Wan Bao Construction Company

Project Contract No. DF-2006-01

Redevelopment of Cheung Sha Wan Market – Phase 1
Demolition and Foundation Works

Register of Environmental Aspects for Project 2

PEAR-02

Revision No. : *1*
Date : 01 – 01 – 2006

Guidance Notes:

Project Description
The existing Cheung Sha Wan Market operates in a deteriorating, sub-standard, single storey temporary structure built 30 years ago, without suitable measures to control ventilation, noise, wastes and odour. The building area is inadequate to effectively manage activities necessary for the efficient operation of a modern wet market and together with a lack of suitable parking and loading areas impacts an environmental nuisance to nearby residents in the Cheung Sha Wan Estate. Due to a lack of space and the need to maintain the operations the present building cannot be improved and redevelopment to a purpose designed building is necessary. The new Market will be constructed with 3 floors and parking spaces and loading bay. The duration of this project will be carried out in 18 months. The demolition of existing Market and the enhancement of ground foundation works are
Wan Bao Construction Limited (WBC) has been awarded the Phase I Contract DF-2006-01 of demolition and foundation works for Cheung Sha Wan Market Redevelopment Contract. The contract include the following works :

1. Site clearance and formation
2. Demolition work
3. Ground investigation;
4. Foundation work (bored piling)

Revision History

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

Demolition and Foundation Works

Project Contract No. DF-2006-01

Redevelopment of Cheung Sha Wan Market – Phase 1

Demolition and Foundation works

Contents of Register of Environmental Aspects for Project 2

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

Ref	Environmental Aspects	Potential Environmental Impacts									Evaluation of Significance					Operational Control / O&T Reference
		RU	WM	AE	WP	NV	LC	FF	HE	CI	Legal	Consequences	Material	Corporate	SEA	
Demolition and Foundation Works																
OF-1	Electricity consumption (for lighting, air conditioning, office equipment and other purposes)	x									0	0	1	-	Y	EI/07, O&T-2006 - 5
OF-2	Water consumption (for drinking, cleaning, flushing)	x									0	0	0	0	N	
OF-3	Consumption of papers	x									0	0	1	-	Y	EI/07, O&T-2006 - 4
OF-4	Consumption of stationery and office equipment	x									0	0	0	0	N	
OF-5	Consumption of cartridges for printers, copies, fax machines	x									0	0	1	-	Y	EI/07
OF-6	Use/release of CFC substances (e.g. refrigerants for air conditioning units)			x							1	-	-	-	Y	EI/06
OF-7	Domestic wastewater discharge (from pantry, flushing) to foul sewers				x						0	0	0	0	N	
OF-8	Release of ozone from photocopiers and laser printers			x							0	0	0	0	N	
OF-9	Indoor air ventilation			x							0	0	0	0	N	
OF-10	Noise from office equipment					x					0	0	0	0	N	
OF-11	Disposal of waste (general refuse)		x								1	-	-	-	Y	EI/07
OF-12	Disposal of toner cartridges		x								1	-	-	-	Y	EI/07
OF-13	Disposal of Fluorescent tubes		x								1	-	-	-	Y	EI/07
OF-14	Disposal of batteries		x								1	-	-	-	Y	EI/07
OF-15	Disposal of recyclable waste (paper, plastic, aluminium cans)		x								1	-	-	-	Y	EI/07
OF-16	Potential fire		x	x	x						0	1	-	-	Y	EP/05
OF-17	Pest control - use of insecticide by subcontractor			x							0	0	0	1	Y	EI/06
OF 18	Cleaning and waste collection services provided by subcontractors		x		x						0	0	0	1	Y	EI/06
Evaluation of Suppliers and Contractors																
SC-1	Shortlisting/selection of contractors with environmental concerns	x	x	x	x	x	x	x	x	x	0	0	0	1	Y	EI/05, EI/06
SC-2	Ongoing appraisal of selected contractors on their environmental performance	x	x	x	x	x	x	x	x	x	0	0	0	1	Y	EI/05, EI/06
SC-3	Shortlisting/selection of suppliers with environmental concerns	x	x	x	x	x	x	x	x	x	0	0	0	1	Y	EI/05, EI/06
SC-4	Ongoing appraisal of selected suppliers on their environmental performance	x	x	x	x	x	x	x	x	x	0	0	0	1	Y	EI/05, EI/06

