



Construction & Environmental Management Plan

(Main Building Works)
Sky – Newstead Stage 1

Date: 18th May 2021
Revision No: B



Revision Register

Revision #	Description	Date
A	DA Issue	20/02/2020
B	DA Issue	18/5/2021

TABLE OF CONTENTS

1. INTRODUCTION.....	4
2. CEMP PURPOSE.....	6
3. PERMITS FOR CONSIDERATION (NOT LIMITED TO).....	7
4. CONSULTATION FROM MIRVAC.....	7
5. PROGRAM & METHODOLOGY.....	8
6. ELEMENT 1: PUBLIC SAFETY, AMENITY & SITE SECURITY	18
6.1 OBJECTIVE	18
6.2 PERMITS APPLICABLE	18
6.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC.....	18
6.4 OTHER POLICIES & GUIDELINES	19
6.5 MATTERS FOR CONSIDERATION	19
7. ELEMENT 2: OPERATING HOURS, NOISE & VIBRATION CONTROLS.....	21
7.1 OBJECTIVE	21
7.2 PERMITS APPLICABLE	21
7.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC.....	21
7.4 OTHER POLICIES & GUIDELINES	21
7.5 MATTERS FOR CONSIDERATION	21
8. ELEMENT 3: AIR & DUST MANAGEMENT.....	23
8.1 OBJECTIVE	23
8.2 PERMITS APPLICABLE	23
8.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC.....	23
9. ELEMENT 4: STORMWATER & SEDIMENT CONTROL.....	24
9.1 OBJECTIVE	24
9.2 PERMITS APPLICABLE	24
9.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC.....	24
9.4 MATTERS FOR CONSIDERATION	24
10. ELEMENT 5: WASTE & MATERIALS RE-USE	25
10.1 OBJECTIVE.....	25
10.2 PERMITS APPLICABLE	25
10.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC	25
10.4 MATTERS FOR CONSIDERATION	25
11. ELEMENT 6: TRAFFIC MANAGEMENT	26
11.1 OBJECTIVE.....	26
11.2 PERMITS APPLICABLE	26
11.3 APPLICABLE LEGISLATIVE REFERENCES, LOCAL LAWS, ETC	26
11.4 MATTERS FOR CONSIDERATION	26
12. ELEMENT 7: WORKPLACE RISK MANAGEMENT PLAN (WRMP).....	27
12.1 WORKPLACE IMPLEMENTATION	27
12.1.1 Workplace Organisational Structure	27
12.2 TRAINING, AWARENESS & COMPETENCY.....	27
12.2.1 Workplace HSE Training	27
12.2.2 Service Provider Induction.....	27
12.2.3 Visitor Induction	27

12.3	HSE CONSULTATION, COMMUNICATION AND REPORTING	28
12.3.1	Display of HSE information.....	28
12.3.2	Toolbox or Pre-Start Talks.....	29
12.4	HAZARD/ASPECT IDENTIFICATION, RISK ASSESSMENT & RISK CONTROL	29
12.5	EMERGENCY RESPONSE AND EVACUATION.....	29
13.	ELEMENT 8: PUBLIC INTERFACE, SEPARATION & PROTECTION FROM CONSTRUCTION ACTIVITIES ...	31
APPENDIX A		32
	TRAFFIC MANAGEMENT PLAN.....	32
APPENDIX B		33
	CRANE RADIUS PLANS AND SITE LOGISTICS PLANS	33
APPENDIX C		34
	SAFETY MANAGEMENT SYSTEM AS 4801	34
	ENVIRONMENT MANAGEMENT SYSTEM AS 14001	34
APPENDIX D		35
	AIR & DUST MANAGEMENT	35
APPENDIX E		36
	WATER MANAGEMENT	36
APPENDIX F		37
	WASTE MANAGEMENT	37
APPENDIX G		38
	CHEMICAL MANAGEMENT	38
APPENDIX H		39
	NOISE CONTROL AND EMERGENCY RESPONSE	39
APPENDIX I		40
	WEEKLY ENVIRONMENTAL PROTECTION CHECKLIST	40

1. INTRODUCTION

1.1 Contact Details

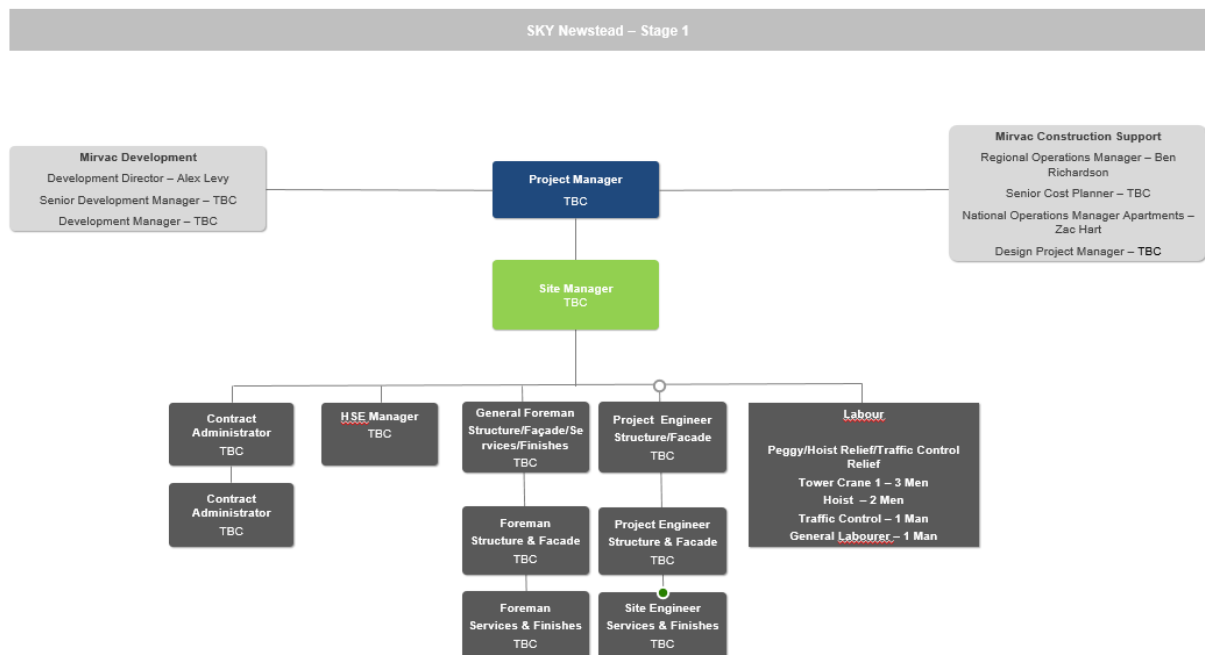
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1.2 Construction Management Organisation



1.3 Project Details

The new development proposed at Sky – Newstead Stage 1 is a 26 (approximately 91m high) storey apartment tower, 3 basement levels with a podium level including, resident gymnasium, retail space and a roof top entertainment area with pool.

The Site is located at 57 Skyring Terrace, Newstead.

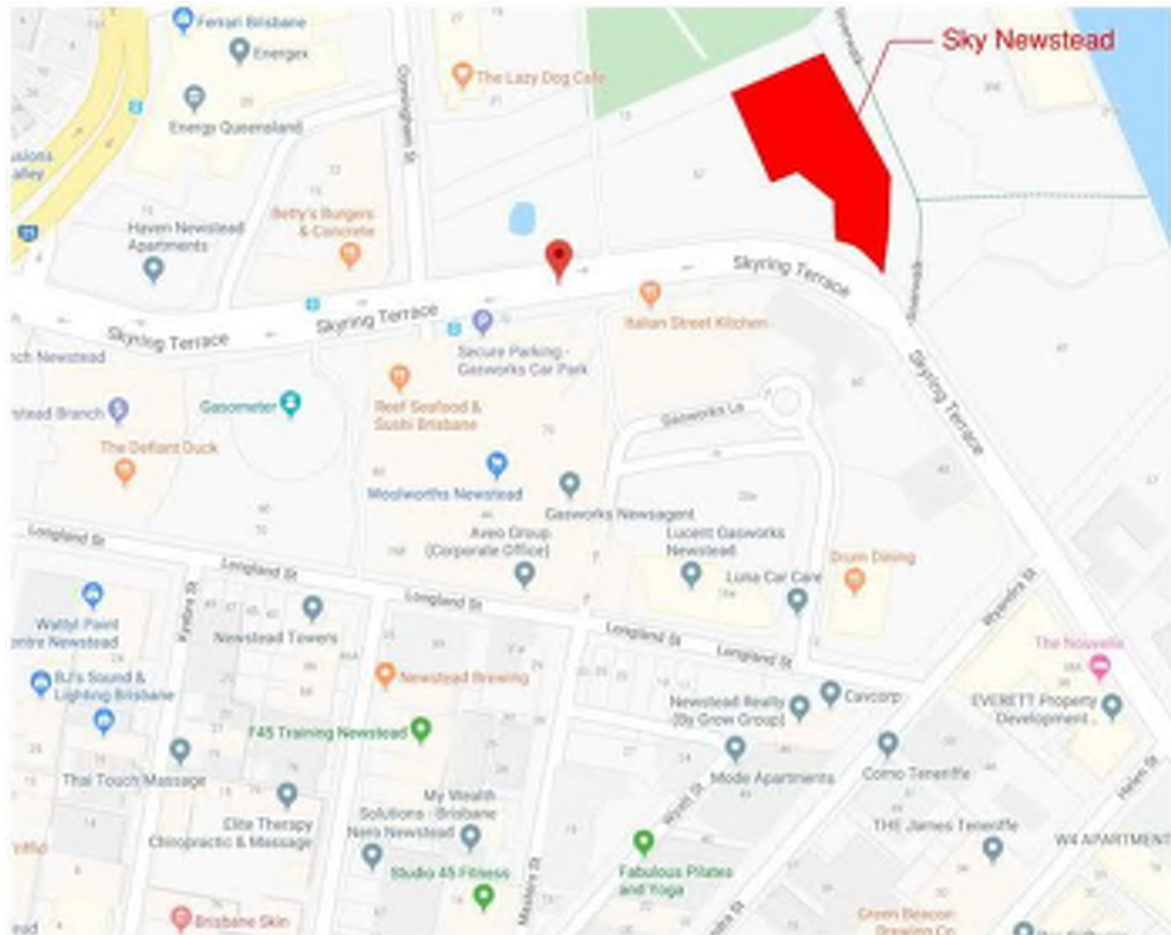


Diagram 1. Location Plan of Site

2. CEMP PURPOSE

This Construction & Environment Management Plan (CEMP) has been developed to address the health, safety, environmental, traffic management and amenity issues in relation to the construction site and adjoining community will be addressed in detail. Broader obligations including recycling waste management and environmental initiatives will also be considered.

The CEMP is a positive commitment by Mirvac to ensure that the project is delivered to the highest quality, safety and environmental standards.

The responsibility for the management of the document and the actions contained therein lies with the Senior Project Manager for the duration of the works.

As this is a live document, the CEMP will be monitored and updated throughout the duration of the project.

2.1 Elements of the CMP

Element 1:	Public Safety, Amenity & Site Security
Element 2:	Operating Hours, Noise & Vibration Controls
Element 3:	Air & Dust Management
Element 4:	Stormwater & Sediment Control
Element 5:	Waste & Materials Re-use
Element 6:	Traffic Management
Element 7:	Workplace Risk Management Plan (WRMP) Implementation
Element 8:	Public Interface, Separation & Protection from Construction Activities
Element 9:	Environmental Site Specific Hazard Analysis

3. PERMITS FOR CONSIDERATION (NOT LIMITED TO)

- BCC Roads for road closures
- BCC for hoarding on Skyring Terrace
- BCC footpath & space occupation on surrounding footpaths / road
- BCC out of hours works (as required)
- Approval for a legal point of discharge
- Tower crane erection dismantle and operation (x1)
- Mobile crane lift on or above road
- Relevant occupation permits for works required on BCC land
- BCC Road openings and excavations
- BCC for Site sheds over gantries
- BCC for Motorised plant and equipment including ladders, mobile scaffolds or footpath occupation
- Flora and Fauna
- BCC Temporary access to drive over the constructed kerb and channelling other than the driveway

4. CONSULTATION FROM MIRVAC

Brisbane City Council

Neighbouring & Adjoining Properties

- Local stakeholders informed of the type & nature of works and their potential impact on the local area. This includes close communication with BCC regarding any works effecting council property or adjoining owners
- Give a sense of ownership to surrounding community
- 'Notification Requirements' for specific elements in CEMP
- Site contact details predominantly displayed around external hoardings

5. PROGRAM & METHODOLOGY

Item	Date
Site Establishment	July 2021
Bulk Excavation	Start September 2021 Finish November 2021
Superstructure	Start November 2021 Finish May 2023
Finishes	Start August 2022 Finish December 2023
Practical Completion	December 2023

Critical Sequential Program Methodology (to be read in conjunction with Appendix J):

1. Undertake "Mirvac" site establishment activities; amenities set up and loading zones, hoarding;
2. Construct new concrete core walls and continue these in cycles up to the top of the new 26 level building;
3. Install slabs commencing on Basement 03 Level and continuing in cycles to Level 25 and Roof and core rooftop lids;
4. Install precast panels commencing on Basement 03 Level and continuing in cycles to Level 25 and Roof and core rooftop lids;
5. Undertake services rough in works and subsequent finishes to levels –and continuing on these levels for a period of months thereafter;
6. Erect access equipment and apply finish to the external walls;
7. Decommission site establishment and construction plant before undertaking external works to make good areas within the construction site;
8. Undertake commissioning and defects rectification before final clean for practical completion.

5.1 Site Establishment

5.1.1 Stage 1 Site Establishment

From July 2021 onwards, Site Amenities will be built within the site boundary on the proposed Stage 3 area. Skyring Terrace and the footpath will remain the main point of access for all site personnel. Covered access from the site entry to the building will be provided.

Main Site Amenities

Site amenity planning is based on a peak site population of 200 staff. The site amenities provide the following accommodation:

- Lunch Sheds: 120 Staff
- First Aid Room, Drug & Alcohol Testing Room
- Ablution Capacity, Showers: 10 Male, 1 Female

Proposed layout is shown below on Diagram 1:

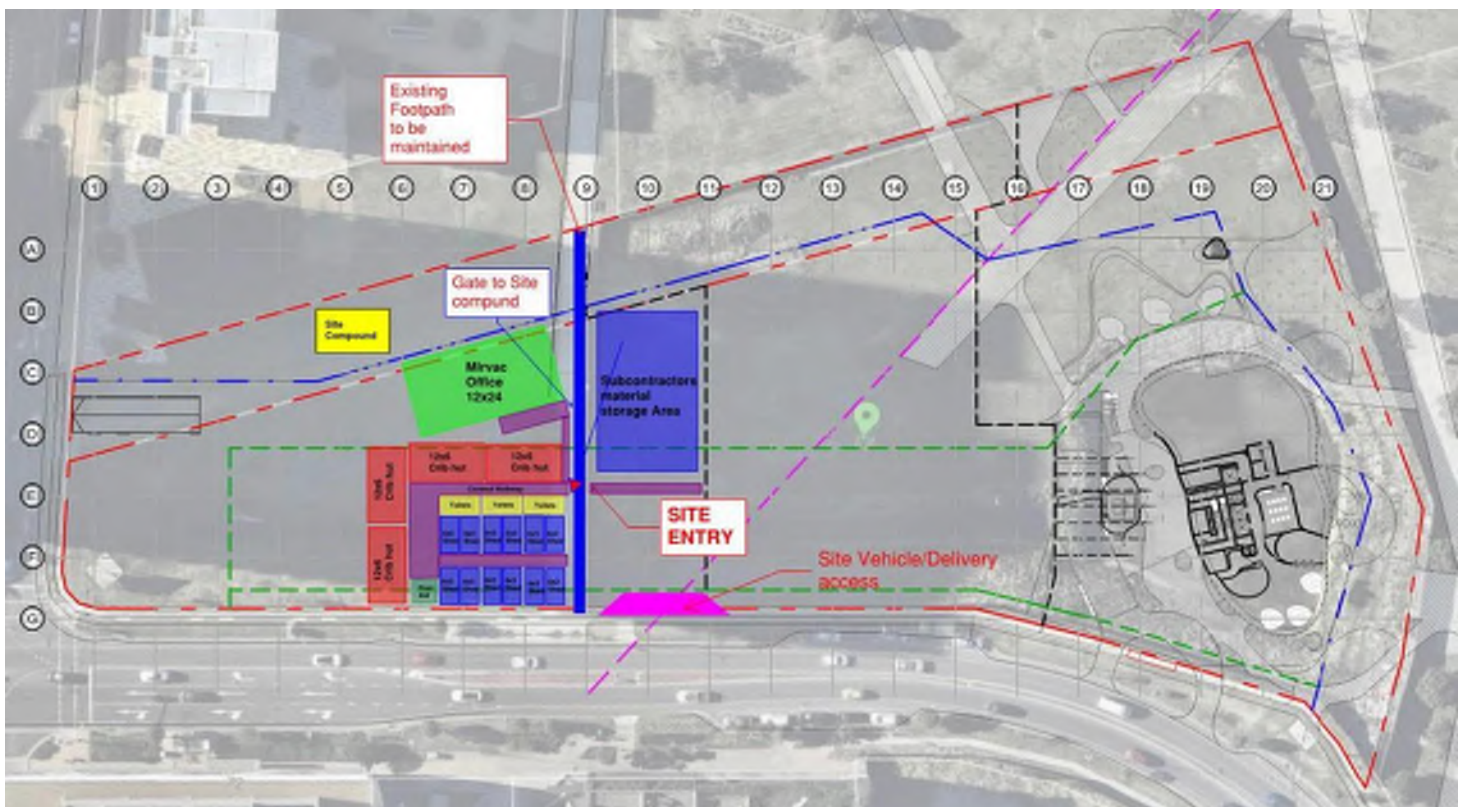


Diagram 2. Stage 1 Site Establishment – August 2022 to December 2023

5.2 Logistics

Logistics will be served by one main loading and materials handling zones, which will be available at the beginning of the project.

The Zone will be accessed off Skying Terrace and will be the predominant loading zone and access for all stages of the project (Civil, Piling, Structure and Finishes). A Traffic Management Plan is attached to Appendix A of this CMP. The Zone will be the main pick up point for Tower Crane 1 (TC1).

As a general note and per Traffic Management Plans Appendix A and B of this plan, Semi-trailer vehicles will be used for the delivery of construction plant, equipment and materials. All vehicles will be controlled by designated traffic controllers.

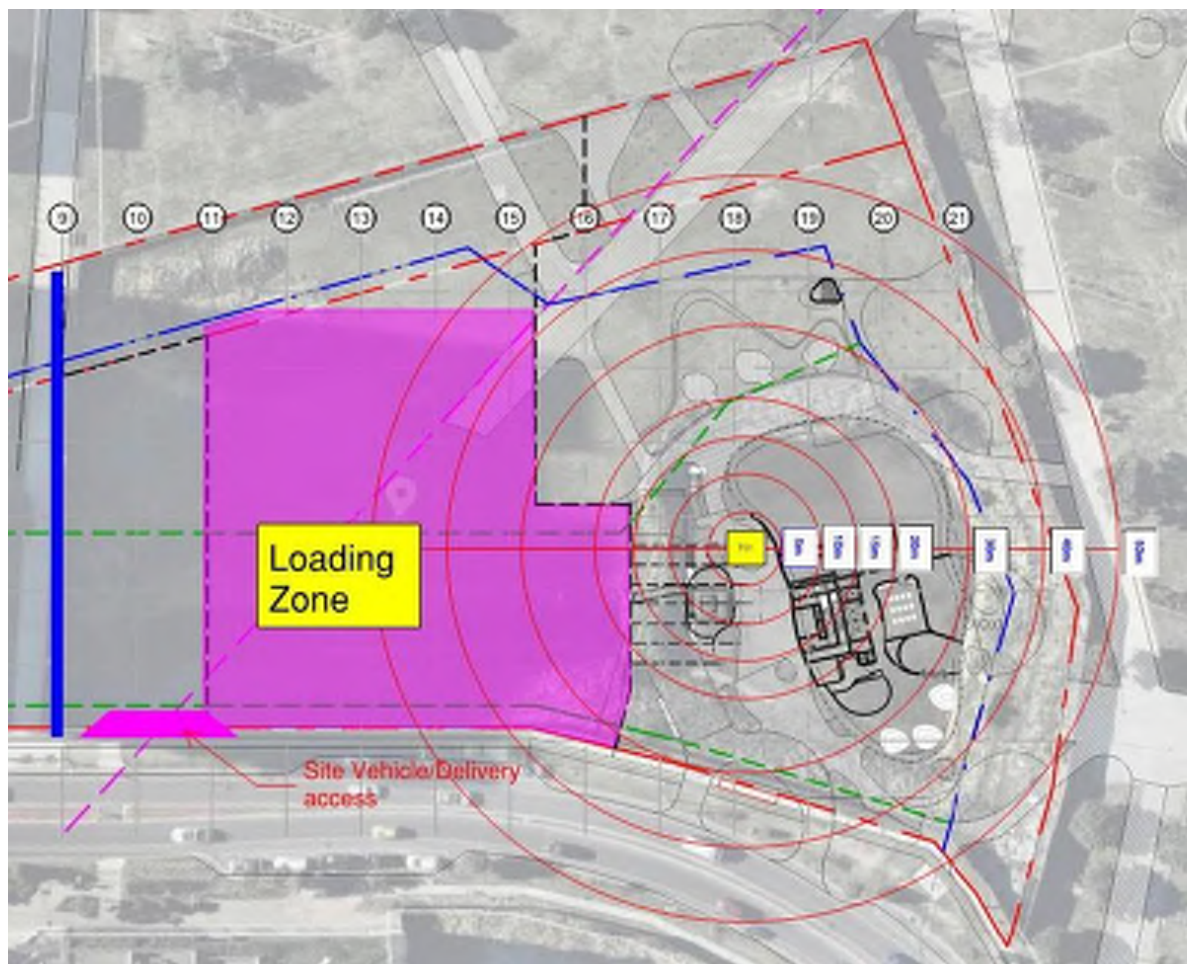


Diagram 3. Stage 1 Loading Zones

5.2.1 Deliveries

All deliveries to site will comply with general Brisbane City Council conditions including the following items:

- The delivery trucks must access the site via truck routes as per the Construction Traffic Management Plan.
- All vehicles must enter and exit the site in a forward direction, unless they are under the direction of qualified Traffic Controllers and guided during reversing.
- No dog trailers to be used without BCC approval.
- All loading and unloading must be within the development site or at an approved "Work Zone".
- Physical barriers to control pedestrian or traffic movements will be located at either end of 57 Skyring Terrace that borders the site.
- Pedestrian remotely controlled powered Boom Gates will be used at either end of Skyring Terrace to control pedestrian movement at vehicle crossover locations.

5.2.2 Concrete Pours

Approximately 2000m³ of concrete will be placed at Sky Newstead Stage 1. Management of the concrete delivery process is critical for the success of the project. Concrete Pumping Zones will be established in two phases.

Phase 1 – November 2021 to March 2022- Substructure works up to Ground Floor

Trucks will enter and exit via a driveway off Skyring Terrace into site under traffic control supervision predominantly. A mobile pump trailer pump will be positioned near or inside the basement excavation; this pumping arrangement will serve the project until the permanent pumping location will become available (Ground Floor). Diagram below illustrates the proposed setup.

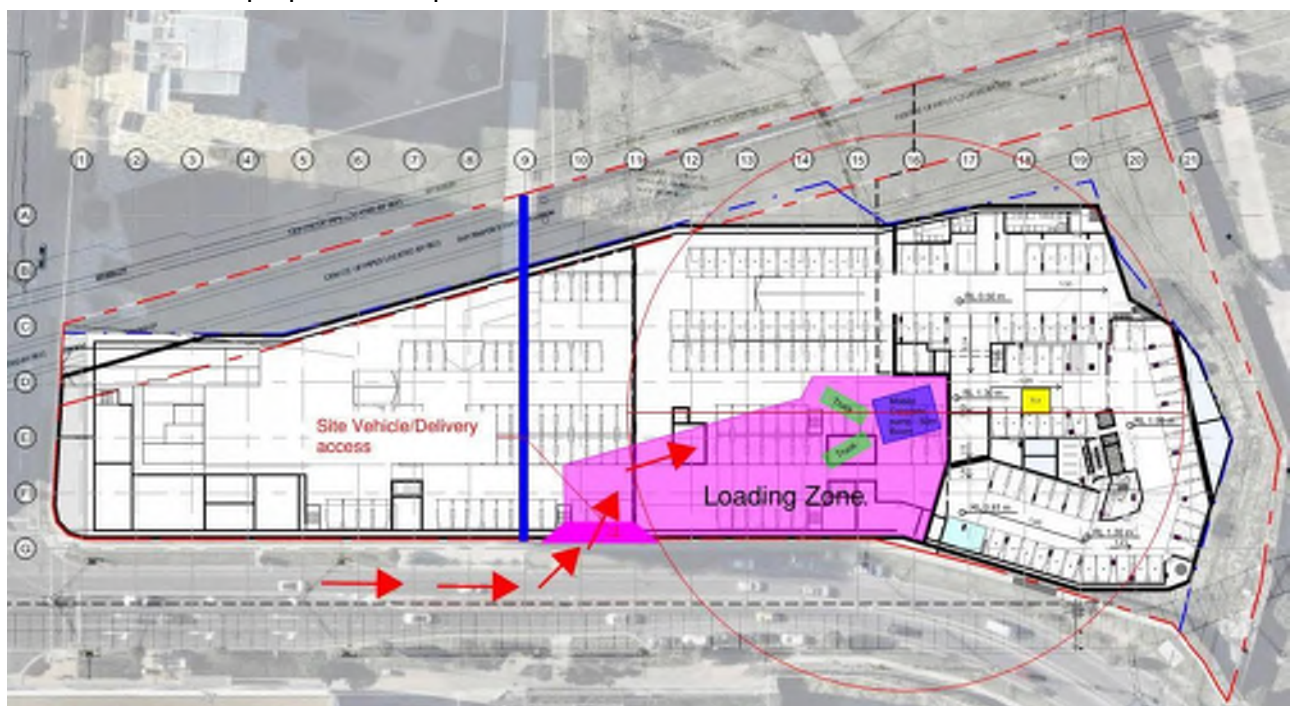


Diagram 4. Stage 1 Concrete Pumping/Deliveries Phase 1

Phase 2 – February 2022 to May 2023 Tower Structure works (Ground Floor and up)

Trucks will enter and exit via a driveway off Skyring Terrace into site under traffic control supervision predominantly. Once the ground floor is poured a satellite pump will be installed on the Jumpform system. A mobile trailer pump will be positioned near the base of the tower; this pumping arrangement will serve the project until Structure top out in May 2023.

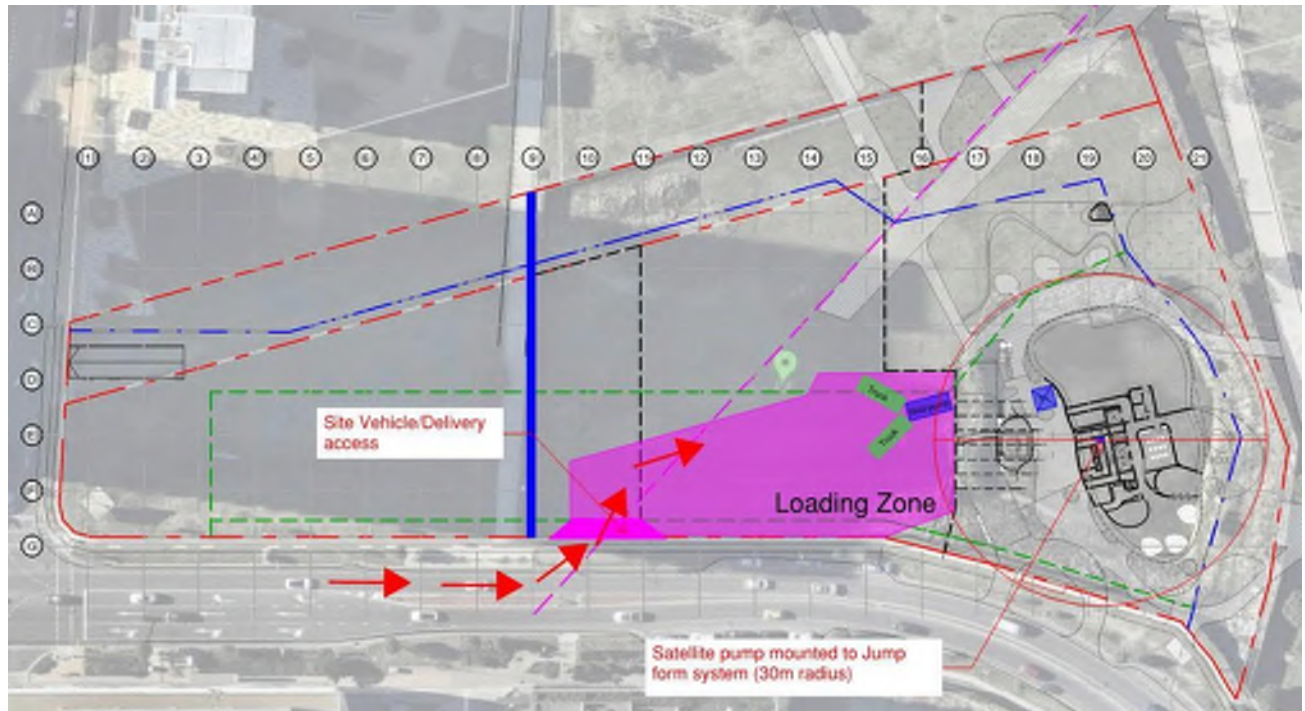


Diagram 5. Stage 1 Concrete Pumping/Deliveries Phase 2

5.3 Hoarding

Mirvac will design suitable structural hoarding on the inside of the Skyring Terrace site to provide public protection and security to the project.

The proposed hoarding will be engineered and designed to withstand the live and dead loads. It will be inspected by a qualified engineer on a six monthly basis or where extreme weather is forecasted. Proposed hoarding layouts are illustrated below;

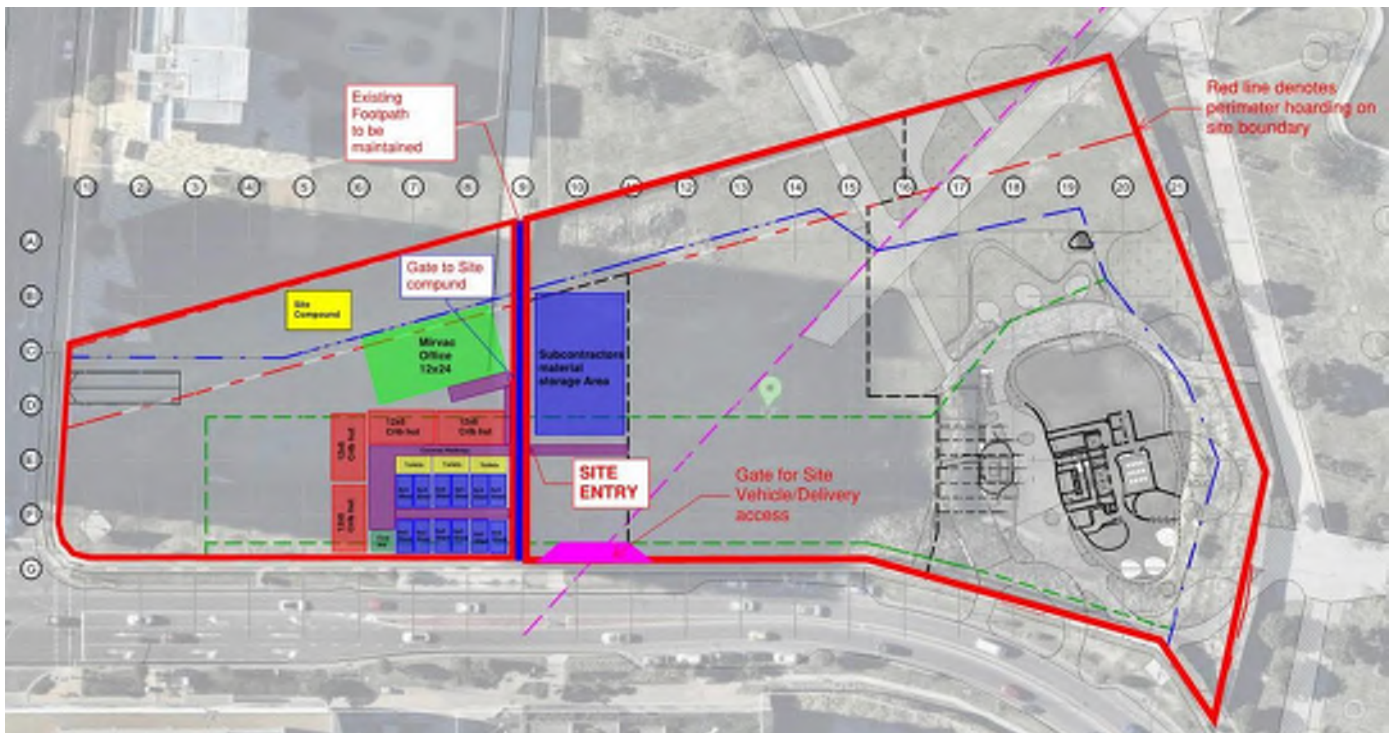


Diagram 6. Stage 1 Hoarding Layout

5.4 Material and Passenger Hoist

Vertical movement of passengers and materials will be facilitated using a high speed hoist, location of which is shown in Appendix B.

