Appendix 4b - Environmental Actions and Monitoring Table

RICHARD CROOKES CONSTRUCTIONS

Environmental Aspect (to be read in conjunction with, Environmental Risk Matrix)		Environmental Actions, Controls and Criteria Strike out non relevant activities	Operational Controls				Effectiveness of Controls			Checking, Corrective & Preventative Action		Resp
			Induction and/or toolbox	RCC	Subcont. SWMS & contracts	Consult reports	Visual	**Form 18.3** Environmental Inspection Checklist	**Form 40.2** SWMS Compliance	**Form 31.1** NCR/ Site Notice Refer PMP Section 4	Check records during audit	
1	Dust Generation Particulate Emissions (General)	• Install shade cloth on perimeter fencing • Vehicle corridors will be clearly identified and restricted to control vehicle access onsite. • Limit vehicle speed onsite to 20km/hr • Fixed and mobile (water tanker) water sprays • Reduce work activities /stop work during moderate to high wind velocity periods. • Maintain equipment. Smokey plant to be stopped until repair works completed. • Turn off vehicle engines whilst not in use (no long periods of idling)	✓	✓	✓		Daily	Weekly		As required		SS
1	Dust Generation (Demolition)	• Breakers and crushing equipment to be fitted with dust filtration equipment or water sprays to control dust emissions.			✓		Daily	Weekly during works	✓	As required		SS
1	Dust Generation (Construction)	• Minimise areas of site disturbed and stage works where possible. • Dust suppression strategies to be used, i.e. water sprays, soil binders, hydromulching, controlled speed onsite, roadbase + shaker grids. • Stockpiled topsoils and rubble will be restricted to 4m high. Stabilise if insitu for >4-6months. • On site drilling or coring operations will be undertaken by equipment fitted with air filtration equipment.	✓	✓			Daily	Weekly		As required		SS

APPENDIX 4B - ENVIRONMENTAL ACTIONS AND MONITORING TABLE

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2	Odour	• If odorous materials uncovered, recover immediately. • Seek advice from consultant regarding soil /materials management.		✓		✓	Daily	Weekly		As required		SS
3	Greenhouse	• Ensure purchased electrical products/whitegoods products comply with specification for CFCS & energy ratings • Low solvent paints to be used as a priority • Building to conform to AGBR or GreenStar performance criteria • Deliveries / transport from site effectively planned to limit inefficient transport, assist back loading etc		✓						As required	✓	CA SS
4	Stormwater (Discharge from sedimentation basins, flooding)	• Water quality to meet ANZECC Water Quality Guidelines. → Conduct water quality test (external test company) NTU and TSS to determine the best treatment and acceptable levels – (Generally) PH 6.5- 8.5, Turbidity <50NTU, No visible oil & grease • Obtain advice for use of flocculants to settle sediment from water. • Sedimentation pond to be maintained at low levels to ensure capacity during rainfall event. • DO NOT DISCHARGE IF CONTAMINANTS SUSPECTED. Obtain advice.	✓	EP-001		✓	Daily during discharge	Weekly		As required	✓	SS

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5	Adjoining waterways (dewatering, soil erosion & runoff)	• Temporary drainage systems will be established to divert clean waters around the land development areas as appropriate. • Erect silt fences, bunds and construct swale drains. • Concrete Bunded washouts plastic lined • Inspect atleast weekly & after rainfall.		EP-001		✓	Daily during discharge	Weekly		As required	✓	SS

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5	Adjoining waterways (dewatering, soil erosion & runoff)	• Maintain and/or replace as required. • Refer NSW Department of Housing's Managing Urban Stormwater (2004). • Street sweepers will be employed on regular basis.										

