Wan Bao Construction Company

Project Contract No. CV/2006/01

Development of Green Park – Phase 1

Drainage and Road Works

Register of Environmental Aspects for Project 1

PEAR-01

Revision No. : 1 Date : 01 - 01 - 2006

Guidance Notes:

Project Description

Wan Bao Construction Limited (WBC) has been awarded the Contract CV/2008/01 for Stanley Bay's Development Contract by Client. The construction work is scheduled to commence in Jan 2008 and will be completed tentatively by Dec 2008.

Phase 1 of this Contract is mainly on the Drainage and Road Works for:

Western Storm water Drainage Channel at Stanley Bay;

• Construction and operation of drainage channel which discharges into an area, where is 800 m away from the St. Stephen's Beach;

Chung Hom Kok Link Road;

• Construction of the site formation for about 1.5 km of a road, which is an expressway.

Revision History

| Revision Date | Description | Sections Affected | Prepared By | Approved By |
|----------------------|-------------|-------------------|-------------|-------------|
| 01/01/2006 | First Issue | - | YC Chan | KT Wong |
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WBC

Register of Environmental Aspects for Project 1

Document Number : *PEAR-01* Revision Number : *1*

Date: 01-01-2006

Project Contract No. CV/2006/01

Development of Green Park - Phase 1

Drainage and Road Works

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Date: 1-1-2006

Note: RU=resource use; WM=waste management; AE=air emissions; WP=water pollution; NV=noise and vibrational effects; LC=land contamination FF=flora and fauna; HE=historic heritage; Cl=community impacts

| Note: No | resource use; wwi=waste management; AE=air emissions; wP=water poliution; ivv=noise and vibrational i | Circuis | | | | | | | | 12-1113 | | | | | | Jucis |
|-----------|---|---------|----|--------|--------|--------|---------|-------|----|---------|-------|--------------|----------|-----------|-------|--|
| | | | P | otenti | al Env | /ironm | ental I | mpact | S | | Eva | | n of S | ignific | cance | |
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| 1) Office | (Site Office) | | | | | • | | | | | | | | | • | |
| OF-1 | Electricity consumption (for lighting, air conditioning, office equipment and other purposes) | Х | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/07, O&T-2006 - 5 |
| OF-2 | Water consumption (for drinking, cleaning, flushing) | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| OF-3 | Consumption of papers | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/07, O&T-2006 - 4 |
| OF-4 | Consumption of stationery and office equipment | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| OF-5 | Consumption of cartridges for printers, copies, fax machines | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/07 |
| OF-6 | Use/release of CFC substances (e.g. refrigerants for air conditioning units) | | | Χ | | • | | | | | 1 | - | - | - | Υ | E1/06 |
| OF-7 | Domestic wastewater discharge (from pantry, flushing) to foul sewers | | | | Χ | | | | | | 0 | 0 | 0 | 0 | Ν | |
| OF-8 | Release of ozone from photocopiers and laser printers | | | Χ | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| OF-9 | Indoor air ventilation | | | Χ | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| | Noise from office equipment | | | | | Χ | | | | | 0 | 0 | 0 | 0 | Ν | |
| OF-11 | Disposal of waste (general refuse) | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/07 |
| OF-12 | Disposal of toner cartridges | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/07 |
| | Disposal of Fluorescent tubes | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/07 |
| OF-14 | Disposal of batteries | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/07 |
| OF-15 | Disposal of recyclable waste (paper, plastic, aluminium cans) | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/07 |
| | Potential fire | | Χ | Χ | Χ | | | | | | 0 | 1 | - | - | Υ | EP/05 |
| | Pest control - use of insecticide by subcontractor | | | Χ | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/06 |
| | Cleaning and waste collection services provided by subcontractors | | Χ | | Χ | | | | | | 0 | 0 | 0 | 1 | Y | E1/06 |
| | on of Suppliers and Contractors | | | | | | | | | | | | | | | |
| SC-1 | Shortlisting/selection of contractors with environmental concerns | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | 0 | 0 | 0 | 1 | Υ | E1/05, E1/06 |
| | Ongoing appraisal of selected contractors on their environmental performance | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | 0 | 0 | 0 | 1 | Υ | E1/05, E1/06 |
| | Shortlisting/selection of suppliers with environmental concerns | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | 0 | 0 | 0 | 1 | Υ | E1/05, E1/06 |
| SC-4 | Ongoing appraisal of selected suppliers on their environmental performance | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | Χ | 0 | 0 | 0 | 1 | Υ | E1/05, E1/06 |