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

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Demolition and Foundation Works																
SP-1	*Equipment selection: noise*					*x*					*0*	*0*	*0*	*1*	*Y*	*EI/03*
SP-2	*Equipment selection : energy efficiency*	*x*									*0*	*0*	*0*	*1*	*Y*	*EI/03*
SP-3	*Materials estimation increase accuracy to minimise surplus*	*x*									*0*	*0*	*0*	*1*	*Y*	*EI/03*
SP-4	*Use of hazardous materials*		*x*	*x*	*x*						*0*	*1*	*-*	*-*	*Y*	*EI/03*
SP-5	*Use of structural steel work, metal work and ironmongery*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/03*
SP-9	*Use of virgin aggregates in concrete*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/03, O&T-2006 - 1*
SP-10	*Use of virgin materials in cement*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/03*

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Demolition and Foundation Works																
V-1	Fuel consumption by vehicle	x									0	0	1	-	Y	EI/08
V-2	Type of fuel consumed (legal)			x							1	-	-	-	Y	EI/08
V-3	Noise produced by vehicle					x					1	-	-	-	Y	EI/08
V-4	Exhaust air emissions			x							1	-	-	-	Y	EI/08
V-5	Discharge of vehicle wash water				x						1	-	-	-	Y	EI/08
V-6	Venting of refrigerants from air conditioning unit of vehicles			x							1	-	-	-	Y	EI/08
V-7	Vehicle maintenance : waste generation (old parts, contaminated wastes, lubricant oil disposal)		x				x				1	-	-	-	Y	EI/08
V-8	Traffic congestion			x						x	0	0	0	0	N	
V-9	Potential oil leakage		x	x	x		x			x	0	1	-	-	Y	EI/08
V-10	Selection of maintenance and repair services provider	x	x	x	x	x	x	x	x	x	0	0	0	1	Y	EI/08

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Demolition and Foundation Works																
G1-1	Dust generated from construction activities, moving traffic, and insufficient protection or covering			x							1	-	-	-	Y	EI/04
G1-2	Dust emission from dusty load on outgoing trucks			x							1	-	-	-	Y	EI/04
G1-3	Dust emission from storage of cement/PFA			x							1	-	-	-	Y	EI/04
G1-4	Dust emission from handling of cement/PFA			x							1	-	-	-	Y	EI/04
G1-5	Consumption of water for wheel/vehicle washing	x									0	0	1	-	Y	EI/04
G1-6	Consumption of water for dust suppression	x									0	0	1	-	Y	EI/04
G1-7	Consumption of covering materials/dust screens/nettings	x									0	0	0	0	N	
G1-8	Disposal of used covering materials/dust screens/nettings		x								1	-	-	-	Y	EI/04
G1-9	Disposal of sludge from wheel/vehicle washing facilities		x								1	-	-	-	Y	EI/04
G2) Construction Noise and Suppression																
G2-1	Construction noise generated from equipment operation, vehicles and various construction activities					x					1	-	-	-	Y	EI/04
G2-2	Consumption of noise barriers	x									0	0	0	0	N	
G2-3	Disposal of noise barriers		x								1	-	-	-	Y	EI/04
G3) Cumulative Resources Consumption																
G3-1	Electricity consumption	x									0	0	1	-	Y	EI/04
G3-2	Water consumption	x									0	0	1	-	Y	EI/04
G3-3	Consumption of flushing water	x									0	0	0	0	N	
G3-4	Wastage of water from dripping taps, leaking pipelines, etc	x									0	0	1	-	Y	EI/04
G4) Emergency Circumstances																
G4-1	Accidental damage to underground utilities				x		x				0	1	-	-	Y	EI/04
G4-2	Emergencies arising from flooding or fire during construction/demolition		x	x	x		x				0	1	-	-	Y	EI/04
G4-3	Discovery of archaeological findings / rare species							x	x	x	0	1	-	-	Y	EI/04
G4-4	Land / groundwater contamination from construction/demolition works (e.g. major spillage accidents)						x				0	1	-	-	Y	EI/04
G4-5	Disposal of wastes arising from cleaning after spillage or accidents		x								1	-	-	-	Y	EI/04
G5) Handling and Storage of Materials/Chemicals																
G5-1	Poor coverage of materials causing fugitive dust emission			x	x						1	-	-	-	Y	EI/04
G5-2	Improper storage of materials/chemicals resulting in leaching		x		x		x				0	1	-	-	Y	EI/04
G5-3	Improper storage of materials resulting deterioration and wastage		x				x				0	0	1	-	Y	EI/04
G5-4	Inappropriate storage of timber and eventually leading to fire/wastage		x	x	x	x	x			x	0	1	-	-	Y	EI/04

