

PART A: DEALING WITH SAND, EROSION, ACCESS AND ALIEN VEGETATION

Boardwalks and Emergency Access Points

Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	1	Kabeljous boardwalk - angle of existing boardwalk is correct. Maintain existing structure	Put in place signboards where needed - keep on designated pathways, keep tidy, don't litter etc.'
	2	New boardwalk	Recommended material - reused plastic for boardwalk and fence; dustbins at each boardwalks secured with lids and fitted to poles of boardwalks
	3	Angle adjust; new boardwalk	
	4	Maintain existing boardwalk	
	5	New boardwalk	Due east, but lagoon water will keep sand moist and prevent sand transport west
Close access around boardwalks	101	Erect fence (round treated poles 1 to 1.2m high) to limit access, tie into boardwalks	
	102	Rehabilitate open sand area; use sand trap;	
	103	Erect fence to limit access	
	104	Erect fence to limit access	
	105	Erect fence to limit access	
	106	Erect fence to limit access	
Emergency Access - Kabeljous road	201	Redirect road Rehabilitate surrounding pathways with brush packing	Close smaller pathways leading from emergency pathways



Feature	Number ID	Intervention details	Maintenance Notes
Boardwalk	6	New boardwalk; pole guiding people to boardwalk	
	7	Boardwalk / platform; rail on northern side - encourage revegetation of northern area	
	8	Maintenance;	
	9	New boardwalk	
Close access around boardwalks	107	Close access	
	108	Rehabilitate paths	
	109	Rehabilitate with brushpack to block paths and allow sand to be trapped to establish vegetation; erect wooden fences; treated poles at 1- 1.2 m high; tie into new / maintenance of boardwalks	
	110	Reconstruct and maintain area	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	10	Maintenance;	
	11	New boardwalk	
	12	New boardwalk	
Close access around boardwalks	111	Brushpack along path and revegetate; fence along road	
	112	Erect fence on parking side that ties into new boardwalks on north and south (11 and 12)' close existing boardwalk	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	13	Maintain existing boardwalks with fence to direct people and keep off vegetation	
	14	Maintain existing boardwalk with fence to direct people and keep off vegetation	
	15	Maintain existing boardwalk - no need for fence; boardwalks raised; where needed fence and barrier along boardwalk	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	16	New boardwalk	
	17	Maintain boardwalk	
	18	Maintain boardwalk	
	19	Maintain boardwalk	
	20	New boardwalk; with dog leg at end - less east facing	
Close access around boardwalks	116	Close access, remove old boardwalk and fence along parking area tied into boardwalks (16 and 17)	
	117	Close access, remove old boardwalk and fence along parking area tied into boardwalks (16 and 17)	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	21	New boardwalk	
	22	Maintain existing boardwalk	Check access control on sea side of JBay caravan park. Is a fence needed to keep people off the dunes?
	23	Maintain existing boardwalk	
	24	Maintain existing boardwalk	
	25	Maintain existing boardwalk	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	26	Maintain existing boardwalk	
	27	Maintain existing boardwalk; ongoing clearing of sand	
			Block access in front of this parking area, and encourage use of existing and new boardwalk - signage and barrier. Tie wooden fence from parking into the boardwalk edge and carry along boardwalk so there is no space for pedestrians to walk on dunes.
	28	New boardwalk	
	29	New boardwalk (not directly east)	
	30	Maintain existing boardwalk	
	31	Maintain existing boardwalk	
	32	Maintain existing boardwalk	
	33	Maintain existing boardwalk	
Close boardwalk access	118	Close access with fence tied into boardwalks	
	119	Close access with fence tied into boardwalks	
	120	Close access with fence tied into boardwalks	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	34		
	35	New boardwalk	
	36	New boardwalk	
	37	New boardwalk; dogleg to south	Pellsrus Park boardwalks - all have access fence along edge.
	38	New boardwalk;	
Close boardwalk access	121	Close access with fence and brushpacks - fence tied to new boardwalk; rehabilitate vegetation	
	122	Close access with fence on parking side and brushpacks - fence tied to new boardwalk; rehabilitate vegetation	
	123	Close access with fence on parking side and brushpacks - fence tied to new boardwalk; rehabilitate vegetation	
	124	Close access with fence on parking side and brushpacks - fence tied to new boardwalk; rehabilitate vegetation	
	125	Close access with fence on parking side and brushpacks - fence tied to	

		new boardwalk; rehabilitate vegetation	
Emergency Access	202	Demarcating launch route using low pole barriers on either side of the route in correct direction	



