



Construction Environmental Management Plan

Locomotive Workshop

Australian Technology Park, Eveleigh, Sydney

Revision	Status	Date
A	For SSDA Submission	6 November 2017

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1 Introduction

This report supports a State Significant Development Application (SSDA) submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The Application (referred to as SSDA 8517) seeks approval for the adaptive reuse and redevelopment of the eastern portion of the Locomotive Workshop (being Bays 1-4a) within the Australian Technology Park (ATP), Eveleigh as described in the Proposed Development Description section of this report.

1.1 Background

Historically, ATP was used for railway maintenance, storage and other associated industries. Use of the site as marshalling yards and workshops formed part of a large railway-based precinct on both sides of the main railway line, dating from 1882 and growing in size until its closure in 1989. Since this time, the precinct has been progressively redeveloped and repurposed.

In 2014, the NSW Government resolved to offer development sites within the ATP for sale through a selective tender process conducted by Urban Growth NSW Development Corporation (UGDC). In November 2015 Mirvac Projects Pty Ltd (Mircvac) was named as the successful party and ownership and development rights of the precinct were subsequently transferred.

In December 2015, an SSDA was submitted to the Department of Planning & Environment for a multi-building redevelopment (i.e. Buildings 1, 2 and 3 shown in Figure 2) of the ATP to provide new commercial office, retail and community uses and a significant upgrade to the ATP public domain. Following public exhibition, and the submission of additional information, the development was approved by the Planning Assessment Commission on 20 December 2016. The construction of Buildings 1, 2 and 3 is currently underway.

The redevelopment of the Locomotive Workshop is also part of Mirvac's redevelopment strategy for the ATP. The Locomotive Workshop is to be redeveloped in its entirety, however planning approvals are sought through the submission of two separate SSDAs. This Application relates to the eastern portion encompasses the heritage Bays 1 and 2, the existing Blacksmith operation and Bays 3,4 and 4a. In conjunction with SSDA 8449 that relates to Bays 5-15, this Application is envisaged to be the next phase of urban regeneration within the ATP.

1.2 Site Location

The Locomotive Workshop is located within the Australian Technology Park (ATP), Eveleigh. The ATP precinct is located approximately 5km south of the Sydney CBD, 8km north of Sydney airport and within 200m of Redfern Railway Station and has an overall area of approximately 13.2 hectares. An aerial photograph of the ATP precinct is shown in Figure 1 and the locational context of the Locomotive Workshop building is identified in Figure 2.



