 1 m 3) at the confluence: 1.5 m 4) downstream of the confluence: 2-3 m 1) 1st distributary: y: 5 - 7cm 2) tributary + 2nd distributary: y: 2-3 cm 3) at the confluence: 25 cm 4) downstream of the confluence: 10-25 cm 1) 1st distributary: 0.3 m/s 2) tributary + 2nd distributary: 0.1 m/s 3) at the confluence: Not Applicable 4) downstream of the confluence: 0.15 m/s 1) 1st distributary: Sandy-rocky bed, as there are many small rocks present which mixes well with the sand. Earth banks with very mild slopes, covered with dense vegetation. <i>Cheilocostus speciosus</i>, <i>Syngonium podophyllum</i>, <i>Alcoccia macrorrhizos</i>, <i>Elaeis guineensis</i> 5 67.1 No										
AW23	CS43	103.80375	1.338335	  Flows across the Eng Neo Avenue via an underground culvert and into this wide drain  	1) 1st distributary: 0.5 m 2) tributary + 2nd distributary: 0.5 - 1 m 3) at the confluence: 1.5 m 4) downstream of the confluence: 2-3 m 1) 1st distributary: y: 5 - 7cm 2) tributary + 2nd distributary: y: 2-3 cm 3) at the confluence: 25 cm 4) downstream of the confluence: 10-25 cm 1) 1st distributary: 0.3 m/s 2) tributary + 2nd distributary: 0.1 m/s 3) at the confluence: Not Applicable 4) downstream of the confluence: 0.15 m/s 1) 1st distributary: Concrete drain with a sandy bed and dead leaves. Flow discharges via a weir downstream. Earth banks with mild slopes just upstream of this discharge outlet. <i>Cheilocostus speciosus</i>, <i>Aphanamix polystachya</i>, <i>Syngonium podophyllum</i>, <i>Alcoccia macrorrhizos</i>, <i>Acalypha siamensis</i> 30 68.1 Yes The outlet at AW23 discharges to the wide concrete drain, as shown by the downstream photo.										

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)			Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks																				
AW24	CS56	103.80093	1.338528					DATUM= 15 M <table><tr><td>ELEVATION</td><td>4.70</td><td>24.52</td><td>23.03</td><td>23.33</td><td>23.33</td><td>23.34</td><td>23.87</td><td>23.54</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>7.53</td><td>9.87</td><td>10.54</td><td>20.20m</td><td>23.34</td><td>17.97</td><td>19.00</td></tr></table> CROSS SECTION : CS56-CS56' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	4.70	24.52	23.03	23.33	23.33	23.34	23.87	23.54	DISTANCE	0.00	7.53	9.87	10.54	20.20m	23.34	17.97	19.00	-	-	-	Waterlogged area with vegetation. Ground was soft and muddy, without significantly large surface ponding was observed.	-	-	-				
ELEVATION	4.70	24.52	23.03	23.33	23.33	23.34	23.87	23.54																													
DISTANCE	0.00	7.53	9.87	10.54	20.20m	23.34	17.97	19.00																													
AW25	CS55	103.80096	1.338739					DATUM= 15 M <table><tr><td>ELEVATION</td><td>8.13</td><td>21.93</td><td>9.84</td><td>21.97</td><td>22.56</td><td>22.56</td><td>22.56</td><td>22.56</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>12.16</td><td>15.40</td><td>19.73</td><td>23.92</td><td>23.92</td><td>23.92</td><td>23.92</td></tr></table> CROSS SECTION : CS55-CS55' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	8.13	21.93	9.84	21.97	22.56	22.56	22.56	22.56	DISTANCE	0.00	12.16	15.40	19.73	23.92	23.92	23.92	23.92	0.5 - 1.5 m	1 - 2 cm	stagnant	Flat low-lying area (i.e. elevations are lower relative to its surroundings). Area is suspected to be completely waterlogged.	<i>Piper sarmentosa</i> , <i>Leea indica</i> , <i>Elaeis guineensis</i> , <i>Caryota mitis</i>	20	67.4	No			