Date: 1-1-2006

Note: RU=resource use; WM=waste management; AE=air emissions; WP=water pollution; NV=noise and vibrational effects; LC=land contamination FF=flora and fauna; HE=historic heritage; CI=community impacts

| | | | P | otenti | al Env | ironm | ental I | mpact | s | | Eva | ıluatio | n of S | ignific | ance | |
|----------|---|----|----|--------|--------|-------|---------|-------|----|----|-------|--------------|----------|-----------|------|--|
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| 2) Mater | ials and Site Equipments Specification | | | | | | | | | | | | | | | |
| SP-1 | Equipment selection: noise | | | | | Χ | | | | | 0 | 0 | 0 | 1 | Υ | E1/03 |
| SP-2 | Equipment selection : energy efficiency | Χ | | | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/03 |
| SP-3 | Materials estimation increase accuracy to minimise surplus | Χ | | | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/03 |
| SP-4 | Use of hazardous materials | | Χ | Χ | Χ | | | | | | 0 | 1 | - | - | Υ | E1/03 |
| SP-5 | Use of structural steel work, metal work and ironmongery | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/03 |
| SP-9 | Use of virgin aggregates in concrete | Χ | | | | , | | | | | 0 | 0 | 1 | - | Υ | E1/03, 0&T-2006 - 1 |
| SP-10 | Use of virgin materials in cement | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/03 |
| SP-18 | Provision of interior/exterior lighting (lamps, installed loads, controls) in occupied/public areas | Х | | | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/03 |

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| | | | | | | | | | | | | seouenbe | _ | ate | | |
| | | | | | | | | | | | al | Ś | Material | | | Operational Control / |
| Ref | Environmental Aspects | RU | WM | ΑE | WP | NV | LC | FF | HE | CI | Legal | Con | Mat | Corpor | SEA | O&T Reference |
| 3) Use of | f Vehicles | | | | | | | | | | | | | | | |
| V-1 | Fuel consumption by vehicle | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/08 |
| V-2 | Type of fuel consumed (legal) | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/08 |
| V-3 | Noise produced by vehicle | | | | | Χ | | | | | 1 | - | - | - | Υ | E1/08 |
| V-4 | Exhaust air emissions | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/08 |
| V-5 | Discharge of vehicle wash water | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/08 |
| V-6 | Venting of refrigerants from air conditioning unit of vehicles | | | Χ | | * | | | | | 1 | - | - | - | Υ | E1/08 |
| V-7 | Vehicle maintenance : waste generation | | Χ | | | | Χ | | | | 1 | - | - | - | Υ | E1/08 |
| V-8 | Traffic congestion | | | Χ | | | | | | Χ | 0 | 0 | 0 | 0 | Ν | |
| V-9 | Potential oil leakage | | Χ | Χ | Χ | | Χ | | | Χ | 0 | 1 | - | - | Υ | E1/08 |
| V-10 | Selection of maintenance and repair services provider | Χ | Χ | Χ | X | Χ | Χ | Χ | X | Χ | 0 | 0 | 0 | 1 | Υ | E1/08 |