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6	Sewer (Trade waste)	• No paints or other chemical to be poured down drains. • If required, obtain trade waste licence for discharge or local council approval.		EP-001		✓				As required	✓	SS

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7	Land (Acid sulphate soils, contaminated soils, imported fill)	• Stop work if unexpected potentially contaminated soils are encountered. • Obtain waste classification from consultant in accordance with EPA guidelines Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (June 2004) www.environment.nsw.gov.au/waste/envguidlns/index.htm.	✓		✓	✓	Daily	Weekly	✓	As required	✓	SS
		• Where required a Remediation Action Plan will be developed and implemented. • Sign off by Site Auditor may be required to validate cleanup. • Any groundwater or ponded rainwater will be tested and classified by consultants prior to disposal. • Check geotech requirements. Ensure soil classification suitable for land use ie. Schools, residential, commercial etc.	✓	EP-002	✓	✓	Daily	Weekly	✓	As required	✓	SS

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7	Land	• Potential for acid sulphate soils will be assessed based on the sites proximity to low-lying coastal areas eg. coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level. • If odorous soils (rotten egg gas) or grey/yellowed mottled soils encountered, stop work. • If suspected, consultant to prepare Acid Sulphate Soil management Plan (ASSMP). • Excavation and neutralisation to be supervised by consultants as per ASSMP. • The requirements to import fill will be minimised by utilising on site cut material wherever possible. • All analysis certificates shall be handed over as part of the completion documents to the client. • Record all imported fill on Form 25.08 - Product Identification & Traceability. • Mark up locations where fill compacted in site plan. Survey if required.										
8	Resources - water, materials, energy	• For design and construct jobs, refer to the design specification for ESD requirements and product choices. • Buy local wherever possible to reduce impacts of transport on environment.		✓		✓					✓	PM

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9	Noise	• Refer to DA for noise restrictions and working hours. • Use hoarding or acoustic mats as required. • Situate generators and plant away from sensitive receivers. • Turn off machinery. Maintain equipment and stop noisy plant until repaired. • No early deliveries.	✓		✓	✓	Daily	Weekly	✓	As required	✓	SS
10	Vibration	• Conduct dilapidation report prior to work starting. • Limit the use of vibratory rollers, rock breakers, impact piling etc adjacent to buildings (>7m). • Regenerated noise may also transfer through bedrock and building structures. • Obtain advice if required.	✓		✓	✓	Daily	Weekly	✓	As required	✓	SS
11	Community Concerns	• Provide information (eg. Signage, letterbox drops) to community on programmed works • Provide contact name for inquires. • Advice locals of “noisy” work. • If required in noise sensitive areas and/or in response to complaints, engage consultants to undertake monitoring at nominated receivers. • Vehicles will not be permitted to queue outside the site or in residential areas unless a defined area is established which does not adversely impact on neighbours.	✓				Daily	Weekly		As required		PM SS

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12	Flora	• Review planning documentation to determine the presence of any protected, threatened or significant flora. Obtain approvals as required. • Engage aborist to develop tree management plan or refer DA and aborist reports. • Education and training at site toolbox meetings and induction. • Report all sightings to the site manager. • Fence or barricade protected flora at the drip zone. Erect Keep Out signage. • Do not stack materials under/against trees. • The potential for reuse of vegetative wastes by mulching, chipping or on-site placement of trunks or limbs shall be reviewed for each project.	✓	✓		✓	Daily	Weekly		As required	✓	SS
13	Fauna	• All native animals protected. • Review planning documentation to determine the presence of any protected, threatened or significant fauna. Obtain approvals as required. • Site rules/induction to include information regarding of the • For injured animals, to relocate call WIRES	✓	✓		✓	Daily	Weekly	✓	As required	✓	SS

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14 **15**	Waste Litter	• Hazardous materials surveys to be completed. • Materials to be removed prior to demolition • Registers and waste disposal requirements as per WorkCover and EPA requirements for removal, storage, transport and disposal. • General site wastes –use one bin system and sort in contractors yard to produce quantities of material for recycling, reuse, disposal etc. • Empty drums are to be taken off-site for disposal. • Empty drums shall be crushed prior to recycling/disposal. • Do not overfill skip bins. Provide plenty for use. Cover where potential for windblown litter.	✓	EP-002	✓	✓	Daily	Weekly	✓	As required	✓	SS
16	Landfilling	• Reduce, reuse and then dispose • Landfill space scare leading to increased tipping costs • Dispose of hard construction wastes for recycled gravels and sands • Do not send soil to landfill until alternatives for beneficial reuse have been explored as per consultants advice. • Consideration should be given to chipping of the vegetation and reuse • Reuse packaging to protect works		EP-002			Daily	Weekly		As required	✓	SS