ELEVATION	8.13	21.93	9.84	21.97	22.56	22.56	22.56	22.56																													
DISTANCE	0.00	12.16	15.40	19.73	23.92	23.92	23.92	23.92																													
AW26	CS54	103.80113	1.33876					DATUM= 10 M <table><tr><td>ELEVATION</td><td>4.59</td><td>21.86</td><td>15.52</td><td>21.86</td><td>21.87m</td><td>21.85</td><td>22.95</td><td>23.33</td><td>23.32</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>5.56</td><td>15.52</td><td>16.52</td><td>17.27</td><td>20.75</td><td>22.95</td><td>22.95</td><td>23.32</td></tr></table> CROSS SECTION : CS54-CS54' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	4.59	21.86	15.52	21.86	21.87m	21.85	22.95	23.33	23.32	DISTANCE	0.00	5.56	15.52	16.52	17.27	20.75	22.95	22.95	23.32	4 - 5 m	2 - 5 cm	stagnant	Clayey bed. Earth banks with mild slopes covered with vegetation. Flat low-lying area.	<i>Leea indica</i> , <i>Piper sarmentosa</i> , <i>Caryota mitis</i> , <i>Elaeis guineensis</i> , <i>Cinnamomum iners</i> , <i>Spathodea campanulata</i> , <i>Flagellaria indica</i>	40	49.9	Yes	Water was relatively turbid, with presence of cloudy brown organic matter. Oil-like sheen was observed on the water surface.
ELEVATION	4.59	21.86	15.52	21.86	21.87m	21.85	22.95	23.33	23.32																												
DISTANCE	0.00	5.56	15.52	16.52	17.27	20.75	22.95	22.95	23.32																												
AW27	CS53	103.80133	1.338752					DATUM= 10 M <table><tr><td>ELEVATION</td><td>10.09</td><td>21.85</td><td>16.52</td><td>21.87m</td><td>21.85</td><td>21.85</td><td>22.95</td><td>23.33</td><td>23.32</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>3.02</td><td>10.09</td><td>16.52</td><td>20.52</td><td>22.95</td><td>22.95</td><td>23.33</td><td>23.32</td></tr></table> CROSS SECTION : CS53-CS53' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	10.09	21.85	16.52	21.87m	21.85	21.85	22.95	23.33	23.32	DISTANCE	0.00	3.02	10.09	16.52	20.52	22.95	22.95	23.33	23.32	8.5 m	20 - 30 cm	stagnant	Clayey bed with a layer of dead leaves and some branches/forest debris. Earth banks with very mild slopes that are covered with vegetation.	<i>Colocasia esculenta</i> , <i>Nepenthes biserrata</i> , <i>Leea indica</i> , <i>Mikania micrantha</i> , <i>Acrostichum aureum</i> , <i>Cinnamomum iners</i> , <i>Flagellaria indica</i> , <i>Spathodea campanulata</i> , <i>Ischaemum sp.</i>	5-10%	49.8	No	Water was relatively turbid.
ELEVATION	10.09	21.85	16.52	21.87m	21.85	21.85	22.95	23.33	23.32																												
DISTANCE	0.00	3.02	10.09	16.52	20.52	22.95	22.95	23.33	23.32																												
AW28	CS51	103.80157	1.338808					DATUM= 10 M <table><tr><td>ELEVATION</td><td>4.70</td><td>22.04</td><td>16.70</td><td>21.27</td><td>20.86m</td><td>21.36</td><td>21.36</td><td>21.36</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>4.70</td><td>16.70</td><td>17.54</td><td>20.86m</td><td>19.29</td><td>20.86</td><td>20.86</td></tr></table> CROSS SECTION : CS51-CS51' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	4.70	22.04	16.70	21.27	20.86m	21.36	21.36	21.36	DISTANCE	0.00	4.70	16.70	17.54	20.86m	19.29	20.86	20.86	1 - 5 m	5 - 10cm	stagnant	Clayey bed with some dead leaves. Earth banks with very mild slope that are covered with vegetation.	<i>Piper sarmentosa</i> , <i>Caryota mitis</i> , <i>Psychosperma macarthurii</i> , <i>Cinnamomum iners</i> , <i>Elaeis guineensis</i> , <i>Syzygium myrtifolium</i>	40	71.6	No	Presence of cloudy brown organic matter.		