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| Note: Ru | eresource use; WM=waste management; AE=air emissions; WP=water pollution; NV=noise and vibrational. | errects | ; LC=la | ana co | ntamin | ation F | F=TIOF | a and to | auna; i | HE=NIS | Storic n | eritage | e; CI=0 | commu | nity imp | acis |
|----------|--|---------|---------|--------|----------|---------|----------|----------|---------|--------|----------|--------------|----------|-----------|----------|--|
| | | | F | otent | ial Env | /ironm | ental I | mpact | S | | Eva | aluatio | n of S | ignific | ance | |
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| | struction Dust and Suppression | _ | , | | | | | | | | | | | | | |
| G1-1 | Dust generated from construction activities, moving traffic, and insufficient protection or covering | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G1-2 | Dust emission from dusty load on outgoing trucks | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G1-3 | Dust emission from storage of cement/PFA | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G1-4 | Dust emission from handling of cement/PFA | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G1-5 | Consumption of water for wheel/vehicle washing | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G1-6 | Consumption of water for dust suppression | Χ | | | | , | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G1-7 | Consumption of covering materials/dust screens/nettings | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G1-8 | Disposal of used covering materials/dust screens/nettings | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G1-9 | Disposal of sludge from wheel/vehicle washing facilities | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G2) Cons | struction Noise and Suppression | | | | | | | | | | | | | | | |
| G2-1 | Construction noise generated from equipment operation, vehicles and various construction activities | | | | | Χ | | | | | 1 | - | - | - | Υ | E1/04 |
| G2-2 | Consumption of noise barriers | Х | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G2-3 | Disposal of noise barriers | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G3) Cum | ulative Resources Consumption | | | | | | | | | | | | | | | |
| G3-1 | Electricity consumption | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G3-2 | Water consumption | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G3-3 | Consumption of flushing water | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G3-4 | Wastage of water from dripping taps, leaking pipelines, etc | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G4) Eme | rgency Circumstances | | | • | • | | • | | | | • | • | • | • | | |
| G4-1 | Accidental damage to underground utilities (e.g. sewage / potable water pipes, gas, electricity installations) | | | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G4-2 | Emergencies arising from flooding or fire during construction/demolition | 1 | Х | Х | Х | | Х | | | | 0 | 1 | - | - | Υ | E1/04 |
| G4-3 | Discovery of archaeological findings / rare species | 1 | | | <u> </u> | | <u> </u> | Χ | Χ | Χ | 0 | 1 | - | - | Y | E1/04 |
| G4-4 | Land / groundwater contamination from construction/demolition works | 1 | 1 | 1 | 1 | 1 | Х | | | | 0 | 1 | - | - | Y | E1/04 |
| G4-5 | Disposal of wastes arising from cleaning after spillage or accidents | | Х | | | | | | | | 1 | - | - | - | Y | E1/04 |
| | dling and Storage of Materials/Chemicals | 1 | | | | | | | | | | | | | | |
| G5-1 | Poor coverage of materials causing fugitive dust emission | 1 | l | Х | Х | | | | | | 1 | l - | l - | - | Υ | E1/04 |
| G5-2 | Improper storage of materials/chemicals resulting in leaching | 1 | Х | | X | | Х | | | | 0 | 1 | - | - | Y | E1/04 |
| | | | | | | | | | | | | | | | | |