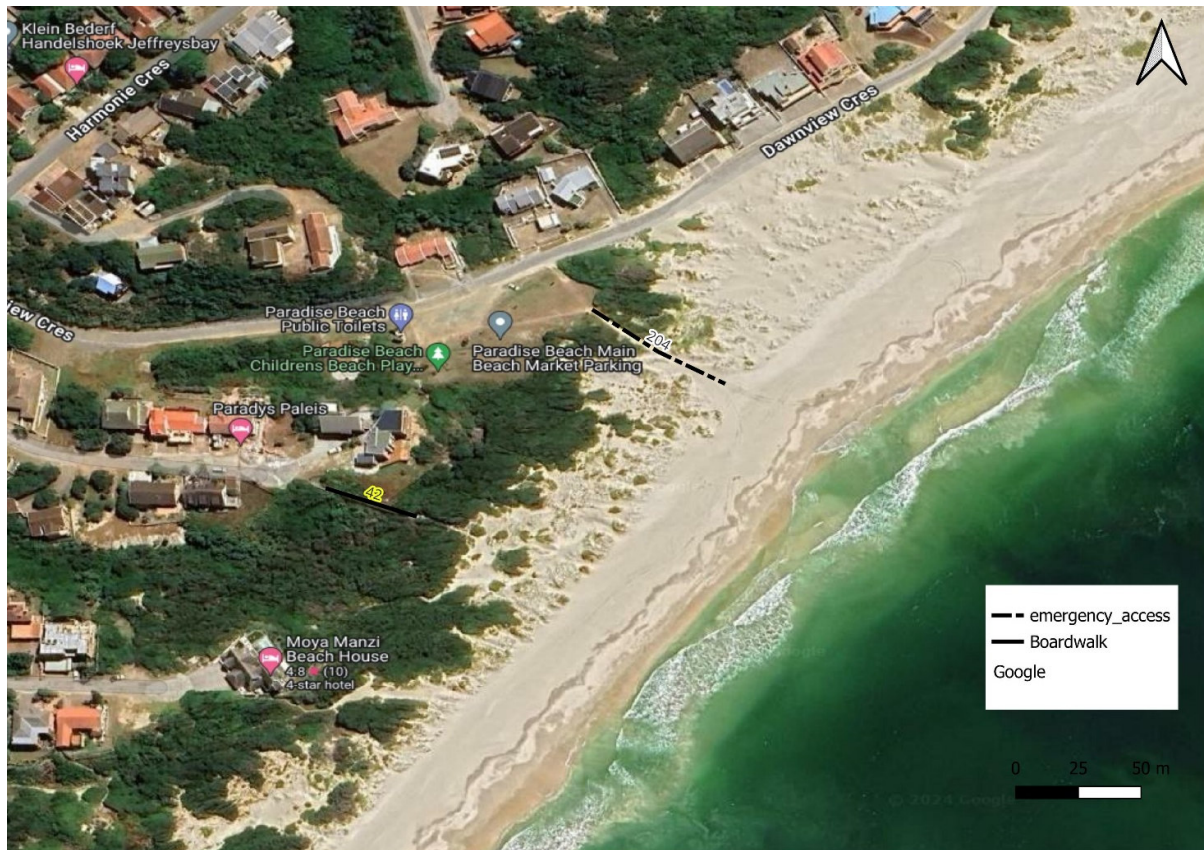
Feature	Number ID	Intervention details	Maintenance notes
Close area around boardwalk (access)	126	close access with fences - fence tied to road	
Emergency Access	203	Formalise road	



