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Appendix B

MECC Draft EMP Approval Letter

Government of Tonga

SAVINGRAM

FROM: Director for Environment & Climate Change
TO: Secretary for Transport
CC: Lasale Cocker
DATE: 17 September 2010
SUBJECT: Submission of Draft Final Environmental Management Plan as part of the Transport Sector consolidation project

With reference to the Draft Final Environment Management Plan (EMP), we would like to inform you that after reviewing the plan, together with the ongoing consultations with our Ministry, we would like to inform you that approval for the EMP is granted.

We sincerely apologise for the delay with the approval process and hope that we will continue working collaboratively with your organisation.

For your further action.

Yours sincerely



Asipeli Palaki



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Appendix C

Mitigation Measures

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS ⁴	EXECUTING AGENCY	SUPERVISING AGENCY
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
Road traffic safety	<p>Provide for Traffic Management Plan (TMP) to be developed by Contractor, to include signage, flag operators, personnel protective equipment (e.g. high visibility vest), and specific actions to be implemented around sensitive receptors (e.g. residential dwellings, schools, hospital). TMP to include vehicle and pedestrian traffic.</p> <p>Include transport of materials and equipment from the Port and quarry to construction lay down area (located at the airport) in the TMP e.g. covering of loads, maximum speed, designated travel times and notification of police and other required departments (e.g. hospital and schools).</p>	<p>From port to airport (delivery of equipment) To and from the construction lay down area and the quarry</p>	Minimal (requirement of bidding documents)	Design Consultant and Contractors	TAL
Aviation traffic safety	Each investment within an operational airport is to have a Methods of Works Plan (MOWP) which is to be included in all bid and contract documents. The Contractor is to develop a Safety Management Plan as an addendum to the MOWP. The MOWP will include details of site works scheduling around known flight timetables and procedures for emergency response for all workers.	Operational airports	Minimal (requirement of bidding documents and standard construction practices)	Design Consultant	TAL
Soil erosion	<p>Minimize erosion and design erosion protection measures according to international good practice standards, including incorporation of effective drainage systems (soakage pits) and consideration of surface flow paths.</p> <p>Schedule earthworks and construction activities during dry season (May to October).</p>	All locations	Minimal (part of standard design practices).	Design Consultant	TAL

⁴ Costs are estimates only and will be calculated during the detailed engineering design.