- Hoist (Man / Materials) will be erected close to the Tower Crane to the Western elevation of the building. It will service all floors from B2 up to L26. It will be installed after GF slab is complete and will be dismantled as suitable number of internal builders' lifts become available.
- Further to the above hoist, two formwork hoists will be installed to facilitate the vertical movement of formwork materials to the top 4 levels at each structure cycle. These hoists will climb progressively with the structure and will only serve as materials hoists.

5.5 Crane

The project will be serviced by a Tower Crane, the location of which has been selected based on site coverage and location of loading zones.

- The Tower crane is a Luffing Crane and will be located between the heritage building and the main tower (Western Elevation). It will be founded on a piled base. The crane is designed to free stand between its base and a Level to be determined by the engineer, after which ties will be installed at intermediate levels to enable progressive climbing. The crane is positioned so it can self-climb down to a level manageable for safe removal with a mobile crane.
- Anti-climb protection will be installed to the crane.

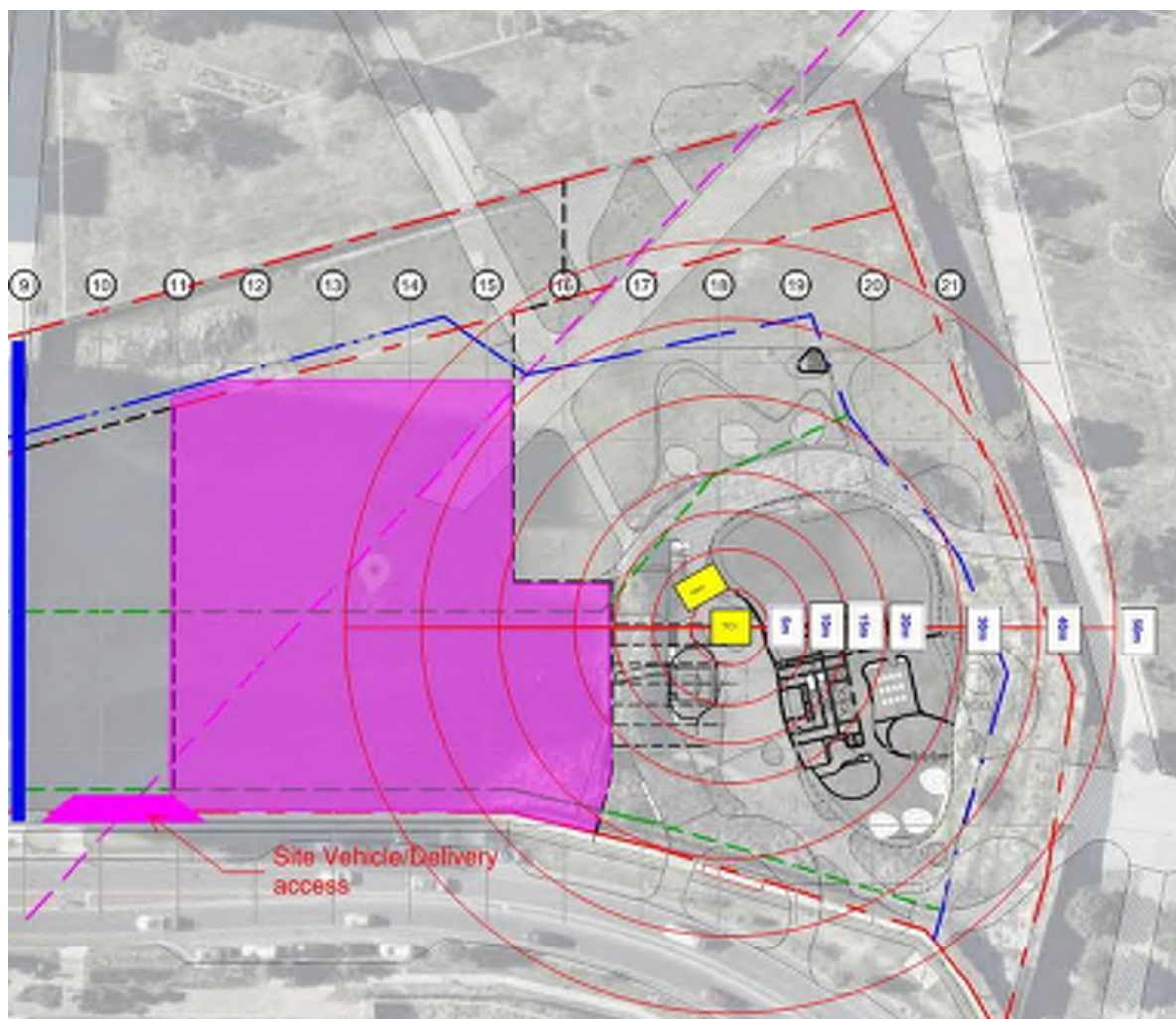


Diagram 7. Stage 1 Location of Tower Crane

5.6 Methodology

Piling, Excavation and Substructure Works

The perimeter wall of the basement is designed as a Diaphragm wall, the works will be undertaken within the footprint of the site. Temporary Anchors will be used for lateral restraint for the wall which will project over the property boundary into neighbouring properties.

Piling is to be undertaken from within the basement footprint with no impact on the footpath nor the roadway apart from delivery of heavy plant, concrete and materials.

Excavation and Substructure

The haulage trucks during excavation will enter via Skyring Terrace and also exit out back onto Skyring Terrace. During the excavation there will be a need to drain water from the existing detention basin. All contaminants (if any) will be treated and disposed of correctly via direction of an agreed and approved management plan approved by BCC.

Superstructure

Following the raft concrete pour, the core walls will be poured up to Ground Level and using conventional formwork methods. At this stage the Mirvac hoarding will be established on Skyring Terrace. The crane will be erected, and the self-climbing main core jump form will then be constructed on site and erected.

Once the core walls are clear of Ground Floor Level, the structural suspended slabs below will commence and trail the core up to structure top out on Level 26. Roughly 8 weeks post structure top out Tower Crane will be dismantled.

Summary of Considerations:

- **Traffic Management Required** – Semi-trailer vehicles will be used for the delivery of construction plant, equipment and materials. Refer to Traffic Management Plan/s attached as part of Annexure A
- **Public Protection** – Engineered Overhead protection Gantries, handrails with safety netting along perimeter slabs, perimeter screens around external work zone.
- **Dust Control** – Earthmoving equipment with bucket attachment, retention of groundwater to be used for dust suppression for excavations and site access roads.
- **Air Quality** – where possible, electric or gas powered plant to be used. All fuel powered plant will be located externally and serviced regularly.
- **Fire Safety** – Access will be maintained to the existing emergency escape routes and fire hose reels at all times.
- **Noise** – hearing protection zones established with signage and hearing protection equipment supplied at the entry points. Compliance with BCC noise criteria required.

- **Vibration** - Dilapidation surveys of the existing Heritage structure, adjoining properties and Council assets has been undertaken. Compliance with BCC vibration criteria required.
- **Heavy Vehicles** – Compliance with Heavy Vehicle National Laws.

Finishes and Integrated Fitout

The Services and integrated finishes will follow the progression of structure. The required material will be loaded onto the floors using a tower crane and retractable loading platforms. Where possible material will also be loaded using the hoists.

Summary of Considerations:

- **Traffic Management Required** – Refer to Traffic Management Plan/s attached as part of Annexure A
- **Public Protection** – Engineered Overhead protection Gantries, handrails with safety netting along perimeter slabs, perimeter screens around external work zone.
- **Dust Control** – plasterboard cutting and sanding works will be isolated within the building.
- **Air Quality** – where possible, electric plant to be used and located externally. Set up of extraction fans to improve air flow and ventilation.
- **Fire Safety** – Access will be maintained to the existing emergency escape routes and fire hose reels at all times.
- **Noise** – hearing protection zones established with signage and hearing protection equipment supplied at the entry points. Compliance with BCC noise criteria required.

5.7 Adjoining Properties Protection Works

Mirvac does not foresee the requirements for any neighbouring property protection works as there is no properties within proximity to the proposed development that may be damaged

BCC Asset Protection

The assets identified (refer below survey) that required protection are:

1. Stormwater infrastructure such as drains, pits and pipelines
2. Stratton Drain and BEBO drain(s)
3. Services pits
4. Concrete footpath and kerbs
5. Trees

The nature and extent of the Protection Works will need to be agreed with the BCC.

Refer to attached survey plans of drains and services in **Appendix C**

6. ELEMENT 1: PUBLIC SAFETY, AMENITY & SITE SECURITY

6.1 Objective

- Document strategies to ensure the general public is adequately protected from activities occurring on the Sky – Newstead Stage 1 construction site.
- To ensure any occupation of the street and protection of any council assets is well managed.
- Sky - Newstead Stage 1 construction site is kept neat and tidy to maintain public safety and local amenity.
- Consultation with relevant stakeholders in the area as to what impact if any will the works have on their rubbish/waste collection services.

6.2 Permits Applicable

Planning Permit for the development and use of the site
Building Permit for construction work
To erect gantry, overhead protective awning to road or footpath (if required)
Vehicle crossing
Occupy space on footpath or road
Erect hoarding
Road opening
Road Closure
Construction zone
Mobile crane, Tower crane or lift on or above road
Rubbish skips
Excavation Protection
Approval for a legal point of discharge
Traffic and pedestrian management

- Pedestrian Sign Approval – Engineering Services Group
- Hoardings, Gentries, Cranes, etc – BCC

Note: Traffic approval from Council's Engineering Services and/or Qld Roads may need to be sought for a public domain protection permit when vehicle traffic is to be disrupted or redirected.

6.3 Applicable Legislative References, Local Laws, etc

- A. Building Act 1993
- B. Planning and Environment Act 1987
- C. BCC Planning Scheme
- D. Occupational Health and Safety Act 2011
- E. Activities Local Law 1999
 - a. 6.1 – Permit required for road interface
 - b. 8.1 – Notice to commence building work
 - c. 11.2 – Prohibition for vehicles remaining on the street
 - d. 11.3 – Interfering with pedestrian sign
 - e. 11.5 – General obstructions
 - f. AS 4801 – Safety Management System
 - g. AS 14001 – Environmental Management Plan

6.4 Other Policies & Guidelines

- A. BCC Public Safety and Amenity – A Code of Good Practice at Construction Sites
- B. BCC Noise and Vibration Guidelines

6.5 Matters for Consideration

Fencing of Site

The site shall be secured by an engineered perimeter hoarding system.

Hoardings, perimeter fencing or other site barrier systems will help ensure no climbing or unauthorised entry from the public.

Before and during building work, all excavations will be fenced so they do not pose a danger to life or property.

Hoardings, barriers and other perimeter fencing will be suitably lined to limit public viewing to designated viewing areas to ensure pedestrian flow is not impeded

Safety & Security

Adequate lighting, safety signage and traffic controls will be provided around site where needed to protect the public and ensure a safer environment.

Security measures will be in place at all times when the site is not in operation to help prevent unauthorised access from the public. This will take the form of perimeter barriers, locks, security lighting.

Procedures will be put in place for the safe storage of dangerous chemicals, with appropriate containment, signage, emergency spill kit etc. All dangerous chemicals will be stored in an appropriate location away from emergency exits &/or stormwater pits ([Refer Appendix G – Chemical Management](#))

Signage

Signage specifying security measures and key contact details will be posted on the perimeter of the building site on the hoarding with a 24 hour contact name and phone number ([Appendix H – Emergency Response](#))

Public Domain

Any damage to the footpath, road, kerb and channel, stormwater drains and street furniture that result from building will be rectified by Mirvac.

Footpaths and pavements will be maintained where construction works may impact

The general public will be protected from construction activities including vehicle loading and off-loading via precautions such as:

- The use of spotters and traffic controllers
- Machinery to be used
- Security mesh or barriers to separate the public from the work area

Skips and rubbish bins will be enclosed on-site away from the public domain. Times and methods for loading and unloading of bins or skips will be managed to ensure no public disruptions and a safe environment

When using cranes or mobile lifting equipment, the following steps will be implemented if required to prevent disruption to public areas:

- Predetermined lifting zones for medium to long term use of the equipment
- Protection of pavements and streets including rectification of any adjustments made to kerbs, traffic islands etc. upon decanting of construction hoardings and loading areas.
- Implement procedures and lifting techniques to ensure safety on adjoining streets and footpaths
- Use traffic management controls and signage.

All construction materials will be stored within the confines of the hoarded construction site. Materials brought to and from site in vehicles over 4.5t will be required to comply with the National Heavy Vehicle Laws.

All crossovers for vehicular access to the site will cater for:

- The type and size of trucks entering the site
- The loading and potential for damage to the existing crossover and footpath
- The nature of protection of crossover and pavements

Street Space Occupation

Refer to Traffic Management Plans and site layout plans; Transport, Traffic & Parking division - [Appendix A](#)

Excavation

These works include the installation of piles, new footings, sprayed concrete walls and batters for temporary retention during raft slab works. The locations of excavations on-site are specified and the means of containing sediment, particularly in the event of inclement weather, are detailed.

Prevention of Unsightly Premises

Raw materials stored on the site will be adequately secured to prevent unnecessary and unsightly dispersal of the materials around the site and public areas, with particular vigilant attention provided during periods of inclement weather and high winds.

Trucks leaving the centre median compound will ensure minimal soil, mud and other site debris is prevented from spilling onto adjoining roads and footpaths.

Roads and footpaths will be cleaned as required with consideration to water efficiency

7. ELEMENT 2: OPERATING HOURS, NOISE & VIBRATION CONTROLS

7.1 Objective

To document strategies to minimise the impact of noise and vibration on the immediate neighbourhood.

To provide a framework to plan and cater for construction activities during working hours

To minimise the likelihood of damage to adjacent buildings and structures.

7.2 Permits Applicable

Permit to work outside prescribed hours - "Out of Hours" permit
Noise management
Building Permit for construction and/or demolition work
Relevant Planning Permit - conditions

7.3 Applicable Legislative References, Local Laws, etc

- A. Building Act 1993
- B. Planning and Environment Act 1987
- C. BCC Planning Scheme
- D. Health Act 1958
- E. Activities Local Law 1999
 - a. 8.1. – Notice to commence building works
 - b. 8.5. – Building works to certain times
 - c. 8.5A – Building works by owner
 - d. 8.8 – Nuisance Avoidance
 - e. 11.6 – Prohibition against causing excessive noise
 - f. 11.7 – Collection of waste

7.4 Other Policies & Guidelines

- A. BCC Safety and Amenity – A Code of Good Practice at Construction Sites
- B. BCC – Noise and Vibration Guidelines July 2007

7.5 Matters for Consideration

Working Hours - As per BCC Guidelines

Works will generally be confined to the hours:

Monday to Friday	6:30am – 6:00pm
Saturday	6:30am – 6:00pm

There will be no works on public holidays unless "Out of Hours" permit approved.

For works outside of these hours, an 'Out of Hours' permit will be submitted to Brisbane City Council for approval.

Notification of 'out of hours' work will be provided in the form of a letter drop to surrounding residents seven days prior to works taking place.

Noise & Vibration Management Plan

To enable noise and nuisance complaints to be managed onsite in the first instance, signage specifying key contact details will be erected on the perimeter of the building site. The signage shall indicate –

“For any enquiry, complaint or emergency relating to this site at any time, please contact *(relevant site contact to be inserted)*”

Notification shall be provided to surrounding properties/tenants/residents for any works deemed to have the potential for high noise or vibration impacts.

8. ELEMENT 3: AIR & DUST MANAGEMENT

8.1 Objective

To ensure the air quality in and around the 80 Ann St construction site is maintained at acceptable levels throughout the construction period.

8.2 Permits Applicable

- A. Construction – Building Permit

8.3 Applicable Legislative References, Local Laws, etc

- A. Environment Protection Act 1970
- B. Activities Local Law 1999

8.4 Matters for Consideration

- Details of equipment and activities that may cause excessive dust or affect air quality.
- Dust suppression techniques/equipment with consideration of:
 - Weather and wind conditions.
 - Exposure/proximity to the public and surrounding buildings.

The dumping of loose materials on a site will be minimised wherever possible. Where unavoidable, methods adopted will include the covering or secure enclosure of loose materials to prevent dust or any impact on air quality.

Perimeter fencing will be solid or lined with shade cloth to minimise the impact of dust on the public and adjacent areas.

Equipment powered by internal combustion engines will be properly maintained and regularly serviced to prevent the discharge of excessive pollutants and will meet acceptable noise levels.

Materials will only be cut in designated areas set away, within the boundaries of the construction site and as far from public areas as practical. Adequate dust and noise suppression techniques will ensure minimal public disturbance.

9. ELEMENT 4: STORMWATER & SEDIMENT CONTROL

9.1 Objective

To prevent contamination of, or damage to, stormwater drains and waterways through ensuring sediment from the building site is retained on-site during the construction work.

9.2 Permits Applicable

Building Permit
Permit for excavation and/or protection works
Approval for a legal point of discharge or a temporary point of discharge

9.3 Applicable Legislative References, Local Laws, etc

- A. Building Act 1993
- B. Environment Protection Act 1970
- C. EPA Publication 275 – Construction Techniques for Sediment Pollution Control May 1991
- D. Activities Local Law 1999
 - a. 6.1 – Excavation and shoring
 - b. 8.7 – Wheels of vehicles to be kept clean
 - c. 8.8 – Nuisances
 - d. 11.1 – Discharge authorisation

9.4 Matters for Consideration

The following will be addressed:

- Site water retention methods to ensure no structural damage to excavations or retaining walls
- Drainage of the site to the legal point of discharge
- Prevention of stormwater entering adjoining properties or into the sewerage system
- Sediment control to capture and filter stormwater before entering the legal point of discharge
- Location of sediment filters such as straw bales filters, gravel surface filters, sandbags and geo-textile mesh screens
- Prior to excavation of the site, the draining of the existing detention basin will be required. Before discharge of water Mirvac will adhere to the Stormwater management plan and Mirvac Environmental MMR put into place with BCC approval, this will detail testing, treatment and pumping requirements prior to release of water.

See Traffic Management Plan for location of site entries and traffic paths to, from and around the site. Details on:

- Site entry and foot and vehicle traffic routes
- Storage locations for loose materials such as soil, sand and gravel

Downpipes will be connected as soon as practical to avoid concentrated water run-off into the car park and public spaces below.

Sediment controls will be regularly checked, maintained and cleaned out to ensure they are still working efficiently.

Any water collected at the bottom of excavation sites will be pumped out & treated appropriately prior to discharge into stormwater. If not possible a liquid waste company will be contracted to collect the contaminated water for disposal.

Waste material, including liquid wastes such as paint, concrete slurries and chemicals, will not be discharged into a stormwater drain. Purpose wash bays will be provided for such cleaning & disposal.

Wherever possible, natural vegetation around site will be retained to assist with water flow absorb and to minimise dust.

10. ELEMENT 5: WASTE & MATERIALS RE-USE

10.1 **Objective**

To maximise the re-use and recycling of all construction materials being used and stored on-site

10.2 **Permits Applicable**

Construction – Building Permit

10.3 **Applicable Legislative References, Local Laws, etc**

- A. Environmental Local Law
- B. Environment Protection Act 1970
- C. Activities Local Law 1999
 - a. 8.8 Nuisances
 - b. 9.2 Dangerous and unsightly premises
 - c. 11.5 General obstructions
 - d. 11.7 Collection of waste
- D. Occupational Health & Safety Act 2004
- E. EPA Publication IWRG631

10.4 **Matters for Consideration**

See the Mirvac Waste Management Plan ([Refer to Appendix F](#)), which addresses the following:

- Minimise waste on site by avoiding over-estimation of purchasing requirements, minimising packaging materials, and buying environmentally approved and recycled content products where possible
- Procedures for the collection and sorting of recyclable construction materials ([Refer to Appendix F](#))
- Provision of containers for recyclable materials including cardboard, glass, metal, and plastic; and green waste ([Refer to Appendix F](#))
- The re-use of timber, glass and other materials
- The recycling of asphalt, metal, bricks, tiles, masonry, concrete, plasterboard, plastic, batteries, cardboard, carpet and other materials ([Refer to Appendix F](#))
- Provisions for collection of daily rubbish from workers
- Procedures for removal of waste from the site ([Refer to Appendix F](#))
- Procedures for removal of hazardous or dangerous materials from the site

Waste collection will only occur during permitted hours.

Outside general waste front lift bins will have self-closing lids, and skip bins shall not be over filled in an attempt to minimise wind-blown litter.

Perimeter hoarding and fence lines shall be regularly cleaned. ([Refer to Appendix I – Weekly Environmental Protection Checklist](#)).

11. ELEMENT 6: TRAFFIC MANAGEMENT

11.1 Objective

Minimising disruption of traffic including vehicles, pedestrians and cyclists caused by construction activities to ensure the safety of all road users around the 80 Ann Street building site.

11.2 Permits Applicable

Vehicle crossing
Occupy space on footpath or road
Road opening
Construction zone
Mobile crane, Tower crane or lift on or above road

11.3 Applicable Legislative References, Local Laws, etc

A. Activities Local Law 1999

11.4 Matters for Consideration

The Traffic Management Plans ([Refer to Appendix A](#)) will address all works that may affect pedestrian and cycling access around the site and traffic on adjoining roads which includes; the location of cranes, hoardings, perimeter fencing, storage areas, hoisting zones, and management of construction vehicles to prevent queuing on roads.

See TMP for the following details:

- Location and extent of the proposed works
- Truck / Delivery routes and access
- Traffic flows and movements
- Road safety issues
- Speed zones
- Pedestrian access and crossings
- Necessary special traffic control devices

12.ELEMENT 7: WORKPLACE RISK MANAGEMENT PLAN (WRMP)

12.1 WORKPLACE IMPLEMENTATION

12.1.1 Workplace Organisational Structure

An organisational chart is prepared to outline responsibilities and reporting lines for HSE.

On commencement at the workplace each person employed in a role listed in the organisational chart signs and dates their respective HSE Responsibility Statement for their designated role, the signed documents are filed in the Workplace Risk Management Plan (WRMP).

Service providers (subcontractors and suppliers) are managed in accordance with Mirvac Construction Division -HSE-Management System Manual.

12.2 Training, Awareness & Competency

12.2.1 Workplace HSE Training

The minimum training requirements for MCPL employees are:-

- General Industry OHS Induction;
- Mirvac Group Licence To Operate modules (LTO – Mirvac Intranet);
- WRMP for the Project / Workplace (Project-based training);
- OHS Risk Management for personnel in supervisory positions (External Provider);
- Project Site Induction where applicable (3DSS Project-based training)

Additional HSE training needs are identified in an individual's performance management review held by the Workplace Manager or nominated representative. Workplace specific HSE training and competencies (e.g. confined space entry, asbestos removal, plant licences, electrical spotter, etc) for Mirvac Construction workplace personnel and service providers are identified on the Mirvac Group Training Needs Analysis.

Appropriate certificates of competency, general industry induction training and other qualifications for workplace personnel and service providers (contractors and suppliers) are recorded on the Workplace Induction Record.

The minimum requirement for Services Providers (contractors and suppliers) at this workplace is:

- General Industry OHS Induction / Safety Awareness Training for the Construction Industry where required in each state or territory ;
- Work activity induction training in the workplace specific HSE Management Plan including Job Safety & Environment Analysis for the work activities;
- Mirvac on-line 3DSS Induction training
- Workplace specific induction

12.2.2 Service Provider Induction

A photocopy of the service provider employees General Industry OHS Induction / Safety Awareness Training for the Construction Industry Induction card and a photo ID, e.g. drivers licence (to confirm identity) is taken at the workplace specific and listed in the Induction Record.

12.2.3 Visitor Induction

All 'one-off' visitors (unlikely to return) to this workplace are accompanied at all times by a person that has been inducted at this workplace. All visitors sign the Mirvac Group on arrival and departure (including time of entry and exit).

Regular visitors (e.g. requiring access twice a month or more) and persons who undertake

construction related work activities, i.e. those not specifically defined as 'construction work', must hold the General Industry OHS Induction / Safety Awareness Training for the Construction Industry and attend the workplace specific induction. Mirvac requires **all visitors** to wear the mandatory personal protective equipment outlined in the workplace specific induction.

12.3 HSE Consultation, Communication and Reporting

The meetings which communicate HSE matters at this workplace are listed in WRMP. The HSE consultation arrangements at this workplace are identified by the 'marked-up' Mirvac Group HSE Consultation Statement. This statement is displayed in prominent locations.

Consultation and issue resolution is managed in accordance with the Mirvac Group Consultation Procedure. The Workplace Manager or nominated representative retains a record that demonstrates employees (and service providers if applicable) were consulted on the method of HSE consultation agreed at the workplace. In the case of incidents on site, Mirvac Group have an Emergency Response Procedure ([Appendix H](#)) to manage incidents of varying nature.

Environmental reporting emergencies and notifiable incidents will be as per the requirements of Environmental Protection Act 1970.

12.3.1 Display of HSE information

To ensure all personnel have the opportunity to view, discuss and take note of HSE information, the information will be posted at prominent locations at the workplace, and the Notice Board(s). At this workplace the following will be displayed (as a minimum):

- Mirvac Group [Health, Safety Environment Policy](#)
- Mirvac Group [Bullying and Harassment - A Summary of Mirvac's Policy](#) detailing the name and contact details of the Anti-Harassment Officer appointed to the workplace
- Mirvac Group [Drugs and Alcohol Policy](#)
- Mirvac Group [Injury Management and Return to Work Policy](#)
- Mirvac Group [Noise Control Policy](#)
- Mirvac Group [Smoke Free Policy](#)
- Mirvac Group [Corporate Responsibility and Sustainability Policy](#)
- Mirvac Group [Ultraviolet Radiation/ Sunlight Policy](#)
- Mirvac Group [Young Worker Policy](#)
- Mirvac Group [HSE Consultation Statement](#) detailing the consultation arrangement agreed for the workplace;
- Site specific workplace injury reporting, i.e. how to report an injury;
- Workplace rules;
- Hours of work;
- Emergency evacuation diagram/drawing, including Assembly/Muster Points;
- Workplace amenities plan including First Aid shed location;
- Emergency contact telephone numbers including:

- Workplace Manager or nominated representative	- Nearest hospital or emergency centre
- First aid officer(s)	- Nearest medical centre
- Emergency Plans and Drawings	- Contact table from WRMP Appendix 6
- Workplace Emergency Response Plan
- Copy of the completed Mirvac Group Emergency Contact Numbers
- List & photograph of nominated First Aid Officer(s) and their contact telephone number;

- Minutes of the latest workplace HSE Committee meeting including its members and Chairperson;
- List & photograph of HSE Representative(s), or Workplace Health and Safety Officer or any Designated Workgroup;
- Copy of the latest Mirvac Group Construction HSE Alerts or other guidance material; and
- Location of the Spill Kit.

12.3.2 Toolbox or Pre-Start Talks

Workplace personnel (as nominated by the Workplace Manager) and service provider supervisors conduct tool box talk meetings with those employees under their supervision and record the meetings on a Toolbox Talk Record.

The meetings are recorded formally where discussing a HSE Management Plan, JSEA or equivalent for a specific work task and other relevant HSE matters. Tool Box Talks are undertaken at regular interval in order to keep employees and service providers informed of conditions and changes to the workplace that may affect HSE. A copy of Tool Box Talk Meetings and other meetings is retained, and filed in accordance with the Mirvac Group Document Filing Procedure and WRMP. Items listed for action are reviewed and progress is reported at the next meeting, and subsequently until they are corrected.

12.4 Hazard/Aspect Identification, Risk Assessment & Risk Control

All work activities undertaken by Mirvac personnel at this workplace are carried out in accordance with the Mirvac policies, procedures and guidelines referenced in WRMP. These Mirvac Group, as related to a specific work activity, are included in the respective JSEA for the work to be carried out. Where the JSEA is developed by Mirvac, it is prepared on the Mirvac Group Job Safety & Environmental Analysis ensuring inclusion of any construction related hazards/aspects, and their respective critical controls identified in the Mirvac Group Risk and Opportunity Register, as well as control measures identified in the Mirvac Group Standard System Control Measures and adherence to the Mirvac Group Risk Management Procedure.

All Service providers working on the project shall provide a HSE Management Plan or equivalent for the work they are to undertake prior to commencement. The HSE Management Plan outlines the management, supervision and control measures to be implemented by the service provider for all health, safety and environment risks associated with the contracted works.

Workplace personnel are encouraged through the workplace specific induction and Tool Box Talks to identify and control hazards and aspects on a 'see and fix' basis where practicable to do so and to report hazards and aspects. Informal hazard and aspect observations of randomly selected work activities to verify the implementation of control measures and identify safe behaviours is achieved using the Mirvac Group 'Changing Our Behaviour Before Accidents' (COBBA) initiative or Mirvac Group Task Observation Checklist

Where extreme or high risk hazards or aspects are identified that specifically relate to a work area or work task undertaken by a service provider, a Mirvac Group Workplace HSE Instruction shall be issued and corrective action instigated.

Where faulty or defective plant and equipment is identified which has the potential to impact on health and safety or the environment it shall be isolated from use in accordance with the Mirvac Group Lock-out Tag-out Isolation Procedure.

12.5 Emergency Response and Evacuation

The Workplace Manager, or a nominated representative, in conjunction with other appointed Mirvac personnel develops emergency procedures for the workplace including an emergency contact list to

be displayed on the workplace notice board and at other prominent locations. The Emergency Response Contact Information Table is completed by the Workplace Manager or a nominated representative.

Where an Ambulance is called to attend a workplace injury, a Standby Person will be nominated and positioned at the main entry to the workplace to assist Ambulance Officers to locate and attend the injured person as required by the Mirvac Group Emergency Response Procedure. A completed Mirvac Group Emergency Call will be displayed in the workplace provides a summary of information required when making an emergency call.

The Emergency Response Plan (ERP) is reviewed and tested as follows:-

Item	Action required & pass/fail requirement	Minimum Frequency					Record
		Weekly	Monthly	3 monthly	6 monthly	Yearly	
Emergency Response Plan	Check content & continued relevance to project including assessment of assembly area				Y		Review as part of maximum 6 month review of the WRMP and 3 monthly audits.
Evacuation Equipment	Check operation – siren or other signalling device.	Y					Noted in the HSE Committee Minutes.
Emergency Equipment	Fire extinguishers, hose reel or other.				Y		Attached compliance tags and record of inspection and servicing.
Evacuation Exercise or Drill	Compliance with the emergency plan.					Y	Noted in the HSE Committee Minutes and Workplace Manager Diary.

13. ELEMENT 8: PUBLIC INTERFACE, SEPARATION & PROTECTION FROM CONSTRUCTION ACTIVITIES

The containment and protection of the public and neighbouring properties is paramount with Mirvac endeavoring to provide safe separation at all times. This will be enacted by the following:

- Hoarding and/or concrete barriers at locations where plant/vehicle separation is required from the designated construction site.
- Hoarded fencing around the perimeter of the construction site.
- Overhead gantries protecting public spaces around the perimeter of the building under construction in nominated locations.
- Construction screen containment around the building floors for structure works.
- Associated signage in accordance with approved Traffic Management Plans for pedestrian access, vehicle directional signage, site access for both vehicles and pedestrians.
- Construction loading zones clearly delineated, protected/separated with concrete barriers and fencing, and managed by construction traffic control in accordance with approved Traffic Management Plans.
- Construction loading zones and gantries have been positioned so as crane lifting and material transfer across/over publicly accessible areas are protected.
- All Public Protection Systems installed will be designed and approved by qualified Engineer such as perimeter hoarding, overhead protection gantries.
- Qualified Engineer will conduct regular inspections on the structural stability of the public protection systems and additional as required, in the event of incidents, forecasted extreme weather conditions, etc.