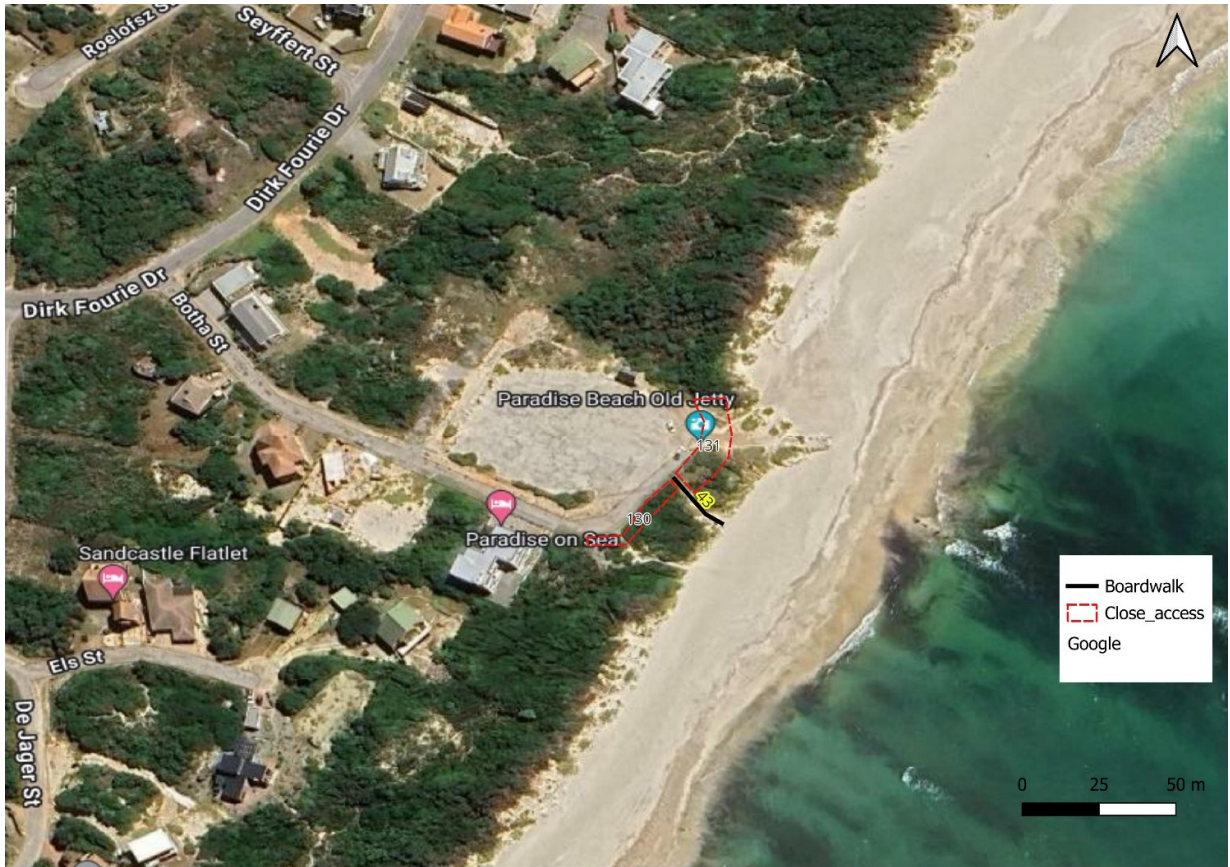
Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	39	New boardwalk in Seekoei EFZ	Elevated - 1 m above surface.
	40	New boardwalk	
	41	New boardwalk	
Close area around boardwalk	127	close access along parking/grassed area & boardwalk	
	128	close access along parking/grassed area & boardwalk	
	129	Close access	
	Pellsrus 'abandoned' carpark - Can we generate activity here to address safety, and then support recreational facilities? Possibly a waste buy-back centre closer to the road? Kiddies park in clearing to the south? Connect two areas, and also caravan park behind		



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	42	Boardwalk maintenance	
Emergency Access	204	Maintain emergency access	



Feature	Number ID	Intervention details	Maintenance notes
Boardwalk	43	Replace old boardwalk. Not on unstable slope.	Monitor stability of slope here over time. If needed, consider stabilisation. Remove rubble and old boardwalk that collapsed onto beach.
Close area around boardwalk	130	Close access, link to boardwalk at Point 43	
	131	Close access, link to boardwalk at Point 43; remove old rubble and boardwalk	



Feature	Number ID	Intervention details	Maintenance notes
	44	Maintain existing boardwalk, periodic sand removal	



Sand Barrier, Sand Trap, GeoContainer, Rock Revetments, and Alien Vegetation

Feature	Number ID	Intervention details	Maintenance notes
Sand trap	301	Brushpack 5m spacing 1 per 5m2, <i>Carpobrotus</i> sp for holding sand;	Can place along linear features, and also over bigger areas of exposed sand. Sandtraps encouraging revegetation; monitor every 6 months to determine revegetation in areas where brushpacks and sand traps have been placed; people can walk between sand traps. Time monitoring mid-winter, after summer easterlies, and before westerlies. Visual inspections suffice
	302	Sand trap 1 per 5m2	