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G5-5	Spillage or leakage of chemicals/DG during handling/use/storage		x	x	x		x				0	1	-	-	Y	EI/04
G5-6	VOC emissions from improperly closed containers			x							0	1	-	-	Y	EI/04
G5-7	Storage of DG (e.g. acetylene/oxygen, diesel, paint)		x		x		x				1	-	-	-	Y	EI/04
G6) Nuisance																
G6-1	Odour impacts			x						x	1	-	-	-	Y	EI/04
G6-2	Visual impact									x	0	0	0	0	N	
G6-3	Mosquito/pest									x	1	-	-	-	Y	EI/04
G7) Site Plant and Machinery (Operation and Maintenance)																
G7-1	Consumption of fuel (diesel/petroleum)	x									0	0	1	-	Y	EI/04
G7-2	Consumption of electricity	x									0	0	1	-	Y	EI/04
G7-3	Air emission from combustion of fuel			x							1	-	-	-	Y	EI/04
G7-4	Noise generation from plants and equipment					x					1	-	-	-	Y	EI/04
G7-5	Spillage of chemical during refuelling		x		x		x				0	1	-	-	Y	EI/04
G7-6	Leakage of fuel/lubricant/chemicals from plants and equipment due to poor maintenance				x		x				0	1	-	-	Y	EI/04
G7-7	Consumption of lubricant/hydraulic oil/solvents	x									0	0	0	0	N	
G7-8	Consumption of rags and gloves	x									0	0	0	0	N	
G8) Transportation																
G8-1	Fuel consumption by vehicles	x									0	0	1	-	Y	EI/08
G8-2	Noise produced by vehicles					x					1	-	-	-	Y	EI/08
G8-3	Exhaust air emissions			x	x						1	-	-	-	Y	EI/08
G8-4	Spillage or leakage of DG (Category 1, 2, & 5) from vehicles due to accidents or inappropriate storage (e.g	x	x	x		x					1	-	-	-	Y	EI/04
G8-5	Spillage or leakage of DG (except Category 1, 2 & 5) and other chemicals from vehicles due to accidents o	x	x	x		x					0	1	-	-	Y	EI/04
G8-6	Traffic congestion and potential blockage of site entrance			x						x	0	0	0	0	N	
G9) Waste Collection, Handling and Disposal																
G9-1	Dust emission from collection/handling of waste (by bulldozer, grab lorry, refuse chutes, etc) and improperly un	x									1	-	-	-	Y	EI/04
G9-2	Odour from uncovered wastes			x							0	0	0	1	Y	EI/04
G9-3	VOC emission from uncovered chemical wastes			x							1	-	-	-	Y	EI/04
G9-4	Leaching from stockpiled wastes		x		x		x				0	1	-	-	Y	EI/04
G9-5	Leakage or spillage of chemical waste due to improper storage		x				x				0	1	-	-	Y	EI/04
G9-6	Visual intrusion by uncovered stockpiled waste									x	0	0	0	0	N	

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G9-7	Disposal of chemical wastes		x	x	x		x				1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-8	Disposal of batteries		x		x		x				1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-9	Disposal of spoil		x		x						1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-11	Disposal of inert waste		x		x						1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-12	Disposal of used bentonite slurry		x		x						1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-13	Disposal of recyclable waste		x								1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-14	Disposal of packaging waste		x								1	-	-	-	Y	EI/04, O&T-2006 - 3
G9-15	Disposal of other solid waste		x								1	-	-	-	Y	EI/04, O&T-2006 - 3
G10) Wastewater Discharge and Treatment Facilities																
G10-1	Discharge of wastewater from construction activities				x						1	-	-	-	Y	EI/04, O&T-2006 - 2
G10-2	Discharge of wastewater from cleaning of site plants/machineries/facilities				x						1	-	-	-	Y	EI/04, O&T-2006 - 2
G10-3	Discharge of wastewater from site toilets				x						1	-	-	-	Y	EI/04
G10-5	Discharge of stormwater runoff				x						1	-	-	-	Y	EI/04
G10-6	Consumption of canvas for reducing sediment load in stormwater runoff	x	x								0	0	0	0	N	
G10-7	Consumption of chemicals for wastewater treatment	x									0	0	0	0	N	
G10-8	Malfunctioning of treatment facilities leading to effluent quality exceeding license limits				x		x				1	-	-	-	Y	EI/04
G10-9	Overflow of sedimentation tanks (after unexpected weather conditions) leading to uncontrolled discharge untreated wastewate				x			x			0	1	-	-	Y	EI/04
G10-11	Disposal of sludge from sediment tank		x								1	-	-	-	Y	EI/04