APPENDIX A

Traffic Management Plan



TRAFFIC MANAGEMENT PLAN

For

57 Skyring Tce, Newstead

Prepared By



TABLE OF CONTENTS

1.	AMENDMENTS & DISTRIBUTIONS.....	4
2.	REFERENCES.....	5
3.	INTRODUCTION - PURPOSE OF SCOPE	5
3.1.	TMP OBJECTIVES	6
3.2.	TMP AIMS	7
4.	DESCRIPTION OF WORKS.....	7
5.	PROJECT SPECIFIC DETAILS.....	7
6.	AFFECTED AUTHORITIES.....	8
7.	ROLES AND RESPONSIBILITIES	8
7.1.	THE PRINCIPAL CONTRACTOR.....	8
7.2.	PROJECT MANAGER.....	9
7.3.	SITE MANAGER/SUPERVISOR.....	10
7.4.	SITE PERSONNEL.....	10
7.5.	TRAFFIC CONTROL SUBCONTRACTOR –LINDORES PERSONNEL.....	10
7.6.	TRAFFIC CONTROL WORKS SUPERVISOR.....	10
7.7.	LINDORES PERSONNEL TRAFFIC CONTROLLERS.....	10
7.8.	PROJECT MANAGEMENT HIERARCHY.....	11
8.	IMPLEMENTATION OF TRAFFIC MANAGEMENT PLAN.....	11
9.	RECORDING AND MONITORING	12
10.	PROJECT SPECIFIC REQUIREMENTS	13
11.	RESTRICTIONS TO TRAFFIC	14
12.	WORK ON ROADS.....	15
12.1.	WORKPLACE HEALTH AND SAFETY	15
12.2.	SAFE WORK METHOD STATEMENT	15
12.3.	INCIDENT AND ACCIDENT PROCEDURES.....	16
12.4.	BREAKDOWNS AND MINOR INCIDENTS	16
12.5.	DAMAGE TO SERVICES	16
12.6.	TRAFFIC GUIDANCE SCHEME/S.....	16
12.7.	SPECIAL EVENTS AND PLANNED INCIDENTS.....	17
12.8.	TRAFFIC CONTROLLERS	17
12.9.	PUBLIC CONSULTATION	17

12.9.1.	ADVERTISING	17
12.9.2.	INTERNET	17
12.10.	VARIABLE MESSAGE SIGNS.....	17
12.11.	NIGHT WORKS	18
12.12.	ROAD AND LANE CLOSURE/S.....	18
12.13.	PREVAILING SITE CONDITIONS.....	18
12.14.	SITE LOCATION MAP.....	19
12.15.	INTERFACE WITH OTHER CONSTRUCTION SITES	19
12.16.	PROPOSED WORK ZONE.....	20
12.17.	DURATION OF WORKS.....	20
12.18.	HEAVY VEHICLE AND DELIVERY PLANT HAULAGE ROUTE	21
12.19.	PUBLIC TRANSPORT	22
12.20.	DETOURS	22
12.21.	DIVERSIONS.....	22
12.22.	TRAFFIC PARKING EFFECTS	22
12.23.	ENTRY INTO PRIVATE PROPERTIES.....	23
12.24.	PROVISIONS FOR POLICE CONTROL	23
12.25.	CYCLISTS AND PEDESTRIANS... ..	23
12.26.	PEOPLE WITH DISABILITIES AND OTHER VULNERABLE ROAD USERS.....	23
12.27.	EMERGENCY VEHICLE ACCESS	23
APPENDIX A SITE PROJECT PLAN/S		24
APPENDIX B TRAFFIC GUIDANCE SCHEME/S		25
APPENDIX C SAFE WORK METHOD STATEMENT		28
APPENDIX D INCIDENT REPORT		34
APPENDIX E MAIN ROADS ACCREDITATION CERTIFICATE		38
APPENDIX F INSURANCE CERTIFICATE OF CURRENCY		39
APPENDIX G WORK COVER CERTIFICATE OF CURRENCY		40

1. AMENDMENTS& DISTRIBUTIONS

The following is a record of amendments to this Traffic Management Plan:

- AMENDMENTS REGISTER -					
Section No.	Page No.	Date of Issue	Prepared By	Approved By	Description of Amendments
All	All	29/01/2020	James Davy	James Davy	Prepared for Mirvac

- DISTRIBUTION REGISTER -			
Controlled Copy Ref No.	Date of Issue	Name of Recipient	Position / Organization
1	29/01/2020		Mirvac Apartments

2. REFERENCES

- All traffic management arrangements will be conducted in accordance with the Manual of Uniform Traffic Control Devices Part 3,
- Works on Roads 2010 (MUTCD) Sixth Issue, with (amendments) 5 May 2014,
- Transport Operations (Road Use Management) Act 1995,
- Manual of Uniform Traffic Control, Part 3 (MUTCD) Seventh Edition, with (amendments) November 2019
- Traffic Controller Accreditation Scheme (Approved Procedure & Scheme Information) 2011,
- WHSQ Traffic Management for Construction or Maintenance Code of Practice 2008 (The Code) and the Traffic Road Use Management Manual (TRUMM) Volume 7 and the Lindores Personnel Pty Limited Traffic Management Plan (TMP) and associated Lindores personnel Pty Ltd Traffic Guidance Scheme/s (TGS).
- Main Roads Specifications MRTS02 – Provision for Traffic
- Annexure MRTS02.1 Provision for Traffic Specific Contract Requirements
- QDTMR TRUM Traffic and Road Use Manual 1995
- QDTMR Road Planning and Design Manual
- AS/NZS ISO 31000:2000 Risk Management – Principles and Guidelines
- AS/NZS ISO 9001:2008 Quality Management Systems – Requirements
- Australian Standards AS1742.3, Fourth Edition 2009
- Public and site personnel safety;

3. INTRODUCTION - PURPOSE OF SCOPE

The purpose of this Traffic Management Plan is to ensure that Mirvac and Lindores Personnel's commitment to safety, traffic management, reporting and reviewing is met during the life of this project. This will be accomplished with consideration given to;

- Traffic Plans
- Traffic Demands
- Traffic Routing
- Traffic Control Devices
- Other road users and stake holder
- Special (emergency) vehicle requirements and access
- Accredited Traffic Controllers

This plan aims to identify the risks to persons undertaking work on/or adjacent to a road. It shall ensure that appropriate control measures for any identified hazard are assessed, controlled, implemented, monitored and reviewed by elimination, substitution, engineering, administration or by using personal protective equipment.

The legislative and reference documents used in conjunction with this plan include, but are not limited to:-

- WH&S ACT and Regulations (Queensland)
- Transport Operations (Road Use Management) Act and Regulations (Queensland)
- Risk Management Code of Practice (2007)
- Traffic Management for Construction or Maintenance Work Code of Practice (2008)
- Manual of Uniformed Traffic Control Devices (MUTCD) (Queensland Main Roads)
- Australian Standards AS1742.3 Traffic Control Devices (2009)
- Department of Transport and Main Roads Specifications MRTS02 and MRTS02.1 Provision for Traffic
- TMR Road Planning and Design Manual (RPDM)
- MUTCD Part 10 Pedestrian Control and Protection
- Traffic Management Code of Practice (2008)

All contractors, subcontractors, employers, self-employed persons, workers and other persons are bound by the requirements set out in this plan.

This plan forms the basis of ongoing programs in continuous improvement of traffic management and the required ongoing training and commitment of personnel involved in this project.

Risk assessments will be conducted prior to erecting any traffic control devices at the above location to determine a safe environment for workers and a safe route for pedestrians and on coming vehicular traffic.

The purpose of this Traffic Management Plan (TMP) is to address those measures and procedures required for building construction to be followed by the contractors and subcontractors associated with the project.

This Traffic Management Plan is indicative until approved by Mirvac and is designed to show proposed control measures on 57 Skyring Terrace, Newstead (Sky Newstead). It indicates any site-specific issues found as well as provision to comply with relevant legislative requirements such as:

Lindores Personnel confirms that prior to commencement on site as the Traffic Management contractor; we will consult and engage Mirvac to provide a safe solution for the site access/egress in line with legislative requirements.

Prior to actual commencement of traffic control activities on site the following concise documentation will be in place:

A detailed Mirvac - Construction Management Plan (CMP) to outline operations for the project and required works zone shall be developed prior to commencement.

- Applications shall be made to the BCC and QPS, to obtain authority to allocate a loading/ Unloading zone for the safe movements of delivery vehicles.
- Detailed Traffic Guidance Schemes (TGS) shall be developed for the safe movement of pedestrians and vehicles, including detailed Scopes of Works (SOW).
- Temporary traffic signage as per the TMP shall be inspected twice daily (start and completion of work shift). If temporary signage as per a current TGS is required to be left in place (night works) this signage shall also be inspected twice daily.

Lindores Personnel Representatives shall ensure all traffic controllers required to work in the work zone are inducted in Lindores Personnel's SWMS prior to commencing operations.

3.1 TRAFFIC MANAGEMENT PLAN OBJECTIVES:

Provide for a safe environment for all road users;

Provide protection to workers, visitors, agents of the Contractor and the general public from traffic hazards that may arise as a result of the construction activity;

Minimize the disruption, congestion and delays to all road users;

Ensure network performance is maintained at an acceptable level throughout the term of the work;

Ensure access to adjacent commercial and private premises is maintained at all times.

3.2. TRAFFIC MANAGEMENT PLAN AIMS:

- 3.2.1. Ensure whenever possible, that a sufficient number of traffic lanes to accommodate vehicle traffic volumes are provided.
- 3.2.2. Ensure that delays and traffic congestion are kept to a minimum and within acceptable levels.
- 3.2.3. Ensure that appropriate/sufficient warning and information signs are installed and that adequate guidance is provided to delineate the travel paths through the work site.
- 3.2.4. Ensure that the work area is free of hazards and that all road users are adequately protected from dirt, excavations and obstructions.
- 3.2.5. Ensure that all needs of road users, motorists, pedestrians, cyclists, public transport passengers and people with disabilities are accommodated at and through the work site.
- 3.2.6. Provide for work activities to be undertaken sequentially to reduce the adverse impacts of the work.
- 3.2.7. Provide for safety procedures to enable work personnel to enter and leave the work area in a safe manner.

4. DESCRIPTION OF WORKS

57 Skyring Tce is a residential apartment building consisting of levels (above ground) and 3 levels of basements (below ground). Constructed primarily from concrete, precast and light-weight steel framework all clad and finished in accordance with the planning documentation.

5. PROJECT SPECIFIC DETAILS

5.1. PROJECT LOCATION

Project Name	Sky Newstead
Project Location	57 Skyring Tce, Newstead

5.2. SCOPE OF WORKS

Scope:	Bulk Excavations and construction of approximately 112 weeks
Hours of Work:	Hold & Release – Verge Closure (Limited traffic impact) Monday to Friday 0630Hrs to 1830Hrs Saturday & Sunday – As required

5.3. PRINCIPAL CONTRACTOR DETAILS

Name:	Mirvac
Address:	123 Eagle St Brisbane
Phone:	07 3859 5888

5.4. PRINCIPAL CONTRACTOR'S DETAILS

Project Manager	
Name:	TBA
Mobile:	

Site Manager	
Name:	TBA
Mobile:	

Safety Officer	
Name:	TBA
Mobile:	

6. AFFECTED AUTHORITIES

This project will be conducted on Brisbane City Council (BCC) owned roads and the anticipated traffic impacts are not expected to affect other authority's area of responsibility. Associated road side assets, including traffic control signage, are owned by Lindores Personnel Pty Ltd. This project will be conducted on BCC controlled roads and as such will have all relevant authority approvals prior to each stage of works. These are held by Mirvac

7. ROLES & RESPONSIBILITIES

7.1. THE PRINCIPAL CONTRACTOR

The Principal Contractor has an obligation to ensure all work at the constructions workplace is carried out in a manner that will:

- Prepare a written construction safety plan, in accordance with the regulations before construction work starts,
- Ensures compliance with the contract requirements
- Provide a safe passage for both pedestrians and vehicular traffic through the works area
- Minimize delays and inconvenience to the community

In order to fulfil the above obligations, the requirements contained within this Traffic Management Plan are to be complied with by all those who are engaged in work on this project.

The management of Mirvac is committed to the requirements of this Traffic Management Plan. This will be achieved by:

- Providing clear direction and support in maintaining the objectives and standards set out in this Traffic Management Plan (TMP)
- The use of only accredited traffic controllers approved regulatory and advisory signs.
- Providing suitable communication between Australian Paving Services supervisory staff and the Senior Traffic Controllers, e.g. radio transceiver or mobile phone.
- Providing the means necessary to achieve a safe working environment
- Reviewing procedures such as best work practices.
- Providing control measures to effectively minimize the generation of dust, e.g. the use of Rumble strips at all plant delivery ingress/egress points, access ways onto the site and other environmental considerations.
- Monitor the use of all work method statements to ensure that all persons, to whom the statement applies, comply with the statement.
- Not allow a person to start construction work unless the principal contractor has sighted the Persons general induction evidence (Blue/White Card).
- Ensuring a person has been given a site specific induction for the work place before allowing the person to start construction work.
- *SPECIAL CONSIDERATION FOR ALL WORKS SCHEDULED DURING SPECIAL*
- *Access/Egress to site will be via Skyring Tce, consideration to be made for site plant deliveries planning schedule – to minimize congestion to the network during this time.*

7.2. PROJECT MANAGER

The following list of requirements is not exhaustive for the responsibilities of a Project Manager:

- Program of the work
- Outlines the high risk construction activity i.e. working on or adjacent to a road.
- Monitoring, reviewing and amending the Traffic Management Plan as required.
- Managing non-conformances/corrective action and minor incidents.
- Ensuring that an applicable Safe Work Method Statement (SWMS) (which may be generic if the activity is performed in the same way and in the same or similar circumstances); is delivered through training to all persons affected on the construction site.

The Project Manager has the ultimate responsibility and authority to ensure the TMP is implemented for the prevention of property damage and injury to employees, contractors, subcontractors, road users and all members of the public. He will ensure all site personnel are fully aware of their responsibilities, and that traffic-controllers are appropriately trained and accredited. *He will ensure that sufficient controllers are available to ensure appropriate breaks are taken.*

7.3. SITE MANAGER/SUPERVISOR

The following list of requirements is not exhaustive for the responsibilities of a Site Manager/Supervisor:

- Ensure compliance with the approved TMP, MUTCD 2003 Part 3 November 2019 & Amendments, Main Roads specifications and the contract requirements.
- Periodic inspection of traffic control devices on a daily basis prior to commencement of work in conjunction with the Traffic Controllers Supervisor;
- Insure that all Traffic Controllers are in fact licensed or accredited to perform the duties of a Traffic Controller.
- Identify non-conformances and implementation of corrective action.

The Site Manager/Supervisor will be the Principal Contractor's authorized representative in relation to the traffic management requirements for each site. They will ensure that the provisions contained in the relevant permit approvals, the MUTCD and The Code are implemented on site. *He also will ensure that sufficient controllers are available to ensure appropriate breaks are taken.*

7.4. SITE PERSONNEL

All personnel engaged in the field activities will follow the correct work practices as required by the MUTCD and site specific SWMS. The approving authority shall be notified should a situation arise that is not covered by this TMP or the MUTCD.

7.5. TRAFFIC CONTROL SUBCONTRACTOR – LINDORES PERSONNEL

The nominated sub-contractor is responsible but not limited to the following:

- Ensuring traffic is not unduly delayed and that the safety of the Road Users and workers on site is maintained.
- Implementation of the approved Traffic Management Plan in accordance with the Manual of Uniformed Traffic Control Devices MUTCD 2003 Part 3 (November 2019) and all other relevant documents.
- Ensuring the conflicting regulatory speed signs are covered during works and at the completion of the works to reinstate the current regulatory speed for each individual street/road.
- The monitoring and recording of changes in traffic movements.
- Advising Mirvac advisory staff in the first instance of any non-conformances, accidents, near misses or complaints.
- Providing only duly accredited Traffic Controllers

7.6. TRAFFIC CONTROL – WORKS SUPERVISOR

The nominated sub-contractor is responsible but not limited to the following:

- Responsible monitoring, reviewing and amending this TMP and/or TGS/s as required and assist Mirvac Works Supervisor with Traffic Management responsibilities.
- Lindores Personnel to provide Mirvac with a daily site sketch for each location at the end of each day, **Refer to Annex J: Traffic Control Daily Log Book.**

7.7. LINDORES PERSONNEL – TRAFFIC CONTROLLERS

Nominated Traffic Control Officer: James Davy

Is Responsible for the following:

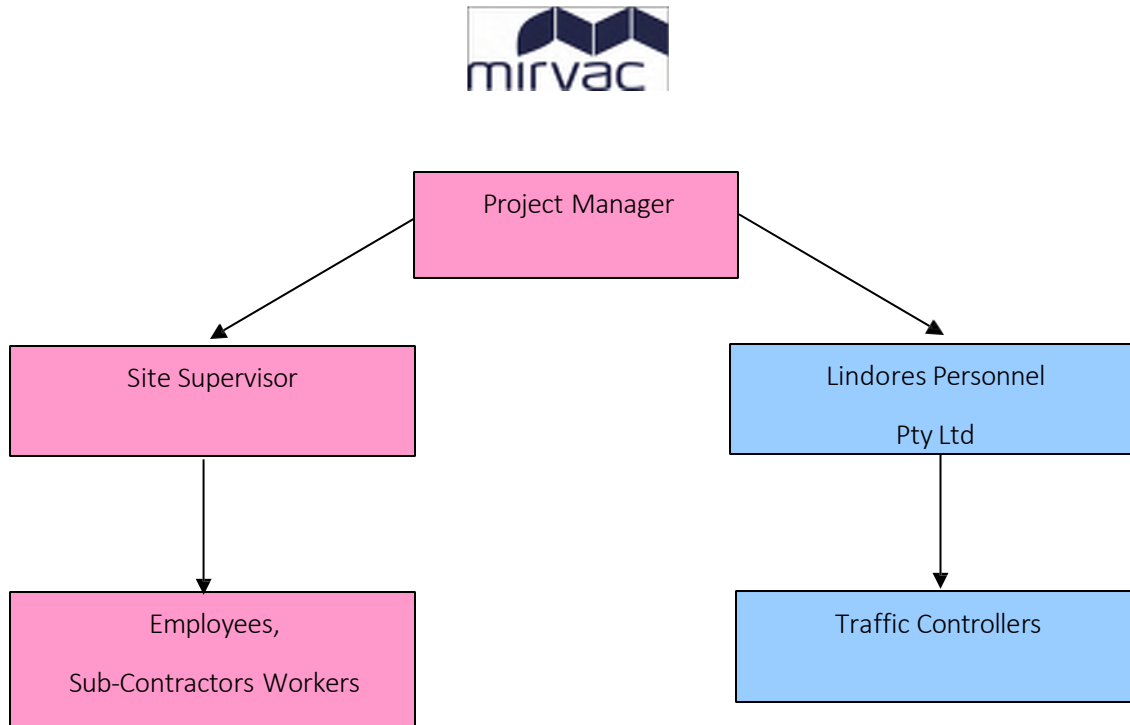
- Manage and monitor TMP and TGS/s to QDTMR Specifications.
- Manage implantation of Traffic Control Requirements
- Manage Traffic Control Daily Operations
- Ensure accredited traffic controllers on site
- Coordination of Traffic Control Daily Operations on site.

The traffic subcontractor to the project (Lindores Personnel Pty Ltd) will have the following personnel, a Traffic Controller, holding a Level 2 Traffic Control License, responsible for the installation, maintenance and removal of the roadwork signage (daily), in accordance with the MUTCD and Traffic Guidance Scheme/s. The Traffic Controller/s shall undertake a review of the erected signage to ensure compliance with the approved Traffic Guidance Scheme (TGS) and shall maintain detailed daily records. The Lindores

Personnel Pty Ltd Site Traffic Management Plan which contains the procedures for the Implementation of traffic arrangements, Traffic Guidance Scheme record keeping and Traffic Guidance Scheme daily routine for the project.

7.8. PROJECT MANAGEMENT HIERARCHY

The following outlines the management hierarchy that will apply to the project.



8. IMPLEMENTATION OF TRAFFIC MANAGEMENT PLAN

The Supervisor, Foreman and/or senior Traffic Controller on the construction site shall ensure that all applicable controls and safety devices are implemented prior to the commencement of works on a daily basis.

The Traffic Management Plan (TMP) shall be monitored continually throughout the construction period and shall be reviewed by the Project Manager and nominated traffic control sub-contractor to ensure its effectiveness throughout the project. Amendments to the Traffic Management Plan shall be made within the timeframe specified under the contract.

Daily inspections of devices shall be carried out by the traffic control sub-contractor to ensure all traffic control devices are maintained and comply with the Uniformed Traffic Control Devices 2010, Main Roads Specifications, relevant Australian Standards and contract requirements.

The use of Portable Traffic Signals, Variable Message Signs, Flashing Arrow Signs or additional devices as required under this contract are detailed within the Project Specific Requirements and the appendix – Traffic Guidance Scheme/s as appropriate.

Details of traffic lane configurations, traffic delays, periods of no lane closures, detour and the use of side tracks applicable to this contract are detailed in the Project Specific requirements of this plan.

Work shall be programmed to minimize the effects on the road users. Entrances to private property shall be maintained in serviceable condition throughout the construction period.

Traffic control shall comply with all relevant procedures, specifications and specific requirements of the contract. Copies of such shall be held on site by the senior Traffic Controller. Only qualified/accredited Traffic Controllers are to be employed on site. Identification cards must be carried whilst performing traffic control duties.

The works zone shall be delineated with the use of approved devices to provide a safe and orderly for both pedestrian and vehicular traffic at all times.

Out of hours Representatives are detailed in the Project Specific Requirements and have the authority to coordinate and expedite work out of hours if required.

Where necessary to ensure that a safe passage for the community is provided, additional measures shall be adopted. These may include; an increase in the number of traffic controllers on site; advise of specific details via public notices; an increase in signage; employee awareness via the induction process and daily pre-start/tool box meetings.

Police officers shall be to assist in the control of traffic in the following situation:

- Where the Traffic Signals must be turned off, if applicable to works area

9. RECORDING AND MONITORING

Details of all changes in traffic movements shall be recorded and maintained throughout the construction period and submitted within 7 days from the date of practical completion.

Regular inspections of traffic control devices shall be carried out a minimum of three times daily and recorded in the Daily Traffic Management Checklist – a copy contained in the appendix. These records are available for inspection during the project. These recordings will be held on site by Lindores Personnel and submitted at the end of the shift to Mirvac works supervisor.

Traffic delays shall be assessed and recorded on the daily diaries. Mirvac supervisory staff shall be notified of any delays that exceed the contract requirements.

Queue lengths shall be assessed hourly and additional advance warning signs shall be erected if deemed necessary.

A register of all complaints shall be maintained and forwarded to the Superintendent on a weekly basis. Mirvac shall be advised immediately of any traffic incident or complaint. If the issue cannot be corrected immediately or it is of a contractual nature then it should be elevated to Mirvac Management.

Non-Conformances and Corrective Actions shall be identified, controlled and implemented in accordance with Company Quality Procedures. All non-conformances shall be acted on by Lindores Personnel and Mirvac on receipt of written notice of the non-conformance.

Principal Contractor to carry out any remedial work deemed necessary under the contract guidelines. A Corrective Action Request (CAR) shall be forwarded to the RRC's representative within 24 hours upon completion. Non-Conformances and Corrective Actions shall be identified, controlled and implemented in accordance with Company Quality Procedures.

Reporting Form	Responsibility	When
Details of erection and removal of Regulatory Traffic Signs / Devices – Form M994 (as required)	Project Manager, assisted by Lindores Personnel works supervisor	Min 5 days prior to commencement and completion of the works
Traffic Management Audit Checklist	Lindores Personnel Pty Ltd	Each day
Traffic Diaries	Lindores Personnel Pty Ltd	Each day
Complaints Register	Project Manager	Each day
Non-Conformance/Corrective Action	Project Manager	As required
Incident Report	Project Manager	As required

In the event of a traffic related accident within the site, Lindores Personnel shall immediately notify Mirvac or the principal's representative, and any necessary emergency services.

10. PROJECT SPECIFIC REQUIREMENTS

Mirvac is to make allowances for any special requirements that may arise due to special events occurring. Mirvac shall contact the Local Council so as to determine the events that are happening in the area during the construction period as required. Emergency vehicle access will be given priority over site traffic at all times.

To minimize traffic disruptions Mirvac will make every effort to conduct these works in consultation with Lindores Personnel Pty Ltd. Traffic Controllers with approved Traffic Control Devices will be in attendance to control and monitor pedestrian and vehicular traffic as required. Traffic Controllers must have their Traffic Control Licenses on their person at all times whilst performing Traffic Control duties.

Traffic Controllers must ensure that they have a clear escape path to a non-traffic (closed) section of the roadway, shoulder, footpath or median. A Traffic Controllers Stop/Slow bat shall have a handle approx. 1.8m long to the underside of the sign. Traffic Controllers Symbolic (TC-1257) with Prepare to Stop (TC-1362) shall be displayed before commencing traffic control operations. These signs shall be positioned a Minimum of the greater of '2D' from the position of the traffic controller.

Refer to the Traffic Guidance Scheme's (TGS's) for all signage positioning and site details. All TGS's may be reviewed by the Principal Contractor each day and advice provided to Lindores Personnel No:1 Pty Ltd of any proposed changes if required.

10.1. METHOD OF TRAFFIC CONTROL

- *All works shall be carried out in accordance with the Manual of Uniformed Traffic Control Devices MUTCD 2003 Part 3 (November 2019) and other relevant documents, as well as the attached Traffic Guidance Schemes.*

10.2. TMR REGISTRATION OF TRAFFIC MANAGEMENT COMPANIES

The Traffic Management Company is to satisfy the requirements as stipulated in the current Traffic Management Registration Scheme. Lindores Personnel No:1 Pty Ltd current certification, 0236 expires on the 31st October 2018. See Appendix for Registration Certificate.

10.3. NOMINATED TRAFFIC CONTROL OFFICER

The Nominated traffic control officer shall meet the minimum training requirement of Level 3 in Traffic Management together with two years minimum experience in developing site specific diagrams. This meets the specific requirements of section 6.3 of the Traffic Management for Construction and Maintenance Work Code of Practice 2008 and MUTCD Part 3. Refer Appendix for Nominated Traffic Control Officer's TMD level 3 Open accreditations.

Traffic Control Company: LINDORES PERSONNEL No1 Pty Ltd
Company Address: 5/134 Racecourse Rd, Ascot QLD 4007
QDTMR ID: 0236
Telephone: 07 3868 3525
Facsimile: 07 3268 3166
Mobile: 0400 773 519
Email: traffic@lindores.com.au

11. RESTRICTIONS TO TRAFFIC

11.1. TRAFFIC LANE CONFIGURATIONS

Location	Days	Time Period	Number of Lanes in Each Direction	Minimum Lane Width (metres)	Minimum Clearance to Objects (metres)	Minimum Posted Speed (kilometres per hour)
Skyring Tce	Working hours		0	0	0.5	40
Skyring Tce	Non-working hours		1	3	1	40
Lane closures are limited to 6am to 7pm or 7pm to 5am						

11.2. SINGLE LANE ONE WAY TRAFFIC

Location	Days	Time Period	Maximum Delay Time (minutes)
Full extent of project	Working days	Working hours	10

11.3. STOPPING TRAFFIC IN BOTH DIRECTIONS

Location.	Reason	Days	Time Period	Maximum Delay Time (minutes)
Not applicable for this site	N/A	Working days	Working hours	5

11.4. PERIOD OF NO LANE CLOSURE

Days during which lanes shall not be closed and work involving stop/slow arrangements shall not be carried out on a day preceding or the day of, a public holiday, long weekend (weekend which includes or abuts a public holiday) or school holiday period, unless specified approval is granted in writing by the BCC and other governing authorities prior to commencing of the works.

11.5. PERIOD OF NO LANE CLOSURE

As required to provide breaks, manage traffic changes and any queuing.

12. WORK ON ROADS

The traffic guidance schemes for each phase have been designed by Lindores Pty Ltd, who will be the responsible sub-contractor for traffic control implementation on the road. The devices shall be inspected periodically throughout the day (usually at 2 hour intervals) and will be taken down or covered at the end of the working day. Traffic shall be controlled at all times, during construction, in accordance with the MUTCD & Traffic Controllers Code of Practice 2011.

12.1. WORKPLACE HEALTH & SAFETY

Principals, employers and persons in control of workplaces have a statutory duty of care to provide a safe workplace for all personnel working at the site, accessing the site or impacted by the construction activity including employees, contractors, subcontractors, visitors to the site and the general public. This TMP forms part of the overall project Site Safety Management Plan, and provides details on how all road users considered likely to travel through, past, or around the worksite and those impacted by the works will be safely and efficiently managed for the full duration of the site occupancy and works.

12.2. SAFE WORK METHOD STATEMENT (SWMS)

Prior to the commencement of this activity Lindores Personnel Pty Ltd will compile a Safe Work Method Statement (SWMS) for the site relating to traffic control activities. Lindores Personnel Pty Ltd management practices require that the Traffic Controller evaluate all traffic arrangements before they are open to Traffic, immediately following the opening to traffic and periodically throughout the activity. Adjustments are recorded in the SWMS, including reasons for the changes and are lodged with the Principle Contractor.

New hazards that arise throughout the work will be subject to risk assessment and incorporated onto SWMS. See SWMS in **Appendix E**.

12.3. INCIDENT & ACCIDENT PROCEDURES

Emergency Services and the Site Managers are ultimately responsible for the control and management of responses to all incidents that occur on the road network. Notwithstanding, *Mirvac and/or Lindores Personnel* Pty Ltd recognize the importance of cooperation between all agencies involved in the road occupation to clear incidents quickly.

In the event of an incident, including excessive queuing, occurring on public roads immediately adjacent to or passing through the road occupation, *Mirvac and/or Lindores Personnel* staff will inform Police/Emergency services including any other relevant local authorities of the event (if a requirement of issued road occupancy approvals). Where required, the traffic management guidance scheme will be removed from the road within 1 hour. Further, *Mirvac and Lindores Personnel* commit the available traffic guidance resources to assist the respective agencies in the speedy clearance of the incident. In the event of an incident or accident, whether or not involving traffic or road users, all work shall cease and traffic shall be stopped as necessary to avoid further deterioration of the situation. First Aid shall be administered as necessary, and medical assistance shall be called for if required. For life threatening injuries an ambulance shall be called on telephone number 000. The Police shall also be called on 000 for traffic accidents where life threatening injuries are apparent. Any traffic crash resulting in non-life threatening injury shall immediately be reported to the QLD Police Service and Mirvac Site Supervisor.

12.4. BREAKDOWNS & MINOR INCIDENTS

Broken down vehicles and vehicles involved in minor non-injury crashes shall be temporarily moved (where safe to do so) to the verge as soon as possible after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles shall be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Assistance shall be rendered to ensure the impact of the incident on the network is minimized. Details of all incidents and accidents shall be reported to the site supervisor and project manager using the incident report form at **Appendix D**.

12.5. DAMAGE TO SERVICES

In the event that gas services are damaged, all work shall cease immediately, machinery and vehicles stopped and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area. The Queensland Police Service, Emergency Services and the relevant supply authority shall be called immediately. Damage to any other services shall be treated in a similar manner except machinery may remain operational and access may be maintained where it is safe to do so. All site personnel shall be briefed on evacuation and control procedures.

12.6. TRAFFIC GUIDANCE SCHEMES

Traffic Guidance Schemes provide details of the required traffic management for the handling of safe movement of traffic through the work site and for the safety of workers. Traffic Guidance Schemes have been developed in accordance with the MUTCD for each phase of the project and are contained in **Appendix B**.

12.7. SPECIAL EVENTS & PLANNED INCIDENTS

Contact with the Local Government Authority and service providers have indicated that there may be planned special events/incidents in vicinity that may directly impact the construction site. As such minimal impacts may be expected during construction. Mirvac will make a commitment to local authorities that adequate preparations concerning traffic management will be made prior to major events, to mitigate possible adverse effects on the road network. To this end Lindores Personnel are in regular consultation with BCC and other local authorities.

12.8. TRAFFIC CONTROLLERS

Traffic Controllers shall be used to control road users to avoid conflict with plant, workers, traffic and pedestrians, and to stop and direct traffic in emergency situations. Traffic Controllers shall:

- 12.8.1.** Operate in accordance with the MUTCD Part 3, 2010, November 2019 with (Amendments)
- 12.8.2.** Hold a current Traffic Controller's accreditation in Queensland.
- 12.8.3.** Take appropriate breaks as required by the MUTCD Part 3 Traffic Controller Accreditation Scheme (TCAS) And/or WHS Regulations.