ELEVATION	4.70	22.04	16.70	21.27	20.86m	21.36	21.36	21.36																													
DISTANCE	0.00	4.70	16.70	17.54	20.86m	19.29	20.86	20.86																													
AW29	CS50	103.80170	1.338913					Cross-section just upstream of AW29. DATUM= 10 M <table><tr><td>ELEVATION</td><td>5.99</td><td>21.02</td><td>9.87</td><td>22.14</td><td>20.33</td><td>19.89m</td><td>20.37</td><td>20.79</td></tr><tr><td>DISTANCE</td><td>0.00</td><td>5.99</td><td>12.22</td><td>13.65</td><td>15.92</td><td>19.89</td><td>20.37</td><td>20.79</td></tr></table> CROSS SECTION : CS50-CS50' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION	5.99	21.02	9.87	22.14	20.33	19.89m	20.37	20.79	DISTANCE	0.00	5.99	12.22	13.65	15.92	19.89	20.37	20.79	1 - 1.5 m	10 - 15cm	stagnant	Sandy bed, with some dead leaves. Mapping point was at a point where there was a sharp decrease in elevation ("waterfall"), where the upstream had steep earth banks and the mapped point and its downstream had earth banks with mild slopes. Earth banks were covered with vegetation.	<i>Leea indica</i> , <i>Psychosperma macarthurii</i> , <i>Adiantum cf. latifolium</i>	10	52.3	Yes	Oil-like sheen was observed on the water surface.		
ELEVATION	5.99	21.02	9.87	22.14	20.33	19.89m	20.37	20.79																													
DISTANCE	0.00	5.99	12.22	13.65	15.92	19.89	20.37	20.79																													

Stream Mapping Point No.	Cross-section No.	Longitude	Latitude	Photo (In the order of: Upstream, Stream Bed and Downstream)			Photos of Cross-section	Cross-section	Channel Wetted Width	Stream Depth	Flow Velocity (dry weather)	Bed Substrate and Bank Conditions	Riparian Vegetation	Leaf Litter Cover (%)	Canopy Cover (%)	Soil Erosion	Remarks																																																								
AW30	CS49	103.80185	1.339072					DATUM= 10 M <table><tr><td>ELEVATION</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>0.00</td><td>3.82</td><td>20.81</td><td>19.81</td><td>18.41m</td><td>19.83</td></tr><tr><td>DISTANCE</td><td></td><td></td><td>6.81</td><td>10.05</td><td>13.01</td><td>17.34</td></tr></table> CROSS SECTION : CS49-CS49' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION								0.00	3.82	20.81	19.81	18.41m	19.83	DISTANCE			6.81	10.05	13.01	17.34	0.4 - 1.5 m	2 - 5 cm	0.1 m/s	Sandy bed, with some medium size rocks and forest debris. Earth banks with moderately steep banks that are covered with vegetation.	<i>Alcassia macrorrhizos</i> , <i>Flagellaria indica</i> , <i>Caryota mitis</i> , <i>Leea indica</i> , <i>Ficus heteropleura</i> , <i>Christella</i> sp., <i>Asplenium nidus</i> , <i>Psychosperma macarthurii</i>	0-5%	57.8	Yes																																				
ELEVATION																																																																									
	0.00	3.82	20.81	19.81	18.41m	19.83																																																																			
DISTANCE			6.81	10.05	13.01	17.34																																																																			
AW31	CS47	103.80218	1.339158					DATUM= 5 M <table><tr><td>ELEVATION</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>0.00</td><td>2.71</td><td>18.14</td><td>17.79</td><td>16.67m</td><td>18.80</td></tr><tr><td>DISTANCE</td><td></td><td></td><td>8.37</td><td>11.79</td><td>18.43</td><td>21.17</td></tr><tr><td></td><td></td><td></td><td>9.87</td><td>13.79</td><td>19.43</td><td>22.21</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>23.50</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>29.68</td></tr></table> CROSS SECTION : CS47-CS47' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION								0.00	2.71	18.14	17.79	16.67m	18.80	DISTANCE			8.37	11.79	18.43	21.17				9.87	13.79	19.43	22.21							23.50							29.68	0.5 - 1 m	5 cm	0.1 m/s	Sandy bed with some medium and large rocks. Earth banks with steep slopes, and banks are waterlogged and covered with vegetation.	<i>Eppremnum aureum</i> , <i>Leea indica</i> , <i>Ficus fistulosa</i> , <i>Spathodea campanulata</i> , <i>Piper sarmentosa</i> , <i>Caryota mitis</i> , <i>Christella</i> sp., <i>Erycibe tomentosa</i> , <i>Elaeis guineensis</i>	10	67	Yes															