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Dust/Air Pollution	<p>Identify and locate waste disposal sites, stockpile sites and equipment (e.g. bitumen plant) to minimize impacts on the environment and nearby population.</p> <p>Ensure all equipment is serviced and issued with warrant of fitness (as required). Any machinery deemed to be polluting the air must be replaced (or fixed) on instruction by the TAL.</p>	Construction camp	Minimal (part of standard design practices).	Design Consultant	TAL
Water and soil pollution	<p>Minimise risk to groundwater and surrounding soil by developing a spill response plan and provide training to all contract workers on how to implement the spill response plan.</p> <p>Ensure bunded areas and hard stands are allocated at construction lay down area for the storage of fuel, lubricants and other potential substances required for the project. Water tight bunds to be able to contain 110% of volumes being stored or 25% if total volume greater than 1,000L.</p> <p>Ensure wash down areas with respective collection and treatment systems are designated within the construction camp (e.g. settling pond or tank and concrete slurry treatment) prior to works commencing.</p> <p>Sanitation treatment system (e.g. compost or proprietary treatment system) is to be approved by the TAL, MOI and MOH prior to implementation.</p>	All components	Minimal (part of standard design and construction practices).	Design Consultant	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Water supply	<p>Include maximum rainwater reclamation and water conservation/ efficiency in design of terminal.</p> <p>The Contractors will also need to ensure adequate supply of water for construction and personnel which does not adversely affect the community's water supply (e.g. mobile desalination plant or organise a reservoir supply specifically for construction).</p> <p>Prior to any site establishment or construction activities sample groundwater at specified bores (e.g. Terminal, ARFF) adjacent to work areas (to be coordinated with TAL and MECC) to determine base line conditions. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with TAL and MECC.</p>	<p>Airport terminals</p> <p>All components</p>	Minimal (part of standard design practices).	Design Consultant and Contractors	TAL
Sourcing aggregate material	<p>Ensure aggregate is sourced from an approved/ permitted quarry and are operating in accordance with the Tongan law.</p> <p>If the quarry is to be operated by the TAIP contractor they are responsible for seeking operating and environmental permits as required. As a minimum the IFC Environmental, Health, and Safety Guidelines for Construction Materials Extraction should be adopted. Materials extraction is likely to begin prior to construction on site to ensure enough material is available for the works.</p> <p>If Ahononou Quarry is to be mined, ensure fencing is installed to define the boundary, protect the coastal margin and prevent creep toward the ocean by quarry activities.</p> <p>Site runoff and wastewater is prohibited from being discharged directly to the coast. Site processing and stockpiles should be located inland.</p>	All components	Minimal (part of standard design and construction practices).	Contractor	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS ⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Solid waste generation	<p>Allow for re-use of as much material as possible either within the TAIP, other projects, or for community use. The Waste Authority Limited should be consulted for approval to receive material that cannot be recycled or reused at the Tapuhia Landfill.</p> <p>When planning the construction lay down area ensure temporary waste dump areas are allowed for and approved waste disposal sites / methodologies identified for removal of all solid waste.</p>	All locations	Minimal (part of standard design and construction practices).	Design Consultant and Contractors	TAL
Hazardous substances	<p>Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and type will need to be organised (TAL to provide details of providers).</p> <p>Confirm the presence of asbestos containing material on any buildings to be demolished and develop an asbestos management plan addressing the necessary EHS and disposal arrangements (Tapuhia Landfill) to deal with demolition and transport.</p>	All locations	Minimal (part of mobilisation and construction planning).	Contractors	TAL
Importation of equipment and materials	Obtain import permits and quarantine certification prior to export from country of origin. Certificate of fumigation required.	All components	Minimal (part of mobilisation and construction planning)	Contractor	TAL
CONSTRUCTION STAGE					
Traffic (vehicle and pedestrian) and construction safety	<p>Implement the traffic management plan (TMP) to ensure smooth traffic flow and safety for workers, passing vehicles and pedestrian traffic.</p> <p>Where appropriate, employ flag operators on the road to prevent traffic accidents. The workers shall have relevant safety equipment.</p>	Route from quarry and port to airport	Safety equipment included in construction cost.	Construction Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS ⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Soil erosion	<p>Minimise time and size of ground disturbing activities to workable size at any one time. Vegetation to be removed manually, strictly no use of herbicides/ pesticides.</p> <p>Stockpiles are to be positioned on impermeable surfaces (e.g. geotextile or concrete hard stand).</p> <p>Keep construction vehicles on defined tracks.</p> <p>Revegetate disturbed areas that are not being paved as soon as practicable (loosen ground; apply topsoil; seed or plant as necessary).</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL
Waste disposal	<p>Ensure all construction waste material is reused, recycled or packed up for transport to Tapuhia Landfill.</p> <p>Ensure areas for waste collection, recycling and off-site disposal are clearly marked/sign posted. Segregate waste to avoid cross contamination, such as with contaminated material (hazardous substance).</p> <p>Install waste collection facilities at construction lay down area to allow for collection and packing of waste. Strictly no dumping of rubbish. Include awareness training in general environmental training.</p> <p>Workers must be provided with a sanitary system to prevent fouling of surrounding soils.</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Water and soil pollution	<p>Lubricants shall be collected and recycled, or disposed of according to Tongan regulations. Spill response plan training completed for all construction workers.</p> <p>Zones for preliminary accumulation of wastes are designated in areas that will cause no damage to the vegetation cover or leach into groundwater (e.g. within construction lay down area on hard surface).</p> <p>Excavations are bunded to prevent ingress of water runoff and clean water diversion (e.g. sand bags, clay bund, or shallow trenches) are used to direct overland flow away from active work and storage areas.</p> <p>Sediment laden runoff from excavations or stockpiles must be directed to a settling area (e.g. pond or decant pond to be sized for area covered) or collected for dust suppression provided the runoff is not contaminated with any chemicals (e.g. fuel).</p> <p>The area around the fuel hydrant pipes on the apron has potential to be contaminated with hydrocarbons. While excavation of the apron in the vicinity of the fuel hydrant system is not required any material encountered which has a PID reading of 10 ppm shall be treated as contaminated fill and must be disposed of at an approved facility able to deal with contaminated fill (e.g. Tapuhia Landfill with approval from WAL).</p> <p>During construction activities, including establishing the construction laydown area and at completion of all physical works, sample groundwater at specified bores (e.g. Terminal, ARFF) adjacent to work areas (to be coordinated with TAL and MECC) to indicate whether construction activities have adversely affected groundwater quality. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with TAL and MECC.</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL and MECC