12.9. PUBLIC CONSULTATION

Throughout the duration of this project adequate information regarding the works will be made available to all stakeholders involved in, or that may be affected by these works.

All Information provided will generally contain the location of works and the expected duration of works and any details of any expected delays.

Mirvac Project Manager will manage all public consultation.

12.9.1. ADVERTISING

Advertising will be placed in appropriate public notice prior to any public seminar (if required), commencement of works and prior to any significant impacting activity (where appropriate to do so). Mirvac are to facilitate any advertising requirements of road closures etc.

12.9.2. INTERNET

Not Applicable for this site

12.10. VARIABLE MESSAGE SIGNS

Not Applicable for this site unless specific requirement by BCC or relevant stakeholders

12.11. NIGHT WORKS

Only if required will night works be undertaken. The existing street lighting provides adequate illumination for traffic moving through the work site after working hours.

Works shall be conducted at night to minimize the impact to road users and stakeholders. The approved working hours shall be 19:00 – 05:00 Sunday to Thursday or as approved by BCC and relevant stakeholders.

12.12. ROAD AND LANE CLOSURE/S

This project will be undertaken in order to minimise disruption to pedestrian and vehicular traffic in the vicinity of the works. Limited Road/Lane closures may be required during the works

12.13. PREVAILING SITE CONDITIONS

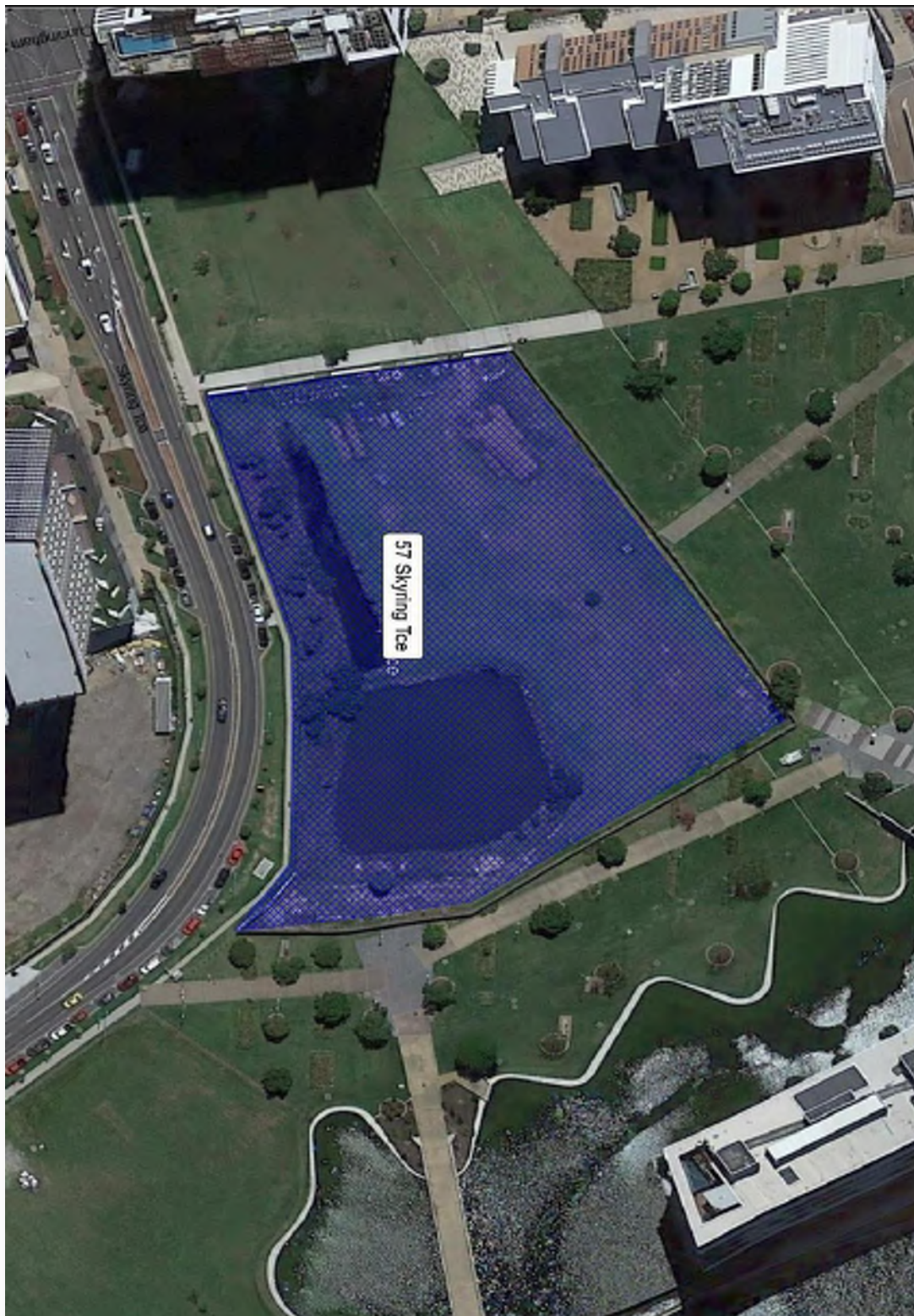
57 Skyring Tce Newstead

Skyring Tce is a commercial road, comprising of mainly medium to large mixed use properties. The lane configuration for Skyring Tce 2 way divided and the lane widths are approximately 3.1m wide adjacent to the construction site with kerb side parking allocations and a designated bike lane. The Regulatory speed zone is 60km/h and will be reduced to 40km/h until the completion of the works.

Consideration: Only a maximum reduction of speed zone of 50m is required,. Even with a reduction of speed to 40km/h, there will be a minimal impact to the vehicle traffic network, even during peak periods.

12.14. SITE LOCATION MAP

Refer to Figure 1: 57 Skyring Tce. The site has 1 street frontage.



12.15. INTERFACE WITH OTHER CONSTRUCTION SITES

Not Applicable – for this site

12.16. PROPOSED WORK ZONE

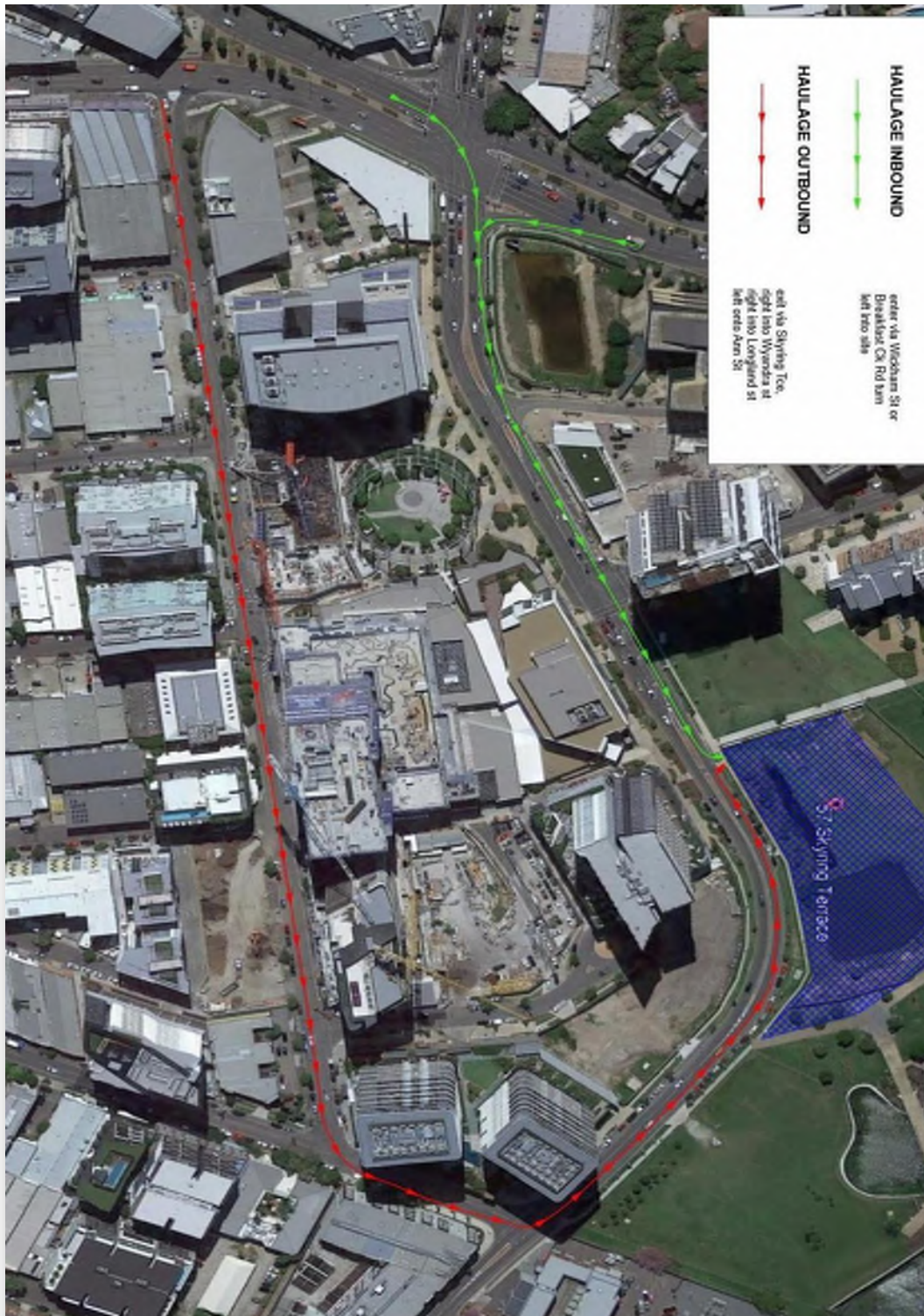
Refer to Figure 2: as majority of unloading activities will be conducted off the street there is a foreseen need for a street side workzone

12.17. DURATION OF WORKS

The anticipated project construction duration is approximately 80 weeks from commencement. The site hasn't been established and in-ground works have yet to be commenced with a target completion for the entire development in late 2023.

12.18. HEAVY VEHICLE AND DELIVERY PLANT HAULAGE ROUTE

Refer to Figure 3: Primary haulage route for site plant deliveries



12.19. PUBLIC TRANSPORT

Skyring Tce is used by a large number of buses, any delays will be magnified through the network and as such delays must be kept to a minimum

12.20. DETOURS

Vehicle Detours are not foreseen to be required with current construction methodology

12.21. DIVERSIONS

There is no alternate diversion route at this stage of the project.

12.22. TRAFFIC PARKING EFFECTS

There is a possible need to take 2 car spaces adjacent to the crossover to ensure safe movements of heavy vehicles on and off site

12.23. ENTRY INTO PRIVATE PROPERTIES

Entry access/egress into private properties will be maintained at all times.

12.24. PROVISIONS FOR POLICE CONTROL

Not required on this project.

12.25. CYCLISTS AND PEDESTRIANS

Safe passage for cyclists and pedestrians will be provided by Mirvac and Lindores Personnel traffic controllers and will utilize advance cautionary signage to inform of changed traffic conditions in advance of the works area on both frontages.

As required all pedestrian traffic and cyclists will be monitored as required. Appropriate pedestrian warning signage and directional signage will be placed and monitored throughout the project works as required. Where trip hazards exist or are identified "Pedestrian Watch Your Step" T8-1 shall be installed where appropriate space allows.

12.26. PEOPLE WITH DISABILITIES AND OTHER VULNERABLE ROAD USERS

There is no specific facility or service nearby that would increase normal use of the road facilities by people with disabilities and other vulnerable road users, traffic control will be provided on site to assist with this contingency.

12.27. EMERGENCY VEHICLE ACCESS

Following liaison with BCC, Lindores Personnel and other controlling local authorities have determined that the works are classified as low-impact/low risk; accordingly no special provisions are required. However, the site Traffic Controller/s shall assist emergency vehicles travelling through the worksite. Emergency services shall be notified via phone of the proposed works nature, location, date and times as well as contact details for the site supervisor, as facilitated by Mirvac.

Appendix A displays a map of the project site.



Appendix B displays TGS/s (Traffic Guidance Scheme/s).

TGS	Purpose
LP0376	Skyring Hold Release
LP0377	Skyring Stop Slow

NOTES:

1. Any signage that contradicts this plan will be covered for the duration of works.
2. It is the Contractor's responsibility to check the plan and site setup match, prior to work commencing, to ensure compliance with the MUTCD 7th edition 2016.
3. Daily records (Daily Storage Log) of the sign arrangement to be kept.
4. Minimum requirements are set out in Appendix A of MUTCD 7th edition 2016.
5. A Risk Assessment must be conducted prior to work commencing.
6. The contractor is responsible for ensuring the maintenance and construction of the travelled path remains within required specifications and standards.
7. Traffic Controllers are to have 2D visibility to approaching traffic.

Placement of  = 



WARNING: This Traffic Guidance Scheme is copyright material and is valid only when traffic control is undertaken

LINDORES

PERSONNEL

T: 07 2869 1535
F: 07 2268 3146
A: 5/134 Racecourse Rd Ascot 4007

Client:	Mitrac	Term of Works:	11 long	LEGEND:	Traffic Cones	TGS Number
Activity:	Building Construction	Travelled Path:	Around		Work Vehicle	LP 0376
Street:	Skyming Terrace	Available Width:	Varied		Vehicle Mounted Arrow Board	
Cross Street 1:	Cunningham St	Control Type:	Shoulder		Work Area	
Cross Street 2:	Commercial Rd	Closure:	Shoulder			
Suburb:	Newstead	TC Numbers:	1 + 1 relief			
UDS Ref.:		MUTCD Diagram:				
Road Type:	Varied	D Speeding:	10-15m			
Posted Speed:	50km/h	Date Drawn:	28/01/2020			

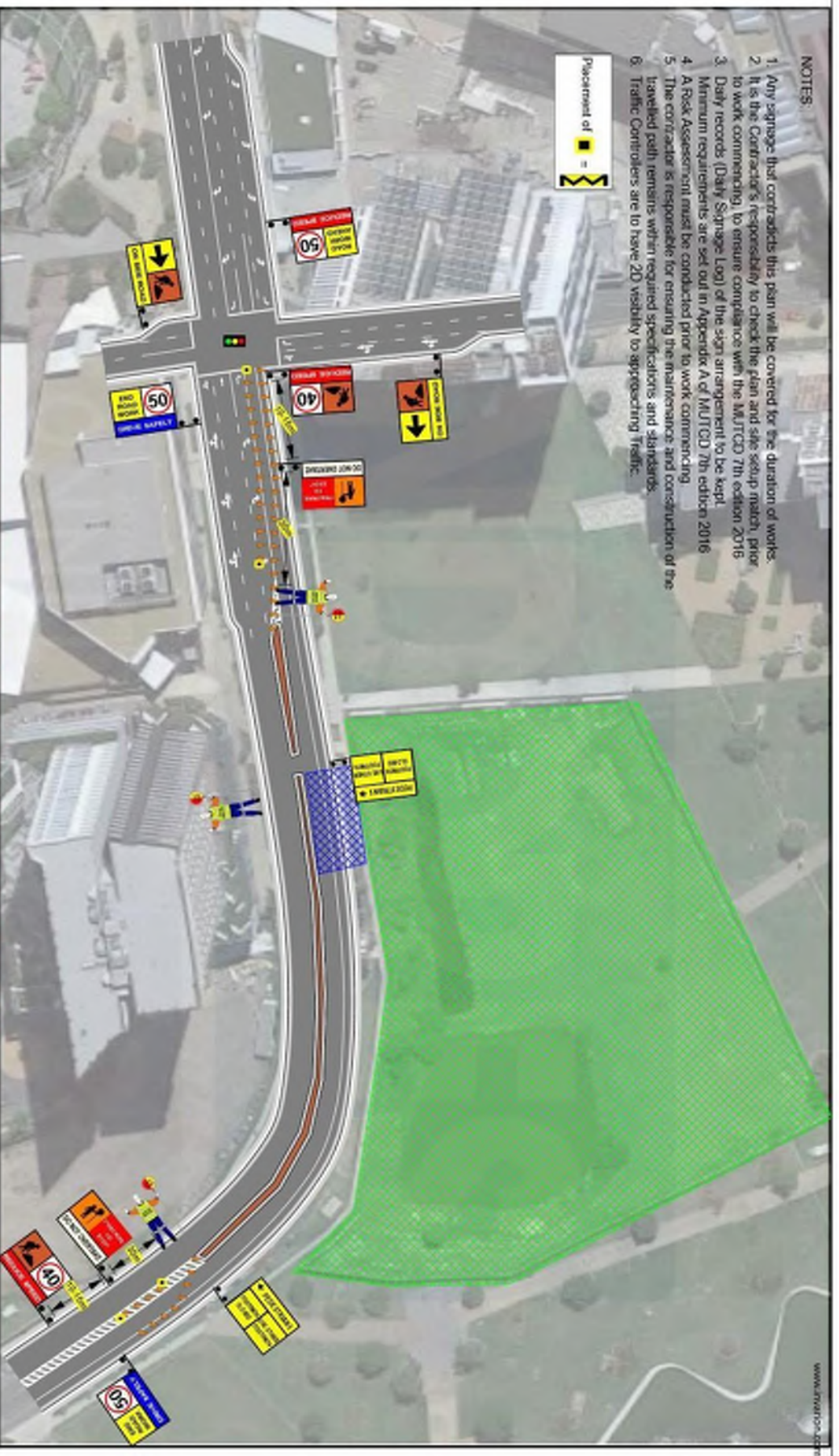
NOTE: This Traffic Guidance Scheme is not to scale.



NOTES:

1. Any signage that contradicts this plan will be covered for the duration of works.
2. It is the Contractor's responsibility to check the plan and site setup match, prior to work commencing, to ensure compliance with the MUTCD 7th edition 2016.
3. Daily records (Daily Signage Log) of the sign arrangement to be kept.
4. Minimum requirements are set out in Appendix A of MUTCD 7th edition 2016.
5. A Risk Assessment must be conducted prior to work commencing.
6. The contractor is responsible for ensuring the maintenance and construction of the travelled path remains within required specifications and standards.
7. Traffic Controllers are to have 20 visibility to approaching traffic.

Placement of  = 



WARNING: This Traffic Guidance Scheme is copyright material and is valid only when traffic control is undertaken

LINDORES

PERSONNEL

T: 07 3808 3535
F: 07 3268 3166
A: 54/54 Riddiway Rd Ayrton 4007

Client:	Mivac	Term of Works:	Long	LEGEND:	Traffic Cones
Activity:	Building Construction	Travelled Path:	Around		Work Vehicle
Street:	Skyring Terrace	Available Width:	Varied		Vehicle Mounted Arrow Board
Cross Street 1:	Cunningham St	Control Type:	Traffic control		Work Area
Cross Street 2:	Commercial Rd	Closure:	Lane Closure		
Suburb:	Newstead	IC Numbers:	3 + 1 relief		
UDR Ref:		MUTCD Diagram:			
Road Type:	Varied	D Spacing:	10-15m	Drawn By: James Davy	Sigs
Posted Speed:	50km/h	Date Drawn:	28/01/2020	TMO 09/200	

NOTE: This Traffic Guidance Scheme is not to scale.



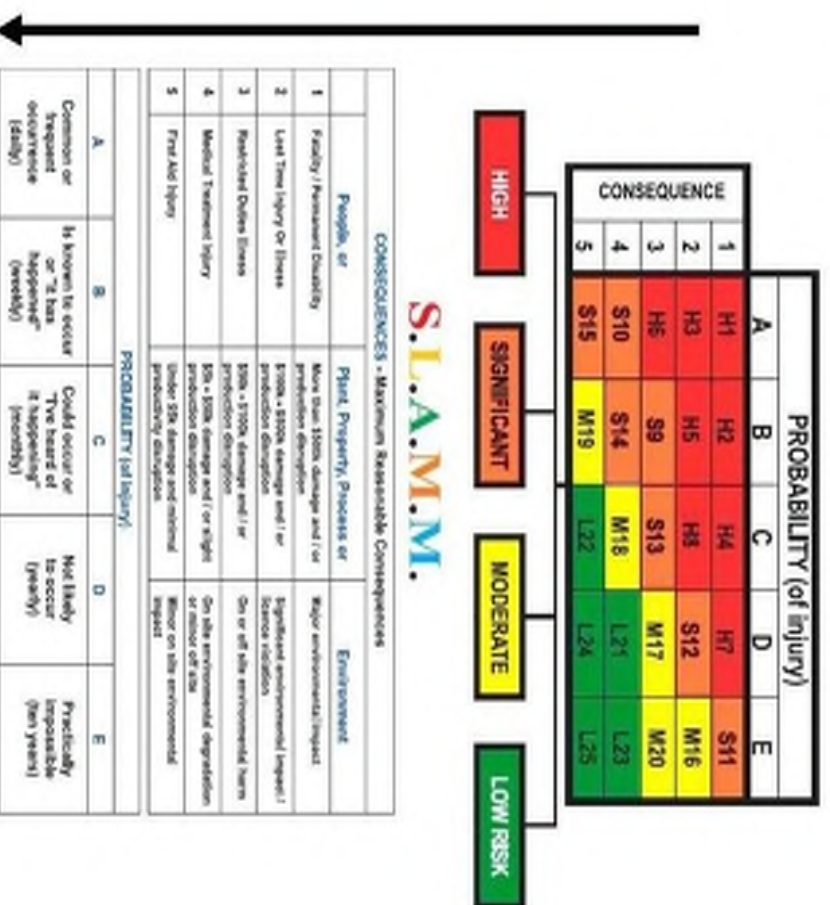
Appendix C is a SWMS pertaining to traffic control around work sites.

LINDORES SAFE WORK METHOD STATEMENT					
EMPLOYEES SHALL FOLLOW THIS WORK METHOD WHEN CARRYING OUT THE NOMINATED WORKS. The personnel who carry out this task/activity must be involved in the preparation of and trained in this SWMS					
Resources					
Lindores Personnel No. 1 Pty Ltd ABN: 46 140 637 976 A: 2446 Gold Coast Highway Mermaid Beach QLD 4218 P: 07 5575 2461F: 07 5575 2161 E: michael.kobas@lindores.com.au	Client Name: Mervac ABN: 45 003 353 713 Site Name: Sky Newstead Stage 1 Site Address: 57 Skyring Tce Newstead				
Prepared by: Michael Kobas and James Davy TMD Qualified					
List Names of all personnel approving SWMS:					
Michael Kobas Sign: _____ Date: 28 January 2020	Review Date: 28 January 2021				
Qualifications required: Occupational Health & Safety - Construction Induction Card (White Card and/or QLS Blue Card), Queensland Traffic Controller's Ticket, 30215QLD (or equivalent), Site Specific Induction					
Equipment Used: Signage, Stop/Slow Bars, Witches Hats, Hand held wands, Hi - Vis Traffic Controller Vests					
Training: Industry OH&S Induction, Site Induction, Daily Pre-start, Regular Toolbox Talks, Read & Sign SWMS					
PPE Required	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 50%; vertical-align: top;"> MANDATORY - Head protection - Foot protection - High visibility - Eye protection - Long Sleeved Shirt □ - Long Trousers □ - Gloves </td> <td style="width: 50%; vertical-align: top;"> AS REQUIRED - Hearing protection - Hand protection </td> </tr> <tr> <td>       </td> <td></td> </tr> </table>	MANDATORY - Head protection - Foot protection - High visibility - Eye protection - Long Sleeved Shirt □ - Long Trousers □ - Gloves	AS REQUIRED - Hearing protection - Hand protection	     	
MANDATORY - Head protection - Foot protection - High visibility - Eye protection - Long Sleeved Shirt □ - Long Trousers □ - Gloves	AS REQUIRED - Hearing protection - Hand protection				
     					
Applicable Standards / Legislative Requirements / Codes					
Health & Safety: - Work Health and Safety Act 2011 - Work Health and Safety Regulation 2011 - Site Traffic Management Plan	0 Transport Operations Act – Manual Uniform Traffic Control Devices (Queensland) "MUTCD"				
Environment:	0 Environmental Management Plan				

SAFE WORK METHOD STATEMENT

SWMS PREPARATION

Identify Activity Steps in consultation with workers & supervisor. (A)
Select appropriate personnel to prepare SWMS
Identify hazards associated with each activity step (B)
Use Safety Hazard Identification / Risk Assessment Table to determine consequences and likelihood of occurrence. Insert the Alpha abbreviation to the Risk Rating Chart under L & C (C)
Use Risk Matrix to determine Class of Risk. Insert the numeric rating under R. (C)
Determine appropriate control measures to eliminate the risk or reduce it to as low as practicable. (D) Reassess the risk of each control and insert the Alpha and Numeric rating chart following the controls (E) and allocate the responsibility (F)
Landores Personal Safety Manager completes details on all pages of SWMS.
SWMS communicated via toolbox meeting to all employees involved in work activities covered by SWMS.
All personnel involved sign last page of SWMS.
Signed SWMS submitted to pay rol and put in employees file
SWMS reviewed on an ongoing basis and amended where necessary.
All amendments to SWMS communicated via toolbox meeting to personnel involved in SWMS activities.



SAFE WORK METHOD METHOD STATEMENT

A	B	C				D	E				F	
ACTIVITY STEPS <i>(Break the job down into steps)</i>	POTENTIAL RISKS & HAZARDS <i>(What can harm you?)</i>	Initial RISK				CONTROL MEASURES <i>(What are you going to do to make the job as safe as possible?)</i>	Residual RISK				RESPONSIBILITY <i>(Who is going to ensure this happens?)</i>	
		H	S	M	L		H	S	M	L		
Controls shall be selected in accordance with the 'hierarchy of controls' (Elimination>Substitution>Isolation>Engineering>Administration>PPE) PP E is always the least preferred control.												
1	Toolbox meeting or task allocation and signing of documents.	Unknown site hazards or site procedures				- Ensure a site specific induction is performed prior to task allocation - Contact Lindores Personnel office if no induction is performed before task allocation		M				1. Client Supervisor 2. Employee
2	Site Safety Inspection - Unusual traffic conditions - Obstacles - Site configuration - Constraints	H				When drawing up traffic controls plan (TCP) inspection of traffic control site to be carried out to identify unusual situations, obstacles & constraints (e.g. Heavy vehicle or pedestrian traffic, congested areas may require additional signage) that may be present and need attention. Where necessary additional equipment, signage and plans are to be included.		M				Employee 1. Lindores Personnel 2. Safety Manager
3	Planning & Preparation Unsuitable/ Inappropriate TCP	H				- Traffic control plan must be drawn up and approved by council/highway roads. - Traffic control plan to be reviewed and approved by Site Management. - Before commencement of work, all equipment and signage relevant to the job must be checked and must be of AS1742.3 & MUTCD.		M				
Planning & Preparation - Weather - Sunburn - Insect bites - Noise - Heat		S				- Personnel must be equipped with relevant PPE (hard hat, high vis clothing/vests, gloves, boots & earplugs). Workers affected by the heat are to wear long sleeve shirts & sun protection, use sunscreen and drink plenty of water. Insect repellent to be applied as necessary. - Traffic controllers must wear nominated traffic controller vests.		M				

SAFE WORK METHOD STATEMENT

A	B	C	D	E	F
ACTIVITY STEPS (Break the job down into steps)	POTENTIAL RISKS & HAZARDS (What can harm you?)	Initial RI SK	CONTROL MEASURES (What are you going to do to make the job as safe as possible?)	Residual RISK	RESPONSIBILITY (Who is going to ensure this happens?)
4	Preparing or unloading equipment	D Traffic	S		1. Employee
	Preparing or unloading equipment	D Physical injuries	S		1. Employee
			- Vehicle must be entered/exited in a safe manner (no jumping). - Signs and devices used must be unloaded a safe distance from traffic (work is NOT to be carried out within 3m of traffic, unless traffic control arrangements in place).	M	
	Preparing or unloading equipment	D Physical injuries	S		1. Employee
	Preparing or unloading equipment	D Visibility	S		1. Employee
			- Correct manual handling techniques to be used at all times when loading or unloading signs and devices. - Work to be carried out in daylight hours unless TCP indicates otherwise. - If night work – reflective vests, cones and maybe even light sticks to be used.	M	
5	Setting up signage and other devices	D Traffic and safety of pedestrians	H		1. Client Supervisor 2. Employee
			- All traffic control operations must abide by TCP & in accordance with AS1742.3 & MUI/TCD. - Signage at furthest point from work area and in direction of affected traffic flow to be positioned first. - A spotter or lookout must be used in heavy traffic situations or sites covering long distances. - When erecting signs/devices near traffic, precautions to be taken, also wait for gap in traffic flow.	M	
	Setting up signage	D Unscreen obstructions and/or constraints	H		1. Employee
			- Alterations to conditions (if uncertain of major changes, supervisors to approve). - Where required, a safe pedestrian zone to be established (baricades to be used).	M	

SAFE WORK METHOD STATEMENT

A	B	C	D	E	F
ACTIVITY STEPS (Break the job down into steps)	POTENTIAL RISKS & HAZARDS (What can harm you?)	Initial Risk	CONTROL MEASURES (What are you going to do to make the job as safe as possible?)	Residual Risk	RESPONSIBILITY (Who is going to ensure this happens?)
6 Controlling Traffic	D Traffic	S	D Traffic controller must be qualified/licensed with Traffic Control Ticket, White Card and carry proof of accreditation at all times. D Generally a break is to be taken every two hours of traffic control duties if possible.	L	1. Employee
Controlling Traffic	D Fatigue	M	D	M	1. Employee
Controlling Traffic	D Flagmen/stray vehicles	S	D Where flagmen are engaged, they must be positioned where they can perform duties effectively and in clear view of traffic. Flagmen must also position themselves so that they are not at risk of being struck by traffic when in slow mode.	M	1. Employee
7 Checking to ensure traffic control set up & controls in place	D Traffic	H	- Regular checks to be carried out by supervisor or management of site to ensure TC set up and controls are in place, corrections made where necessary. - Copy of TCP to be given to traffic controller. - If changing work areas, new TCP's to be given to all involved.	M	1. Client Supervisor 2. Site Management
8 Dismantling of signs/devices	D Traffic	H	- Signage & devices closest to work area to be dismantled first. Spotter or lookout person to be used in heavy traffic areas, or site covering long distances. - Correct manual handling techniques to be used at all times. - All signage to be closed out at completion of days work, opened up at commencement of next day.	M	1. Employee
9 Leaving Site	D Traffic	H	D Ensure work area is cleaned up and roads left in safe conditions. All signage to be returned as it was when arriving on site.	M	1. Client Supervisor 2. Employee

SAFE WORK METHOD STATEMENT

Special Precautions

List of Personnel approved by the Lindores Personnel Manager to operate the Plant or Machinery on this project:

Name Authorisation

SAFE WORK METHOD COMMUNICATION MEASURES TOOLBOX TALK RECORD

We, the undersigned, acknowledge that we read and understood this Safe Work Method Statement and are fully conversant with the safety precautions included in this document. Record details below.

Name & Signature	Start Date	Yrs of Exp.	Job Title	Name & Signature	Start Date	Yrs of Exp.	Job Title
	//				//		
	//				//		
	//				//		
	//				//		

SWMS TO BE REVIEWED TO ENSURE RISK CONTROLS ARE ADEQUATE:

Annually

SUPERVISION & INSPECTION BY:

Michael Kobas

Appendix D is an Incident Report Form.



Project:	
Job No:	Client:
Project Manager:	

Accident/Incident Report Form

Incident type:			
☐ First Aid Treatment (FAI)	☐ Near Miss Incident (NMI)	☐ Hazard	
☐ Medical Treatment Injury (MTI)	☐ Property Damage	☐ Environmental	
☐ Lost Time Injury (LTI)	☐ Motor Vehicle	☐ Electrical Incident (Take to Hospital)	
Incident location:			
Reported by:	Name:	Position:	
	Phone:	Email:	
Incident Details:	Date and Time of occurrence:	Date Reported:	
	Name:	Phone:	
	Occupation:		
	Host Company:		
Incident Summary:	Describe what was happening prior to the incident occurring?		
Describe the incident:			
What action was taken to immediately control the incident at the time and by whom?			
Motor Vehicle Details: (if applicable)	Registration No:		
	Company Vehicle:	☐ Yes ☐ No	
	Vehicle accident form attached	☐ Yes ☐ No	
Work Activity Performed:			

Any serious injury or illness is to be reported to WHS Qld 1300 362 128 and Cooper Grace Ward Lawyers Belinda Winter 07 3231 2498 immediately.