-  The ATP Precinct
-  Bays 1- 4a of Locomotive Workshop

Figure 1 – ATP Precinct

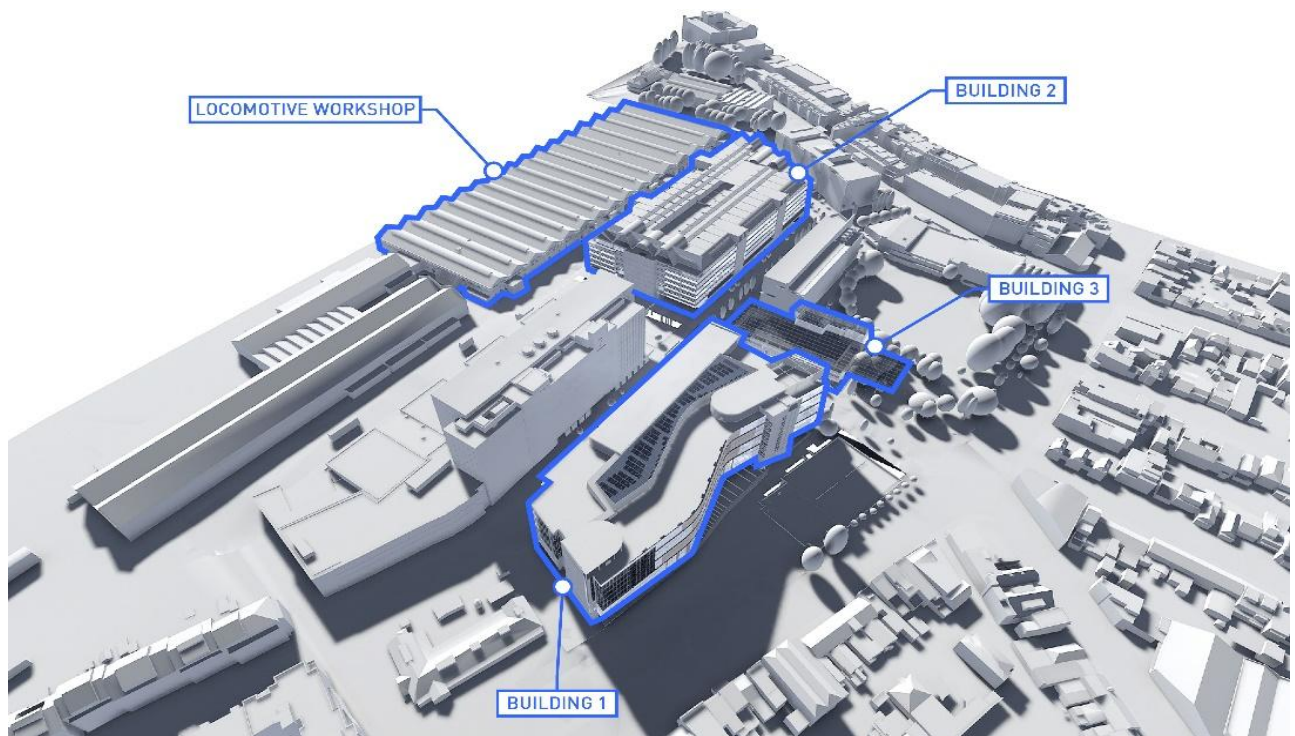


Figure 2 – Locational context of the Locomotive Workshop

1.3 Proposed Development Description

This SSDA seeks approval for the following:

- demolition of existing 'modern' infill fit-out elements to Bays 3-4a, including display barriers in Bays 1 & 2;
- relocation of moveable heritage items;
- adaptive reuse of the Bays 1-4a and two annex structures for retail premises uses, function centre uses, information and education facility uses, general industrial uses, recreation facility (indoor) uses and associated back of house facilities;
- construction of internal and external alterations to Bays 1-4a;
- heritage interpretation and conservation works;
- public domain improvements within the curtilage of Bays 1-4a;
- provision of an external building illumination system;
- signage; and
- associated utilities and infrastructure.

A more detailed and comprehensive description of the proposal is contained in the EIS prepared by Ethos Urban.

1.4 Hours of Work

The hours of work pending Authority approval for construction works, including the delivery of materials to and from the sites within the precinct, are as follows:

- Between 7:30 am and 5:30 pm, Mondays to Fridays inclusive.
- Between 7:30 am and 3:30 pm, Saturdays.
- No work will be carried out on Sundays and Public Holidays.
- Works may be undertaken outside of these hours where:
 - i. The delivery of vehicles, plant or materials is required outside the above hours by the Police or other authorities.
 - ii. It is required in an emergency to avoid loss of life, damage to property and/or to prevent environmental harm; and
 - iii. A variation is approved in advance in writing by the Secretary (or nominee).

The following works may be undertaken outside of the hours of work above and may occur on a 24 hour a day, 7 days of the week basis:

- a) Essential maintenance (e.g. dust suppression and emergency works);
- b) Internal fit out, furnishings, such as assembling furniture, electrical and painting, as long as this is not audible outside of the building;
- c) Delivery of materials as required by police / RMS for safety reasons;
- d) Works to various authorities' utilities; and
- e) Environmental monitoring equipment.

1.5 Contact Details

The Senior Site Manager for the Project is Warren Henson. Contact details are listed below.

Mobile: 0411 026 687; Email: warren.henson@mirvac.com

2 Traffic Management Plan

2.1 Introduction

GTA Consultants have been engaged as the traffic management consultant for the project and they have compiled a Construction Pedestrian and Traffic Management Plan (CPTMP) for the Locomotive Workshop redevelopment. Refer to Appendix M of the EIS for this document.