ELEVATION																																																																									
	0.00	2.71	18.14	17.79	16.67m	18.80																																																																			
DISTANCE			8.37	11.79	18.43	21.17																																																																			
			9.87	13.79	19.43	22.21																																																																			
						23.50																																																																			
						29.68																																																																			
AW32	CS46	103.80231	1.339168					DATUM= 5 M <table><tr><td>ELEVATION</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>0.00</td><td>5.98</td><td>18.80</td><td>18.98</td><td>18.93</td><td>18.62</td></tr><tr><td>DISTANCE</td><td></td><td></td><td>8.20</td><td>22.81</td><td>29.71</td><td>34.94</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>31.82</td><td>35.67m</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>17.41</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>28.50</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>40.84</td></tr></table> CROSS SECTION : CS46-CS46' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION								0.00	5.98	18.80	18.98	18.93	18.62	DISTANCE			8.20	22.81	29.71	34.94						31.82	35.67m							17.41							28.50							40.84	0.5 - 1 m	2 - 5 cm	0.1 m/s	Sandy bed with many rocks of various sizes and some dead leaves. Earth banks with steep slopes, covered with vegetation.	<i>Leea indica</i> , <i>Piper sarmentosa</i> , <i>Elaeis guineensis</i> , <i>Christella</i> sp., <i>Caryota mitis</i> , <i>Alcassia macrorrhizos</i>	5-10%	57.8	Yes								
ELEVATION																																																																									
	0.00	5.98	18.80	18.98	18.93	18.62																																																																			
DISTANCE			8.20	22.81	29.71	34.94																																																																			
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						28.50																																																																			
						40.84																																																																			
AW33	CS45	103.80258	1.339223					DATUM= 5 M <table><tr><td>ELEVATION</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>0.00</td><td>4.52</td><td>18.61</td><td>18.73</td><td>18.54</td><td>18.52</td></tr><tr><td>DISTANCE</td><td></td><td></td><td>8.98</td><td>17.38</td><td>24.78</td><td>34.18</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>26.78</td><td>34.69m</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>18.42</td><td>19.58</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>45.18</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>47.27</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>58.46</td></tr></table> CROSS SECTION : CS45-CS45' horizontal scale 1 : 500 vertical scale 1 : 500	ELEVATION								0.00	4.52	18.61	18.73	18.54	18.52	DISTANCE			8.98	17.38	24.78	34.18						26.78	34.69m						18.42	19.58							45.18							47.27							58.46	0.5 - 2 m	5-10 cm	0.1 m/s	Sandy bed with rocks, branches, dead leaves and some litter. Earth banks with steep slopes, covered with vegetation.	<i>Piper sarmentosa</i> , <i>Ficus fistulosa</i> , <i>Adiantum latifolium</i> , <i>Leea indica</i> , <i>Psychosperma macarthurii</i> , <i>Spathodea campanulata</i> , <i>Syzygium polyanthum</i> , <i>Eppremnum aureum</i> , <i>Asplenium nidus</i>	60	58.5	Yes	
ELEVATION																																																																									
	0.00	4.52	18.61	18.73	18.54	18.52																																																																			
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