Project:	
Job No:	Client:
Project Manager:	

Actual Incident Category	☐ Insignificant ☐ Minor ☐ Moderate ☐ Major ☐ Catastrophic	Potential Incident Category	☐ Insignificant ☐ Minor ☐ Moderate ☐ Major ☐ Catastrophic
Sources of Hazards	☐ Biological Hazards ☐ Confined Space ☐ Hazardous chemicals/materials ☐ Manual Handling ☐ Manual Tools and equipment ☐ Mechanical Plant & Equipment ☐ Restricted/Congested Spaces	☐ Third Parties ☐ Vehicle/ Traffic ☐ Weather related incidents ☐ Working environment ☐ Working at heights ☐ Other _____ (detail)	
Primary Hazards	☐ Confined Space ☐ Contact with Hazardous chemicals ☐ Cuts & Abrasions ☐ Dust ☐ Electrical ☐ Engulfment/Suffocation ☐ Falls from heights ☐ Fire/explosions ☐ Hit by moving object ☐ Manufacturing ☐ Material Handling	☐ Mechanical Services Installation ☐ Manual Handling Related ☐ Noise/Vibration ☐ Non-mechanical impact ☐ Poor visibility ☐ Restricted/Congested Space ☐ Slips & Trips ☐ Vehicle/ Traffic ☐ Weather ☐ Other _____ (detail)	
Injury Details (if applicable)			
Nature	☐ Abrasion ☐ Amputation ☐ Bruising ☐ Burns ☐ Contusion ☐ Crush	☐ Cuts ☐ Dislocation ☐ Electric Shock ☐ Foreign Body ☐ Fracture ☐ Laceration	☐ Open wound ☐ Sprain/Strain ☐ Superficial Other _____ (detail)
Body Part Injured	Left ☐ Right ☐ ☐ Head ☐ Face ☐ Eyes ☐ Ears ☐ Neck ☐ Back ☐ Trunk	☐ Shoulders and arms ☐ Hands ☐ Fingers ☐ Hips/Legs ☐ Feet ☐ Toes ☐ Internal organs	
Treatment Given			
Initial Treatment Given:	☐ *		
Was the person (tick):	☐ taken to hospital ☐ referred to doctor ☐ certified unfit for pre-injury duties	☐ returned to normal duties ☐ returned to alternate duties ☐ N/A	
Did the Site Supervisor/Project Manager attend the medical review?	☐ Yes ☐ No (If no, why?)		

Any serious injury or illness is to be reported to WHS Qld 1300 362 128 and Cooper Grace Ward Lawyers Belinda Winter 07 3231 2498 immediately.

Investigation - Cause of the Incident				
Contributing Factors				
	YES	NO		
1. Did worker wear the correct PPE?				
2. Did the design of plant, facilities or equipment contribute to the incident?				
3. Did inadequate job planning or instruction contribute to the incident?				
4. Did failure to follow rules and procedures or SWMS contribute to the incident?				
5. Did inadequate rules, procedures or SWMS contribute to the incident?				
6. Was guarding or protective devices not provided or ineffective?				
7. Did incorrect plant or equipment operation contribute to the incident?				
8. Did congested housekeeping or incorrect storage contribute to the incident?				
9. Did the use of incorrect tools or mechanical aids contribute to the incident?				
10. Did a third party contribute to the incident?				
11. Other _____				
Corrective Action Plans (Office use only)				
Action	By Whom	By When	Completed Date	
Follow up Actions / Approvals				
Notification Requirements	Is this incident required to be reported to the regulatory authority (Work Cover, Work Safe, EPA/DECC etc)? ☐ Yes ☐ No			
Approvals	Position / action	Name	Signature	Date
	Supervisor <i>Corrective Actions have been actioned</i>			
	General Manager <i>Corrective Actions have been actioned</i>			
	HSEQ Adviser/Manager <i>Corrective Actions have been tracked for follow up and reviewed for effectiveness</i>			

Any serious injury or illness is to be reported to WHS Qld 1300 362 128 and Cooper Grace Ward Lawyers Belinda Winter 07 3231 2498 immediately.

Project:

Job No:

Client:

Project Manager:

To be completed only if there was a witness to the incident, disregard if not applicable.

Statement of Witness to an Accident / Incident

Injured Person:	
DETAILS OF WITNESS MAKING THIS STATEMENT	
Name of Witness	
Address:	
Mobile Number:	
Current Employer:	
Name of your Supervisor:	
Supervisor Contact Phone Number:	

ACCIDENT DETAILS	
When did it happen? Day of Week: Date: Time:	
Where did it happen? Address and Location	
How did it happen? Full description of events leading to accident and actually occurring at time of accident	
What was the injured person doing at the time of the accident?	
What did you notice about the injured person? Bleeding, vomiting, limping etc.	

Any serious injury or illness is to be reported to WHS Qld 1300 362 128 and Cooper Grace Ward Lawyers Belinda Winter 07 3231 2498 immediately.

Project:	
Job No:	Client:
Project Manager:	

What complaints did the injured person make?	
Did the injured person continue to work?	
If so, for how long and in what manner	
Did you actually see the accident?	
If not, how did the injured person say the accident occurred?	
Any other witnesses present?	
If so, what were their names	

DECLARATION

I declare that the foregoing is correct

Signature of witness _____

I declare that the person making this statement is known to me and signed in my presence.

Declared at _____ the _____ day of _____ 20____

Signature of Authorised Person: _____

(Print name): _____

Any serious injury or illness is to be reported to WHS Qld 1300 362 128 and Cooper Grace Ward Lawyers Belinda Winter 07 3231 2498 immediately.

Appendix E is Main Roads Accreditation Certificate for Lindores Personnel

Department of Transport and Main Roads

Certificate of Registration

Traffic Management Registration Scheme

This is to certify that

Lindores Personnel No. 1 Pty Ltd

ABN: 46 140 837 976

is registered with the Department of Transport and Main Roads
Traffic Management Registration Scheme

Registration Number: 0236
Issue Date: 24 October 2018
Expiry Date: 31 October 2021


.....
Traffic Management Registration Scheme
Engineering & Technology

To confirm the currency of the registration status please visit www.tmr.qld.gov.au/business-industry/Accreditations/Traffic-Management-Registration-Scheme.aspx

Great state. Great opportunity.


Queensland
Government

Appendix F is Insurance Certificate of Currency

SURA LABOUR HIRE PTY LTD

Level 14
141 Walker Street
North Sydney NSW 2060

Phone: (02) 9990 9500
Web: www.sura.com.au

PO Box 1813
North Sydney NSW 2059

SURA LABOUR
HIRE

CERTIFICATE OF CURRENCY

ISSUE DATE: 4 December 2019
INSURED NAME: Lindores Personnel Pty Ltd, Lindores Personnel No. 1 Pty Ltd, Lindores Personnel No. 2 Pty Ltd, Lindores Personnel No. 3 Pty Ltd and Lindores Personnel No. 4 Pty Ltd T/as Lindores Personnel, Lindores Personnel No. 1, Lindores Personnel No. 2 and Lindores Personnel No. 3, Lindores Personnel No. 4
POLICY NUMBER: LCB171202191
POLICY WORDING: SLHLFP V4 05-2019
PERIOD OF INSURANCE: 11 December 2019 to 11 December 2020 at 4.00pm
POLICY CLASS: Labour Force Professional Liability Insurance Policy
SITUATION: Anywhere in the World excluding USA and Canada.
BUSINESS: Personnel recruitment and/or labour hire

Section 1 Broadform Liability Cover

Public Liability Limit of Liability \$20,000,000
Products Liability Limit of Liability \$20,000,000 any one Occurrence or series of Occurrences due to or arising out of Products and limited in total in any one Period of Insurance to that amount

** Care Custody and Control sub limit \$250,000 in the aggregate any one period of insurance.

Section 2 Professional Indemnity Cover

Professional Indemnity Limit of Liability \$10,000,000 any one claim
\$20,000,000 in the aggregate

Retroactive Date applicable to Section 2 11 December 2009

Insurer Certain Underwriters at Lloyd's (Unique Market Reference B1005P045352019) and Berkley Insurance Australia

SIGNED:



Signed on behalf of SURA Labour Hire Pty Ltd

Allison Rossetto
Senior Underwriter

IMPORTANT INFORMATION

This certificate has been issued by us in our capacity as Agents for the Insurers named above. This certificate does not reflect in detail the policy terms and only provides a summary of the insurance that is in existence at the date this certificate was issued. To obtain details of the policy terms, conditions, restrictions, exclusions or warranties you must refer to the policy contract. In arranging this certificate, we do not guarantee that the insurance outlined will continue to remain in force for the policy period as the policy may be cancelled or altered by either party to the contract at any time in accordance with the terms and conditions of the policy or in accordance with the terms of the Insurance Contracts Act 1984. We accept no responsibility or liability to advise any party who may be relying on this Certificate of such alteration or cancellation to the policy of insurance.

Appendix G is Work Cover Certificate of Currency.

Certificate of Currency



1. Statement of coverage

The Accident Insurance Policy covers the full amount of the employer's liability under the *Workers' Compensation and Rehabilitation Act 2003*.

Your workers' compensation insurance is current to 30 September 2020.

This Certificate is valid from: 01 July 2019 to 30 September 2020

The information provided in this Certificate of Currency is correct as at: 04 September 2019

2. Employer's information

Policy number: WNA091230759

Employer name: Lindores Personnel No. 1 Pty Ltd

ABN: 46140837976

ACN / ARBN: 140837976

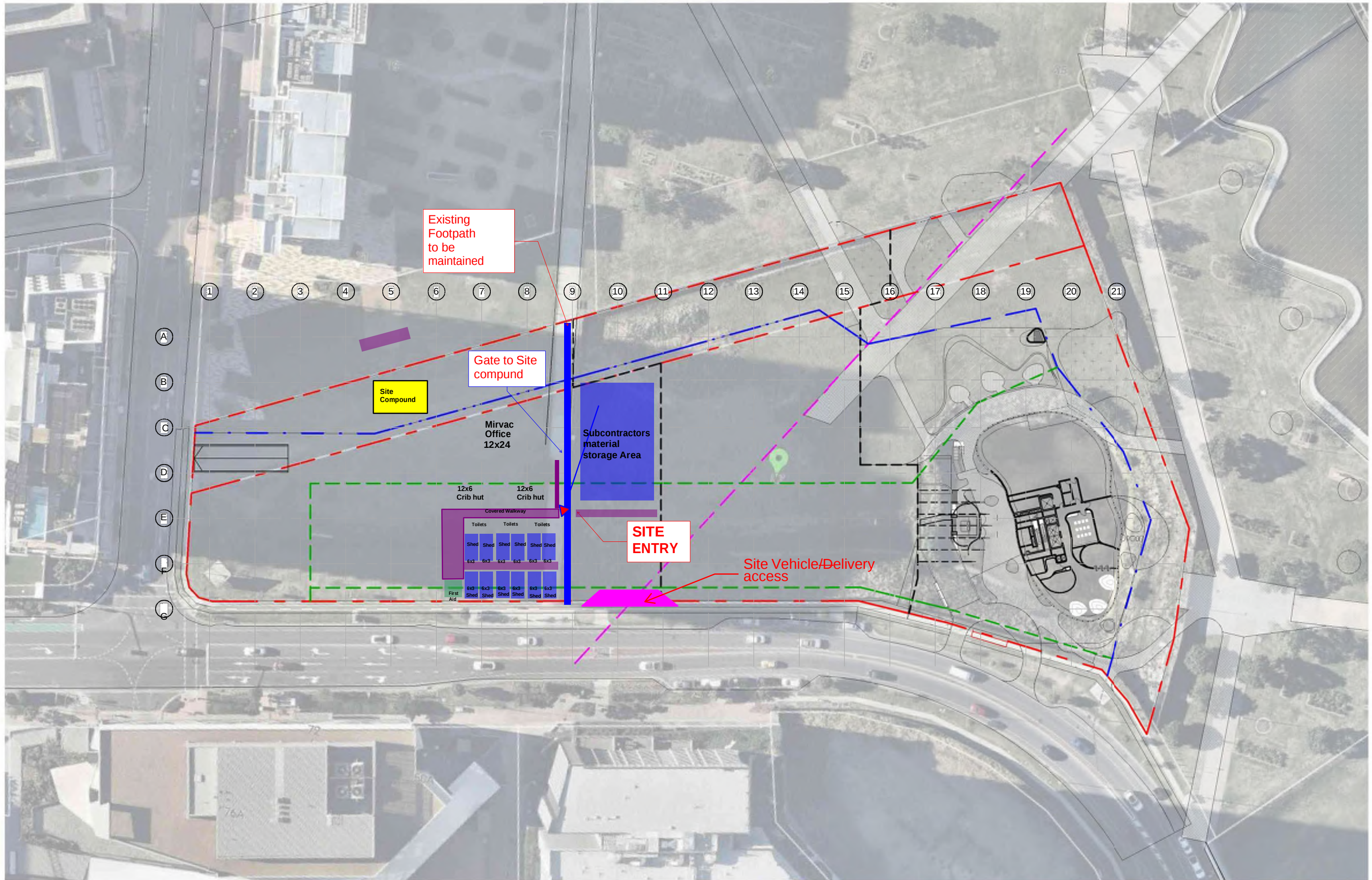
3. WorkCover industry classification

Construction - E30000

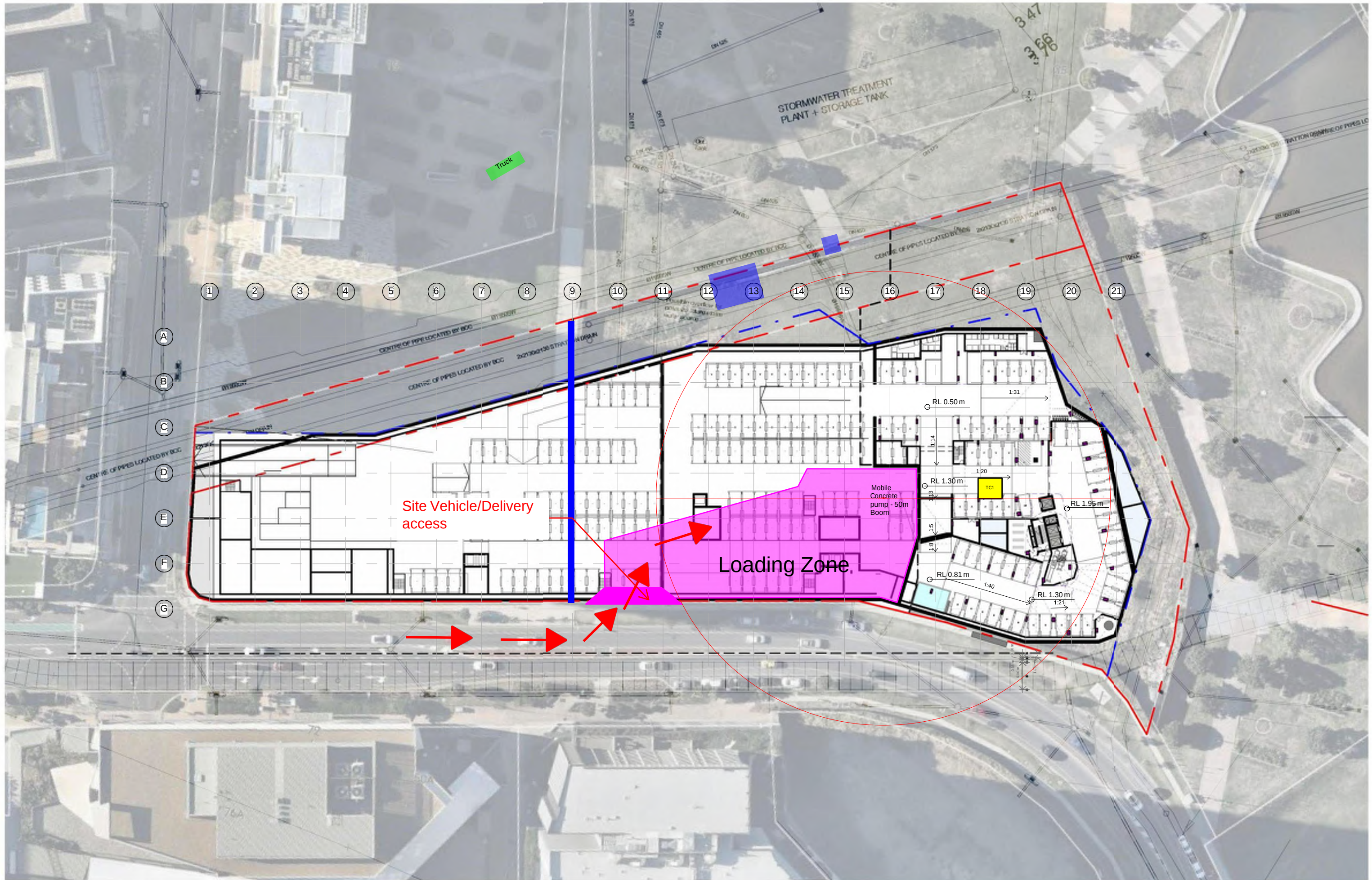
For more information, please contact us on 1300 362 128 or visit our website at worksafe.qld.gov.au.

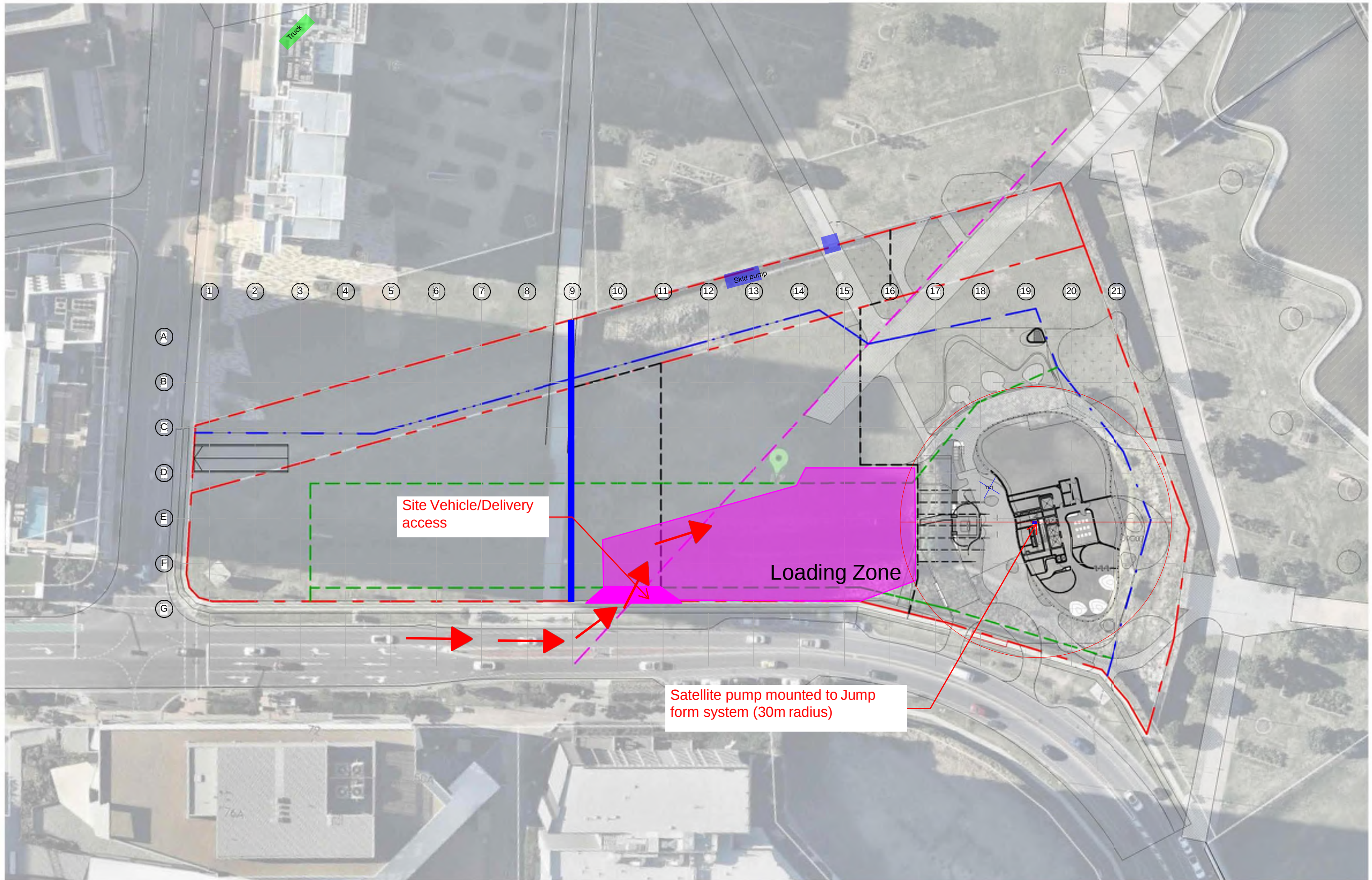
APPENDIX B

Crane Radius Plans and Site Logistics Plans









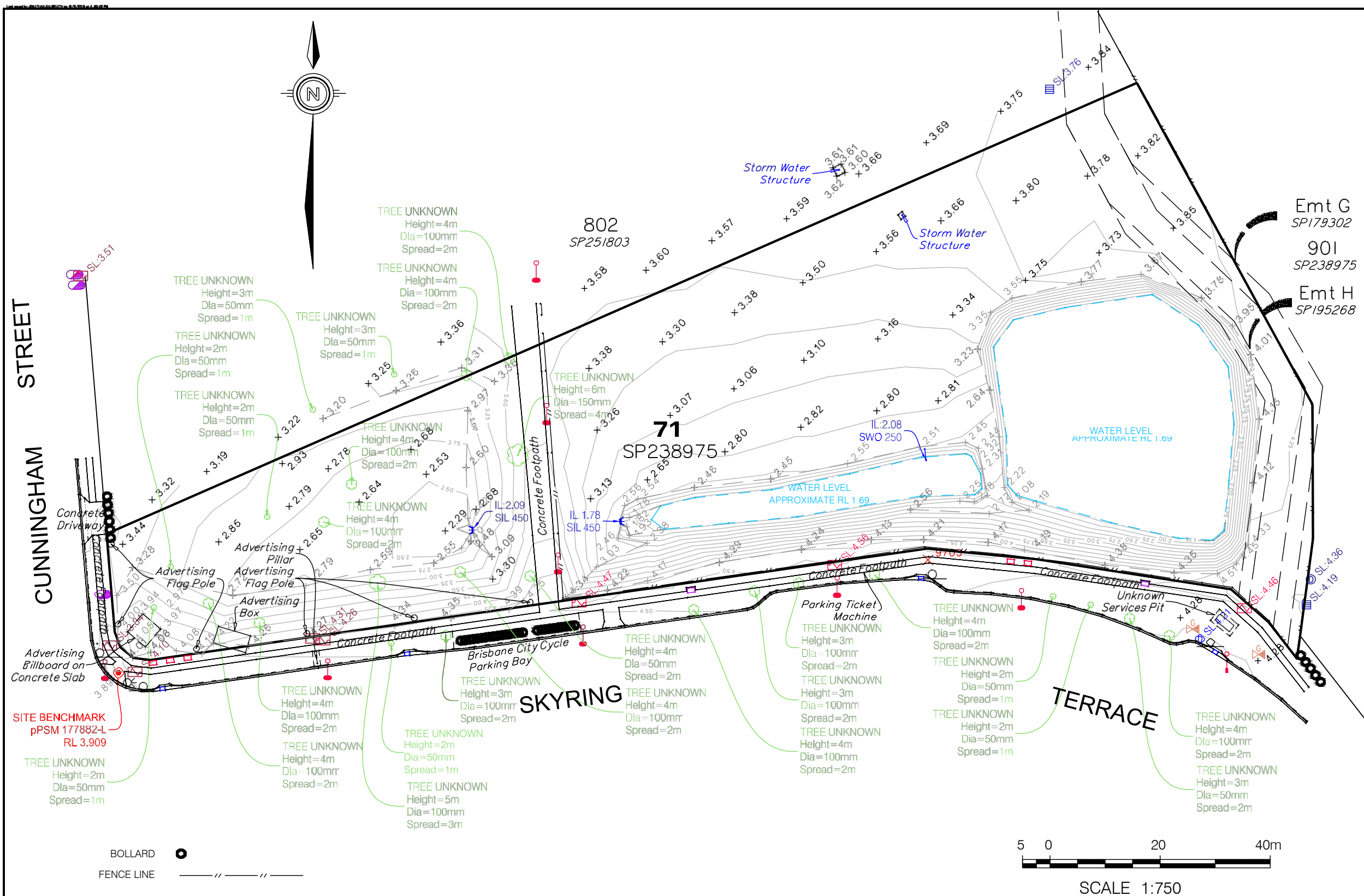


B



APPENDIX C

**Safety Management System AS 4801
Environment Management System AS 14001**



CLIENT
**MIRVAC QUEENSLAND
PTY LTD**

PROJECT
**DETAIL SURVEY
OF
LOT 71 ON SP238975
(SKYRING TERRACE, NEWSTEAD)**

NOTES
The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Visible services shown hereon have been located where possible by field survey.

No search for underground services was undertaken as part of this survey. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

001A/A0	JHG	16/09/2015	INITIAL ISSUE

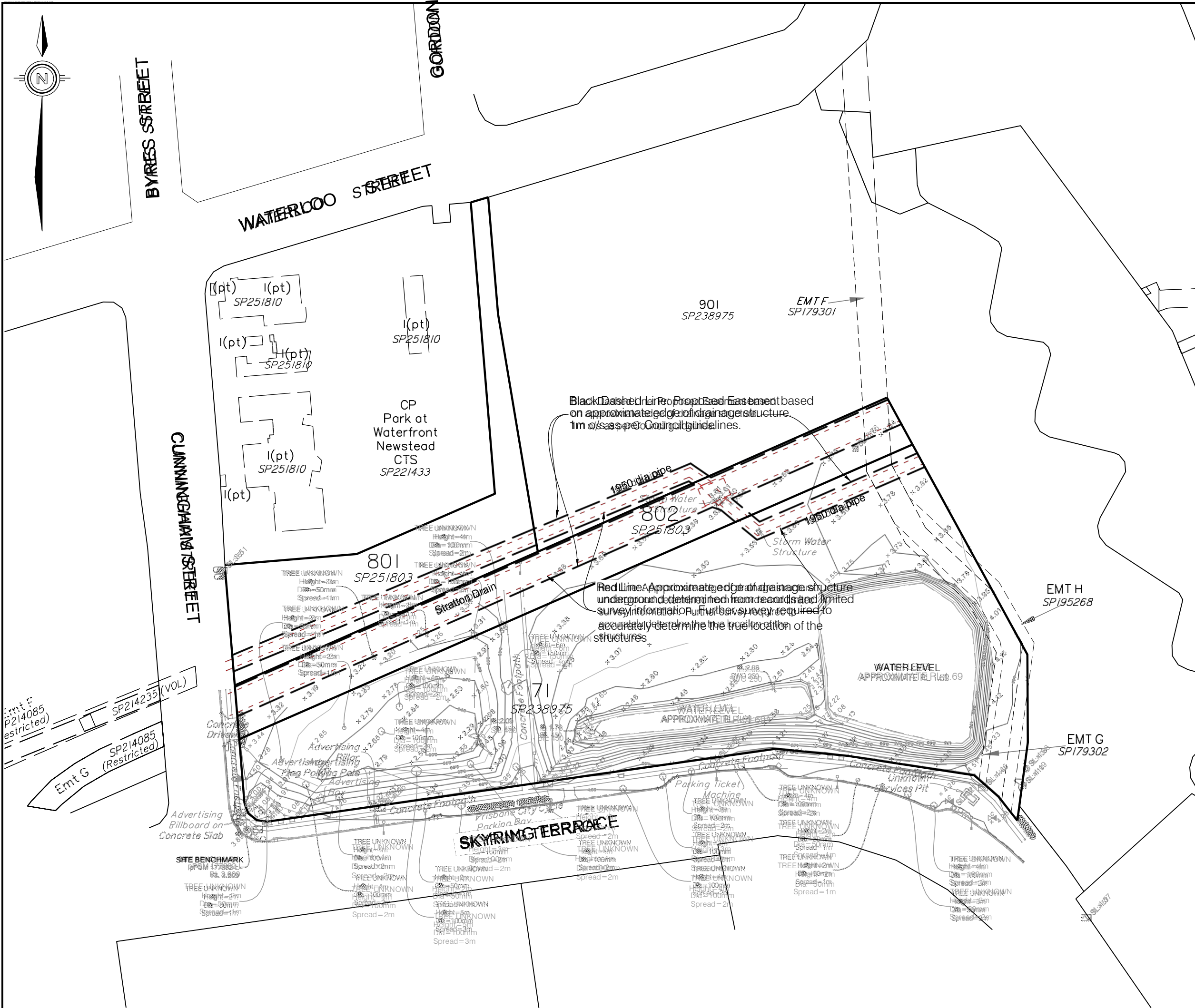
**LANDPARTNERS**
built environment consultants

Brisbane Office
Level 3 - Kings Row 4
40 McDougall Street
Milton QLD 4064
PO Box 3916
South Brisbane BC QLD 4101

(07) 3842 1000
(07) 3842 1001
info@landpartners.com.au
www.landpartners.com.au



HEIGHT DATUM AHD D	LOCAL AUTHORITY BRISBANE CITY COUNCIL	
HEIGHT ORIGIN PSM138305 RL1.574	SCALE 1:750 (A3)	
MERIDIAN SP238975	CONTOUR INTERVAL 0.25m	
CO-ORD SYSTEM LOCAL	SURVEYOR DW	SURVEY DATE 11/09/2015
FIELD FILE 2372CUNA0	DRAWN JHG	DATE 16/09/2015
AUTOCAD FILE 2372CUNA0	CHECKED DW	DATE 16/09/2015
ARCHIVE FILE 2372CUNA0	APPROVED MLM	DATE 16/09/2015
PLAN NUMBER BRMM2372.CUN-001	REV A	



LOT LAYOUT

Plan of Approximate Location of Drainage Structures
Riverpark Cunningham

CLIENT

Mirvac Queensland Pty Ltd

REAL PROPERTY DESCRIPTION

Lot 71 on SP238975,
Lot 801 & 802 on SP251803

NOTES

i) This plan has been prepared for the exclusive use of Mirvac Queensland Pty Ltd and their consultants for design purposes and is not to be used for any other purpose or by any other entity without the express permission of LandPartners Limited.

ii) This digital data has been calculated from design, field survey and from plans of survey registered in the Department of Natural Resources and Mines. The location and dimensions of the boundaries which may be derived from the data is subject to registration by the above authorities.

iii) The boundaries may change subject to survey, engineering design or council requirements.

iv) This data should not be used for construction purposes without confirmation by LandPartners Limited.

v) The detail survey shown as background information is from file 2372CUNA0 and was completed on 11/09/2015. This is provided for context only and may require review due to the age of the survey.

vi) This data should not be reproduced in any way without the permission of LandPartners Limited. Any reproduction of this data must contain these notes

100 0 20 50m

SCALE 1:1000

006/A9	DAD	26/09/2017	Original Issue

Brisbane Office
Level 1 - CDOP6
18 Little Cribb Street,
Milton Qld 4064
PO Box 1399
Milton Qld 4064

p: (07) 3842 1000
f: (07) 3842 1001
e: info@landpartners.com.au
w: www.landpartners.com.au

ISO 9001
Quality Management

HEIGHT DATUM	LOCAL AUTHORITY	
AHDD	Brisbane City Council	
HEIGHT ORIGIN	SCALE	
PSM138305 RL 1.574	1:1000 (A3)	
MERIDIAN	DRAWN	DATE
SP238975	DAD	26/09/2017
CO-ORD SYSTEM	CHECKED	DATE
Plane Arbitrary	JHG	26/09/2017
AUTOCAD FILE	APPROVED	DATE
2372CUNA9	MLM	26/09/2017
PLAN NUMBER	REVISION	
BRMM2372.CUN-006	A	

140109

LandPartners 2017

PD.FM



Certification

Awarded to

MIRVAC CONSTRUCTIONS

Bureau Veritas certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards indicated below

STANDARD

ISO 14001:2004

SCOPE OF SUPPLY

PROJECT MANAGEMENT, DESIGN MANAGEMENT, PROCUREMENT,
CONSTRUCTION, INSTALLATION, COMMISSIONING AND MAINTENANCE OF
CONSTRUCTION PROJECTS (INCLUDING MIXED USE PROJECTS)

Original Approval Date: **3 August 2011**

*Subject to the re-evaluation of the organisation's Management System,
this certificate is valid until:* **2 August 2017**

To obtain a copy of this certificate please call tel. **Bureau Veritas Australia Pty Ltd**

For clarification regarding the scope of this certificate and the applicability of the Management System requirements in the obtained certification.