Legend: 0 = No 1 = Yes Y = Yes N = No

Date: 1-1-2006

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| | resource use, wwi=waste management, AE=ali emissions, WP=water poliution, IVV=noise and vibrational | | | | | | | | | | | 0 | | | <u> </u> | |
|----------|---|----|----|--------|--------|--------|--------|--------|----|----|-------|--------------|----------|-----------|----------|--|
| | | | F | otenti | al Env | /ironm | nental | Impact | is | | Eva | luatio | n of S | ignific | cance | ļ |
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| G5-3 | Improper storage of materials resulting deterioration and wastage | | Χ | | | | Χ | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G5-4 | Inappropriate storage of timber and eventually leading to fire/wastage | | Χ | Χ | Χ | Χ | Χ | | | Χ | 0 | 1 | - | - | Υ | E1/04 |
| G5-5 | Spillage or leakage of chemicals/DG during handling/use/storage | | Χ | Χ | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G5-6 | VOC emissions from improperly closed containers | | | Χ | | | | | | | 0 | 1 | - | - | Υ | E1/04 |
| G5-7 | Storage of DG (e.g. acetylene/oxygen, diesel, paint) | | Χ | | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04 |
| G5-8 | Excessive surplus materials | Χ | Χ | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G5-9 | Potential chemical reaction/fire due to improper storage of chemicals | | | Χ | | | | | | Χ | 0 | 1 | - | - | Υ | E1/04 |
| G6) Nuis | ance | | | | | | | | | | | | | | | |
| G6-1 | Odour impacts | | | Χ | | | | | | Χ | 1 | - | - | - | Υ | E1/04 |
| G6-2 | Visual impact | | | | | | | | | Χ | 0 | 0 | 0 | 0 | Ν | |
| G6-3 | Mosquito/pest | | | | | | | | | Χ | 1 | - | - | - | Υ | E1/04 |
| G7) Site | Plant and Machinery (Operation and Maintenance) | • | • | | • | • | • | • | | | | | • | • | | |
| G7-1 | Consumption of fuel (diesel/petroleum) | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G7-2 | Consumption of electricity | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| G7-3 | Air emission from combustion of fuel (e.g. black smoke) | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G7-4 | Noise generation from plants and equipment | | | | | Χ | | | | | 1 | - | - | - | Υ | E1/04 |
| G7-5 | Spillage of chemical during refuelling | | Χ | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G7-6 | Leakage of fuel/lubricant/chemicals from plants and equipment due to poor maintenance | | | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G7-7 | Consumption of lubricant/hydraulic oil/solvents | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G7-8 | Consumption of rags and gloves | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| | sportation | | | | | | | | | | | | | | | |
| G8-1 | Fuel consumption by vehicles | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/08 |
| G8-2 | Noise produced by vehicles | | | | | Χ | | | | | 1 | - | - | - | Υ | E1/08 |
| G8-3 | Exhaust air emissions | | | Χ | Χ | | | | | | 1 | - | - | - | Υ | E1/08 |
| G8-4 | Spillage or leakage of DG (Category 1, 2, & 5) from vehicles due to accidents or inappropriate | | Χ | Χ | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04 |
| | storage (e.g. lack of securing facilities) | | | | | | | | | | | | | | | |
| G8-5 | Spillage or leakage of DG (except Category 1, 2 & 5) and other chemicals from vehicles due to | | Χ | Χ | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| | accidents or inappropriate storage (e.g. lack of securing facilities) | | | | | | | | | | | | | | | |
| G8-6 | Traffic congestion and potential blockage of site entrance | | | Χ | | | | | | Χ | 0 | 0 | 0 | 0 | Ν | |
| G9) Was | te Collection, Handling and Disposal | | | | | | | | | | | | | | | |

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| | resource use, wivi-waste management, AL-ali emissions, wr -water poliution, ivv-noise and vibrational v | | | | | | | | , | | | <u> </u> | | | - 7 | |
|---------|---|----|----|--------|--------|-------|---------|-------|----|----|-------|--------------|----------|-----------|------------------|--|
| | | | F | otenti | al Env | ironm | ental I | mpact | ts | | Eva | aluatio | n of S | ignific | ance | |
| Ref | Environmental Aspects | RU | WM | ΑE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| G9-1 | Dust emission from collection/handling of waste (by bulldozer, grab lorry, refuse chutes, etc) and | | | Χ | | | | | | | 1 | - | - | - | Y | E1/04 |
| | improperly uncovered stockpiled waste | | | | | | | | | | | | | | | |
| G9-2 | Odour from uncovered wastes | | | Χ | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/04 |
| G9-3 | VOC emission from uncovered chemical wastes | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| G9-4 | Leaching from stockpiled wastes | | Χ | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G9-5 | Leakage or spillage of chemical waste due to improper storage | | Χ | | | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| G9-6 | Visual intrusion by uncovered stockpiled waste | | | | | | | | | Χ | 0 | 0 | 0 | 0 | Ν | |
| G9-7 | Disposal of chemical wastes (e.g. unused or spent fuel/lubricant/chemical containers/other chemicals, rags, gloves, soil, debris, etc contaminated with fuel/lubricant/other chemicals) | | Χ | Χ | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 3 |
| G9-8 | Disposal of batteries | | Χ | | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04, O&T-2006 - 3 |
| G9-9 | Disposal of uncontaminated spoil/vegetation (including marine dumping) | | Χ | | Χ | | | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 3 |
| G9-10 | Disposal of contaminated spoil/vegetation (including marine dumping) | | Χ | | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 3 |
| G9-11 | Disposal of inert waste (debris from demolition, removal of concrete structures, etc.) | | Χ | | Χ | | | | | | 1 | - | - | - | Υ | E1/04, O&T-2006 - 3 |
| G9-14 | Disposal of packaging waste (e.g. pallet, wrapping graps) | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 3 |
| G9-15 | Disposal of other solid waste | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04, O&T-2006 - 3 |
| G10) Wa | stewater Discharge and Treatment Facilities | | | | | | | | | | | | | | | |
| G10-1 | Discharge of wastewater from construction activities | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 2 |
| G10-2 | Discharge of wastewater from cleaning of site plants/machineries/facilities | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/04, 0&T-2006 - 2 |
| G10-4 | Discharge of wastewater from kitchens | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/04 |
| G10-5 | Discharge of stormwater runoff | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/04 |
| G10-6 | Consumption of canvas for reducing sediment load in stormwater runoff | Χ | Χ | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G10-7 | Consumption of chemicals for wastewater treatment | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| G10-8 | Malfunctioning of treatment facilities leading to effluent quality exceeding license limits | | | | Χ | | Χ | | | | 1 | - | - | - | Υ | E1/04 |
| G10-9 | Overflow of sedimentation tanks (after unexpected weather conditions) leading to uncontrolled | | | | Χ | | | Χ | | | 0 | 1 | - | - | Y | E1/04 |
| | discharge untreated wastewater into the surrounding | | | | | | | | | | | | | | | |
| G10-11 | Disposal of sludge from sediment tank | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |

Date: 1-1-2006

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|----------|--|----------|----------|--------|--------|---------|---------|-------|---------|---------|--------|--------------|----------|-----------|--------------|--|
| | | | F | otenti | al Env | rironm | ental I | mpaci | ts | | Eva | aluatio | n of S | ignific | ance | |
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | egal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| | und Investigation | 1 | 1 | 7.= | | | | | | ٠. | | 0 | 2 | O | | |
| T1-1 | Consumption of water for flushing | Х | l l | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T1-2 | Consumption of cement bentonite grout (cement, sand, water, bentonite) | Х | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T2) Den | nolition (including site clearance) | | | | | | | | | | | | | | | |
| T2-1 | Use of refuse chutes | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T2-2 | Consumption of material for shoring and supporting | Χ | | | | | | | | | 0 | 0 | 0 | 1 | Υ | E1/04 |
| T2-3 | Consumption of mesh screen | Χ | | | | , | | | | | 0 | 0 | 0 | 0 | Ν | |
| T2-4 | Demolition of structure potentially containing asbestos | | | Χ | | | | | | | 1 | - | - | - | Υ | E1/04 |
| T2-5 | Disposal of asbestos waste | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |
| T2-6 | Improper disconnection of existing pipelines leading to contamination | | Χ | | Χ | | | | | | 1 | 1 | ı | - | Υ | E1/04 |
| T2-7 | Damage to plants to be retained | | | | | | | Χ | | | 0 | 0 | 0 | 1 | Υ | E1/04 |
| T2-8 | Damage to plants when being transported to temporary nursery for future re-planting | | | | | | | Χ | | | 0 | 0 | 0 | 1 | Υ | E1/04 |
| | Formation (including fencing & earthworks) | | | | | | | | | | | | | | | |
| A) Fend | | | | | | | | | | | | | | | | |
| T3-1 | Consumption of hoardings (e.g. timber, metal) | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T3-2 | Consumption of paints for painting hoardings, permanent fencing and gates | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T3-3 | Consumption of steel gates for temporary site hoardings | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-4 | Disposal of used hoardings and steel gates | | Χ | | | | | | | | 1 | - | - | - | Υ | E1/04 |
| T3-5 | Inadequate height to mitigate noise and dust emissions from site | | | Χ | | Χ | | | | | 1 | - | - | - | Υ | E1/04 |
| T3-6 | Polluted water runoff from site due to inadequate integrity of hoarding at base | | | | Χ | | | | | | 1 | - | - | - | Υ | E1/04 |
| T3-7 | Consumption of gate materials for permanent fencing and gates | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-8 | Consumption of concrete for fixing permanent posts | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04, 0&T-2006 - 1 |
| B) Eart | | | | | | | | | | | | | | | | |
| I) Exca | | | | | | | | | | | | | | | | |
| T3-9 | Release of inherent contamination from ground during excavation | | | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| | pe Works and Associated Drainage | _ | | | | | | | | | | _ | | | | |
| T3-15 | Use of bamboo scaffolding for preliminary slopework | Χ | <u> </u> | | | | | | | | 0 | 0 | 1 | - | Y | E1/04 |
| T3-16 | Use of protective fences and barriers for preliminary slopework | Χ | <u> </u> | | | | | | | | 0 | 0 | 0 | 0 | N | 5. (1) |
| T3-17 | Consumption of water prior to slope surface treatment | Χ | - | | | | | | | | 0 | 0 | 1 | - | Y | E1/04 |
| T3-18 | Consumption of compressed air for slope surface preparation | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |

Legend: 0 = No 1 = Yes Y = Yes N = No

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|----------|--|------------|---------|--------|---------|----------|---------|-------|--------|-------|---------|--------------|----------|-----------|-----------|--|
| | | | F | otent | ial Env | rironm | ental I | mpac | ts | | Eva | aluatio | n of S | ignific | cance | |
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| T3-19 | Consumption of cement mortar, soil cement or chunam (cement, sand, inorganic soil, hydrated | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| | lime, water) for slope treatment works | | | | | | | | | | | | | | | |
| T3-20 | Consumption of reinforcement for slope treatment works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T3-21 | Consumption of rock bolts, rock dowels for slope treatment works | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-22 | Consumption of PVC pipes (for weepholes) for slope treatment works | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-23 | Consumption of pipes for underground drainage | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-24 | Consumption of other components (e.g. prefabricated band drains) for underground drainage | Х | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-25 | Consumption of new concrete caisson liners for underground drainage | Х | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-26 | Consumption of protective mesh for slope treatment works | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-27 | Consumption of curing chemicals for slope treatment works | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-28 | Consumption of granular material for underground drainage | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T3-29 | Consumption of geotextile for underground drainage | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T3-30 | Consumption of concrete for open drainage | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04, 0&T-2006 - 1 |
| T8) Dra | inage works | | | | | | | | | | | | | | | |
| T8-1 | Consumption of pipe units | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-2 | Consumption of cement mortar (cement, sand, water) | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-3 | Consumption of bituminous protective coating | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-4 | Consumption of other fittings (fixers, protective tapes, manhole covers, etc) | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T8-5 | Consumption of aggregates | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-6 | Consumption of polythene sheetings | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-7 | Consumption of energy for heating bituminous material | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-8 | Fume from bituminous material | | | Χ | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T8-9 | Consumption of lubricant for jointing pipes/concrete | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T8-10 | Over-application of lubricant leading to land contamination | | | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| T8-11 | Consumption of water for testing and cleaning pipelines | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| | ad Works | | | | | | | | | | | | | | | |
| T22-1 | Consumption of sub-base material for bituminous road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T22-2 | Consumption of asphalt pavement (road base and wearing course) for bituminous road works | Х | | | | | | | | | 0 | 0 | 1 | - | Y | E1/04 |
| T22-3 | Spillage of bituminous material used in bituminous road works | | Χ | | | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |

