6. WATER QUALITY

6.1 Introduction

The water quality assessment has followed the guidelines given in Annexes 6 and 14 of the Technical Memorandum to the Environmental Impact Assessment Ordinance (EIAO). The identification of sensitive receivers and assessment methodologies were set out in Working Papers (WP1 & WP2). The water quality assessment focussed on assessing the construction and operational impacts associated with implementing the project and provides details of any mitigation measures and monitoring requirements which may be necessary to ensure residual impacts are acceptable and comply with current standards and guidelines.

In accordance with the requirements of the Technical Memorandum to the EIAO, the assessments given in the following sections are, as far as practical, quantitative.

6.2 Baseline Conditions

6.2.1 Marine Water Quality

Based on the data obtained from *Marine Water Quality in Hong Kong in 1997* published by the Environmental Protection Department (EPD), the nearest monitoring stations is TM3 within the Harbour Subzone immediately to the west of the Tolo Harbour. The monitoring results indicated that a general rise of silica was found at all stations. Also, increase in total inorganic nitrogen and total nitrogen was also observed throughout the zone. Such pronounced increases in nitrogenous nutrients are probably due to the exceptionally high rainfall, which occurred in 1997, resulting in large amounts of stormwater and surface run-off, which carried nutrients from land into the marine water. Water quality statistics for the station are presented in Table 6.1.

Table 6.1 Marine Water Quality in the Tolo Harbour and Channel (Harbour Subzone)

Determinand	**TM3**
Temperature (°C)	23.5 (16.1 - 28.3)
Salinity (ppt)	29.5 (22.3-31.6)
Dissolved Oxygen (% Saturation)	112 (70-157)
Dissolved Oxygen (mg/L)	8 (4.8 -10.9)
pH	8.2 (7.7 - 8.6)
Secchi Disc Depth (m)	1.9 (0.5-4.0)
Turbidity (NTU)	3.0 (0.7-7.9)
Suspended Solids (mg/L)	3.6 (1.4 -18.7)
Silica (as SiO_2) (mg/L)	1.0 (0.1 –2.7)
5-day Biochemical Oxygen Demand (mg/L)	2.2 (0.8 – 5.1)
Nitrite Nitrogen (mg/L)	0.01 (<0.01 - 0.04)
Nitrate Nitrogen (mg/L)	0.04 (<0.01-0.24)
Ammoniacal Nitrogen (mg/L)	0.10 (0.02 - 0.30)

Determinand	TM3
Total Inorganic Nitrogen (mg/L)	0.15 (0.03 - 0.40)
Total Nitrogen (mg/L)	1.06 (0.46 – 1.69)
Ortho-phosphate (mg/L)	0.03 (<0.01 - 0.08)
Total-Phosphorus (mg/L)	0.09 (0.04 - 0.21)
Phaeo-pigment (μg/L)	9.1 (0.8 – 31.5)
Chlorophyll-α (μg/L)	12.2 (1.5 – 28.7)
E.coli (cfu/100mL)	112 (5 – 10300)
Faecal Coliforms (cfu/100mL)	556 (21 – 108167)

6.2.2 River Water Quality

According to the EPD Publication *River Water Quality in Hong Kong in 1997*, the nearest monitoring stations with respect to the study area are TR12B at Lam Tsuen River and TR13 at Tai Po River respectively. Water quality in Lam Tsuen River was ranked as "excellent" at station TR12B whilst water quality in Tai Po River was ranked as "good" at station TR13. The river has shown a decline in organics, nutrients and toxic metals, indicating a general decrease in pollution in the river. Analysis of the long-term monitoring data also revealed significant improvements in the tributary over the past decade. Water quality statistics for these stations are given in Table 6.2.