Environmental Aspect (to be read in conjunction with Appendix 4a, Environmental Risk Matrix)		Environmental Actions, Controls and Criteria Strike out non relevant activities	Operational Controls				Effectiveness of Controls			Checking, Corrective & Preventative Action		Resp.
17	Chemicals	• Chemicals to be stored in bunded areas (impervious + 110% of largest container) away from stormwater drains & pits. • Refer Workcover Code of Practice for Storage & Handling of Dangerous Goods, EPA Guidelines for Bunding & Spill Management. Appropriate chemicals storage is in conformance with: → AS 1940 The Storage and Handling of Flammable and Combustible Liquids → Storage and Handling of Dangerous Goods WorkCover Code of Practice 2005– refer p. 86 • EPA requirements http://www.environment.nsw.gov.au/mao/bundingspill.htm • Ponded water within bunds will not be discharged to stormwater. • Fuel and hydraulic leaks to be cleaned up immediately. • Drilling muds to be contained within bunds and reused. • Liquid paints NOT to be poured down drains. Spread on waste cardboard or similar and leave to dry. Paint brushes to be rinsed and paint solids allowed to settle. Container of paint solids to be disposed to liquid waste facility. • Construct concrete washout pit for washout, away from stormwater drains. Send back to batch plant where possible.	✓	EP-002 EP-005 EP-006	✓		Daily	Weekly	✓	As required		SS

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	Chemicals	• Concrete cuttings to be contained and wetvac to prevent runoff into stormwater drains. • Storage of bulk fuels (>200L) on site is prohibited. All refuelling shall be undertaken by a mobile facility with appropriate spill control and containment control equipment. • MSDS's must be provided to the Site supervisor prior to a chemical being received on site and by subcontractors using chemicals/products.	✓	EP-002 EP-005 EP-006	✓		Daily	Weekly	✓	As required		SS
18	Traffic	• Develop and implement traffic management plans. Submit to local council as required. • Signage and notices regarding disruptions. • Use crushed concrete, mulches etc along site access roads. • Install shakers and wheel wash as required. • Organise regular street sweeping. • Haulage routes and rules will be provided to subcontractors prior to commencing on site. • All loads of soil, demolition wastes, general wastes etc are to be tarped.	✓	TMPs		✓	Daily	Weekly		As required		SS

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19	Aboriginal heritage	• Education and training at site toolbox meetings and induction. • It is illegal to destroy heritage items. • Review local or regional environmental plans, or on the State Heritage Register is to be consulted prior to work starting onsite. • Obtain excavation permit issued by the Heritage Council of NSW if required. • Any heritage relics or sites discovered during construction shall be reported to the NSW Heritage Office. • Work in the subject area to cease until specialist advice is obtained. • The area will be fenced and signs erected to restrict access. • Heritage consultants may be required to provide advice on demolition/construction processes and finishes.	✓	✓		✓	Daily	Weekly		As required	✓	SS
20	European heritage	• Education and training at site toolbox meetings and induction. • It is illegal to destroy heritage items. • Check the Aboriginal Heritage Information Management System (AHIMS). • Also check the register of the National Estate. • Obtain approval from NPWS (Section 90 consent).	✓	✓		✓	Daily	Weekly		As required	✓	SS

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21	European heritage	• Any evidence of Aboriginal relics discovered during construction shall be reported to the National Parks and Wildlife Service. • Local land Land Council representatives may be required to monitor stripping/excavation. • Work in the subject area to cease until specialist advice is obtained. • The area will be fenced and signs erected to restrict access.	✓	✓		✓	Daily	Weekly		As required	✓	SS
	Emergency Preparedness:	• Spill kit onsite. • Refer to the MSDS for advice and procedures. • All spills must be reported to the FM & cleaned up. Complete RCC Accident /Incident report. • Sed pond pumped out regularly to maintain capacity in case of emergency • Ensure you know where stormwater drains are and have materials to block them in case of a fire.	✓	✓			Daily	Weekly		As required		SS