Feature	Number ID	Intervention details	Maintenance notes
Sand Trap	304	Sand trap 1 per 5m2	
Sand Barrier	501	Put in place a wooden screen 1 meter above sand level;	Deflects easterly winds and stops sand
Rock Revetments	601	Similar to St Francis	Longer lifespan than sand bags
	602	Rock revetment in front of geocontainer - future measure (5 to 10 years)	
Geocontainer / Sand bag	701	Continuous sand bag wall of same height	Replace with rock revetment



Feature	Number ID	Intervention details	Maintenance notes
Sand Trap	305	Sand trap 1 per 5m2	
	306	Sand trap 1 per 5m2	
	307	Sand trap 1 per 5m2	
	308	Sand trap 1 per 5m2	
	309	Sand trap 1 per 5m2	
	310	Sand trap 1 per 5m2	
	311	Sand trap 1 per 5m2	Control access with fence and brush packs
	312	Sand trap 1 per 5m2	
	313	Sand trap 1 per 5m2	
	314	Sand trap 1 per 5m2	
	315	Sand trap 1 per 5m2	
	316	Sand trap 1 per 5m2	
	317	Sand trap 1 per 5m2 - narrow belt	
	318	Sand trap 1 per 5m2 - narrow belt	
	319	Sand trap 1 per 5m2	
	320	Sand traps 1 per 5m2	
	321	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	322	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	323	Sand traps 1 per 5m2 over big area to encourage vegetation cover	





Feature	Number ID	Intervention details	Maintenance notes
Sand Trap	325	Sand traps 1 per 5m2 over big area to encourage vegetation cover and close numerous access pathways	
Sand Barrier	504	Long screen / barrier; 1 meter height	



Feature	Number ID	Intervention details	Maintenance notes
Sand Trap	326	Sand trap 1 per 5m2 at launch site	
	327	Sand trap 1 per 5m2 at parking area site	
	328	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	329	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
Alien Vegetation	801	Do not clear AIS, allow local communities to remove slowly and use as firewood.	Monitor and put sandtraps and brush packs in place as required, active revegetation
	802	Do not clear AIS, allow local communities to remove slowly and use as firewood.	Monitor and put sandtraps and brush packs in place as required, active revegetation



Feature	Number ID	Intervention details	Maintenance notes
Sand Trap	330	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	331	Sand traps 1 per 5m2 over big area to encourage vegetation cover	Prevent sand creeping inland; includes large blowout area
Rock Revetments	603	Maintenance of rock revetments	
Alien Vegetation	803	Do not clear AIS, allow local communities to remove slowly and use as firewood.	Monitor and put sandtraps and brush packs in place as required, active revegetation



Feature	Number ID	Intervention details	Maintenance notes
Sand Traps	332	Sand trap - link to boardwalk No. 40. Can adjust spacing to 1 per 10m2 here (where big sand areas). In 'tight spots' - 1 per 5 m2. Sand removal in areas that are immediately impacting roads. Signage at road	Brushpacking. Large polygon - extend SW.
	333	Sand removal, followed by sand trap and brushpacking	Sand removal may be required periodically until area stabilises.
	334	Sand removal in front of 'Sandkasteel', followed by brushpacking.	
	335	Sand trap	
	336	Sand trap	
	337	Sand trap	
	338	Sand trap	
	339	Sand trap	
	340	Sand trap	
Sand Barrier	510	Long screen / barrier ; 1 meter height	Deflect sand onto the beach, and keep out the estuary