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Generation of dust	<p>Use closed/covered trucks for transportation of construction materials. Any vehicle which is overloaded (exceed designed load limit) or is not covered properly shall be refused entry to the construction lay down area or material shall be refused delivery (if not to the construction lay down area).</p> <p>Cover stockpiles containing fine material (e.g. sand and topsoil) when not actively being used.</p> <p>Keep work areas clean with regular sweeping. Due to freshwater supply constraints large scale water sprinkling should be kept to a minimum and only as required.</p> <p>Only small areas should be cleared of vegetation at any one time and revegetation should occur as soon as practicable.</p> <p>Dust masks and personnel protective equipment must be available for workers during dust generating activities (e.g. pavement milling).</p> <p>Asphalt mix plant to be fitted with a dust scrubber.</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Noise and vibration disturbances	<p>Minimise nuisance from noise, especially closer to residential areas, through establishment and communication to affected parties of standard working hours (07:00 to 18:00, Monday to Friday) and avoid increase of noise and number of work equipment at peak hours.</p> <p>Any work outside prescribed hours of operation requires approval by the TAL and notice to affected peoples provided at least one week prior to out of schedule works starting. Work on Sunday is restricted and is likely to only be approved in emergency situations.</p> <p>Regularly check and maintain machinery, equipment and vehicle conditions to ensure appropriate use of mufflers, etc.</p> <p>Workers in the vicinity of sources of high noise shall wear necessary protection gear rated for the situation they are being used.</p> <p>Signage to outline complaints procedure and contact details of recipient of complaints (e.g. phone number, physical address and email).</p> <p>The WB/IFC EHS Guidelines⁵ section 1.7 Noise Management shall be applied (if no local limits are prescribed). Noise impacts should not exceed the levels for industrial commercial activities for one hour LAeq of 70 dB at any point of the day or night. Alternatively noise impacts should not result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site (e.g. residential house).</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL

⁵ International Finance Corporation, Environmental Health and Safety Guidelines, General Guidelines: Noise Management