The traffic management plan for the project deals with the issues of construction traffic, their effect on the surrounding environment and has been prepared prior to the issue of the Construction Certificate.

2.2 Access and Egress to site

Vehicles

All vehicles accessing to site will do so via Locomotive Street as this is the only existing vehicle access to the site. Traffic controllers will be placed at the location of the existing boom gates for the duration of construction.

All vehicles entering and exiting Locomotive Street will do so from Garden Street via the Henderson Road intersection. No vehicles will be permitted to travel eastbound from the Locomotive street intersection with Garden Street.

Vehicle access into the existing Locomotive workshop itself is constrained by the existing openings in the façade which cannot be modified under heritage restrictions.

There are three vehicle entrances provided along the southern entrance that will facilitate vehicles – these are bays 3, 7 and 13. A further vehicle access point will be provided at the north east corner of the building.

Loading and taxi access will be maintained for the existing tenants at the Channel 7 building and Bay 14 within the Locomotive workshop.

Public Transport Access

All site workers and visitors to site shall be actively encouraged to take public transport to and from the Australian Technology Park site. Redfern train station is located within 200 metres of the site and will enable the majority of site workers to travel by train. There are also bus services which run regularly from surrounding areas and the CBD to Henderson Road adjacent to the site. The advocating of public transport use shall form one of topics within the site specific induction to be attended by all site workers.

Pedestrians

All site workers and visitors shall enter and exit the sites via the site entry / exit located within Innovation Plaza.

2.3 Loading and Unloading of Materials

Materials handling on site will consist of deliveries to site and removal of demolition and building waste. Two work zones are proposed to be provided to facilitate these activities.

- Work zone 1 is located at the eastern edge of the building. Access to this zone will be at the southern end via a gate and will be traffic controlled.
- Work zone 2 is located at the southern edge of the building at bays 11-12. Access to this work zone will require construction vehicles to travel to the western end of Locomotive st and perform a U-turn. They will then enter from the eastern end of the work zone and exit via the eastern end.
- All loading and unloading operations are to comply with statutory requirements.
- No materials will be stored on public footpaths or roads.
- All entering and exiting of vehicles to work zones shall be supervised by a Traffic Controller. Flow to all open lanes of Traffic shall remain mostly unimpeded in accordance with Council and DA requirements.
- Apart from road closures mentioned above, any additional lane closures will be accompanied with a relevant traffic management plan, required permits and relevant notifications.
- As noted above, these points are all subject to Council and Authority approval and, these proposals may require amendment prior to and during the works being undertaken.

2.4 Truck and Vehicle Routes

The routes for all trucks and vehicles proceeding to and exiting from the sites within the precinct is identified in Section 3.2, in Appendix B (Site Staging plans) and the CPTMP.

All major deliveries will enter and exit the ATP via main arterial roads. Signage will be installed within the precinct to direct all deliveries to the correct sites. All vehicles upon entry to the precinct for the first time must complete a truck driver's declaration or complete a site induction to ensure compliance with the site rules.

2.5 Disruption to Traffic Flows

The primary goal of the CPTMP is to mitigate any disruptions to traffic flow within the ATP and in the surrounding areas. Trucks and vehicles using Henderson Road and Garden Street must be marshalled within the site boundaries and will not be permitted to stop or wait in Henderson Road or Garden Street prior to entering site.

All non-critical deliveries will be scheduled outside peak traffic periods where possible.

2.6 Pedestrian and Traffic Management

Signage will be established at the precinct entry and exit points to alert pedestrians and other drivers to the movement of construction traffic. Where required, traffic control personnel will control the movement of large vehicles to and from the sites.

Visitors to the sites will be escorted at all times by Mirvac Site Staff and will be provided with a defined entry path from the point of entry. Designated pedestrian routes shall be as per the Access & Egress Plan in Appendix C.