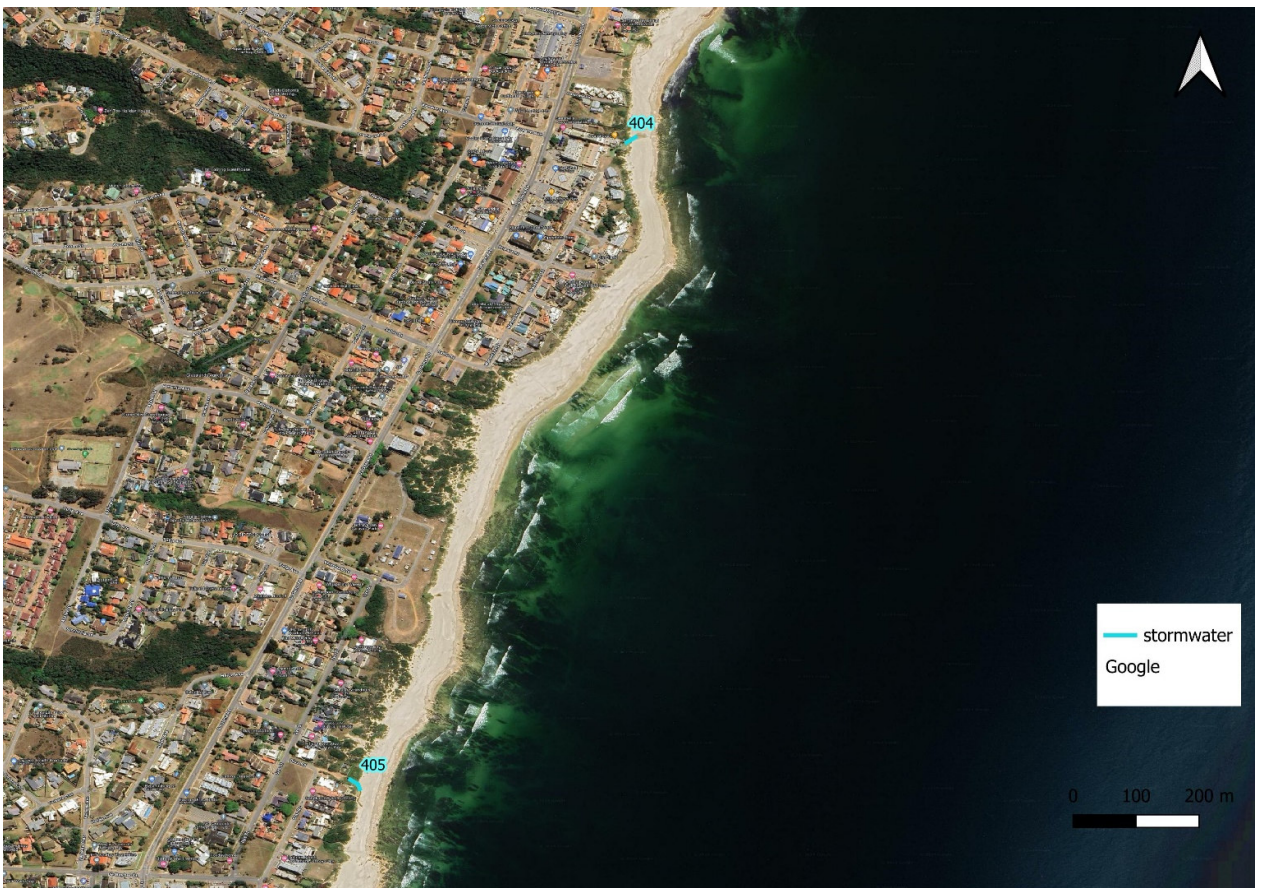


Feature	Number ID	Intervention details	Maintenance notes
Sand traps	341	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	342	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
	343	Sand traps 1 per 5m2 over big area to encourage vegetation cover	
Rock revetments	604	Revetments in front of property line with steep eroding edge (Denys Terrace)	Prevent water moving behind rocks.
Alien Vegetation	Paradise Beach (general)	Identify alien veg areas. First steps - kill less dense areas and let it rehab. Progress to more dense areas. Kill the trees 'standing' - let them fall in situ. Rehabilitate - Staged approach	