Table 6.2 River Water Quality in the Tolo Harbour and Channel (Tai Po River and Lam Tsuen River)

Determinand	TR12B	TR13
Dissolved oxygen (mg/L)	8.4 (6.6-9.7)	7.8 (5.6 – 8.9)
pH	7.3 (6.8-7.6)	7 (6.5 – 9.7)
Suspended Solids (mg/L)	2 (2-12)	5 (2-560)
5-day Biochemical Oxygen Demand (mg/L)	1 (1-3)	4 (2 - 60)
Chemical Oxygen Demand (mg/L)	6 (2-26)	12 (2 - 62)
Oil & grease (mg/L)	0.5 (0.5 – 1.0)	0.5 (0.5 - 6.4)
Faecal coliforms (cfu/100ml)	NM	NM
E. coli (cfu/100ml)	NM	NM
Ammonia-nitrogen (mg/L)	0.17 (0.04 – 0.82)	0.77 (0.19 – 2.60)
Nitrate-nitrogen (mg/L)	1.15 (0.46– 1.6)	0.67 (0.44 -1.30)
Total Kjeldahl nitrogen, SP (mg/L)	0.39 (0.05 – 1.2)	1.35 (0.43 – 5.50)
Ortho-phosphate (mg/L)	0.13 (0.03 - 0.20)	0.15 (0.05 - 0.51)
Total phosphorus, SP (mg/L)	0.21 (0.05-0.45)	0.30 (0.08 – 2.00)
Sulphide, SP (mg/L)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)
Aluminium (μg/L)	50 (50 – 100)	110 (50 – 1,600)

Determinand	TR12B	TR13
Cadmium (μg/L)	0.10 (0.10 – 0.10)	0.10 (0.10 - 0.20)
Chromium (μg/L)	1.0 (1.0 – 1.0)	1.0 (1.0 – 5.0)
Copper (μg/L)	2.0 (1.0 – 5.0)	2.0 (1.0 – 14.0)
Lead (μg/L)	1.0 (1.0 – 1.0)	1.0 (1.0 – 24.0)
Zinc (μg/L)	10 (10 – 30)	20 (10 – 150)
Flow (L/s)	97 (52 – 3431)	183 (84 – 913)

6.3 Sensitive Receivers

Water quality sensitive receivers have been defined in accordance with the requirements of the Hong Kong Planning Standards and Guidelines, which have been transposed into the Technical Memorandum of the EIA Ordinance. As required under the Study Brief all water bodies, water and stream courses, groundwater systems and other sensitive or beneficial uses have been identified.

Water Quality sensitive receivers within the Study Area are illustrated on Figure 6.1 and relate to the stream courses and drainage culverts which could be subjected to off-site spillage during and following construction and river training works. The water sensitive receivers include:

- Tai Po River
- Lam Tsuen River
- Ma Wat River
- Wo Hop Shek Tributary
- Tolo Harbour

Receiving waters could be affected during the construction phase through the off-site spillage of materials or erosion of stockpiles or during dredging or other disturbance to the stream courses either during any temporary diversion or permanent works.

The spatial extent of the water quality Study Area is 300m either side of identified sensitive receivers.

6.4 Construction Phase Impacts

Construction activities include land-based works for the extension of the highway and culverts and the related improvement works for the river diversion. Construction activities may cause adverse impacts on the water quality of the receiving waters due to silt laden runoff, and direct contamination of waters during construction works for the extension of the highway over the nearby rivers and nullahs. It has been confirmed that no dredging or reclamation is required for this Project, however at Kiu Tau and Tong Hang the proposed road widening works encroach on the Ma Wat River. River training works and the mitigation measures are detailed in the Drainage Impact Assessment Report and Drainage Monitoring and Audit Manual with extracts from these reports included in this Report for completeness.

The proposed road widening works would encroach upon the Ma Wat River at the following locations:

- Kiu Tau (Ch. 7240 to 7415)
- Tong Hang (Ch. 7860 to 7990)
- Tong Hang (Ch. 8315 to 8410)

The following construction sequence is proposed for the River training works:

- Works to be commenced in dry season;
- Site clearance;
- Build a temporary earth berm by sand bays and pumping;
- River diversion for construction half width of river channel;
- Excavate soil;
- Erect formwork, steel fixing and concreting for dry weather flow channel and half width of base slab;
- Erect formwork, steel fixing and concreting for side wall to form a reinforced concrete trapezoidal channel;
- Install rubber dam and pump house if necessary;
- River diversion to the completed section of channel;
- Extend the effected box-culverts as required;
- Repeat steps 5, 6 & 7 to complete the trapezoidal channel;
- Remove temporary cofferdam and open for use; and
- Backfilling.

The potential impacts on receiving water quality will be mainly due to uncontrolled migration of fines or off-site spillage, which will be, contained by activity no. 3 “build a temporary earth berm”. The potential impacts will therefore be controlled through good site practices and monitoring as recommended in the Drainage Impact Assessment Monitoring and Audit Manual.