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Accident risks/Impacts on traffic safety	<p>Arrange necessary measures for pedestrian and passer-by safety and all means of transportation safety (e.g. establish protection zones, by-pass these areas during transportation of materials, etc.)</p> <p>Relevant safety elements such as guardrails, road signs and delineators, pavement markings, barricades and beams, warning lights shall be installed. In some cases a flag operator or traffic control supervisor could be engaged around the specific work site.</p>	All locations	<p>Safety equipment included in construction cost.</p> <p>Minimal (part of standard construction practice).</p>	Construction Contractors	TAL
Loss of archaeological artefacts or sites	Work to stop in specific location of unearthed artefacts or site. Fence the area to limit access and notify TAL and Ministry of Education, Women's Affairs and Culture (MEWAC) immediately for instruction to proceed.	All locations	No marginal cost	Construction Contractors	TAL and MEWAC
Landscape degradation	<p>Restoration of landscape after completion of rehabilitation works; restore the vegetation cover in accordance with the surrounding landscape and any required design (e.g. grass land or shrubs).</p> <p>Use plant species characteristic for the landscape in the course of restoration of the vegetation cover.</p>	All locations	Minimal (part of standard construction practice).	Construction Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Hazardous substances and safety and pollution	<p>Store and handle hazardous substances in bunded, hard stand or designated areas only. Bunded areas to drain to an oil water separator which will need to be constructed or a mobile proprietary unit imported specifically for use on the TAIP. Bunds to contain 110% of total volume required to be stored or, 25% of total volume if total volume is over 1,000L.</p> <p>Provide hazard specific personnel protective equipment to workers directly involved in handling hazardous substances (e.g. chemical or heat resistant clothing, gloves).</p> <p>Complete list, including MSDS for each chemical stored or used shall be accessible at all times. Signage to be posted in storage areas identifying all chemicals present.</p> <p>Spill kits and training of use to be provided to all workers during toolbox meetings. Spill kits to contain PPE gear for the spill clean-up (e.g. gloves and overalls), material to contain the spill and absorbent pads, and a heavy duty rubbish bag to collect absorbent pads or material.</p> <p>Used oil to be collected and taken to an approved facility (for disposal or cleaning) at completion of works if no on island disposal or recycling facility available material is to be taken off island and disposed of at an approved facility.</p> <p>Asbestos containing material (ACM) to be removed from buildings by trained workers wearing full asbestos suitable PPE gear (overalls, respirators, booties, etc.) in accordance with the Contractor's approved asbestos management plan (refer IFC EHS Guidelines). Asbestos to be disposed of at the Tapuhia Landfill (minimum 24hours notice required to be given to Waste Authority Limited (landfill operators)).</p>	All locations	<p>Safety equipment included in construction cost.</p> <p>Minimal (part of standard construction practice).</p>	Construction Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Loss of biodiversity	If during course of construction work, particularly vegetation clearance and excavations any bird, reptile or mammal species is identified as being potentially impacted (e.g. nesting bird in area of proposed vegetation clearance) work is to stop in the specific location of the find and the MECC and TAL notified immediately for instruction to proceed.	All locations	No marginal cost	Contractors	TAL and MECC
Health and safety	Construction lay down area to be fenced to prevent access by unauthorised personnel. First aid training to be provided as required to site workers with basic first aid services to be provided by Contractor e.g. stretcher, vehicle transport to hospital. Only personnel trained in asbestos handling may be involved in any demolition works involving ACM. Full PPE to be used when handling the material ready for transport.	All locations	Security included in construction cost. Included in construction costs	Contractor	TAL
Damage to assets and infrastructure	As a result of TAIP construction activities any damage to assets or infrastructure must be reported to the TAL and rectified at the expense of the Contractors.	All locations	Dependent on asset/ infrastructure and level of damage	Contractors	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS ⁴	EXECUTING AGENCY	SUPERVISING AGENCY
OPERATION STAGE					
Hazardous substance management	<p>Strictly apply and enforce manufacturer's recommendations for handling and storage. These measures include sealing of drums, and avoiding extreme heat.</p> <p>Compliance with international good practice.</p> <p>Security of storage areas to facilitate transport, handling and placement to be maintained (e.g. fences and locks fixed immediately if broken or vandalised).</p> <p>Complete list, including MSDS for each chemical stored or used shall be accessible at all times. Signage to be posted in storage areas identifying all chemicals present.</p> <p>Staff to wear manufacturers recommended personnel protective equipment (e.g. gloves and overalls) when handling or mixing hazardous substances.</p> <p>Emergency vehicles are to be serviced and maintained at existing workshop areas.</p>	All airport compounds	No marginal cost (standard operating procedure).	TBU Management	TAL
Water or soil pollution	<p>Workshops or maintenance areas to be fitted with bunded areas for storage of oil and fuel drums (and any other hazardous substances).</p> <p>Used oil drums should be returned to the suppliers or, after being cleaned, sold in secondary local market if there is demand for this.</p> <p>Used oils may be used for emergency drills/preparedness exercises as appropriate by ARFF.</p>	All locations	No marginal cost (standard operating procedure).	TBU Management	TAL