Certificate Number: **AU001258-1**

Date 24 June 2014

Andrew MorLimore
General Manager - Bureau Veritas Certification

Post Melbourne, Victoria, 3207

Issuing office: Bureau Veritas Pty Ltd, 3/435 Williamstown Road,
Port Melbourne, Victoria, 3207





Certification

Awarded to

MIRVAC CONSTRUCTIONS

Bureau Veritas certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards indicated below

STANDARD

OHSAS 18001:2007

SCOPE OF SUPPLY

PROJECT MANAGEMENT, DESIGN MANAGEMENT, PROCUREMENT,
CONSTRUCTION, INSTALLATION, COMMISSIONING AND MAINTENANCE OF
CONSTRUCTION PROJECTS (INCLUDING MIXED USE PROJECTS)

Original Approval Date: **16 June 2009**

*Subject to the cautioned satisfactory operation of the organisation's Management System,
this certificate is valid until:* **2 August 2017**

in when the rzi/ifiJ of this certificate please call tel. **Bureau Veritas Australia Pty Ltd**

For further clarification regarding the scope of this certificate and the applicability of the Management System requirements, please be obtained by consulting the organisation.

Certificate No: AU001259-1

Date: 24 June 2014

Andrew Morimore
General Manager - Bureau Veritas Certification

Managing office: Bureau Veritas Pty Ltd, 3/435 Williamstown Road,
Port Melbourne, Victoria, 3207

Issuing office: Bureau Veritas Pty Ltd, 3/435 Williamstown Road,
Port Melbourne, Victoria, 3207

JAS-ANZ
.....





Certification

Awarded to

MIRVAC CONSTRUCTIONS

Bureau Veritas certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards indicated below

STANDARD

AS-NZS 4801:2001

SCOPE OF SUPPLY

**PROJECT MANAGEMENT, DESIGN MANAGEMENT, PROCUREMENT,
CONSTRUCTION, INSTALLATION, COMMISSIONING AND MAINTENANCE OF
CONSTRUCTION PROJECTS (INCLUDING MIXED USE PROJECTS)**

On call 16 June 2009

this certificate is valid until: **2 August 2017**

*To check the validity of this certificate please call tel. **Bureau Veritas Australia Pty Ltd***

Further clarification regarding the information available on the website of the Management System requirements can be obtained from



Date: June 2014

Andrew Mortimore
General Manager - Bureau Veritas Certification

Managing office: Bureau Veritas Pty Ltd, 3/433 Williamstown Road,
Port Melbourne, Victoria, 3207

Issuing office: Bureau Veritas Pty Ltd, 3/435 Williamstown Road,
Port Melbourne, Victoria, 3207





Bureau Veritas Certification have issued this
appendix to the Certificate of Approval
awarded to

MIRVAC CONSTRUCTIONS

CERTIFICATE NUMBER

AU001257-1, AU001258-1, AU001259-1

LOCATION OF SITES

MIRVAC CONSTRUCTIONS PTY LTD
LEVEL 26, 60 MARGARET STREET
SYDNEY, NEW SOUTH WALES, AUSTRALIA

MIRVAC CONSTRUCTIONS LD PTY LTD
LEVEL 9, 340 ADELAIDE STREET,
BRISBANE, QUEENSLAND, AUSTRALIA

MIRVAC CONSTRUCTIONS IC PTY LTD
LEVEL 5, Q3, 6 RIVERSIDE QUAY SOUTHBANK
VICTORIA, AUSTRALIA

MIRVAC CONSTRUCTIONS A PTY LTD
502 HAY STREET, SUBIACO,
WESTERN AUSTRALIA, AUSTRALIA

ISSUE DATE: 24 JUNE 2014

APPENDIX D

Air & Dust Management



AIR & DUST MANAGEMENT

Control Measures, Monitoring & Performance Indicators

OBJECTIVES

1. To minimise the health risk or reduction in air quality due to air emissions and dust to site workers and nearby residences.
2. To minimise the creation of airborne dust and excessive vehicle exhaust emissions.
3. Minimise the quantity of soil lost during construction activities.

ENVIRONMENTAL CONTROL MEASURES

The following provides a list of the environmental control measures for air and dust management at the site.

Environmental Control Measure	Responsibility
1. Exposed areas will be sprayed with water on a regular basis, including stripped lots, stockpiles and unpaved internal roadways. Care will be taken to not over apply water.	TBA
2. Loads of Fill material or "Prescribed Waste" material on trucks will be covered with tarpaulins or sliding covers prior to leaving the site.	TBA
3. Internal roads to be properly formed, drained, surface treated and maintained to reduce any dust nuisance originating from their use. Maximize use of existing sealed site roads.	TBA
4. Work schedules will be arranged so that there are no delays in construction activities resulting in disturbed land remaining unstabilised.	TBA
5. Remove excessive soil, clay from wheels and bodies of trucks before they enter public roads.	TBA
6. Restrict concrete dust through the use of preventative measures such as water sprays.	TBA
7. Site vehicles will be maintained in operable condition in accordance with manufacturer's specifications.	TBA
8. Exhaust emission effects will be minimised by ensuring that site vehicles and machinery are fitted with appropriate emission control equipment that is maintained and serviced to manufacturer's specifications.	TBA

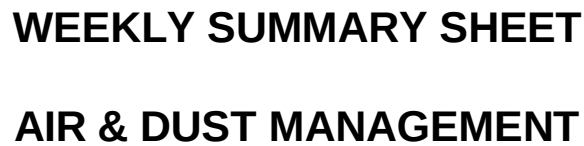
INSPECTION AND MONITORING

The following inspection and monitoring program will be conducted at the site. The results of these activities will be recorded on the inspection/monitoring data sheets attached

Activity	Frequency	Responsibility
1. Inspect sites for un-stabilised soil, stockpiles etc.	Weekly	TBA
2. Inspect Fill material or "Prescribed Waste" transport vehicles for correct load coverage.	As required	TBA
3. Inspect adjacent public roads & new internal roads for soil, clay, stone originating from the site	Weekly	TBA
4. Inspect site for effectiveness of air quality and dust management measures.	Weekly	TBA

PERFORMANCE INDICATORS

Item	Performance Indicator
1. Soil Surfaces	£ All bare earth areas stabilised and wetted where necessary £ All stockpiles stabilised and sealed where necessary.
2. Vehicles	£ Limited vehicular trafficking of unsealed areas & use of water cart to minimize dust from unsealed roads. £ All vehicles fitted with appropriate exhaust systems.
3. Dust	£ General site dust concentrations to be lower than 0.33 mg/m³.
4. Complaints	No complaints regarding dust are received by residences and users of nearby public open space. If complaints, monitor if suppression activities inefficient (ensure levels are less than 4 g/m ² / month outside the site).
5. Non-conformance	All non conformances are reported and rectified where possible and as soon as is practical.



Personnel present during inspection:

[illegible]

APPENDIX E

Water Management

Mirvac Group Water Quality Discharge Procedure



1.0 Purpose

This procedure outlines the requirements for the management of sediments and other pollutants contained within stormwater flows and discharges from Mirvac construction projects. The procedure outlines water quality requirements to be achieved before any discharge is undertaken.

2.0 Scope

The procedure applies to all development projects across Mirvac where stormwater is discharged through natural flows or from catchment reservoirs including basements, lift shafts, excavations, sedimentation ponds/pits or other water storage vessels.

3.0 Definitions

berm	Earth mound designed to restrict and slow water flow so that it drops sediment fines.
hydrology	Predicted stormwater runoffs and estimated flow control barriers and reservoir capacity.
pH	A measure of acidity or alkalinity of water.
turbidity	A measure of water clarity and how much light is able to penetrate through a column of water.
suspended solids	Organic and inorganic particles, such as solids from wastewater, sand, clay, and mud, that are suspended and carried in water
swale	A ditch on a contour or slope designed to slow and hold water flow enabling infiltration of water and nutrients into the soil.

4.1 Risk assessment

Stormwater runoff and discharge shall be a consideration in all risk and opportunity planning for Mirvac construction projects. All Mirvac construction works shall manage discharge of sediments and other pollutants to a waterway or waterbody. Management of discharges is a legislative requirement in each state or region of operation and a requirement of the Mirvac Group Health Safety Environment Management System. All discharges shall be carried out without contaminating surrounding waterways or any stormwater discharge system. Management considerations shall include water quality of any natural run-off or discharge (e.g. by dewatering), hydrology and flooding, particularly during wet weather, and include the stability of any stockpile(s) or site terrain.

4.2 Barrier measures

Barrier control measures at a construction project shall include:

- £ sedimentation barriers to perimeter fencing and stockpiles or other excavated areas where run-off is identified as a risk;
- £ use of silt traps to protect stormwater inlets within a site boundary and those inlets identified 'at risk' in streets immediately bounding a construction project;
- £ installation of a rumble strip(s) or coarse aggregate to heavy vehicle entry/exit points;
- £ work tasks generating slurry shall be identified and absorbents, trays, or other methods of retention carried out;
- £ installation of swales, berms, retention pits or other flow restrictors to slopes to slow run-off so that it drops sediment;
- £ inspection of all barriers and other controls at maximum weekly intervals and immediately after any significant rainfall event (i.e. 20 mm or more);
- £ location of high risk plant, e.g. concrete pump, or activities like refuelling away from stormwater inlets or protection of inlets during high risk activities; and
- £ covering of spoil loads transported from a construction project.

Mirvac Group Water Quality Discharge Procedure



4.3 Monitoring of stormwater quality

Monitoring of any stormwater to be discharged shall be in accordance with this procedure or Local Government Guidelines should such Guidelines require a higher standard. Monitoring prior to discharge shall include the following test results (based on Australian and New Zealand Guidelines for Fresh and Marine Water Quality) using a water quality meter:

- £ a pH in a range of 6.5 to 8.5;
- £ a Turbidity range of <50 NTU (Nephelometric Turbidity Units) or no more than 10% higher than the turbidity in the receiving water; and
- £ suspended solids not exceeding 50 parts per million (ppm).

Where discharge is to occur into environmentally sensitive areas, e.g. marine ecosystems, monitoring shall be undertaken by an independent Service Provider accredited by the National Association of Testing Authorities (NATA).

4.2.1 Visual inspection

Stormwater flows shall be observed to ensure:

- £ no visible litter or other floatable materials such as foams or scums; and
- £ no visible film of oil, grease and petrochemical products or odours from such products at the point of entry.

4.2.2 Sediment removal

Where retained stormwater does not meet the quality outlined previously a Flocculant, e.g. Alum, shall be added in order to remove suspended sediment, bacteria and other elements by settling. Use of any flocculant shall be in accordance with the precautions for use outlined in the Material Safety Data Sheet provided with the product.

4.2.3 Records

Monitoring records shall be retained at the construction project for audit purposes using Appendix A – Water Quality Register. All discharge results shall be reviewed for compliance with Part 4 of this procedure through routine audit processes at maximum three (3) month intervals.

5.1 Reference material

- £ **National** (www.environment.gov.au)
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- £ **New South Wales** (www.environment.nsw.gov.au)
 - Environment Matters 8: Stormwater Pollution from Building Sites (Guide)
 - Protection Of the Environment Operations (POEO) Act.
- £ **New Zealand** (www.mfe.govt.nz)
 - National Environmental Standards for Clean Water, Air and Land.
- £ **Queensland** (www.epa.qld.gov.au)
 - Environment Protection Water Policy
- £ **Tasmania** (www.dpiw.tas.gov.au)
 - Environmental Best Practice Guidelines - Construction Practices in Wetlands & Waterways.
- £ **Victoria** (www.epa.vic.gov.au)
 - State Environment Protection Policy (Waters of Victoria).
- £ **Western Australia** (www.epa.wa.gov.au)
 - Environment Protection Act.

Water Quality Register



Appendix - A

Workplace:									
Mirvac representative:					Service Provider:				
Instrument 1 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐					Make/ Model:			Service Date:	
Instrument 2 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐					Make/ Model:			Service Date:	
Instrument 3 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐					Make/ Model:			Service Date:	
		6.5 – 8.5	<50	<50	= ACCEPTABLE LEVELS				
Test Date	Test Time (24Hr)	pH	Turbidity (NTU)	Total Suspended Solids (ppm)	Test Person's Name	Test Location	Comments	Discharge Date	Discharge Quantity (Litres)

List corrective action: (i.e. treatment required to correct unacceptable levels)

Further comments:



WATER MANAGEMENT

Control Measures, Monitoring & Performance Indicators

OBJECTIVES

1. Ensure minimal impact on receiving water bodies external to the site.
2. Control potential sources of contaminated stormwater.
3. Minimise the quantity of soil lost during construction activities.
4. Manage all discharges of water from the construction site.
5. Provide for the implementation of all relevant State Environment Protection Policies (SEPPs).

ENVIRONMENTAL CONTROL MEASURES

The following provides a list of the environmental control measures for management of water at the site.

Environmental Control Measure	Responsibility
Install and maintain drainage structures for waterways, catch drains (including litter traps) and sediment traps to intercept flow from disturbed areas. Screening techniques such as hay bales or silt fences will be used around drainage pits.	TBA
Treat contaminated storm water to achieve acceptable limits prior to discharge	TBA
Land clearance shall be kept to a minimum, particularly areas of highly erodible soils and steep slopes which are prone to water and wind erosion.	TBA
Work schedules will be arranged so that there are no delays in construction activities resulting in disturbed land remaining unstabilised	TBA
The velocity of stormwater over the site will be reduced by the installation of retarding structures, such as silt fences and hay bail walls, in areas where high velocities are expected.	TBA

INSPECTION AND MONITORING

The following inspection and monitoring program will be conducted at the site. The results of these activities will be recorded on the inspection/monitoring data sheets attached.

Activity	Frequency	Responsibility
1. Inspect drains, sediment traps and retarding structures in disturbed areas for condition and correct operation.	Weekly or after major storm event.	TBA
2. Inspect drains, diversion channels, retarding structures & dam for condition and correct operation.	Weekly or after major storm event. Monthly (minimum) when flow is present.	TBA
3. Monitor discharge from the site for pH and turbidity at designated stations.	≠ Prior to discharge of collected water. ≠ After each major rainfall event.	TBA
4. Inspect disturbed areas for signs of land erosion or deterioration.	≠ Weekly ≠ After each major rainfall event.	TBA
5. Inspect site for signs of excessive land clearing.	≠ Weekly ≠ After each major rainfall event.	TBA
6. Inspect location, design and stormwater protection of stockpiles.	≠ Weekly ≠ After each major rainfall event.	TBA

PERFORMANCE INDICATORS

Item	Performance Indicator
1. Stormwater Discharge	No visible floating oil, grease, scum, foam, litter, or other objectionable floating entering stormwater.
2. Stormwater Control System	All control systems are maintained in good working order.
3. Stockpiles	Location and design of stockpiles meets control measures. Stormwater protection of stockpiles is maintained, effective and in good working order.
4. General	Stormwater discharge from the site does not cause the water quality objectives for the relevant SEPP to be exceeded.
5. Non-conformance	All non conformances are reported and rectified where possible and as soon as is practical. Any significant malfunction of stormwater protection measures for <u>stormwater exiting the site</u> must be reported to the EPA Watch Line (9628 5777) as soon as possible after detection of the event.

APPENDIX F

Waste Management

Division: Choose a Division

Locations:

Work Description: Building and Construction

Waste Recycling Target: 95% diversion from landfill

Waste Management Targets:

Waste generated at the workplace shall be avoided or recycled wherever practicable in accordance with the Waste Management Hierarchy detailed in [Mirvac Group Risk Management Procedure HSEP4.25](#). Waste targets for this Business Unit are >95% diversion of waste from landfill by recycling, reuse, design or other methods.

The methods of waste management shall consider the following processes, as determined by the Workplace Manager and Regional HSE Manager:

- ☐ Waste Subcontractor engaged based on their proven ability to recycle waste at their waste facilities (or directly engage a third party waste recycling facility if the contractor does not have their own facilities);
- ☐ Waste sorting and recycling shall be carried out by the waste contractor and records provided to Mirvac to enable waste targets to be determined;
- ☐ Waste contractors are to be audited at 6 monthly intervals to ensure compliance with the waste management plan and the waste contractor's licence;
- ☐ Where sufficient storage area is available waste management shall be adopted through the use of on-site sorting and separation bins for recyclable materials, and non-recyclable waste materials.
- ☐ Contract scopes for various trade packages are to include clauses around waste minimisation, reduced materials packaging and take back-back programs to reduce the overall amount of waste generated on Mirvac sites.

Waste Prevention Planning:

The Workplace Manager shall ensure:

- material is reused wherever practicable, in particular top soil;
- the establishment of a workplace waste management area(s) for sorting and segregating waste where available space allows;
- participation in waste minimisation training for all workplace personnel;
- recyclable materials are reprocessed wherever practicable, e.g. plasterboard off cuts, steel

- reinforcement and concrete;
- contractors identify areas where they can reduce waste and reuse materials in their respective trades [waste avoidance initiatives to be provided by each Service Provider];
- prescribed waste, e.g. hazardous or contaminated material, asbestos, aqueous waste [paint washout residue/sludge], shall be removed by a licensed contractor and dockets retained at the workplace for audit verification purposes;
- pollution and damage to the environment is prevented; and
- the safety and health of employees, Service Providers and the public is protected.

The use of building materials that are fully recycled or include post-consumer recycled material in production will be considered wherever practicable in design stages. Suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, as part of product supply to the project. Bulk handling and reusable/returnable transport containers shall also be encouraged, e.g. timber pallets.

Works that constitute a 'material' risk to the environment or generate significant waste streams shall submit as a minimum a Job Safety & Environment Analysis [or equivalent] prior to commencing work.

This will include as a minimum:

- practical measures associated with the works to prevent waste;
- waste streams resulting from the works which can be recycled and will be actively managed as part of a waste reduction plan;
- consideration of alternative products containing recycled material, which conform to the design specification that could be utilised in the works in place of more traditional materials.

Additional separation bins shall be provided for workplace waste streams. Material collected shall include:

- Metals;
- Timber;
- Concrete/rubble;
- Gyprock;
- Glass & Aluminium;
- Steel cans and PET (recyclable plastic);
- Paper/cardboard; and
- Sand pots to outdoor designated smoking areas to capture cigarette butts.

Communication & Education:

- Mirvac Constructions Pty Ltd **Choose an item.** will conduct an on-site pre-construction meeting with Service Providers that generate medium to high volume waste streams.
- Attendance is mandatory for the Service Provider's key site personnel. The purpose of the

- meeting is to reinforce to the Service Provider's site employees the commitments made by their company with regard to the project goals and waste management requirements.
- Waste prevention and recycling activities is discussed at the beginning of each weekly Service Provider Coordination Meeting and is a standard agenda item for that meeting to reinforce project goals and communicate waste management progress to date.
- As each new Service Provider comes on site, the Recycling Coordinator/HSE Officer and or HSE Coordinator will provide a copy of the Waste Management Plan and provide a tour of recycling areas.
- The Service Provider is responsible for ensuring all of its employees or agents comply with the Waste Management Plan.
- Recycling containers will be clearly labeled. Containers shall be located in close proximity to the construction areas and recyclables/salvageable materials will be placed into the 'designated' bins provided as detailed by its labeling.
- Acceptable/unacceptable materials will be posted throughout the site so that Service Provider's are aware of what can and cannot be recycled.
- All Service Providers are informed in writing and in the workplace induction of the importance of non-contaminating different waste streams or with rubbish or other materials.
- The Recycling Coordinator/HSE Officer and or HSE Coordinator or nominated person inspects recycling containers on a weekly basis to ensure against contamination by workplace personnel or the public.
- Mirvac Constructions Pty Ltd Choose an item. and its Service Providers include as a standard agenda item waste prevention and recycling in weekly toolbox talks and HSE meetings.

Motivation:

- The project team develops and publishes a [Waste Management Mission Statement](#) that is distributed to all Service Providers attached to contracts, and is displayed in a prominent location(s) at the workplace.
- Mirvac Constructions Pty Ltd Choose an item. conducts a pre-award meeting for Service Providers that are appointed through a tender process. Service Providers considered for the award of a tender contract are required to attend the meeting to review project goals and requirements with the project team. Attendance is a prerequisite to award of a contract(s). A signed commitment is required by Service Providers attending the meeting indicating that that the project goals are understood and a willingness to commit to these goals. This signed document will be an attachment to every contract and copies of the attachment will be posted prominently at the workplace.

Evaluation:

- The Regional HSE Manager will schedule an independent auditing of Waste Service Providers and processing for compliance;
- The Regional HSE Manager will review each project's monthly HSE report to ensure that

the waste targets achieved in accordance with this waste management plan.

- The Regional HSE Manager and HSE Officer and or HSE Coordinator will include waste as a standard item in Health Safety Environment auditing to ensure waste is being managed to meet objectives and targets.
- The Workplace Manager/ HSE Officer and or HSE Coordinator will maintain, update, and display at the workplace a graph showing the progress to date for achieving the project's waste recycling target.



APPENDIX G

Chemical Management



HAZARDOUS MATERIALS MANAGEMENT

Control Measures, Monitoring & Performance Indicators

OBJECTIVES

1. Implement correct storage and handling procedures to minimise the potential for hazardous and/or flammable goods/wastes to impact on the environment.

ENVIRONMENTAL CONTROL MEASURES

The following provides a list of the environmental control measures for management of chemicals at the site.

Environmental Control Measure	Responsibility
1. All chemicals must be stored in/on spill containment areas / equipment such as pallets with drip trays and adsorbents or bunded areas. These facilities will be designed to capture spilt material while not immediately in use. These containment facilities must be placed undercover when not in use for long periods of time, during wet weather or overnight.	TBA
2. No smoking during handling of flammable or hazardous goods.	TBA
3. All hazardous waste must be collected and disposed of to an EPA licensed facility capable of treatment, handling and/or disposal of the materials. This will include paint residues and wastes as per the waste management procedure.	TBA
4. Ensure solvents, flammable/non flammable gases and corrosive materials are each stored on separate pallets and each group separated by at least 5 metres.	TBA
5. Maintain a spill containment and adsorbent kit on site to isolate and immediately clean up any spill.	TBA

INSPECTION AND MONITORING

The following inspection and monitoring program will be conducted at the site. The results of these activities will be recorded on the inspection/monitoring data sheets attached

Activity	Frequency	Responsibility
1. Inspect storage of chemicals.	Weekly	TBA
2. Monitor disposal of dangerous goods wastes from sites and obtain dockets.	As required	TBA
3. Check spill containment kit.	Weekly	TBA

PERFORMANCE INDICATORS

Item	Performance Indicator
1. Storage	All chemical storage meets control measures.
2. Waste	All wastes disposed of in dedicated bins.
3. Spill	All spills are rectified as soon as is practical and clean up procedures reported.
4. Non-conformance	All non conformances are reported and rectified where possible and as soon as is practical.

Mirvac Group Spill Management Procedure

1.0 Purpose

The purpose of this procedure is to provide information to Mirvac personnel to promote timely response to spills in Mirvac workplaces to minimise risk to the environment.

2.0 Scope

The procedure relates to all Mirvac workplaces where the potential for a spill exists.

3.0 Definitions

bund	An embankment, wall or other barrier which forms a perimeter seal and impervious floor to a compound or other area where hazardous substances, dangerous goods or other potential contaminants are stored or an environmentally hazardous work activity is in progress.
material harm	(a) harm to the environment is material if: (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000; and (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.
major spill	Uncontrolled discharge of a chemical, substance, dangerous good, product, byproduct of a business activity or other contaminant greater than 1,000 mm in diameter with the potential to cause permanent material harm through contamination of soil, air or water.
minor spill	Uncontrolled discharge of a chemical, substance, dangerous good, product, byproduct of a business activity or other contaminant less than 1,000 mm in diameter which has the potential to cause minor short term environmental harm through contamination of soil, air or water.
spill kit	Container providing absorbent granular material, mats, booms, and pads for absorption and containment of spills.

4.0 Risk assessment

All spills have the potential to cause pollution of soil, air or water and depending on the size and nature of the spill may have the potential to cause 'material harm' to the environment by entering soils, stormwater systems leading to nearby waterways or other environmentally sensitive areas.

Spill management shall be a consideration in all risk and opportunity planning for Mirvac workplaces where a chemical, hazardous substance, dangerous good, product or other contaminant is stored and used at a workplace and therefore has the potential to spill. Spill management shall also be a consideration where the byproduct of any Mirvac business activity has the potential to spill and cause environmental harm.

Where hazardous substances, dangerous goods or other potential contaminants are to be stored at a Mirvac workplace the storage area shall be bunded. That is, the floor of the storage area shall be of impervious material and the area surrounded by a bund with a minimum holding capacity of 110% of the largest container situated in the storage area. For example, a storage area containing 3 x 20 litre containers shall be provided with a bund capacity of 22 litres, or a storage area containing 2 x 200 litre drums shall have an impervious floor and a bund capacity of 220 litres.

In addition, where flammable or combustible goods are stored in bulk, e.g. diesel fuel tank, the following additional requirements apply:

- The area shall be kept clear of all unrelated, discarded or combustible materials within the store and for a minimum distance of 3 metres around the store.

Mirvac Group Spill Management Procedure

- The store shall not be within 50 metres of a waterbody.
- No open flame or ignition source, including mobile phones within 10 metres of the store.
- No smoking within 10 metres of the store.
- The store shall not be within 15 metres of any other store of flammable or combustible materials.
- Packages/materials shall not be placed where they could restrict access.
- Any compound (bund) drain valve shall be kept closed and locked except during supervised drainage. A sign with the words:
BUND DRAIN VALVE—TO BE KEPT CLOSED AND LOCKED shall be displayed.

In addition, where the byproduct of any activity at a Mirvac workplace, e.g. paint, concrete slurry, chlorine or other chemicals or hydrocarbons including oil or fuel, has the potential to spill and pollute the environment control measures shall be implemented to minimise risk. Control measures may include:

- Relocation of the activity away from environmentally sensitive areas like water channels, drains or other stormwater inlets.
- If relocation of the activity is not practicable protection of water channels, drains or stormwater inlets with bunding, seals or other environmental barriers.
- Exclusion of the activity from the workplace, e.g. paint wash out or concrete truck wash out.
- Bunding of work areas or specific work activities.

4.1 Spill response

Where the potential for a spill(s) is identified in the Mirvac Group Risk & Opportunity Register prepared for the workplace a Spill Kit shall be available with a content capacity appropriate to the size or quantity of any potential spill. To ensure the timeliness of response and minimise environmental harm in the event of a spill the Kit(s) shall be located in a 'prominent location'.

The location of the Spill Kit shall be identified by signage complying with AS1319 - Safety Signs for the Occupational Environment, and its location outlined in the workplace specific induction.

4.2 Spill kit contents

A guide detailing the contents of the Spill Kit(s) and the type and quantity of its contents shall be provided with the Kit to ensure adequate supply of spill containment material can be verified. The adequacy of the contents of the Kit shall be inspected at maximum monthly intervals and following any spill response to ensure the Kit remains well stocked. Basic spill kits come in wheelie bins or satchels and typically contain:

- bags containing bulk absorbent granular material to soak up minor spills;
- booms to contain larger liquid spills;
- absorbant pads to contain minor spot spills;
- drain covers or seals to stop the spill getting into the stormwater system;
- personal protective equipment (PPE) like protective gloves and eyewear; and
- containers or bags in which to place collected spill and clean-up materials.



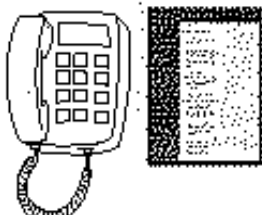
Mirvac Group Spill Management Procedure

4.3 Training

Timely response to spills is paramount to prevent pollution and minimise environmental harm. Planning on what is needed and what to do to control a spill shall be undertaken at all Mirvac workplaces where the potential risk of a spill is identified.

Training in the use of a Spill Kit and the use of its containment materials shall be undertaken for nominated personnel at workplaces where a Kit is provided. The training shall include: safety precautions, use of the kit's contents, proper disposal of contaminated material and the contents of this procedure. The contents of this procedure and the Rapid Response Chart attached shall be included in all training on spill response.

RAPID RESPONSE - IN CASE OF A SPILL OR LEAK

1. BE SAFE	- What is it? - Is there a MSDS for the product? - Do you need safety gear? - Are people trained in spill response?	
2. STOP THE SOURCE	Turn off the tap, plug the leak or roll the drum over – only if safe to do so.	
3. PROTECT STORMWATER	- Confine the spill with booms or sandbags. - Block off access to stormwater grates with drain covers or other barriers. - Place absorbent granules or other material to suck up the spill.	
4. NOTIFY	- Tell a Mirvac representative. - If it is a major spill with potential to cause material harm to the environment (>\$10,000) – contact HSE Manager immediately.	
5. CLEAN UP	- Neutralise hazardous substances – see MSDS. - Pump or sweep into a container. - Clean up all residues of the spill without allowing wash water or sweepings to get into stormwater grates or the soil.	
6. DISPOSAL RESPONSIBLY	- Use a 'prescribed' waste disposal Service Provider to remove contaminated material & cleanup gear. - Do not dispose of as 'general waste'.	
7. RESTOCK AND REVIEW	- Replace all used spill kit material. - Assess the cause of the spill and take corrective action to prevent recurrence. - Complete Mirvac Group Incident Investigation Report Part A within 24 hours.	
Location of Spill Kit(s)		
Emergency telephone contact		

APPENDIX H

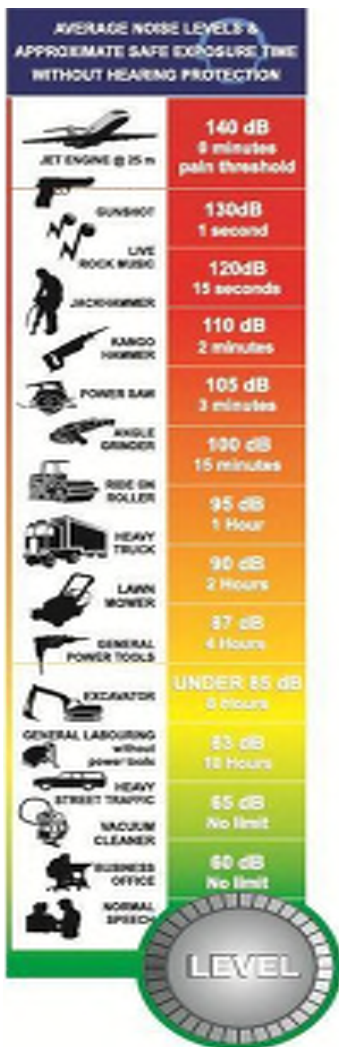
Noise Control and Emergency Response



NOISE CONTROL POLICY

Mirvac is committed to ensuring that its workplaces are free from noise and vibration levels which have the potential to adversely affect human health. This includes the monitoring of noise exposure and peak noise levels at temporary, new or existing workplaces, where noise is identified as a risk and the implementation of noise control measures where adverse levels are identified.

Noise can result in hearing loss based on either the intensity of the noise level, i.e. a peak of more than 140dB(C); or noise levels which exceed an 8 hour noise level equivalent of 85dB(A). As an employer or controller at workplaces where these levels may be exceeded, Mirvac will instigate noise control measures that include:



- > the identification of actual and potential exposure to noise in the workplace by conducting noise assessments or monitoring where identified as a risk
- > assessment of the risks to health and safety of potential or actual exposure to noise
- > the potential impact of noisy works on nearby neighbours or the surrounding community, strict adherence to any hours of operation imposed by local government or other development condition
- > outline of the responsibilities for noise control and information on the risk of noise exposure in workplace inductions
- > procurement of plant and equipment which does not adversely impact on noise levels
- > wherever practicable the implementation of control measures such as encapsulation or isolation of noisy works or plant and equipment to minimise reliance on personal protective equipment and the impact of noise on surrounding workers or others
- > use of personal protective equipment by employees, workers, service providers, visitors, surrounding workers or others who undertake, or are situated close to noisy work
- > the identification of noisy areas or plant and equipment with warning signage to alert personnel of the requirement for the use of personal protective equipment
- > display of the Mirvac Sound Advice Poster at all workplaces where noise is identified in risk and opportunity planning
- > employees or other workers frequently required to use personal protective equipment to protect against the risk of hearing loss associated with noise that exceeds the exposure standard will be monitored by their employer through audiometric testing

Mirvac is committed to assisting industry sectors in which it operates to reduce the instance of noise related hearing loss through ongoing implementation of the Mirvac Group Noise Management Procedure at all Mirvac workplaces. Implementation of this policy and the Mirvac Group Noise Management Procedure by Mirvac personnel is unconditional.