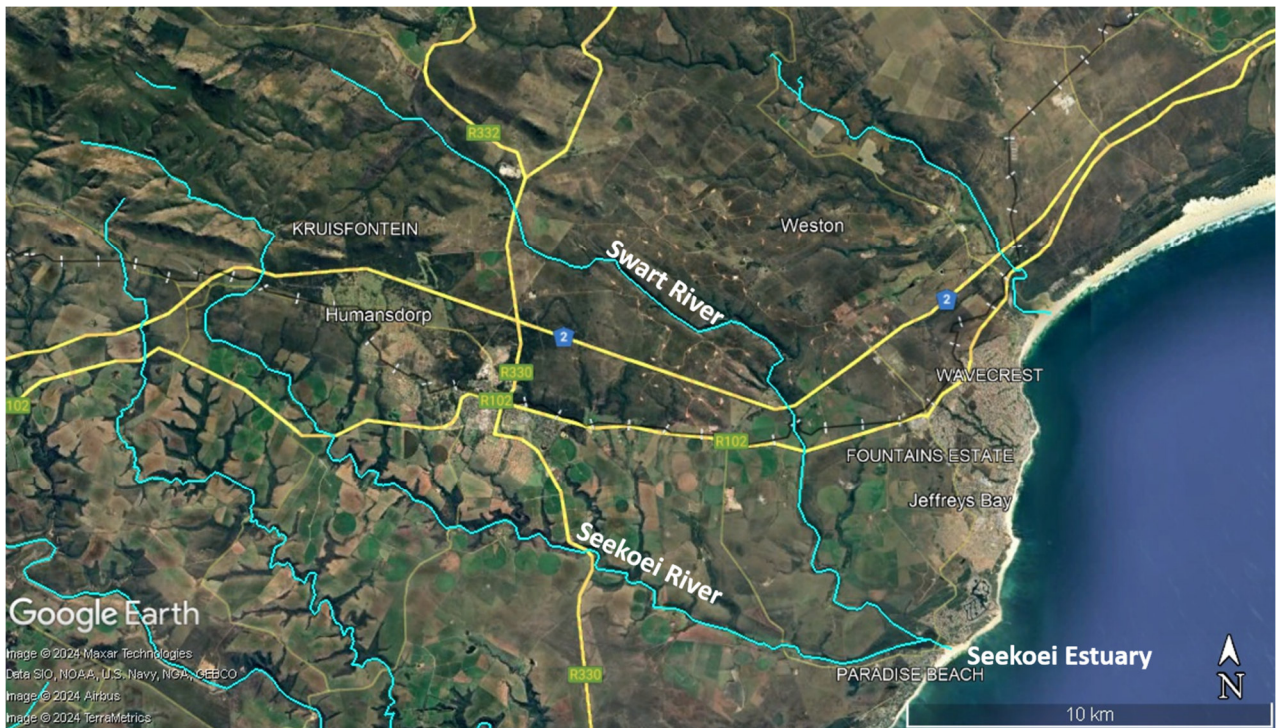
Stormwater and Sewer

Feature	Number ID	Intervention details	Maintenance notes
Stormwater, pump stations and sewage	401	Put in place stone spillway to redirect stormwater and rehabilitate the corner and keep clear of tall vegetation, debris, litter, sand etc.	Clear out vegetation and sand from drainage pathway
	402	Treat the sewage to avoid organic loading at outlet; can't treat in situ must be treated at source; ensure the water spilling out here is clean water - not sewage flows with high organic loading	
	403	Maintain SW quality; frequent unblocking	
	404	Maintain SW quality; frequent unblocking	
	405	Maintain SW quality; frequent unblocking; Treat the sewage to avoid organic loading at outlet; can't treat in situ must be treated at source; ensure the water spilling out here is clean water - not sewage flows with high organic loading	



Seekoei Estuary

Feature	Number ID	Intervention details	Maintenance notes
Estuary	901	Monitor current setback line and if necessary move back; monitor for 6 months and decrease area of existing carpark	Link to mouth management plan; GA required
	902	New car park behind Aston Bay community hall in disturbed grassy area	Signage for public; GA required
	903	Maintain functionality; remove Phragmites etc. as required	
	904	First priority culvert / opening	Drop base level of culverts by 1 meter; prioritise and start at the north where natural channel existed and where current build up needs to be drained; culvert to be upgraded to 10 meters to up to 20 meters - or if possible link the most northern to the next opening for flow through.
	905	Second Priority at causeway	
	906	Third Priority at causeway	
	907	Fourth Priority at causeway	
	908	Fifth Priority at causeway	
	909	Additional opening at causeway	
	910	Structure in Swart River must be removed to allow natural processes to continue	
	911	Structure in Seekoei River must be removed to allow natural processes to continue	
	912	High Risk area for groundwater abstraction - recommend no to cautious abstraction takes place	
	913	Line - assumed drainage flow path. Check Tunmer Drive to see if blocks drainage. Also check stormwater from Johan Muller Drive. Remove any blockages.	
	914	Mouth Maintenance Man Plan remains in terms of triggers for intervention. If causeway levels change, then we change the 0.7masl to new level.	Monitoring & Reporting of this aspect needs to be improved. As a minimum, Kouga LM must purchase a refractometer to measure salinity. Monitor twice a month in 2 (N and S of causeway), and out of the exchange zone.
	915	Monitoring for Mouth Maintenance Plan - additional monitoring point.	
	Regulated area of Swart and Seekoei Rivers (catchment)	Remove alien vegetation from the 100 m buffer of the Swart and Seekoei Rivers – ongoing activity.	



PART B: ROUTINE MAINTENANCE, SIGNAGE, GENERAL RECOMMENDATIONS (KABELJOUS ESTUARY TOWARDS PARADISE BEACH)