It should also be noted that the Territorial Land Drainage and Flood Control Strategy Study-Phase II BMP Report for the Indus Basin provides guidance for evaluating DIAs in the locality of the road widening scheme. The report recommends that improvements to floodways or watercourses, such as straightening or lining should include attenuation unless the downstream conditions are adequate. The detailed design of river training works must therefore allow for the possible effects of erosion immediately downstream of each trained section arising from increased flow velocities.

It should be noted that the general conditions downstream of the three proposed river diversion works will be improved by the implementation of Contract FL 23/99 – Main Drainage Channels for Fanling, Sheung Shui and Hinterland. This Contract will improve the Upper Indus River, immediately downstream of the river diversion measures proposed as part of the road-widening scheme.

6.4.1 Land Based Road Construction Works

Land based construction works that could affect water quality include:

- cutting and/or filling embankment along Tolo Highway/Fanling Highway; and

- road widening to the Tolo Highway/Fanling Highway which crosses over the Tai Po and Lam Tsuen Rivers and associated watercourses.

It is proposed that the surface water generated on site during the construction stage will be diverted to the existing drainage system. Silt/sand traps should be provided on site to remove silty particles and other pollutants from the surface water before discharge to ensure compliance with the standards given in Table 3.8.

Work over water or in proximity to the river/streams includes the river training works at Kiu Tau and Tai Hang, as described in the foregoing section, and the widening or re-construction of bridges. It was identified in the Drainage Impact Assessment Report that for the river training works, permanent diversions would be necessary to maintain existing river flow. River diversions will need to be designed to allow sufficient free board in accordance with the Stormwater Drainage Manual.

Three sections of the Ma Wat Ho River will require to be diverted as part of the road widening works. These sections are illustrated on Figure 6.2. As identified in the Drainage Impact Assessment Report (No. T551/13/C) During the construction downstream monitoring of the works would be recommended to ensure there is no migration of the off-site of the silt particles. As stream courses in the vicinity of the Ma Wat Ho fall within the "Water Gathering Ground" Group A "abstraction for water supply" standards (TM) will apply. This implies that the discharge of water to these stream courses must not have a suspended solids content of greater than 10mg/l, the pH must be within the range 6.5-8.5 with no more than 1mg/l oil and grease. Silt traps/screens are recommended to be used to avoid downstream migration of silt. However, it should be noted that the meandering nature of the Ma Wat River (and the distance to Tolo Harbour) would assist in confining the migration of silt locally.

Sheet piling work will commence after demolishing part of the existing bridges namely, Banyan Bridge, Playground Bridge and Lam Kam Railway Bridge between Island House and Tat Wan Road, Lam Kam Flyover and Pipe Bridge between Tai Po Tai Wo Road and Hong Lok Yuen Road, Kiu Tau Bridge, Tai Hang Footbridge, Tai Wo Footbridge, Nam Wah Po Footbridge and Ho Ka Yuen Footbridge between Hong Lok Yuen Road and Pak Wo Road. Generally, piling work would be completed in about 8-10 weeks, with the remaining abutment and decking works being completed in another 40 weeks. This implies that the potential water quality impacts will be controlled after the first two months of construction for the bridges.

The aforementioned bridges will be enclosed by sheet piles during construction of the foundations of the new structure near the streams. The sheet piles will act as a physical barrier to prevent pollutants, which may be accidentally discharged into the receiving waters during the construction from entering into the watercourses. It is expected that direct contamination of waters in the rivers during the foundation works would be minimal after the sheet piles have been put in place.

A summary of potential impacts associated with construction activities is given in Table 6.3.

6.4.2 Sewage Impact

Sewage generated by the workforce should be disposed of to a foul sewer. If there is no foul sewer in the vicinity, chemical toilets will need to be required to be provided at the work sites. The number of staff engaged at the work site and associated facilities is not expected to exceed 600 at any given time however it should be noted that not all of the workers will located at one site. It is unlikely, given the constraints of space and distance between work sites that a canteen will be provided.