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Demolition and Foundation Works																
T1-1	Consumption of water for flushing	x									0	0	1	-	Y	EI/04
T1-2	Consumption of cement bentonite grout (cement, sand, water, bentonite)	x									0	0	1	-	Y	EI/04
T2) Demolition (including site clearance)																
T2-1	Use of refuse chutes	x									0	0	0	0	N	
T2-2	Consumption of material for shoring and supporting	x									0	0	0	1	Y	EI/04
T2-3	Consumption of mesh screen	x									0	0	0	0	N	
T2-4	Demolition of structure potentially containing asbestos			x							1	-	-	-	Y	EI/04
T2-5	Disposal of asbestos waste		x								1	-	-	-	Y	EI/04
T2-6	Improper disconnection of existing pipelines leading to contamination		x		x						1	-	-	-	Y	EI/04
T2-7	Damage to plants to be retained							x			0	0	0	1	Y	EI/04
T2-8	Damage to plants when being transported to temporary nursery for future re-planting							x			0	0	0	1	Y	EI/04
T3) Site Formation (including fencing & earthworks)																
A) Fencing																
T3-1	Consumption of hoardings (e.g. timber, metal)	x									0	0	1	-	Y	EI/04
T3-2	Consumption of paints for painting hoardings, permanent fencing and gates	x									0	0	1	-	Y	EI/04
T3-3	Consumption of steel gates for temporary site hoardings	x									0	0	0	0	N	
T3-4	Disposal of used hoardings and steel gates		x								1	-	-	-	Y	EI/04
T3-5	Inadequate height to mitigate noise and dust emissions from site			x		x					1	-	-	-	Y	EI/04
T3-6	Polluted water runoff from site due to inadequate integrity of hoarding at base				x						1	-	-	-	Y	EI/04
T3-7	Consumption of gate materials for permanent fencing and gates	x									0	0	0	0	N	
T3-8	Consumption of concrete for fixing permanent posts	x									0	0	1	-	Y	EI/04
B) Earthworks																
I) Excavation																
T3-9	Release of inherent contamination from ground during excavation				x		x				0	1	-	-	Y	EI/04
III) Deposition and compaction of fill material																
T3-14	Consumption of fill material	x									0	0	1	-	Y	EI/04
T4) Foundation																
C) Non-percussion piling (large diameter bored concrete piles, non-percussion cast in-situ concrete piles)																
T4-8	Consumption of concrete	x									0	0	1	-	Y	EI/04

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T4-9	*Consumption of steel reinforcement*	*x*									*0*	*0*	*1*	-	*Y*	*EI/04*

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T4-10	Consumption of bentonite (or other chemicals)	x									0	0	1	-	Y	EI/04
T4-11	Contamination of groundwater				x		x				0	0	0	0	N	
T5-1	Consumption of steel reinforcement	x									0	0	1	-	Y	EI/04
T5-2	Consumption of tying wires, clips, etc for fixing reinforcement	x									0	0	0	0	N	
T5-3	Emission of metal particles in cutting yard			x							1	-	-	-	Y	EI/04
T11) Scaffolding																
T11-1	Consumption of new scaffolding materials	x									1	-	-	-	Y	
T11-2	Consumption of fixers (nylon ties, bolts, nuts)	x									0	0	0	0	N	
T11-3	Noise when setting up and dismantling scaffolding					x					1	-	-	-	Y	
T11-4	Dust emission from dismantling of scaffolding			x	x						1	-	-	-	Y	
T11-5	Disposal of used bamboo scaffolding, metal components or nylon ribbons as waste															Refer Table 5 (G9) Waste collection, handling & disposal
T25) Testing																
T25-1	Energy consumption by sampling equipment	x									0	0	0	1	Y	EI/04
T25-2	Noise from sampling equipment					x					1	-	-	-	Y	EI/04
T25-3	Dust emission during sample collection			x	x						1	-	-	-	Y	EI/04
T25-4	Discharge of wastewater arising from sample collection				x		x				1	-	-	-	Y	EI/04
T25-5	Disposal of test cores and debris from site lab		x								1	-	-	-	Y	EI/04
T25-6	Consumption of grout for filling into cavities after testing	x									0	0	1	-	Y	EI/04
T25-7	Consumption of water (e.g. for flushing)	x									0	0	1	-	Y	EI/04
T25-8	Consumption of chemicals (e.g. FEBFLOW, solvent for bituminous roads testing)	x									0	0	0	0	N	
T25-9	Discharge of wastewater from site lab				x						1	-	-	-	Y	EI/04
T25-10	Disposal of spent chemicals from site		x								1	-	-	-	Y	EI/04

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T30) Temporary Works																
T30-2	*Consumption of steel sheet piles*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/04*
T30-3	*Consumption of materials for falsework*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/04*
T30-4	*Consumption of acetylene and oxygen for flame cutting (for metal hoardings)*	*x*									*0*	*0*	*0*	*0*	*N*	
T30-5	*Consumption of welding flux and welding rods*	*x*									*0*	*0*	*1*	*-*	*Y*	*EI/04*

Reviewed and Approved by : *K.T. Wong*

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