2.7 Site Safety Plan

A Mirvac Workplace Risk Management Plan (WRMP), will be implemented prior to the commencement of construction and be updated as required to reflect the current stage of site works.

All works throughout the construction process will be required to comply with the CPTMP, Statutory Requirements, and the Mirvac WRMP.

2.8 Site Specific Issues

2.8.1 Public Pedestrian Access

The following paragraphs are to read in conjunction with the Site Staging Plans attached in Appendix B.

Pedestrian access and movement within the ATP will be of high importance during all stages of construction. Pedestrian access routes have been identified and highlighted in the CPTMP. All pedestrian routes shall be clearly defined with signage and delineated from vehicular traffic routes where required. Pedestrian access to adjacent commercial buildings within the precinct will be maintained for the duration of construction works. Any significant events or changes to pedestrian routes for the purposes of upgrade works through the precinct shall be implemented with direct notification and consultation with the ATP stakeholders. This will include works to establish and maintain the sites and to upgrade the public domain areas within the precinct.

2.8.2 Use of Locomotive Street

Mirvac will not utilise the Western end of Locomotive Street (North of the Channel 7 Building) for vehicular traffic, unless in the event of emergency, or with prior consultation with the affected neighbouring properties. Existing fire doors and fire egress paths shall be maintained at all times.

2.8.3 Access to existing Australian Technology Park and Street Properties

Mirvac will maintain access to essential services, essential services rooms, emergency egress stair exits and other access points to the existing properties, unless otherwise agreed in writing with the respective Landowners.

2.9 Construction Staging, Description and Duration

The following is a summary of the proposed construction staging and estimated durations for the project;

Element	Description	Duration
1. Site Establishment	Set up hoardings and site amenities	1 month
2. Strip out/demolition	Demolition of existing fit-out	3 months
3. Substructure	Saw cut slab, footings and piling	2 months
3. Structure and roof works	Compliance upgrades to roof and construction of level 1 deck including structural steel and concrete pours	5 months
4. Fit-out/ commissioning	Fit-out of commercial, retail and common areas	8 months

2.10 Plant & Equipment

The following is a summary of the types of plant and equipment that will be utilized on the project:

- Articulated flatbed truck for delivery of site sheds and hoarding materials.
- 8-wheeler demolition trucks for removal of material
- Excavators, bob cats, scissor lifts
- Truck and trailers for the exportation of excavated material off site.
- Concrete trucks for delivery of ready mix concrete.
- Mobile cranes, of various size for placement of site sheds, demolition, structural steel, materials
- Prime mover and enclosed flatbed trailer for delivery of materials.
- Medium rigid vehicles, small rigid vehicles, vans and couriers to deliver smaller materials.

2.11 Truck Movements

- Export off site demolition material by truck and trailer
- Export off site approx. 300m³ / day by truck and trailer
- Concrete trucks for lift pits, pad footings and piling
- Concrete trucks for pouring of level 1 deck and footings
- Number of trucks per day during busiest concrete pour days = 33 trucks based on approx. 200m³ slab pour for one building.
- As per analysis carried out within the CPTMP, it is not expected that this low level of truck movements would create any adverse impact on the surrounding road network.

3 Construction Noise and Vibration Impacts

3.1 Introduction

Arup have prepared a Construction and Operational Noise and Vibration Assessment for the project – Refer to Appendix S of the EIS. The assessment is provided to address the SEARS requirements which relate to operational and construction environmental and vibration emissions.

Mirvac will comply with the obligations provided in the assessment and also commits to the Noise and Vibration Control Measures detailed within this section of the CEMP.

3.2 Project Objective

The following outlines the scope of the assessment:

- Examine the proposed development plans to identify acoustic aspects of the construction and operation of the developments.
- Identify the development surrounding the site, which are to be assessed with regard to construction and operational activities.
- Conduct noise level monitoring to quantify the existing acoustic environment at relevant surrounding receiver locations to set project targets in accordance with relevant policy.
- Where appropriate, carry out a quantitative acoustic assessment of potential impacts and compare against the relevant noise and vibration targets.
- Identify where further design development is required, and identify in principle mitigation or management methods for the control of noise and vibration where required.