Table 6.3 Summary of Water Quality Impacts and Mitigation Measures

Location	Work/Activities	Sensitive Receiver	Potential Impact	Mitigation Measures
Between Island House and Tat Wan Road	1) Filling embankment 2) Construct retaining walls 3) Construct new Banyan & Playground Bridge 4) Widening Lam Kam Railway Bridge	• Tolo Harbour • Tai Po River • Lam Tsuen River	• Silt laden runoff • Direct contamination of waters • Release of suspended solids	• Sheet Piling Work • Silt Traps/Screens • Sand Traps/Oil Interceptors
Between Tat Wan Road and Tai Po Tai Wo Road	1) Temporary protective measures for slope cutting 2) Cutting & Filling of embankments 3) Construct retaining walls	• Tai Po River • Lam Tsuen River	• Silt laden runoff • Direct contamination of waters • Release of suspended solids	• Sheet Piling Work • Silt Traps/Screens • Sand Traps/Oil Interceptors
Between Tai Po Tai Wo Road and Hong Lok Yuen Road	1) Cutting 2) Filling embankment 3) Construct new Lam Kam Flyover 4) Construct retaining walls 5) Modification of pipe bridge	• Lam Tsuen River	• Silt laden runoff • Direct contamination of waters • Release of suspended solids	• Sheet Piling Work • Silt Traps/Screens • Sand Traps/Oil Interceptors
Between Hong Lok Yuen Road and Pak Wo Road	1) Relocate rubber dam 2) Filling of embankments 3) Construct retaining wall 4) Demolished and rebuild Kiu Tau Bridge	• Ma Wat River • Wo Hop Shek Tributary	• Silt laden runoff • Direct contamination of waters • Release of suspended solids	• Sheet Piling Work • Silt Traps/Screens • Sand Traps/Oil Interceptors

6.4.3 Spillage and Construction Wastes

It is anticipated that a fuel tank will be placed at each bore pile installation location for refilling of the bore pile crane. Oil filling points, vehicle and plant servicing areas may also be provided on site. Accidental spillage in these area and run-off from vehicle holding areas contaminated with vehicle-by-products could also impact on water quality. It is recommended that the drainage in these areas should be connected to foul sewers (if available) via a petrol interceptor.

Slurry, cement and soil will also be stored on site. Inadvertent disposal of these construction materials into the nearby drainage system would cause direct contamination at the receiving water bodies. Implementation of best practices and diligent monitoring will reduce the potential impacts to a minimum.

6.4.4 Cumulative Impacts

Cumulative impacts generally relate to the river training works which are programmed to be carried out over a 42 week period (refer to Appendix 1.1). The recommendation of the Drainage Impact Assessment is that the works will be carried out in the dry season. The extended period allocated to this activity will allow them to be programmed to ensure the mitigation measures are all put in place early in the construction period. Cumulative impacts of the works will be minimal as the extent of the river training works is small and the potential impact on water quality is confined to off-site spillage.

6.5 Operation Phase Impacts

Once operational the impacts on receiving water quality are of significantly less concern than those of the construction phase. The only impact on water quality during normal operation of the road would be that due to site runoff. Typical highway runoff contains low levels of SS and different contaminants resulting from wear of tyres on the road and fuel combustion. The discharge of the runoff generally would be unlikely to produce any quantifiable adverse effects.

The erosion control plan associated with the river training works will be defined under the Drainage Impact Assessment Monitoring and Audit Plan.

6.6 Proposed Mitigation Measures

6.6.1 Construction Phase

Impacts from construction site runoff can be mitigated by implementing the control measures identified in the guidance issued by the EPD - *Practice Note for Professional Persons PN 1/94* Construction Site Drainage. Effluent can be controlled by provision of treatment and control systems where necessary. Potential problems of accidental spillage are minimal if spills are contained and drainage is not directed to surface watercourses. The following provides a list of mitigation measures / site practices which are relevant to this study:

- Construction of the foundations for the extension of the highway, and its related river training works, should be carried out carefully to prevent contaminants from entering the rivers. Potential impact from activities, which cannot be protected by sheet piles, should be minimised by reducing the duration of these activities as much as possible in order to mitigate the impacts.

- Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains;

- Site surface runoff should be settled to remove sand/silt before it is discharged into the existing storm drains. It is recommended that the sand/silt removal facilities (silt traps, sediment basins) and oil interceptors should be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site. It is also recommended that, where necessary, temporary catchpits and perimeter channels be constructed in addition to the existing channel system within the site prior to the site formation works and earthworks;

- Wastewater generated from any concrete batching washdown of equipment or similar activities should not be discharged into the stormwater drains. All storm catch basins/inlets, if any, receiving stormwater runoff from construction area should be covered with wire mesh filter, which has on its upper surface crushed stone, in order to prevent sediment from entering inlet structure and to reduce potential sediment loading to the receiving waters. It is recommended this wastewater should be discharged into foul sewers, after the removal of settable solids, and pH adjustment as necessary. All sewage discharges from the study area should meet the TM standards and approval from EPD through the licensing process is required;

- Sand traps, oil interceptors and other pollution prevention installations should be properly cleaned and maintained;

- Construction of the proposed widening works will require some new open-cut, as well as cutting back of existing embankments. Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/ or silt traps before discharging to the drainage outfalls;

- Groundwater seepage into excavations should be diverted to a nearby stilling basin prior to discharge into existing watercourses;

- A mechanism will be required to ensure that adequate labour and plant resources are immediately available to deal with flooding and to carry out necessary rescue measures during exceptional rainstorm conditions;

- Design checks of temporary drainage works to ensure that existing capacities are maintained at all times;

- Regular inspections of the temporary drainage works to ensure that design capacities are maintained. Particular attention should be paid to the capacity of culvert N487. Any construction activity immediately upstream of the culvert must not be allowed to reduce flood storage area;

- Regular inspections of stilling basins and/or silt traps to ensure that sediment is not conveyed into the existing drainage system;

- Regular inspections of the existing sub-catchment drainage systems to ensure that there are no blockages resulting from construction activities;

- Inspection and testing of water quality in the nullah on the Tai Po River and in the Ma Wat River immediately downstream of culvert N490, between the rubber dam and the water intake channel. Testing will ensure that there is no deterioration of water quality resulting from the widening works;

- Open stockpiles should be covered with a tarpaulin to avoid erosion which may wash fines into stormwater;

- During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded as soon as possible;

- Wash-water from vehicle washing should have sand and silt settled out before discharging into storm drains; and

- Any fuels should be stored in bunded areas such that spillage can be easily collected.

In addition to which it should be noted that with the adoption of the foregoing measures it might be surmised that any discharge from the construction site would require a licence from the EPD. The licence will specify the discharge standards. The potential water quality impacts associated with construction should be locally contained and minimal.

The sediment erosion plan as agreed under the Drainage Impact Assessment Study is given in Tables 6.4 through 6.6.

6.6.2 Operation Phase

It is recommended that appropriate Best Management Practices (BMPs) be incorporated into the design to further reduce storm water runoff impact during the operational phase as far as practicable. The following mitigation measures are suitable, and applicable, for BMP during operational phase.

- In the event of a road traffic accident any spilled material should be contained and recovered immediately rather than allowing them to enter the drainage system. This is particularly important at the southern end of the highway in view of the protection measures, which have been being implemented to improve water quality in Tolo Harbour.

6.7 EM&A Requirements

Detailed mitigation measures based on the EIA and monitoring and audit requirements will be defined for inclusion in the EM&A Manual.

6.8 Conclusions

6.8.1 Construction Phase Water Quality

Impacts from construction site runoff can be mitigated by implementing the control measures identified in the guidance issued by the EPD – *Practice Note for Professional Person PN 1/94*. Effluents can be controlled by provision of treatment and control systems where necessary. Potential problems of accidental spillage are minimal if spills are contained and drainage is not directed to surface watercourses. Within the proper undertaking of good site practice/mitigation measures, potential water quality impact arising during the implementation of the scheme should be locally confined and minimal.

6.8.2 Operation Phase Water Quality

It is anticipated that the water quality impacts of the operational phase should be minimal and acceptable.