Susan Lloyd-Hurwitz

Susan Lloyd-Hurwitz
CEO and Managing Director

NOISE CONTROL POLICY

This policy is not intended to be contractual in nature and does not impose any contractual obligations on Mirvac. Mirvac reserves the right at its sole discretion to vary, replace or cancel this policy at any time.

Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013
To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEP07.2-E 0113



February 2013

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Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013
To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEPOL7.2-E 0113

NOISE MANAGEMENT PROCEDURE

1.0 Purpose

This procedure outlines the requirements for the management of noise generated by business activities at Mirvac workplaces. The purpose of the procedure is to eliminate or minimise the impact of noise related health effects on the workforce and disruption to surrounding residents, building occupants, guests or businesses.

2.0 Scope

The procedure applies to all Divisions across Mirvac where noise levels are identified as a hazard and where noisy work is to be carried out.

3.0 Definitions

Background noise level	Means the A weighted sound pressure level measured in the absence of any noise under investigation (i.e. before work commences) over a 24 hour period. It may be expressed as the level exceeded for 90% of the time interval considered (usually 24 hrs) and must be undertaken by a Noise Monitoring Technician who issues a Certificate of Acoustic Performance.
Decibel (dB)	Unit used to indicate the relative magnitude of sound pressure level and other acoustical quantities like intensity. The range of sound pressures commonly encountered is very large so a logarithmic scale is used. The decibel is the unit used on this scale and is abbreviated to „dB“.
dB(A) means A-weighted decibel	Average refers to a standardised frequency response used in sound measuring instruments. It corresponds approximately to the human ear response at low sound levels. Sound pressure levels measured using this response are expressed in units of dB(A).
dB(C) peak	dB(C) peak means the C-weighted peak sound pressure level in decibels, determined in accordance with AS/NZS 1269.1. It usually relates to loud, sudden noises such as a gunshot or hammering. Values above 140 dB(C) can cause immediate damage to hearing.
Feasible	A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.
Noisy work	Any activity that has the potential to exceed 85dB(A) over an 8 hour period. Any activity that exceeds 90 dB(A), by more than 3 dB(A), at any sensitive receiver for a period of 10 minutes or more.
Reasonable	Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.
Sensitive receiver	Nominated occupancy which has the potential to be disrupted by noise from Mirvac business activities.
Spot measurement	Single noise measurement which must be conducted 1.2 metres above the ground or floor whether inside or outside as appropriate, or at the location of nearest personnel. Recorded on Mirvac Group Noise Monitoring Register HSEF2.40 .

4.1 Risk assessment

4.2 Human health considerations

As detailed in the Mirvac Group Noise Control Policy noise shall be a consideration in all risk and opportunity planning conducted at Mirvac workplaces and the potential for any noise related risk shall be outlined in the Risk & Opportunity Register prepared for a Mirvac workplace.

If more than one person is involved in a work task, or separate work tasks have an interface which affects both work tasks, each person must, so far as is reasonably practicable, consult, co-operate and co-ordinate activities to achieve a safe working arrangement.

Record the discussion and resolution on Mirvac Group Daily HSE Pre-Start Talk HSEF2.330 using the INTAR process.

The risk assessment should:

- identify which workers are at risk of hearing loss
- determine what noise sources and processes are causing that risk
- identify if and what kind of noise control measures could be implemented
- check the effectiveness of existing control measures.

Exposure to some chemicals can result in hearing loss, they are called ototoxins. A substantial number of medications and common industrial chemicals can cause hearing loss themselves or make the effects of excessive noise worse.

Some common work activities that commonly combine noise and ototoxins:

- Painting – toluene, xylene's
- Construction – styrene, solvents
- Fuelling vehicles – ethanol, carbon monoxide
- Quinine and aspirin are also considered to be ototoxins.

Control measures to protect human health shall be determined using the „Hierarchy of Control“ (Elimination – Substitution – Isolation – Administration – PPE) and be implemented wherever noise levels generated by plant, equipment or processes in operation at a Mirvac workplace are equal to, or exceed 85dB over an 8 hour period. Exposure at levels equal to or over 85dB(A) over 8 hours is unsafe and any exposure to noise at more than 140dB(C) can cause permanent hearing damage.

The [Hearing Hazards](#) PowerPoint presentation can be used to assist in raising awareness and understanding the issues of workplace noise.

Where noise levels are equal to 85dB(A) over 8 hours or those noise levels outlined in Table 1, control measures shall be specifically outlined in the Mirvac Group Risk & Opportunity Register prepared for the workplace and shall include spot noise monitoring.

Table 2 – Noise level/ exposure guide, gives a basic risk assessment of common noise sources, their typical noise levels, and the risk ranking by colour, **Green– Low**, **Yellow– Medium**, **Orange– High** and **Red– Extreme**.

4.1.1 Audiometric testing

A person conducting a business or undertaking (PCBU) must provide audiometric testing for a worker identified „at risk“ who is carrying out work for the business or undertaking if the worker is required to frequently use personal hearing protectors as a control measure for noise that exceeds the exposure standard.

The PCBU who provides the personal protective equipment as a control measure must provide audiometric testing for the worker(s) identified „at risk“:

- within 3 months of the worker commencing the work; and
- in any event, at least every 2 years.

4.2 Environment considerations

4.2.1 Plant, equipment or process noise levels

The maximum noise level of any plant, equipment or process in operation at a Mirvac workplace shall not exceed those maximum levels outlined in Table 1 as measured at a horizontal distance of approximately 3.0 m from the plant or equipment at 1.2 m above ground at four evenly spaced positions around the perimeter of the plant or equipment while in operation.

If the plant or equipment must typically have an operator present, then an additional noise measurement to determine the exposure levels should also be made at the operator's ear.

NOISE MANAGEMENT PROCEDURE

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 2 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812

4.2.2 Noise at workplace/property boundaries

As a general guide, no plant, equipment or process in operation at a Mirvac workplace should exceed noise levels of 85dB(A) at any point on the boundary to that workplace.

Construction managers must review work practices at the approval stage through the D.O.O.R. and Risk & Opportunity Register processes, and apply feasible and reasonable work practices based on detailed knowledge of the construction work to be carried out. They must also consult with and notify the community on potential noise impacts, and implement conditions of consents, licences or approvals.

Training of all workplace personnel is an important part of noise management and the Code of Behaviour in section 8 may be used during induction, toolbox meetings and JSEA reviews.

4.2.3 Sensitive receivers

Whenever a „sensitive receiver“ is identified in relation to a proposed workplace, background noise monitoring should be initiated prior to any works starting.

The maximum noise level emitted from any plant, equipment or process in operation at a Mirvac workplace, as measured over a fifteen (15) minute period, shall not exceed those noise levels outlined in Table 1 as measured at the sensitive receiver or nominated occupancy (neighbour or tenancy). Alternatively, where noise levels are specified by any consent or approval authority the levels specified shall take precedence. Reversing alarms shall be controlled so that noise levels do not exceed background noise level by more than 10 dB(A).

Community contact in relation to noise or other issues at a Mirvac workplace shall be recorded on the Mirvac Group Community Contact Notification HSEF2.07 and actioned with 48 hours of the contact. Completed registers must be forwarded to the Division/Regional HSE Manager and the Group Manager HSE.

4.2.4 Working hours

Where noise levels are prescribed by any consent or approval authority during working hours for a development the maximum noise level shall not exceed:

EITHER:

[background + 5dB(A)] for workplaces with a duration of more than 26 weeks;

[background + 10 dB(A)] for a duration of 4 – 26 weeks; and

[background + 20 dB(A)] for a duration of less than 4 weeks;

OR;

those noise levels specifically outlined by the consent or approval authority.

5.1 Control of noise

Noise control measures will include:

- Display of the Mirvac Group Noise Control Policy and [„Sound Advice“ poster](#) in all Mirvac workplaces.
- Implementation of the Mirvac Group Noise Management Procedure HSEP4.05.
- Identification of any noise related risks in the Mirvac Group Risk & Opportunity Register.
- Outline of the responsibilities for noise control and information on the risk of noise exposure in workplace inductions including use of the Mirvac Group „Protect Against Hearing Loss“ sticker.
- The identification and assessment of actual and potential exposure to noise in the workplace by conducting noise assessments or spot monitoring of plant, equipment and processes where noise in excess of 85dB(A) is suspected as a potential risk.

NOISE MANAGEMENT PROCEDURE

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 3 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812



- The potential impact of „noisy works“ if any on nearby sensitive receivers or the surrounding community and special arrangements to minimise the impact of such works including: monitoring by an acoustic consultant, noise attenuation barriers; screen mufflers, installation of noise control suppressors and restrictions on the time and duration of such works.
- Strict adherence to any hours of operation imposed by local government or other conditions including deliveries and commencement of daily work routines.
- Procurement of plant and equipment, which does not adversely impact on noise levels.
- Where plant and equipment exceeds 85dB(A) the Mirvac Group „Protect Against Hearing Loss“ sticker shall be affixed in a prominent location to enable easy identification; and
 - in addition, the capacity of the plant and equipment to exceed noise levels of 85dB(A) over an 8 hour period shall be assessed; and
 - where non-fixed plant and equipment noise levels exceed 85dB(A) over an 8 hour period exclusion from the workplace shall be considered before encapsulation or isolation; and
 - Encapsulation or isolation of fixed plant, equipment or processes to the extent that noise levels do not exceed 85dB(A) or impact on the surrounding workforce or others.
- The identification of noisy work areas with warning signage (complying with AS1319) to alert personnel before entering the area for the requirement for use of personal protective equipment.
- Where considered necessary employees exposed to potential risk areas or activities are monitored through audiometric testing.
- Ensuring that noise and vibration levels, to which employees, service providers or visitors may be exposed, remain at levels that will not affect human health as detailed in the Mirvac Group Noise Control Policy displayed in the workplace and the Mirvac Group Noise Control Procedure.
- The hours of work in the workplace specific induction and display of the hours on the workplace notice board.
- The Scheduling of deliveries within working hours.
- Identifying nearby sensitive receivers (neighbours) and determination of background noise levels to enable compliance to Local Government conditions of consent to be determined.
- Investigation and resolution of any community contact by stakeholders affected by the project; e.g. noise, and record the contact on Mirvac Group Community Contact Notification HSEF2.07 and action within 48 hours of the contact.
- Other guidance is contained in AS 2436:2010 – Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites.



NOISE MANAGEMENT PROCEDURE

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 4 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812

6.1 Measurement of the effectiveness of noise control

Where noise levels are equal to or exceed 85dB(A) over 8 hours or the maximum noise levels outlined in Table 1 of this procedure control measures shall be specifically outlined in the Mirvac Group Risk & Opportunity Register. Measures of the effectiveness of the controls for noise shall include:

- No uncontrolled plant, equipment or processes, in the workplace, which exceed 85dB(A) over an 8 hour period.
- Prominent identification of plant, equipment or processes that exceed 85dB(A) – Mirvac Group „Protect Against Hearing Loss“ sticker affixed and noisy work areas defined with warning signage.
- No complaints by Sensitive Receivers (adjoining properties/tenants) or from any Statutory Authority.
- Contact with sensitive receivers is recorded on Mirvac Group Community Contact Notification HSEF2.07 and resolved within 48 hours.
- Supply of personal protective equipment where noise levels exceed 85dB(A) or equivalent over an eight (8) hour period is recorded on a register of supply maintained at the workplace.
- The maximum noise level, when measured at a distance of three (3) metres during a normal operational cycle, for any plant, equipment or process, does not exceed the maximum noise levels outlined in Table 1.

6.2 Sound level instruments

The instrument used in undertaking noise monitoring should be at least a Class 2/ Type 2, and preferably a Class 1/ Type 1 sound level meter (SLM).

The instrument should also be calibrated at intervals not exceeding 2 years by an independently audited laboratory, with full traceability to national measurement standards (NATA).

Portable sound level calibrators (used to check the instrument prior to each use), should at least meet Class 2 requirements and be calibrated at intervals not exceeding 1 year by an independently audited laboratory, with full traceability to national measurement standards (NATA).

6.3 Sound level recording

For all outdoor measurements, wind screens should be used over microphones. Wind screens reduce wind noise at the microphone and protect microphones from accidental physical damage when moving the SLM around.

Measurements under rainy and windy conditions (greater than 5m/s, or 18 km/h) should always be avoided, or excluded from the analysis, however if they must be done then the SLM and particularly the microphone must be protected from damage.

During the recording process it is important to note down weather conditions, estimated wind speed and direction, as well as all the major noise sources active during the recording (what the operator can hear and therefore the SLM will record).

6.4 Plant noise assessment

Assessment of plant and equipment noise is essential, to evaluate the potential hazard to workplace personnel, and to assess the type of Critical Controls that need to be initiated. Table 1 – Maximum noise level guide is a good planning indicator, but real time sound levels must be recorded. The WorkCover NSW publication [“A Practical Guide for Assessing Noise Generated by Plant or Equipment in the Workplace”](#) is essential reading for those persons who need to carry out this duty.

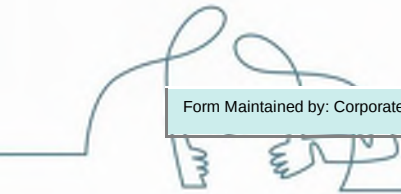
Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 5 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812

Table 1. Maximum noise level guide

ITEM	MAXIMUM NOISE LEVEL
air compressor	75 dB(A)
crane - mobile	85 dB(A)
crane - fixed	80 dB(A)
chain saws	85 dB(A)
concrete leveller	90 dB(A)
concrete pump	80 dB(A)
concrete saw	80 dB(A)
concrete vibrator	80 dB(A)
drill – air/pneumatic	85 dB(A)
earthmoving machinery	85 dB(A)
explosive power tool	85 dB(A)
generator - diesel	75 dB(A)
jack hammer	85 dB(A)
mechanical broom	80 dB(A)
portable hand tool	80 dB(A)
reversing alarm	90 dB(A)
rock drill	89 dB(A)
spraying machine	75 dB(A)
truck	90 dB(A)
welder	85 dB(A)

Table 2. Noise level / exposure guide

Noise Source	Av. Noise Level	Approximate Safe Exposure Time	
Jet Engine at 25m	140 dB	0 – Threshold of pain	E
Live rock music	100 - 110 dB	1 minute	E
Jackhammer	100 – 110 dB	1 minute	E
Wall chasing	100 – 110 dB	1 minute	E
Kango hammer	100 – 110 dB	1 minute	E
Power saw	105 dB	3 minutes	H
Angle grinder	90 – 100 dB	15 minutes	H
Ride on roller, brick saw	95 dB	1 hour	H
Heavy truck	90 dB	2 hours	H
General power tools	85 – 90 dB	2 hours	H
Excavator	Under 85 dB	No limit	M
General labouring without power tools	83 dB	No limit	M
Heavy street traffic	70 dB	No limit	L
Business office	60 dB	No limit	L
Normal speech	60 dB	No limit	L



7.1 Reference material

- WHS Code of Practice – Managing Noise and Preventing Hearing Loss at Work
- National Standard for Occupational Noise [NOHSC:1007]
- National Code of Practice for Noise Management and Protection of Hearing at Work [NOHSC: 2009(2004)] 3rd Edition
- [AS 2436:2010 – Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites](#)
- [A Practical Guide for Assessing Noise Generated by Plant or Equipment in the Workplace](#)

Mirvac Group

- [Mirvac Group Noise Control Policy](#)
- [Noise Monitoring Register HSEF2.40](#)
- [Community Contact Notification HSEF2.07](#)
- [Preparing a Risk & Opportunity Register Procedure HSEP4.27](#)
- [Hearing Hazards – PowerPoint training presentation](#)
- Mirvac Group „[Sound Advice](#)“ poster and Protect Against Hearing Loss sticker

Australian Capital Territory - Australian Safety and Compensation Council (ascc.com.au)

- National Standard for Occupational Noise [NOHSC:1007]; and
- National Code of Practice for Noise Management and Protection of Hearing at Work [NOHSC:2009].

New South Wales - WorkCover (www.workcover.nsw.gov.au) + Environment Protection Authority (officeofenvironmentandheritage.nsw.gov.au)

- Noise Management and Protection of Hearing at Work (Code of Practice).
- Construction Noise within Central Business District Code of Practice City of Sydney cityofsydney.nsw.gov.au/Residents/Noise/ConstructionAndBuilding.asp
- Noise Guide for Local Government (www.environment.nsw.gov.au/noise/nglg.htm)
- New South Wales Construction Noise Guideline – Dept. of Environment & Climate Change NSW

New Zealand - Department of Labour (<http://www.osh.dol.govt.nz/>)

- Noise in the Workplace – (Code of Practice);
- Hearing Loss - A Message to Employees on Avoiding;
- Hearing Loss - A Message to Employers on Preventing;
- Hearing Protectors – Selection and Use;
- Listen - You Might be Going Deaf;
- Noise Abatement for Circular Saws;
- Noise and Work Resource Kit;
- Noise at Work - Control Guide
- Noise Fact Sheets (6 titles, pack of 10);
- Noise Video; and
- Noise Warning Signs.

Queensland - Department of Employment, Training and Industrial Relations, Workplace Health and Safety. (<http://www.deir.qld.gov.au/>) + Environment Protection Agency [Department of Environment and Resource Management](http://www.epa.qld.gov.au/)

- Noise (Code of Practice).
- Noise measurement manual: for use in testing for compliance with the Environmental Protection Act 1994 <http://www.derm.qld.gov.au/register/p00367aa.pdf>

NOISE MANAGEMENT PROCEDURE

Form Authorised by: Ross Trethewey Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 7 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812

South Australia - WorkCover (www.safework.sa.gov.au)

- Safeguard – Noise Control in the Workplace
- Noise in the Workplace - what you should know

Tasmania – WorkCover (www.workcover.tas.gov.au) + Dept Primary Industries & Water ([Department of Primary Industries, Parks, Water and Environment](#))

- How Load
- Noise measurement procedures manual
(<http://www.dpiw.tas.gov.au/inter.nsf/WebPages/CDAT-5UX3JM?open>)

Victoria [WorkSafe](#) (<http://www.worksafe.vic.gov.au/wps/wcm/connect/wsinternet/WorkSafe>) + Environment Protection Authority (<http://www.epa.vic.gov.au/>)

- Noise – Buy Quiet Guidelines
- Noise problems and work
- Construction Noise Self Control Assessment
- State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade)
www.epa.vic.gov.au

Western Australia - WorkSafe (www.safetyline.wa.gov.au) + Environmental Protection Authority (<http://www.epa.wa.gov.au/Pages/default.aspx>)

Code of Practice for Noise

8.1 Code of Behaviour

A Code of Behaviour may be provided to staff and service providers to ensure that the best endeavours are in place to minimise noise, related to planned works (construction or maintenance) or emergency works.

Regular training of all workplace personnel in noise minimisation measures through toolbox talks and during JSEA reviews will increase the awareness of the impact of noise on workplace personnel and the community.

List of appropriate behaviour includes:

- commercial radio not audible at boundaries;
- the CB radio to be used with the truck cabin doors closed;
- no unnecessary loud voices;
- no foul language;
- keep truck reversing to a minimum;
- avoid slamming doors;
- use noise reduction barriers where required;
- trucks and plant not be left idling in streets or sites within close proximity to residential dwellings especially outside of normal working hours unless required to maintain electrical power;
- minimise use of engine braking;
- extra care to be taken to minimise noise while loading or unloading trucks with materials or equipment;
- silencing equipment to be used at all times and under all circumstances;
- periodic noise level checks will be carried out by an appropriately qualified Noise Monitoring Technician with calibrated equipment;
- community members that will be impacted by planned works outside of normal working hours will be notified in advance of the works taking place.

NOISE MANAGEMENT PROCEDURE

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.08.2012	Page 8 of 8
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF4.05-F0812

EMERGENCY RESPONSE PROCEDURE

1.0 Purpose

The purpose of this procedure is to outline the Mirvac Group requirements for emergency response plans at Mirvac workplaces, including first aid.

2.0 Scope

The procedure relates to all Mirvac workplaces, which must develop and maintain a current workplace Emergency Response Plan (ERP).

3.0 Definitions

Emergency Planning Committee (EPC)	The Emergency Planning Committee is based in Mirvac Group head office in Sydney and comprises members of each business unit and division. The EPC is responsible for the documentation and maintenance of the Emergency Response Plan (ERP) HSEG 3.301, and the Emergency Response Plan HSEG3.19.
Emergency Control Organisation (ECO)	The person(s) appointed to oversee and co-ordinate actions required by this Emergency Response Plan (ERP)
Emergency Response Team (ERT)	Personnel appointed to attend specific incidents, to contain, control or eliminate the emergency using emergency response equipment

4.1 Emergency Response Plans (ERP)

Using the [Emergency Response Plan Guideline \(Construction\) HSEG3.301](#) or the [Emergency Response Plan Template \(Office\) HSEG3.19](#), the Workplace Manager or appointed representative and the Emergency Control Organisation (ECO) members, develop a workplace emergency response plan in accordance with the requirements of [AS3745 Planning for Emergencies in Facilities](#) and this procedure. The Plan is reviewed and its effectiveness tested at maximum 12 months intervals or as outlined in Part 4.4 of this procedure.

All Mirvac workplace managers, or a nominated representative, develop and maintain a current ERP, which includes as a minimum:

An evacuation diagram which is displayed in locations where occupants and visitors can view the diagram, and includes the requirements of AS3745. A diagram can be checked to determine its compliance using the Mirvac Group [Evacuation Diagram Checklist HSEF2.94](#).

Other ERP requirements

- telephone numbers;
- a map of evacuation routes and emergency assembly area(s);
- the location and type of fire equipment, first aid equipment, trained first aiders and spill response equipment at the workplace;
- a register of fire extinguisher and hose reel locations where there are ten or more located in the workplace;
- identification of the types of potential emergencies at the workplace in consideration of the business activities undertaken and the related hazards present (e.g. flammable liquids, compressed gases, work at height, work over or near water, confined spaces or other);
- procedures to be followed when responding to emergency situations;

- emergency response team (ERT) members, their responsibilities and communication processes;
- the current identity and contact details for internal and external parties who are part of the emergency response team, or are to be notified or requested to respond (e.g. fire wardens, fire department, spill clean up services, regulatory authority or other);
- the method of activation of an emergency,
- the above method of activation of an emergency includes the provision of an emergency telephone at hotel swimming pools where they are unattended by a lifeguard;
- the method of termination of an emergency;
- the requirements if any for notification to external authorities and the method;
- the training requirements for all personnel involved in emergency response;
- an emergency evacuation evaluation checklist; and
- the frequency of periodic drills for emergency response procedures;
- consideration of any people with disabilities and the development of a Personal Emergency Evacuation Plan for such people (PEEP);
- if colour coding is used for various emergencies, the coding is compliant with section 4.3 of AS3745 Planning for Emergencies in Facilities.

4.2 Types of Emergency Situations

All applicable emergency situations at a Mirvac workplace are outlined in the ERP and include as a minimum (where relevant):

- bomb threat;
- failure of temporary containment structures (e.g. erosion and sediment control structures);
- externally triggered events (such as terrorist activity);
- fall arrest/suspension in a safety harness – emergency retrieval plan; (Refer – Working at Height Procedure 4.26, Section 7.0).
- fire or explosion;
- flooding;
- immersion of a person(s) in water or drowning in a swimming pool or water-body;
- gas leak or toxic emission (from workplace or an adjoining property);
- medical emergencies;
- major equipment failure, (e.g. power failure to whole building);
- natural disasters (e.g. cyclone, flooding, tsunami, earthquake);
- pollution or incidents involving the potential for pollution;
- leaks or spills;
- storage of dangerous goods and hazardous substances;
- stretcher access/egress;
- structural collapse;
- vehicular/plant collision (public or project); and
- any other risk situation that is applicable to the workplace with the potential to require emergency response.

4.3 Emergency Response and Periodic Drills

Emergency response plans prepared for each workplace outline the roles and responsibilities of appointed personnel when an emergency situation occurs. The roles and responsibilities and appointed personnel are current and pertinent to the specific situations and responses relevant to the workplace and its business activities.

Workplace emergency response plans include a pictorial evacuation diagram of egress routes and the assembly area(s) to simplify and increase the understanding of these emergency requirements.

The diagram is displayed in a prominent location(s) at all Mirvac workplaces. For conference/meeting or other rooms used by external persons or guests who do not normally occupy or work at the facility the Evacuation Diagram is also displayed within these rooms or on the inside of the entry door to the room.

To ensure familiarity and timely response to emergencies the effectiveness of the Plan is assessed (emergency response drill) at intervals outlined in Part 4.4 (this procedure) and detailed by [AS3745 Planning for Emergencies in Facilities](#) and [AS1851 Maintenance of Fire Protections Systems & Equipment](#). More frequent assessment of the effectiveness of emergency response is at the discretion of the Workplace Manager and defined in the Workplace Risk Management Plan part 4.6.

The effectiveness of emergency response drills is assessed to identify deficiencies and opportunities for improvement. Assessments are recorded and required action (if any) initiated by the Workplace Manager to rectify and improve response effectiveness. The Mirvac Group [Evacuation/Emergency Drill Evaluation HSEF2.87](#) is used for this purpose, or a form containing this minimum information if a drill is managed by an external service provider.

4.4 Emergency Response Equipment

Emergency response equipment, exit signs and alarm systems are inspected, tested and maintained at regular intervals. Fire equipment is inspected, tested, serviced and tagged in accordance with [AS1851 Maintenance of Fire Protections Systems & Equipment](#).

A competent person assesses the suitability, location and accessibility of emergency equipment.

4.5 Emergency Call

When the decision is made to call emergency services, the primary emergency service telephone call numbers are as follows:

Australia	Dial 000 (Triple Zero)
International	Dial 112 (Digital Mobile Telephones Only)
New Zealand	Dial 111 (Triple One)
United Kingdom	Dial 999 (Triple Nine)
United States of America	Dial 911 (Nine One One)

EMERGENCY RESPONSE PROCEDURE

Procedure Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.02.2012	Page 3 of 8
Procedure Maintained by: Corporate Services - HSEDepartment	Current version : MG-CS-HSEP4.20-H0212	

The above service telephone call numbers should be used to request emergency assistance from all telephones (landline, mobile phones and payphones) in the first instance.

112 is the international standard emergency number (which can only be dialed on a digital mobile phone). Regional areas should check and ensure the correct number is prominently displayed.

Where an Ambulance is called to attend a workplace injury, a Standby Person will be nominated and positioned at the main entry to the workplace to assist Ambulance Officers to locate and attend the injured person and is included as a requirement in any workplace specific ERP. The completed Mirvac Group form [Emergency Call - Ambulance HSEF2.56](#) displayed in the workplace provides a summary of the information required when making an emergency call.

4.6 Emergency Response Testing

Item	Action required & pass/fail requirement	Frequency					Record
		Weekly	Monthly	6 monthly	Yearly	5 yearly	
Emergency Response Plan (ERP)	Check content & continued relevance to facility including assessment of assembly area				☒		Review as part of maximum yearly review of the Workplace Risk Management Plan.
Emergency Control Organisation (ECO)	ECO personnel requirements comply with the ERP		☒	☒	☒		Emergency response plan (ERP).
Fire equipment	Fire extinguishers, hose reel or other. Attached compliance tags. Inspection & maintenance by service provider			☒			Workplace HSE Inspection. Service provider records.
Fire equipment	Fire extinguishers, hose reel or other. Seals intact. Charged extinguishers in place at relevant locations	☒					Workplace HSE Inspection. HSE Committee Minutes.
Evacuation equipment	Emergency lighting		☒	☒	☒		Logbook maintained by service provider
Evacuation equipment	Emergency Warning and Intercommunication System (EWIS)		☒	☒	☒	☒	Logbook maintained by service provider
Evacuation exercise	Compliance with the emergency response plan (ERP).				☒		HSE Committee Minutes, Workplace Manager Diary and <u>Evacuation/ Emergency Drill Evaluation HSEF2.87.</u>
Emergency Drill	Emergency scenario response (taken from ERP Identified Emergencies)			☒	☒		<u>Evacuation/ Emergency Drill Evaluation HSEF2.87</u>
Training	All personnel inducted, and ECO personnel training up to date			☒	☒		Training records
Assembly areas	Nominated areas checked suitable and relevant to ERP			☒	☒		Workplace HSE Inspection.

EMERGENCY RESPONSE PROCEDURE

Procedure Authorised by: Ross Trethewey Title: Group Manager Health Safety Environment	Date amended: 22.02.2012	Page 4 of 8
Procedure Maintained by: Corporate Services - HSE Department	Current version : MG-CS-HSEP4.20-H 0212	

3.6 Accounting for Personnel and Visitors in Emergency Evacuations

Dedicated Fire Wardens, or other nominated personnel, account for personnel at the emergency assembly area(s) with the assistance of workplace/department/floor/area managers, or their representatives.

Those meeting with visitors at the time of any emergency evacuation, escort their visitors from the premises/workplace to the assembly area(s) to assist in accounting for all personnel. For Mirvac high risk workplaces (construction sites) or other workplaces as nominated visitors sign the Mirvac Group Workplace Visitors Register on entry and departure from the workplace as determined by the Workplace Manager. This includes Mirvac visitors to the construction workplace.

Under no circumstances do Mirvac personnel move away from the assembly area(s) or return to the workplace until such time as the Head/Chief Fire Warden, or other nominated person, has declared the emergency over and that personnel can return to their workplace.

4.1 First Aid Requirements

First aid equipment and personnel are provided in accordance with the tables below. An appropriately qualified first aid person(s) is appointed in charge of first aid at each Mirvac workplace with the exception of workplaces (other than construction sites) where there are 25 people or less. The first aid person(s) is readily available to render first aid attention when necessary.

Workplace (EXCLUDING CONSTRUCTION)				Type of Certificate Required		
No. of Persons at the workplace	First Aid Room	Standard Workplace Kit	Small Workplace Kit	First Aid Certificate	Occupational First Aid Certificate	None
Greater than 200	☒	☒			☒	
100 or more		☒		☒		
11-99			☒	☒		
10 or less			☒			☒

Workplaces (CONSTRUCTION ONLY)				Type of Certificate Required		
No. of Persons at the workplace	First Aid Room	Standard Workplace Kit	Small Workplace Kit	Senior First Aid Certificate	Occupational First Aid Certificate	Oxy viva
100 or more	☒	☒			☒	☒
25-99		☒		☒		
24 or less			☒	☒		

EMERGENCY RESPONSE PROCEDURE

Procedure Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.02.2012	Page 5 of 8
Procedure Maintained by: Corporate Services - HSE Department	Current version : MG-CS-HSEP4.20-H0212	

The contents of each type of first aid kit specified above is listed below

Item	Standard Workplace Kit	Small Workplace Kit
	Quantity	
Basic instructions for providing first aid	1	1
Note book and pen	1	1
Resuscitation face mask or face shield	5	5
Cardio-Pulmonary Resuscitation (CPR) flow chart	1	1
Disposable gloves like low-protein, powder-free latex gloves, vinyl gloves or nitrile gloves. (NB: Latex-free gloves should be provided if any first aider is allergic to latex)	5 pairs	2 pairs
Gauze Pieces 7.5cm x 7.5cm, sterile (5 pieces per pack)	5 packs	2 packs
Saline (30mls)	5	■
Saline (15mls)	■	4
Wound cleaning swab (single 1% Cetrimide BP)	10	2
Adhesive dressing strips (packet of 50)	1	1
Splinter probes (disposable)	10	5
Tweezers	1	1
Antiseptic liquid, spray or swabs (single use packs)	1	1
Non-adherent wound dressing/pad 5cm x 5cm (small)	6	3
Non-adherent wound dressing/pad 7.5cm x 10cm (medium)	3	1
Non-adherent wound dressing/pad 10cm x 10cm (large)	1	■
Conforming cotton bandage, 5cm x 1.8m	3	1
Conforming cotton bandage, 7.5cm x 1.8m	3	1
Conforming cotton bandage, 10cm x 1.8m	1	■
Scissors	1	1
Alcohol swabs – single	10	4
Non-stretch, hypoallergenic adhesive tape – 2.5cm wide roll	1	1
Safety pins (packet of 12)	1	1
BPC wound dressings No. 14, medium	1	1
BPC wound dressings No. 15, large	1	■
Plastic bags - clip seal (set of small, medium and large) (NB: these can be used for amputated body parts)	1	1
Triangular bandage (calico or cotton minimum width 90cm)	2	1
Emergency rescue blanket (for shock or hypothermia)	1	■
Eye pad (single use)	4	2
Access to 20 minutes of clean running water or (if this is not available) hydro gel (3.5gm sachets)	5	5
Reusable or instant ice pack – choice depending on availability of freezer (e.g. for treatment of soft tissue injuries and some stings).	1	■
■ If a risk at your workplace could be controlled with an item indicated with this symbol, you should provide the item in a first aid kit.		