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POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS ⁴	EXECUTING AGENCY	SUPERVISING AGENCY
Maintenance of drainage and soakage systems	Drainage systems shall be periodically cleared of sediment and organic matter build up to ensure appropriate flows and soakage. Material to be disposed at approved site (e.g. landfill or used as cleanfill) or composted if organic. Vegetation to be cleared from drainage channels and soakage pits and composted through the Tapuhia Landfill.	All locations	No marginal cost (standard operating procedure).	TBU Management	TAL
Wastewater management	Septic systems of the terminal to be cleaned regularly and sludge disposed or treated in accordance with requirements of WAL. Sludge can be disposed of at Tapuhia Landfill	Terminal	No marginal cost for current practice of disposal.	TBU Management	TAL

Note: "All locations" refers to all areas in Tongatapu which will be impacted by TAIP activities, namely the airport (runway, terminal, control tower), the road corridor (transport of materials), the port (for delivery of equipment and material), and the construction lay down area.

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Appendix D

Monitoring Plan

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PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	RESPONSIBILITY
DETAILED DESIGN/ PRE-CONSTRUCTION PHASE				
Traffic safety	Design documents	Ensure TMP	Prior to sign off of final designs	Design Consultant
Aviation safety	Design documents	MOWP complete with details of flight schedules and emergency procedures.	Prior to sign off of final designs	Design Consultant
Soil erosion	Design documents	Construction scheduled for between May and December. Designs include erosion protection measures.	Prior to sign off of final designs	Design Consultant
Water supply	Design documents	Water reclamation systems included in designs (particularly terminal design).	Prior to sign off of final designs	Design Consultant
Quarry operations	Quarry	Upon confirmation of which quarry is to supply aggregate verify quarry operations to ensure any required permits or approvals are in place. Ensure TMP is included in procurement documentation for transport of materials from the quarry to the airport.	Prior to contract award	Design Consultant
Importation of equipment and materials	Importation permits	Ensure inclusion in design and material specifications that material and equipment to be fumigated and free of contamination. Approval to import material and equipment is given prior to material and equipment leaving country of origin.	Contractor to organize prior to export from country of origin.	Contractors
CONSTRUCTION				
Agreement for waste disposal	Construction Contractor's records	Permits and/or agreements with local waste disposal providers (e.g. Tapuhia Landfill) and licensed recycling operators. Inspection of disposal sites.	Documentation viewed prior to construction works starting Weekly as applicable to schedule of works.	TAL
Soil erosion	Areas of exposed soil and earth moving	Inspections at sites to ensure silt fences, diversion drains etc. are constructed as needed. Inspection to ensure replanting and restoration work completed.	Weekly inspection as applicable to schedule of works and after site restoration.	TAL

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PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	RESPONSIBILITY
Waste disposal	At construction sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill. Inspection to ensure waste streams are sorted for re-use, recycling or waste to landfill.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Water and soil pollution	At construction sites including quarry	Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained. Complete spill kits available where hazardous substances sorted and handled. Results from groundwater sampling are submitted to TAL and MECC with remedial action points if background/baseline conditions are exceeded. Inspection of Ahononou Quarry (if operational) to ensure site runoff and wastewater is not discharging to the beach.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	TAL
Dust	At construction sites, quarry and adjacent sensitive areas.	Site inspections. Regular visual inspections to ensure stockpiles are covered when not in use and trucks transporting material are covered and not overloaded.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Noise	At work sites and sensitive locations	Site inspections to ensure workers wearing protective equipment when required. Measurement of noise level with hand-held noise meter not to exceed 70dB. Public signage detailing complaints procedure and contact people/person on display. Noisy machinery is replaced or fixed as soon as problem arises or on instruction by TAL.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Air pollution	At work sites (including quarry)	Site inspections to ensure equipment and machinery operating without excessive emissions. If an issue is reported the contractor is responsible for replacing or fixing the equipment to the satisfaction of TAL.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Storage of fuel, oil, bitumen, etc.	At work sites and construction camp. Contractors training log.	Regular site inspections to ensure material is stored within bunded area and spill response training for workers completed. Visual inspection of spill kit for completeness and accessibility.	Weekly as applicable to schedule of works and on receipt of any complaints.	TAL