Table 6.4 Trigger Levels and Upper Limits

Monitoring Parameters	Triggers Level	Upper Limit
Sedimentation	- average thickness of sedimentation in man-made drainage conduits/ structures approximately 50mm, and/or - increase in sedimentation in natural watercourse will reduce hydraulic capacity at any predetermined 'problem point' [note 1] by approximately 5%, and/or - muddy water into existing drainage is significant by visual inspection, and/or - drainage is significantly affected by waste material	- average thickness of sedimentation around 80mm, and/or - increase in sedimentation in natural watercourse will reduce hydraulic capacity by approximately 10%, and/or - occurrence of drainage blockage
Suspended solids	- 30% increase over ambient concentrations of suspended solids, sampled at the entrance to the WSD water intake channel located in culvert N490	- concentrations of suspended solids sampled at the entrance to the WSD water intake channel exceed 140mg/l
Erosion	- any measurable increase in erosion in a natural watercourse at any predetermined 'problem point' [note 1]	- any visible erosion/ deterioration of a natural watercourse, anywhere downstream of the project site to the point of discharge into the receiving watercourses

Notes:
1. As identified during the baseline monitoring phase (refer to Section 5.2.1 (d)).
2. Source: Final Drainage M&A Manual (ref. T551/21/B)

Table 6.5 Action Plan for Excedance of Trigger Level

Event	Drainage Team	Contractor	Engineer's Representative
1. Excedance at one survey point during a single surveying period	1. Identify source 2. Inform Contractor and Engineer's Representative 3. Repeat measurement to confirm finding 4. Increase monitoring frequency	1. Check monitoring data submitted by the Drainage Team 2. Rectify any unacceptable practice 3. Amend working methods if appropriate 4. Implement corrective action to prevent recurrence	1. Discuss with Contractor 2. Review effectiveness of Contractor's remedial measures
2. Excedance at two or more survey points during single surveying period or consecutive surveying periods	1. Identify source 2. Inform Contractor and ER 3. Repeat measurements to confirm findings 4. Increase monitoring frequency 5. Discuss with Contractor for remedial actions required 6. If excedance continues, arrange meeting with Contractor and Engineer's Representative 7. If excedance stops, cease additional monitoring	1. Check monitoring data submitted by Drainage Team 2. Rectify any unacceptable practice 3. Discuss possible remedial measures with Drainage Team 4. Submit proposals for remedial actions to Engineer's Representative within 3 working days of notification 5. Implement corrective action to prevent recurrence 6. Amend proposal if appropriate 7. Report to Engineer's Representative on the effectiveness of the proposed remedial measures	1. Confirm receipt of notification of failure in writing. 1. Review effectiveness of Contractor's remedial measures 2. Ensure remedial actions are properly implemented. 3. Review Contractor's Report on the incident.

Note:
1. Source: Final Drainage M&A Manual (ref. T551/21/B)

Table 6.6 Action Plan for Excedance of Upper Limit

Event	Drainage Team	Contractor	Engineer's Representative
1. Excedance at one survey point during single survey period	1. Identify source. 2. Inform Contractor and ER 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency. 5. Assess effectiveness of Contractor's remedial actions and keep Contractor and ER informed of the results.	1. Check monitoring data submitted by DT. 2. Take immediate action to avoid further excedance. 3. Discuss possible remedial measures with ER. 4. Submit proposals for remedial actions to ER within 3 working days of notification. 5. Implement the agreed proposals. 6. Amend proposal if appropriate. 7. Report to ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Review effectiveness of Contractor's remedial measures 3. Ensure remedial actions are properly implemented. 4. Review Contractor's Report on the incident. 5. Write to Contractor and Client regarding any related contractual matters
2. Excedance at two or more survey points during single survey period or consecutive survey periods.	1. Identify source. 2. Inform Contractor and ER 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with Contractor and ER to discuss the remedial actions to be taken. 7. Assess effectiveness of Contractor's remedial actions and keep Contractor and ER informed of the results.	1. Check monitoring data submitted by DT. 2. Take immediate action to avoid further excedance. 3. Discuss possible remedial measures with ER. 4. Stop any relevant portion of works as determined by ER until the excedance is abated. Submit proposals for remedial actions to ER within 3 working days of notification. 5. Implement the agreed proposals. 6. Amend proposal if appropriate. 7. Report to ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing. 2. If excedance continues, determine the possible cause and instruct Contractor to stop that portion of work until the excedance is abated. 3. Review effectiveness of Contractor's remedial measures 4. Ensure remedial actions are properly implemented. 5. Review Contractor's Report on the incident. 6. Write to Contractor and Client regarding any related contractual matters

Note:
1. Source: Drainage M&A Manual (ref. T551/21/B)