- Outline the processes to be adopted for the continued design development of acoustic aspects for the project.

3.3 Noise Criteria

The criteria for noise from construction activities on this project will maintain reasonable levels within the site and surrounding buildings. The noise criteria is outlined in the assessment.

Further to this, specific noise criteria relating to noise limits, the time and extent of works and monitoring shall be agreed between Mirvac and the adjacent Landowners.

3.4 Vibration Criteria

The criteria for vibration from construction activities on this project will maintain reasonable levels within the site and surrounding buildings. The vibration criteria is outlined in the assessment.

3.5 Control of Construction Noise and Vibration

Prior to commencement of works, a review will be undertaken of each of the proposed activities which will occur as a part of the construction works on this project. The execution of this work will confirm the effectiveness of ongoing noise control strategies for this project. In addition, the site working hours will be enforced and all works carried out in accordance with regulatory codes, practices and legislation.

3.6 Noise and Vibration Control Methods

The following noise management measures to reduce the impact of construction noise and vibration shall be implemented:

- Continue established community consultation (CLG meetings);
- Noise barriers such as site hoarding to be erected as soon as practical. Establish background noise and vibration levels prior to any construction works commencing;
- Include relevant noise and vibration components within site inductions, tool box talks and pre-start meetings;
- Monitor behavioural practices;
- Carry out short-term attended noise and vibration measurement of key activities during works to evaluate emissions, the effectiveness of work practices and identify opportunities for additional mitigation measures;
- Establish and implement appropriate complaints handling procedures;
- Manage approved construction working hours;
- Where possible, select low noise and vibration emitting plant and equipment.
- Where possible, use silencing devices to reduce sound emission from plant and equipment that exceed noise criteria.
- Establish regular maintenance of plant and machinery to ensure operating at optimum levels.

Further details regarding the proposed noise controls and management measures are contained within the Arup assessment.

3.7 Establishment of Direct Communication with Affected Parties

Continual communication is required between all parties that may be affected by the development. A Communications Specialist shall form part of the project team and shall co-ordinate / communicate with all parties, stakeholders and residents. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

Informing local residents is typically a critical aspect in reducing complaints regarding construction noise. The objective in undertaking a consultation process is to:

- Inform the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Provide advice about the time and duration of potential noisy activities.

A Community Liaison Group (CLG) comprising representatives of local properties, residents, businesses and the Alexandria Child Care Centre has previously been established for the precinct and will continue throughout the duration of Locomotive project works. The CLG currently meets on a monthly basis.

3.8 Noise Complaint Procedure

Mirvac has in place a specific procedure in relation to the handling of noise related issues. When a noise related complaint is brought forward, the specific details will be recorded on the Mirvac community contact register form. The details will then be reviewed by the site manager. The site manager then makes an assessment of the complaint against our construction guidelines in relation to approved working hours, development consent conditions, noise levels and any other relevant items relating to the matter. Mirvac will close out accordingly within 48 hours.

If a breach of the guidelines and restrictions is found then further action will be taken to resolve the issue. If a suitable outcome cannot be achieved then a suitable acoustic and vibration engineer will be consulted to review and respond to the noise complaint. Further notification will then be provided to the complainant of the course of action to be taken to resolve the matter. A copy of Mirvac's noise control policy can be found below.

Any concerns or complaints can be brought to the attention of the Mirvac Senior Site Manager, Warren Henson, via the following contact details:

Mobile: 0411 026 687; Email: warren.henson@mirvac.com

health safety environment

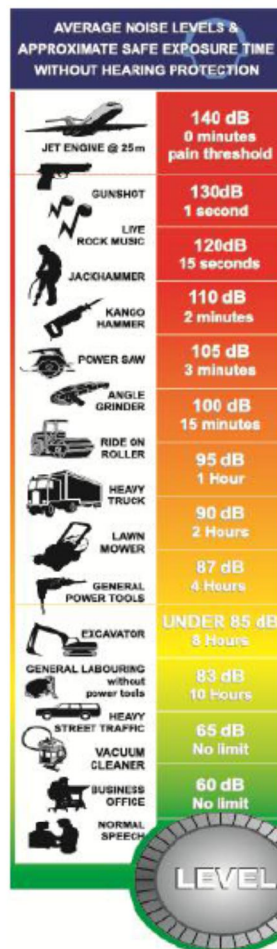
policy



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-HSEPOL7.2-E 0113

4 Construction Waste Management Plan

A Waste Management Plan has been developed by JBS&G and is attached in Appendix F. Periodic review of this waste management plan will be undertaken to ensure continual compliance with environmental regulations and standards. Waste types likely to be generated on the site include the following:

- Building, construction and demolition waste
- Hazardous materials
- Fill materials (contaminated)
- Green waste
- Wastewater and surface water
- Groundwater
- Waste oil, fuel, grease, oil
- General refuse and sanitary waste;

The waste subcontractor will supply builder's waste bins for the onsite collection and storage of general waste material. It is required that the waste facility will recycle a minimum of 95% of the material brought to their recycling depot. A sample waste disposal plan from a licensed waste subcontractor is attached in Appendix G.

Upon arrival at the facility, the waste is sorted into various categories. Once the product has been sorted into its various categories, the facility then processes the individual recyclable waste streams into reusable products available for re-sale to the public as described below:

- Concrete is crushed, pulverized and sold as recycled aggregate;
- Bricks are also crushed, pulverized and sold as recycled road base;
- Timber is chipped and sold as mulch for garden beds and ground cover;
- Steel is sent to either Metalcorp or Simsmetal for recycling;
- Plasterboard is broken down to a gypsum product and sold to farmers as a soil additive;
- Cardboard & White Paper Recycling to Amcor for recycling;
- Bottles, Cans & Plastics Recycling to Visy for recycling.

Waste generated at the workplace shall be avoided or recycled wherever practical. Mirvac have implemented a Waste Management Plan and it is described as follows:

- 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 in the JSEA);
- 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 figure below details the general principles for prevention of waste.



Figure 3: Waste prevention principles

5 Erosion & Sediment Control

An Erosion and Sediment Control Plan will be implemented on the project and this forms part of the Waste Management Plan attached in Appendix F.

Below are items that as a minimum will be included in the implementation of erosion and sediment control on site:

- All stormwater pits around the perimeter of the site will be covered using filter fabric and sand bags.
- Filter fabric and sand bags shall also be installed around piling activities which are adjacent to public
- During excavation, a wash down facility will be installed to wash down the tyres and wheel arches of any trucks exiting the excavation zone.
- All construction work zones and loading areas that are trafficked by vehicles are to be regularly swept / washed-down to maintain a clean surface and keep surrounding roads clean.
- Stockpiling of excavated material shall be carried out in a manner to limit sediment migration and water run-off. Stockpiled material to be appropriately covered where deemed necessary to prevent erosion and / or odour migration.
- The use of temporary sediment / silt fencing to ensure erosion and sediment particles do not enter public access ways or surrounding waterways.
- Vehicles leaving the site will secure and cover their loads. All trucks will be inspected prior to leaving the site (where applicable)
- All roads and pedestrian footways surrounding the site will be swept clean as required to remove any debris associated with the works on the site.
- A Dewatering Management Plan shall be compiled to outline the requirements for dewatering and any water treatment that may be required. Following any required treatment of water and verification testing, it shall be pumped to sewer and/or stormwater in accordance with Office of Water and Sydney Water requirements.

6 Air Quality

An Air Quality Management Plan has been developed by JBS&G and is attached in Appendix D.

Air quality monitoring will be carried out throughout the demolition and excavation phases of the project with additional monitoring required being assessed on a monthly basis.