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PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	RESPONSIBILITY
Vehicle and pedestrian safety	At and near work sites	Regular inspections to check that TMP is implemented correctly (e.g. flags and diversions in place) and workers wearing appropriate personnel protective gear.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Construction workers and staff safety (personal protective equipment)	At work sites	Inspections to ensure workers have access to and are wearing (when required) appropriate personnel protective equipment (e.g. for handling hazardous materials). WB/IFC Guidelines have been implemented.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Community safety	At work sites	Inspections to ensure signs and fences restricting access are in place and pedestrian diversion routes clearly marked (whether for access to a building or home or particular route).	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	TAL
Materials supply	Quarry and work sites	Inspections to ensure permits in place for transporting loads over 3 tonnes (if applicable). Evidence that trucks are not overloaded and loads are covered e.g. complaints register, evidence of debris on the road. For Ahononou Quarry boundary fences are in place preventing creep into coastal environment.	Weekly visual inspection as applicable to schedule of works and on receipt of any complaints.	TAL
OPERATION				
Accidents with hazardous materials or wastes	Airport sites	Accident report	Immediately after accident	TAL
Wastewater management	Terminal, control tower and ARFF	Proper maintenance of septic system, no reports of odour or seepage	Quarterly inspection (observation) at connection to septic system.	TAL
Solid waste collection and disposal (non-hazardous)	Terminal and control tower	Solid waste being collected and taken to approved disposal site (e.g. landfill)	To be arranged with Waste Authority Limited as required	TAL

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Appendix E

Inspection Checklist

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Location:	
Auditor:	
Audit Date/Time (Start):	
Audit Date/Time (Finish):	

Environmental Issue:	Inspection areas:	Requirements met?
1.0 Construction Phase		
1.1 Soil Erosion	<ul style="list-style-type: none"> - Silt fences and diversion drains in place - Replanting and restoration work completed 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.2 Waste accumulation and Disposal Agreements	<ul style="list-style-type: none"> - Good housekeeping around the work sites - Waste stockpiled in defined areas with signage ready for removal - Waste/recycling permits/agreements in place 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.3 Soil and Water Pollution	<ul style="list-style-type: none"> - Waste collected in defined area on impermeable ground - Appropriate spill response plan/kit in place for waste area - Groundwater quality results sighted, and any remedial actions implemented. 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.4 Dust	<ul style="list-style-type: none"> - Stockpiles covered or kept wet when not in use - Visual inspection of ambient dust conditions - Truck transports are covered 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.5 Noise	<ul style="list-style-type: none"> - Workers wearing ear protection as required - Noise level maximum of 70dB 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:

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Environmental Issue:	Inspection areas:	Requirements met?
1.0 Construction Phase		
1.6 Hazardous Substance Storage (fuel/oil/bitumen)	<ul style="list-style-type: none"> - Hazardous substances within bund on impermeable surface - Spill kit complete and accessible - Spill training completed 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.7 Traffic Management Plan Implementation	<ul style="list-style-type: none"> - Traffic Management Plan (TMP) implemented - PPE is being worn by workers 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.8 Personal Protective Equipment Use	<ul style="list-style-type: none"> - Workers have access to, and using appropriate, PPE for the task. 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
1.9 Community Safety	<ul style="list-style-type: none"> - Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
2.0 Operational Phase		
2.1 Drainage Maintenance	<ul style="list-style-type: none"> - Inspect to check for blockages and debris, particularly after storm events 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
2.2 Septic System Maintenance and Upkeep at Terminal/ Control tower	<ul style="list-style-type: none"> - <i>Quarterly inspection</i> of connections to system, for leaks 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:
2.3 Solid Waste Collection/ Disposal from Terminal/ Control Tower	<ul style="list-style-type: none"> - Solid non-hazardous waste being removed to council approved disposal site (Tapuhia Landfill) 	Yes <input type="checkbox"/> No <input type="checkbox"/> If No, details:

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Actions Required:

Issue No.	Action Required? By Whom?	Date Action Required?

Signoff

Signature:

Date:

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