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| | | | P | otenti | al Env | vironm | ental I | mpac | ts | | Eva | aluatio | n of S | ignific | cance | |
|----------|--|----|----|--------|--------|--------|---------|------|----|----|-------|--------------|----------|-----------|-------|--|
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| T22-4 | Consumption of ready mixed concrete for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04, 0&T-2006 - 1 |
| T22-5 | Consumption of cement mortar (cement, sand, water) for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T22-6 | Consumption of polyethylene membrane for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T22-7 | Consumption of formwork materials for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T22-8 | Consumption of reinforcement for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T22-9 | Consumption of sealant and primer for concrete road works | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23) Ro | ad Furniture (Misc. Road Works) | • | • | | | | | • | | | | • | • | • | | |
| A) Conc | rete Profile Barrier, Kerbs, Edgings, Concrete Slabs, Interlocking Blocks | | | | | | | | | | | | | | | |
| T23-1 | Consumption of precast units or granite kerbs | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-2 | Consumption of concrete for casting barriers on site | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04, 0&T-2006 - 1 |
| T23-3 | Consumption of cement mortar (cement, sand, water) | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-4 | Consumption of sand for bedding precast units and filling joints | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-5 | Consumption of paints and lacquer | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| B) Raili | ngs and beam barriers | | | | | | | | | | | | | | | |
| T23-6 | Consumption of metal railings and beam barriers | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-7 | Consumption of cement mortar (cement, sand, water) | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-8 | Consumption of acetylene and compressed oxygen for welding | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T23-9 | Consumption of welding rods (with flux) | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T23-10 | Air emission during welding and flame cutting | | | Χ | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T23-11 | Visual impact on natural landscape | | | | | | | | | Χ | 0 | 0 | 0 | 0 | Ν | |
| • | ic road signs | | | | | | | | | | | | | | | |
| | Consumption of metal components for road signs | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| | Consumption of paints and lacquer for road signs | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T23-14 | Consumption of plastic sheets for road signs | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| D) Road | markings | | | | | | | | | | | | | | | |
| T23-15 | Consumption of thermoelastic materials for road markings | Χ | | | | | | | | | 0 | 0 | 1 | - | Y | E1/04 |
| T23-16 | Consumption of glass beads for road markings | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T24) La | ndscaping | | | | | | | | | | | | | | | |
| T24-1 | Consumption of materials (e.g. hessian, straw, tarpaulin) for wrapping rootball / canopy of plants | Χ | | | | | | | | | 0 | 0 | 1 | - | Y | E1/04 |
| | | | | | | | | | | | | | | | | |

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|----------|---|----|----|--------|--------|-------|---------|-------|----|----|-------|--------------|----------|-----------|------|--|
| Ref | Environmental Aspects | RU | WM | AE | WP | NV | LC | FF | HE | CI | Legal | Consequences | Material | Corporate | SEA | Operational Control / O&T Reference |
| T24-2 | Damage to plants by unsuitable environmental conditions (preserved in-situ or in temporary nursery) | | | | | | | Χ | | | 0 | 1 | - | - | Υ | E1/04 |
| T24-3 | Damage to plants or turf during transportation | | | | | | | Χ | | | 0 | 1 | - | - | Υ | E1/04 |
| T24-4 | Damage to plants, turf or seeds when temporarily stored on site | | | | | | | Χ | | | 0 | 1 | - | - | Υ | E1/04 |
| T24-5 | Consumption of fertilizer, soil conditioners and soil binder | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T24-6 | Over application of fertilizers or soil conditioners leading to leaching | | | | Χ | | Χ | | | | 0 | 1 | - | - | Υ | E1/04 |
| T24-7 | Erosion of soil | | | Χ | Χ | | | | | | 0 | 1 | - | - | Υ | E1/04 |
| T24-8 | Consumption of water for irrigation | Χ | | | | | | | | | 0 | 0 | 1 | 1 | Υ | E1/04 |
| T24-9 | Consumption of supporting structure or protective fences for planting | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T24-10 | Consumption of protective cover for grassing | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T24-11 | Consumption of landscaping / garden furniture | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T30) Ter | nporary Works | | | | | | | | | | | | | | | |
| T30-1 | Consumption of new scaffolding materials | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T30-2 | Consumption of steel sheet piles | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T30-3 | Consumption of materials for falsework | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T30-4 | Consumption of acetylene and oxygen for flame cutting (for metal hoardings) | Χ | | | | | | | | | 0 | 0 | 0 | 0 | Ν | |
| T30-5 | Consumption of welding flux and welding rods | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |
| T30-6 | Consumption of fixers (nylon ties, bolts, nuts) for scaffolding | Χ | | | | | | | | | 0 | 0 | 1 | - | Υ | E1/04 |

Reviewed and Approved by: K.T. Wong