Dust created by construction related activities, typically becomes more prominent during windy conditions, and will be dealt with by way of water suppression. Other measures for dust suppression include:

- Stockpiles of spoil to be covered and/or emulsion spray added to stockpile;
- The construction site will be maintained and kept clean. Where suitable, the use of mechanical sweepers and covered waste bins will be utilised;
- Completed surfaces will be kept clean;
- Controlled site access will be maintained with vehicle wash down / clean down facilities to be established to maintain access roads;
- All materials transported from site in trucks will be appropriately covered.

Air quality monitoring devices will be installed to neighbouring buildings, or in sensitive areas, if required following consultation with stakeholders and assessment by suitably qualified professionals.

7 Hazardous Materials

7.1 Existing Site Survey

A hazardous material inspection survey and report shall be completed for each existing lot where new construction works are to be carried out.

The survey shall involve a visual inspection of representative construction materials, on-site testing of suspected materials and the collection and analysis of additional unidentified suspected asbestos-containing materials (ACM) in order to update the hazardous materials register for the site.

Reference is to be made to the report by JBS&G Australia titled '*Hazardous Materials Survey Locomotive Workshop Building*' located in Appendix I of the EIS to obtain a detailed outline of the existing hazardous materials contained at the site.

7.2 Hazardous Materials Controls and Monitoring

Prior to commencement, asbestos and dust monitoring devices will be established to adjacent properties, in locations to be agreed with the building owner / manager.

Removal of any hazardous materials will be in strict accordance with Codes of Practice for the safe removal of the relevant hazardous materials. All hazardous materials removal works will be completed by licensed contractors in accordance with the JBS&G report.

All hazardous materials disposal will be recorded in accordance with the JBS&G report. All records will include vehicle details, material type, when it was removed, and where it was disposed.

7.3 Hazardous Materials Clearance

Air monitoring results and clearance certificates shall be provided at regular intervals (minimum weekly) by the Occupational Hygienist / Asbestos Consultant during any hazardous materials and remediation phases.

All certification shall be provided by a NATA accredited consultant.

Construction works will not commence until hazardous materials clearance has been received.

7.4 Ground Contamination

JBS&G have been commissioned by Mirvac Projects Pty Ltd to undertake a contamination assessment of the location of the Australian Technology Park Development. Based on their on-site testing, specialist advice and previous on-site testing by others, JBS&G have compiled a Remedial Action Plan (RAP) for the proposed development – refer to Appendix T of the EIS.

Mirvac shall implement the Remedial Action Plan (RAP) to identify and manage the remediation process on site, obtain a Remediation and Validation Report and Site Auditor sign off prior to completion.

7.5 Goods Stored on Site During Construction

During construction, Mirvac will implement as part of the Work Risk Management Plans and audit procedures, a hazardous materials register which will include the following materials / procedures:

- Fuels required for running of plant and equipment, these fuels will include: unleaded petrol, diesel and gas. All fuel will be contained and bounded as required under EPA guidelines, Department of Environment Climate Change and SafeWork NSW requirements.
- Refuelling procedures and designated areas will be implemented and allocated to eliminate risks associated with spills and also identify procedures to contain spills.
- Spill kits and adequate training will be provided to relevant construction staff and at locations identified as storage and refuelling.

Dangerous goods to be stored on site will also include; oxyacetylene, bonding agents etc and as per the fuels listed above, these will also be stored as required under relevant Australian Standards, EPA guidelines, Department of Environment Climate Change and Water, SafeWork NSW requirements and Industry codes of practice.

Hazardous substances and dangerous goods will be stored in secure well ventilated areas. At all times, Mirvac will have regard to the storage and hazardous materials and their proximity of neighbouring properties.

Mixed class gas cylinders, e.g. oxy and acetylene, will be 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 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.

The storage area for hazardous substances and dangerous goods shall be constructed with an impervious floor and bunded with a minimum capacity of 110% of the largest container in the store, e.g. a store consisting of a 20 litre substance container requires a bunding capacity of 22 litres.

Mirvac will maintain a dangerous goods register and material safety data sheets for each product listed as well as having a procedure to deal with spills.

All relevant firefighting equipment, first aid facilities and relevant authority contact details i.e. Fire, EPA will be displayed at prominent locations and included at site inductions.