4.2 Identification of First Aid Personnel

First aid personnel should hold a nationally recognised Statement of Attainment for a nationally endorsed first aid unit/s of competency issued by a Registered Training Organisation (RTO). First aid personnel should attend training on a regular basis to refresh their first aid knowledge and skills and to confirm their competence to provide first aid.

The identity and contact details of first aid personnel is included in the workplace specific induction and other consultative forums. All Mirvac workplaces provide ready access to the identity and contact details of first aid personnel in the event of injuries requiring first aid.

For high risk workplaces like construction sites this includes the display of first aid personnel information (including photograph and contact details) at a prominent location(s), e.g. site amenities notice board and first aid kit or first aid room and use green coloured safety helmets only for first aid personnel on construction sites.

EMERGENCY RESPONSE PROCEDURE

Procedure Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.02.2012	Page 6 of 8
Procedure Maintained by: Corporate Services - HSEDepartment	Current version : MG-CS-HSEP4.20-H 0212	

For low risk workplaces such as offices or other locations and where employees have ongoing access to the Intranet, the identity and contact details of first aid personnel may be identified via internal Intranet services and this information is supplemented with signage at workstations where the personnel are located. Alternatively, offices or other low risk workplaces elect to display photographs and the contact details of first aid personnel in a prominent location(s).

4.1.1 Number of Trained First Aiders

In low risk workplaces it is recommended:

- one first aider for 10 to 50 workers
- two first aiders for 51 to 100 workers, and
- an additional first aider for every additional 100 workers.

In high risk workplaces it is recommended:

- one first aider for up to 25 workers
- two first aiders for 26 to 50 workers, and
- an additional first aider for every additional 50 workers.

The number and type of trained first aiders for a workplace can also be determined by following the risk assessment process outlined in the WHS Code of Practice – First Aid in the Workplace.

4.1.2 Needles and syringes

Used needles and sharps have the potential to expose people to blood-borne viruses like HIV/AIDS, hepatitis B and hepatitis C through sharps injuries.

Sharps should never be handled and must be managed in accordance with the Mirvac Group Sharps and Blood Borne Disease Management Procedure HSEP4.11. They should not be handled, bent, broken or re-sheathed, as these unsafe practices are common causes of injuries. The Mirvac Group Toolbox Talk – Management of Sharps provides basic instructions and pictures on management and disposal of sharps in a rigid-walled, puncture-resistant sharps container.

If a first aider sustains a sharps injury or thinks they are at risk of infection from blood or bodily fluid contamination, they should report the incident to their manager and seek prompt medical advice. The incident must be recorded in accordance with the Mirvac Incident Reporting Procedure HSEP

4.1.3 Spills & Contaminated items

Whenever sharps (needles, syringes or other), blood spills or other human tissue/substances are identified in the workplace, precautions are undertaken in accordance with the Mirvac Group Sharps and Blood Borne Disease Management Procedure HSEP4.11 to minimise the risk of blood borne infectious diseases.

4.2 References for First Aid Requirements

ACT	Code of Practice First Aid in the Workplace.
NSW	OHS Regulation 2001 (R20).
NT	A Guide to First Aid in the Workplace.
NZ	Guidance Notes on Providing First Aid Equipment Facilities and Training.
QLD	Advisory Standard for First Aid 1999.
SA	Code of Practice for Occupational Health and First Aid in the Workplace.
TAS	A Guide to First Aid in the Workplace (GB119).
UK	Health and Safety (First-Aid) Regulations 1981.
VIC	Code of Practice (No. 18) First Aid in the Workplace.
WA	Code of Practice First Aid, Workplace Amenities and Personal Protective Equipment
WHS	Code of Practice – First Aid in the Workplace (Not released at time of upload)

4.3 Related Mirvac Group Documents [Hyperlink]

- [Emergency Call – Ambulance HSEF2.56](#)
- [Emergency Response Plan Templates](#)
- [Evacuation Diagram Checklist HSEF2.94](#)
- [Evacuation/ Emergency Drill Evaluation HSEF2.87](#)
- [Extreme Incident Response Procedure HSEP4.28](#)
- [Fire Extinguisher Register HSEF2.88](#)
- [Incident Investigation Report HSEF2.01.1](#) (including Register of Injuries)
- [Incident Reporting Procedure HSEP4.22](#)
- [Spill Management Procedure HSE4.12](#)
- [Visitors Register \[Development\] HSEF2.11](#)
- [Visitors Register \[Offices\] HSEF2.11.1](#)
- [First Aid Kit Description of Contents HSEG3.09](#)
- [Working at Height Procedure 4.26](#)

4.4 Related Standards

- [AS3745 Planning for Emergencies in Facilities](#)
- [AS1851 Maintenance of Fire Protections Systems & Equipment](#)

APPENDIX I

Weekly Environmental Protection Checklist

Dangerous Goods Storage Guidelines

Storage of Dangerous Goods in quantities exceeding those prescribed will require licensing of the workplace premises	
	Flammable Liquids 3 ▪ Packing Group II – Petrol, Methylated spirits, acetone etc. ▪ Max storage in aggregate = 100lts or less in storage ▪ Packing Group III – Mineral turpentine, white spirit, kerosene etc. ▪ Max storage in aggregate = 1000lts or less in storage Storage: In accordance with AS1940 + MSDS for product + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor + separated from other hazardous substances or dangerous goods, e.g. gas bottles, by minimum 5m + no refuelling within 50 metres of any drainage inlets or watercourse. Flammable liquids kept in the one place above these exemption quantities must be kept in a licensed depot. This may be an approved flammable liquids cabinet or a purpose-built depot. Flammable liquids in volumes below the exemption quantities above don't have to be kept in a licensed depot, but they still have to be stored in accordance with legislative requirements, primarily AS1940 - The storage and handling of flammable and combustible liquids. Manufactured products such as paints, lacquers, adhesives and varnishes can be kept in unlimited amounts provided they are kept in small approved packages. For PGII products, the packages must not exceed 5 L capacity, and for PGIII, they must not exceed 25 L. Once again, they must be stored according to legislative requirements. Note: When flammable liquids of different packaging groups are stored together, all are assumed to belong to the highest, most dangerous packaging group and the depot must be treated accordingly. For example, 200 L of Mineral Turps could be stored without a license, but if it's kept in the same room as 20 L of Methylated Spirits, it has to be treated as a depot containing greater than 100 L of PGII flammable liquids and is required to be licensed. Therefore, it is often wise to separate the different packaging groups and manufactured products.
Gas Cylinders	Oxygen/Argon etc - G size = 48kg/48lt water capacity E size = 24kg/24lt water capacity Acetylene - G size = 55kg gross mass E size = 28kg gross mass
 	Non Flammable / Non Toxic / Oxidizing - Gas 2.2 ▪ Oxygen, Nitrogen etc (Packing Group NA); ▪ Not being a cryogenic liquid = unlimited amount; (oxygen = class 2.2 with residual class 5.1) ▪ 21 'G' or 42 'E' bottles when in storage; (liquid nitrogen) ▪ Store in open/secure area min 3m from any other dangerous goods, refer MSDS and AS 4332 - Storage and Handling of Gas in Cylinders and AS 4326-1995 The Storage and Handling of Oxidizing Agents. Note: Minor Storage of mixed class 2 gases (2.1 & 2.2) combined is permissible where the max volume of each gas does not exceed 500lts (class 2.1) and 2000lts (class 2.2) and 1000lts (class 2.2 with residual risk 5.1). Refer AS 4332 for minor storage of mixed gases.
	Flammable Gas 2.1 ▪ Acetylene, LP Gas (Packing Group NA); ▪ 6 'G' or 12 'E' bottles or 150kg or less when in storage; ▪ 16 x 9kg LGP bottles or 150kg or less when in storage; ▪ 12 'G' or 24 'E' bottles or 300kg when connected for use; ▪ 32 x 9kg LPG bottles or 300kg when connected for use; ▪ Storage in indoor and/or outdoor refer MSDS and AS 4332 - Storage and Handling of Gas in Cylinders & AS 1596 - The Storage and Handling of LP Gas Note: Minor Storage of mixed class 2 gases (2.1 & 2.2) combined is permissible where the max volume of each gas does not exceed 500lts (class 2.1) and 2000lts (class 2.2) and 1000lts (class 2.2 with residual risk 5.1). Note: maximum is based on the combination (aggregate) of gas cylinders being in storage and/or in use
	Miscellaneous Dangerous Goods Class 9 – Combustible Liquid Those products do not normally require a licence but pose an environment threat if spilled. ▪ Class C1 – a combustible liquid that has a flashpoint of 150o C or less ▪ Class C2 – a combustible liquid that has a flashpoint exceeding 150o C If the goods are of Class C1 combustible liquids and are not kept in a tank having a capacity exceeding 50 000 litres, e.g. Diesel, an unlimited quantity; or if the goods are of Class C2 combustible liquids an unlimited quantity. Combustible liquids kept in the one place above these exemption quantities must be kept in a licensed depot. Combustible liquids in volumes below the exemption quantities don't have to be kept in a licensed depot, but they still have to be stored in accordance with legislative requirements, primarily AS1940 The Storage and Handling of Flammable and Combustible Liquids + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor + no refuelling within 50 metres of any drainage inlets or watercourse.
	Corrosive Substances 8 ▪ PGII – 500lts or 500kg e.g. hydrochloric acid, sulphuric acid etc. ▪ PGIII - 1000 L or 1000 kg e.g. Milestone - Toilet bowl cleaner, Hypoclean (heavy duty sanitizer). Above the exemption quantities, a licence is required. Below the exemption quantities, corrosives must be still be stored according to legal requirements, such as in an approved corrosives cabinet. The appropriate Australian Standard to be followed is AS3780 The Storage and Handling of Corrosive Substances + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor. Note: Acids and alkalis need to be segregated from each other and some acids must also be kept apart from each other due to the possibility of dangerous reactions occurring.

Mirvac Group

Hazardous Substances & Dangerous Goods Management Procedure

1.0 Purpose

The purpose of this procedure is to outline the Mirvac Group requirements for selection, storage and use of products or substances that are classified as a hazardous substance or dangerous good. Potential exists for injury, ill health or environmental impact if these substances are not handled, stored, packaged, used or disposed of correctly

2.0 Scope

The procedure relates to all Mirvac workplaces where hazardous substances or dangerous goods are stored or in use.

3.0 Definitions

Hazardous Substances	substances that are classified as hazardous to human health by the manufacturer or importer in accordance with the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008], e.g. cleaning chemicals. They can be gases, liquids or solids, and can be either pure substances or mixtures.
Dangerous Goods	substances that may be corrosive, flammable, explosive, spontaneously combustible, toxic, oxidising, radioactive, biological, water reactive or gases under pressure or liquefied.
Note	Hazardous substances are classified according to their long term health effects, while dangerous goods are classified by their immediate physical and / or chemical effects. Certain substances can be classified as both e.g. fuel, whilst others can be classified as one but not the other depending on how they are being used and stored.

4.1 Selection of product

When considering the use of any product including a chemical, fuel or other identified Hazardous Substance or Dangerous Goods the potential health safety environment risks associated with the storage and use of the product are considered as well as the availability of an alternative less hazardous or non-hazardous product. Where an alternative less hazardous or non-hazardous product is not practicable the risks associated with the use of the product or substance are controlled in accordance with this procedure.

4.2 Assessment of product

Once a product has been specified, the nominated person responsible for the work implements the following Mirvac Group control measures specified to minimise the likelihood of injury, illness or harm to the environment resulting from its use:

1. A Material Safety Data Sheet (MSDS – issue date no greater than 5 years) is provided for all products or substances to identify hazards, storage and other precautionary requirements. Material Safety Data Sheets can be obtained from Mirvac's online provider MSDS.com via the link provided on the Mirvac Intranet under Health Safety Environment.
2. If the MSDS identifies the product as hazardous, a risk assessment is undertaken by completing the Mirvac Group form [Hazardous Substances Risk Assessment HSEF2.25](#).
3. Those persons that will use or handle the product or substance identified as hazardous are trained in the precautions for use and personal protective requirements outlined in the MSDS. The risk assessment detailed above and a record of the training is available at the workplace.

Mirvac Group Hazardous Substances & Dangerous Goods Management Procedure

4. All hazardous substances/dangerous goods display labelling complying with the National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012].
 - no label is removed, defaced, modified or altered
 - any hazardous substance decanted and not used immediately, is labeled with the brand name, product/trade name, code name or code number and the risk and safety phrases.
5. The storage area is ventilated where specified in the MSDS.
6. Warning signage complying with AS1319 and hazardous substance/dangerous goods legislation is displayed at the storage area.
7. Special requirements for the use of the product specified (e.g. first aid treatment, special types of personal protective equipment (PPE), special precautions for use or spill containment and clean-up information) are the subject of a formal Tool Box Talk or training with the user(s) and the precautions for use are listed in a JSEA or equivalent.

4.3 Product inventory

All hazardous and chemical substances and dangerous goods stored or in use at Mirvac workplaces are registered by the Workplace Manager or nominated representative on the Mirvac Group [Products & Hazardous Substances Register HSE2.24](#).

All Material Safety Data Sheets are centrally located to enable timely access to first aid treatment information, e.g. at a first aid facility or other centralised location or at the storage area. The issue date of Material Safety Data Sheets does not exceed 5 years.

4.4 Storage

Hazardous substances and dangerous goods are stored in secure well ventilated areas. Mixed class gas cylinders, e.g. oxy and acetylene, are separated from other hazardous substances or flammable goods by a minimum distance of 3 metres as detailed in AS4332 Storage and Handling of Gases in Cylinders. The exception to this requirement is minor storage situations (a total capacity of all cylinders in the store of less than 2,000 litres) where both oxygen and acetylene can be stored together.

Storage of dangerous goods that 'exceed' the amounts outlined in the Mirvac Group [Dangerous Goods Storage Guidelines HSEG3.07](#) require the premises (workplace) to be licensed under dangerous goods legislation and associated regulations. To minimise workplace risk and eliminate the need for licensing, except in exceptional circumstances, it is a Mirvac Group requirement that maximum volumes of Dangerous Goods do not exceed those quantities outlined in the abovementioned guidelines.

Note: Storage of Dangerous Goods in quantities that require licensing of the workplace is only undertaken in consultation with the Division/Regional HSE Manager and Group Manager Health Safety Environment.

The storage area for hazardous substances and dangerous goods is constructed with an impervious floor and bunded with a minimum capacity of 110% of the largest container in the

Mirvac Group Hazardous Substances & Dangerous Goods Management Procedure

store, e.g. a store consisting three 20 litre substance containers requires a bunding capacity of 22 litres.

5.1 Health Monitoring

5.2 Exposure

Health monitoring is provided to employees exposed to a hazardous substance if there is a risk to their health as a result of exposure to a substance listed in Column 1 of Appendix A.

If exposure to a hazardous substance in the occupational work environment, not listed in Appendix A causes adverse health effects, then medical advice will be sought regarding detection and monitoring.

5.3 Supervision of monitoring

All health monitoring related to the hazardous substances in Appendix A is performed under the supervision of a medical practitioner. Selection of a medical practitioner to supervise health monitoring is undertaken in consultation with the affected employee and monitoring is at the expense of the employer.

5.4 Notification of results

As soon as practicable after an employee undergoes health monitoring the medical practitioner must ensure that:

- the employee is notified of the results, along with any necessary explanation of those results;
- the appointed Return To Work Coordinator is notified of the general outcome of the monitoring and advised of any necessary preventive or remedial action;
- where Regional Legislation requires it, the Regulatory Authority is notified by the Authorised Medical Practitioner of any adverse result detected in the monitoring that is consistent with exposure to a hazardous substance.

The results of health monitoring obtained by the employer remain confidential and are available to the employee on request.

5.5 Records

A record of each employee monitored in relation to exposure to a prohibited or notifiable carcinogenic substance is maintained by the HSE Department including the full name and date of birth of the employee and the address of the employee while employed by Mirvac. Records are maintained for a minimum of 30 years.

5.6 Statement to employees exposed to carcinogenic substances

On the termination of employment at Mirvac an employee that has been verified as having been exposed to a prohibited or notifiable carcinogenic substance at a Mirvac controlled workplace will be provided with a written statement that includes the following:

- the name of the carcinogenic substance or substances involved,
- the period of exposure or potential exposure,

Mirvac Group Hazardous Substances & Dangerous Goods Management Procedure

- details of how and where records of the exposure or potential exposure can be obtained,
- a recommendation as to the advisability of having periodic health assessments and details of the types of health tests that are relevant in the circumstances.

6.0 Additional Standards and Codes:

- National Standard [NOSHC:1015] - Storage and Handling of Workplace Dangerous Goods
- National Code of Practice [NOSHC:1017] Storage and Handling of Workplace Dangerous Goods
- Guidance Note [NOSHC:3009] - Placarding Stores for Dangerous Goods & Specified Hazardous Substances
- Australian Safety & Compensation Council - National Model Regulation for the Control of Workplace Hazardous Substances
- Guidance Note [NOSHC:2007] - National Code of Practice for the Control of Workplace Hazardous Substances

7.0 Related Mirvac Group Forms + Links [Hyperlink]

- [Products & Hazardous Substances Register HSE2.24](#)
- [Hazardous Substances Risk Assessment HSEF2.25](#)
- [Dangerous Goods Storage Guidelines HSEG3.07](#)
- Material Safety Data Sheets are available from the Mirvac Intranet at: <http://intranet/mirvac/dscgi/ds.py/View/Collection-47>

Mirvac Group Hazardous Substances & Dangerous Goods Management Procedure

APPENDIX A

Hazardous substance	Type of health surveillance and monitoring
Acrylonitrile	Occupational and medical history
	Demographic data
	Records of personal exposure
Arsenic (inorganic)	Demographic, medical and occupational history
	Exposure record
	Physical examination with emphasis on the peripheral nervous system and skin
	Urinary inorganic arsenic
Asbestos	Occupational and demographic data
	Medical interview
	Records of personal exposure
Benzene	Occupational and medical history
	Demographic data
	Exposure record
	Baseline blood sample for haematological profile
Cadmium	Demographic, medical and occupational history
	Exposure record
	Physical examination with emphasis on the respiratory system
	Standard respiratory questionnaire to be completed
	Standard respiratory function tests including for example, FEV1, FVC and FEV1/FVC
	Urinary cadmium and β_2 -microglobulin
Chromium (inorganic)	Demographic, occupational and medical history
	Physical examination with emphasis on the respiratory system and skin
	Weekly skin inspection of hands and forearms by a competent person
Creosote	Demographic, occupational and medical history
	Health advice, including recognition of photosensitivity and skin changes
	Physical examination with emphasis on the neurological system and skin, noting any abnormal lesions and evidence of skin sensitisation
	Exposure record, including photosensitivity
Crystalline Silica	Completion of a standardised respiratory questionnaire
	Standard respiratory function test, such as FEV1, FVC and FEV1/FVC
	Chest X-ray, full size PA view
Isocyanates	Occupational and medical history
	Completion of a standardised respiratory questionnaire

Mirvac Group Hazardous Substances & Dangerous Goods Management Procedure

Hazardous substance	Type of health surveillance and monitoring
	Physical examination of the respiratory system and skin
	Standard respiratory function test, such as FEV1, FVC and FEV1/FVC
Lead (inorganic)	Medical and occupational history
	Physical examination
Mercury (inorganic)	Demographic, medical and occupational history
	Physical examination with emphasis on dermatological, gastrointestinal, neurological and renal systems
	Urinary inorganic mercury
MOCA (4,4-Methylenebis (2-chloroaniline))	Urinary total MOCA
	Dipstick analysis of urine for haematuria
	Urine cytology
Organophosphate pesticides	Occupational and medical history
	Physical examination
	Baseline estimation of red cell and plasma cholinesterase activity levels by the Ellman or equivalent method
	Estimation of red cell and plasma cholinesterase activity towards the end of the working day
Pentachlorophenol (PCP)	Demographic, occupational and medical history
	Physical examination with emphasis on the skin, noting any abnormal lesions or effects of irritancy
	Urinary total pentachlorophenol
	Dipstick urinalysis for haematuria and proteinuria
	Records of personal exposure
Polycyclic aromatic hydrocarbons	Exposure record, including photochemical skin burns
	Demographic, medical and occupational history
	Physical examination
Thallium	Demographic, medical and occupational history
	Physical examination
	Urinary thallium
Vinyl Chloride	Occupational and demographic data
	Record of personal exposure

HAZARDOUS WASTE DISPOSAL PROCEDURE

1.0 Purpose

The purpose of this procedure is to outline the Mirvac Group and specific legislative requirements for the correct disposal of hazardous waste. The disposal of hazardous waste through general waste streams or to non-approved waste facilities leads to adverse environmental impacts.

2.0 Scope

The scope of this procedure applies to all Mirvac workplaces where Asbestos, Lead, Polychlorinated Biphenyls (PCB), Synthetic Mineral Fibre or Paint Sludge (Aqueous Waste) are removed for disposal. Disposal of hazardous waste (referred to as prescribed waste in some States) is undertaken in accordance with specific legislative requirements, which vary from by State or region of operation.

3.0 Definitions

Polychlorinated Biphenyls	PCBs are mixtures of various isomers based on biphenyl and are amongst a broader group of harmful persistent organic pollutants that are toxic to humans. Commonly found in older style electrical transformers, capacitors and electric motors.
Hazardous Waste	For the purposes of this procedure means asbestos, lead, PCB, synthetic mineral fibre, solvents, glues, fuel & oils or paint sludge.
Waste transport Certificate	A Waste Transport Certificate (WTC) lists the quantity and type of waste that has left the workplace (Part A of the Certificate), that the Transporter conveyed the waste (Part B of the Certificate) and that the waste was received at the disposal or receiving facility (Part C of the Certificate). A WTC is required to verify that the entity that generated the waste (Mircvac) has ensured that what was conveyed from the workplace was disposed of at the licensed, approved or authorised facility nominated. The Transporter carries a Waste Transport Certificate Book in the vehicle. There are 3 copies of each Waste Transport Certificate – one for the generator (for Mirvac or on Mirvac's behalf by the Service Provider) one for the Transporter and one for the Receiver. Sometimes the book contains additional copies for the Regulator.

4.0 Identification and Management

Identification of all hazardous/ dangerous products at each Mirvac workplace must be undertaken, documented and periodically reviewed using the Mirvac Group [Products and Hazardous Substances Register HSEF2.24](#). Each product must then undergo a risk assessment according to its proposed location for storage and use using the Mirvac Group [Hazardous Substance Risk Assessment HSEF2.25](#).

Each identified product must have a Substance Data Sheet (SDS) less than 5 years old available for reference, regarding appropriate storage, use, PPE, first aid and disposal procedures as a minimum.

Each workplace must assess the method for diverting and capturing hazardous waste to enable correct disposal procedures for each product type. This may include a dedicated hazardous waste bin, labelled appropriately, e.g. "Class 3 Flammable Liquids" which relates directly to the product labelling.



HAZARDOUS WASTE DISPOSAL PROCEDURE

5.1 Disposal

The disposal of hazardous waste at all Mirvac workplaces is in accordance with the following:

Step 1: Verify transporter can transport Hazardous Waste

The Transporter of hazardous waste is required (by legislation) to be:

- licensed by the Environment Protection Authority (or equivalent authority); OR
- have an approval issued by a Council or the EPA; OR
- have an environmental authority issued by a Council or the EPA.

Before any hazardous waste is transported from a Mirvac workplace, a copy of **current** documentation verifying that the Transporter can convey the hazardous waste is received and a copy retained at the Mirvac workplace by the Workplace Manager for audit purposes. That is, Mirvac retains a copy on file to verify that the transporter is licensed, approved or authorised to transport the hazardous waste.

Step 2: Verify Receiver can receive hazardous waste

The Receiver (i.e. waste facility or other) of the hazardous waste is required (by legislation) to be:

- licensed by the EPA; OR
- have an approval issued by a Council or the EPA; OR
- have an environmental authority issued by a Council or the EPA.

Before any hazardous waste is transported from a Mirvac workplace, a copy of **current** documentation verifying that the Receiver can accept the hazardous waste is received and a copy retained at the Mirvac workplace by the Workplace Manager for audit purposes. That is, Mirvac retains a copy on file that verifies that the Receiver is licensed, approved or authorised to receive that hazardous waste.

Note: It is important to check the EPA License, approval or environmental authorisation for what specific waste the receiving facility can receive. For example, an EPA facility may be licensed to accept Asbestos but not Lead or PCB.

Step 3: Obtain a copy of the Waste Transport Certificate upon hazardous waste leaving the Workplace

The Mirvac Workplace Manager's, or a nominated representative, obtains a copy of the Waste Transport Certificate with Parts A and B completed **before** the hazardous waste is conveyed from the workplace.

Step 4: Verify all hazardous waste reached the nominated Receiver

The generator of the waste (i.e. Mirvac as Principal Contractor/Controller/Owner) retains a responsibility to ensure that any waste removed for disposal is done responsibly and in accordance with legal requirements.

This means that payment for hazardous waste removal services by the Service Provider is not undertaken by a Mirvac Workplace Manager or other nominated personnel until a completed copy

HAZARDOUS WASTE DISPOSAL PROCEDURE

Procedure Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.11.2011
Procedure Maintained by: Corporate Services - HSE Department	Current version: MG-CS-HSEP4.34-C 1111 File ref: - 3.4.3

of Part C of the Waste Transport Certificate is received, which verifies that the nominated Receiver of the hazardous waste, and the quantity of waste that was conveyed from the workplace was received by the nominated licensed or approved or authorised facility (Receiver).

Note: If disposing of Polychlorinated Biphenyls (PCBs), it is also a legislative requirement to obtain destruction certificates from the Receiver once the PCBs have been destroyed).

Step 5: Keeping Records

All copies of Waste Transport Certificates and associated documentation are retained for a minimum period of 10 years as detailed in the Mirvac Group [HSE Document Retention Procedure HSEP4.01](#).

Records of hazardous/ dangerous goods kept at the workplace are recorded using the Mirvac Group [Products and Hazardous Substances Register HSEF2.24](#).

Risk assessment of each hazardous / dangerous product is recorded using the Mirvac Group [Hazardous Substance Risk Assessment HSEF2.25](#).

Note: Acid Sulfate Soils are dealt with in [Acid Sulfate Soil Procedure HSEP4.35](#)

Procedure Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 22.11.2011
Procedure Maintained by: Corporate Services - HSEDepartment	Current version: MG-CS-HSEP4.34-C 1111 File ref: - 3.4.3

Products & Hazardous Substances Register

Workplace: _____			Date of Review: _____		
Service Provider (contractor or supplier) _____					
Date of product arrival at workplace	Product Description/ Name	Manufacturer	Approx Quantity	SDS Expiry Date	Product/ Substance classified as Hazardous / Dangerous Yes/No? (See SDS)
					No ☐ Yes ☐
					No ☐ Yes ☐
					No ☐ Yes ☐
					No ☐ Yes ☐
					No ☐ Yes ☐
					No ☐ Yes ☐
NOTES: (i) A Safety Data Sheet (SDS) must be provided with all products or substances to be introduced to the workplace. (ii) The SDS must be provided in the 16 x header format required by the National Code of Practice for the Preparation of Safety Data Sheets 2nd Edition (NOHSC:2011(2003)) and legislation. (iii) For those products and substances classified as hazardous in the MSDS the Mirvac Group Hazardous Substances Risk Assessment form shall be completed and the user of the substance shall be trained in the 'exposure controls/personal protection' required as detailed in the SDS. This can be done in a tool box talk, listed in a job safety & environment analysis or equivalent or by specialised Supplier training. (iv) SDS are required to be updated and re-issued by the product manufacturer every 5 years – i.e. the issue date of the SDS must be no more than 5 years old. (v) All hazardous substances including flammable and dangerous goods must be labelled and stored in a ventilated area/container which is fitted with an impervious floor and bunding – the capacity of the bund must be 110% of the largest container in the store, e.g. 20 litre drum requires a bund capacity of 22 litres (environmental legislative requirement). NOTE: SDS to be catalogued to enable timely access to substance information in the event of first aid requirements.					

If YES – Complete Mirvac form Hazardous Substances Risk Assessment HSEF2.25

Products & Hazardous Substances Register

Date of product arrival at workplace	Product Description/ Name	Manufacturer	Approx Quantity	SDS Expiry Date	Product/ Substance classified as Hazardous / Dangerous Yes/No? (See SDS)	
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☒	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐
					No ☐	Yes ☐

If YES –Complete Mirvac form Hazardous Substances Risk Assessment HSEF2.25

ENVIRONMENTAL PROTECTION ESTABLISHMENT CHECKLIST

Workplace: _____ Location: _____

Item	Yes	No	N/A	Comments/ Planning
Erosion & Sediment Management				
Soil and water management plan in place that includes dewatering?				
Are site personnel trained in the current control measures?				
Are erosion and sediment controls in place for excavation works?				
Are surrounding stormwater drains free of pollution? [soil, building materials etc]				
Are stockpiles surrounded by a sediment fence on the downhill side and are any long term stockpiles [>30days] stabilised?				
Are designated wash out areas isolated from stormwater areas?				
Are sediment traps for stormwater drains adequate?				
Has discharge water been tested for chemicals & pH prior to pumping to soak-away pits? [Water Quality Discharge Procedure HSEP4.10]				
Are trees and vegetation selected to be retained and protected adequately to prevent damage? [as per DA requirements]				
Wheel shaker/cattle grid or equivalent in place and operational?				
Access ways for trucks, vehicles and pedestrians, kept clean?				
Soil & Groundwater Management				
No contaminated fill material is being imported to the site?				
100% traceability undertaken on all contaminated material taken off site to the relevant ERA approved land fill site?				
Are only ERA approved contractors used for contaminated material transport?				
Is Water table monitoring for draw-down undertaken during de-watering activities?				
Waste Management				
Waste minimisation plan required by R&O Register, implemented by Authorised Waste Management contractor?				
Is waste stored so that will not contaminate stormwater drains?				
Are waste streams separated?				
Putrescible matter covered?				
Paint waste stored & disposed of correctly?				
Paint wash out system provided?				
Concrete wash out area provided?				
Bins emptied regularly?				
Hazardous Materials/Substances & Dangerous Goods				
Storage & bunding adequate & effective?				
Tower crane diesel tank bund sheltered from elements or procedure established for approved removal by a licensed operator.				
Bunds protected from rain, or regularly emptied to prevent overflow?				
SDS located at storage areas?				
Hazardous materials register available?				
Spill kit available, training and procedure in place?				
Dockets obtained for disposal of hazardous wastes removed from site?				

Item	Yes	No	N/A	Comments/ Planning
Air Quality Management				
Are control measures in place to prevent dust, spray and fumes from leaving site areas?				
Are stockpiles stabilised and managed to prevent wind erosion?				
Plant and equipment running cleanly? [no excess exhaust]				
Noise Management				
Have documented background noise readings been undertaken prior to work starting?				
Is work only being carried out between development approved hours?				
Are Generators and other fixed machines situated to minimise noise disturbance to local residents and the general public?				
Are Noise Attenuation barriers in place and effective?				
Have there been any recent complaints?				
Water Management				
Are there any water leaks and is there a procedure in place for prompt maintenance repairs?				
Are water saving taps & fittings installed?				
Are water restrictors fitted to shower roses?				
Is rainwater collected in tanks?				
Are hand trigger fittings installed on hoses?				
Are toilet cisterns dual flush?				
Have alternate sources of water been considered (bore water, recycled water) if available and if allowable under the contract?				
Have dust suppressants been considered for use on site roads to limit the use of water?				
Flora & Fauna Management				
Are any flora or fauna habitats identified for protection provided with additional security measures if needed?				
Have all workers been instructed not to damage vegetation and not to park/ store materials under tree canopies?				
Have all workers been instructed not to deliberately harm any animals?				
Have pipe ends been blocked or capped to discourage fauna entry?				
Have fauna escape ramps been provided in long term excavations?				
Are controls for noxious weeds and infectious plant diseases in place, communicated and effective?				
Heritage & Community Management				
Has a Community Contact Notification procedure been established and has it been included in the Site Specific Induction?				
Are any European/Aboriginal heritage features identified for protection provided with additional security measures if needed?				
Has work ceased until approval has been given to recommence in areas where heritage discoveries have been made?				

Name: _____ **Signature:** _____ **Date:** _____
Workplace _____
Manager: _____ **Signature:** _____ **Date:** _____

ENVIRONMENTAL PROTECTION ESTABLISHMENT CHECKLIST

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 18.04.2012	Page 2 of 2
Form Maintained by: Corporate Services - HSE Department	Current version :	MCD-CS-HSEF2.304-C 0412