8 SUSTAINABILITY

8.1 INTRODUCTION

Mirvac's target is to achieve a consistent level of environmental and social outcomes throughout the project by committing to establishing new initiatives where possible. Exploring alternative sustainable options outside of the legislative requirements and implementing them will make a significant contribution to the physical environment and the local community.

By exercising the sustainability values depicted in Figure 4 and recognising the benefits of social, environmental and economic sustainability, ATP will promote a balanced lifestyle for its future occupants and wider community which will be reflected in the development and throughout the construction phase.



Figure 4 – Mirvac's Sustainability Values

8.2 COMPANY STRATEGY

Adherent with Mirvac's commitment to sustainability, an integrated approach "This Changes Everything" is focused on the responsibility Mirvac has to the environment, wider community and to its investors. With the engagement from relevant stakeholders Mirvac seeks to deliver a culture that fosters sustainability and having a lasting impact. The four aspects of this strategy include:

- **Reimagining resources:** Mirvac aims to generate more water and energy than we consume and to find ways to capture and reduce waste beyond that we create. Through efficient use of resources, Mirvac will reduce consumption of natural resources and operate in a manner which will achieve a minimum 95% recycling. In management practices, Mirvac will invest in opportunities such as renewable energy onsite and assess suppliers in their involvement to sustainability.
- **Shaping the Future of Place:** To create a place where we live, work, shop and play utilising feedback from the community on past projects. Ongoing community engagement is necessary to predict future challenges while accepting information and boundaries will change over time. Implementation of utilities and infrastructures will be made in the design and construction to promote a sense of place.

- **Enriching Communities:** To improve the health and wellbeing within a community as well as strengthen social inclusion. Mirvac recognises “beyond boundaries” are what supports society as a whole and improves the places we create. Active participation from external stakeholders on sustainability issues will result in refining business operations and investing in the community.
- **Smarter Thinking:** Investing in assets designed to improve its own performance and ease of operation over its cycle. Financing in smart technology to become more efficient and effective in the delivery of the project while educating and informing the importance of sustainability.

8.3 PROJECT SPECIFIC STRATEGY

The following criteria will be monitored during construction to measure overall performance in addressing sustainability targets:

8.3.1 Environmental Management System

Implement a Workplace Risk Management Plan that is certified to AS/NZS ISO 14001, which establishes clear environmental objectives & targets for the site works.

8.3.2 Community / Schools

Provide opportunities for students and the local community to learn about the projects and the impact on the wider community. As well as this, hold information sessions on the health and safety programs to engage and build a rapport with the relevant agencies. Have email updates on the progress and any other media coverages. Organise ‘Community Day’ at local schools / education facilities to positively contribute to the community environment.

8.3.3 Energy

Examine opportunities to reduce electricity and water consumption and the use of alternative systems implemented for site amenities.

8.3.4 Sustainability Induction

Construction staff will be educated on the sustainability initiatives planned for the project and encouraged to innovate and find sustainable solutions through site induction and tool box talk’s process. Promotion of the ‘Green Travel Plan’ which is about maximising the use of public transport to and from the ATP site both from a construction perspective and long term end user perspective.

8.3.5 Innovation

Review project planning, development and buildability to explore innovative options to promote sustainability on the project.

9 Workplace Risk Management

9.1 Introduction

Mirvac is fully committed to providing a safe working environment. Each Work Place Risk Management Plan (WRMP) requires that equipment, workplaces and practices comply with relevant regulations and standards. Regular and ongoing reviews of these standards will be conducted and where higher standards are practical and desirable, they will be adopted. In addition the company will:

- Provide adequate resources to satisfy this policy.
- Identify, control and reduce work-related hazards and risks that may produce injury, illness or asset damage.
- Identify, quantify and control to safe levels, those chemicals and physical agents in the workplace capable of causing ill health.
- Promote environmental, health, safety and the welfare of employees and sub-contractors while respecting the privacy of individuals.
- Provide information, instruction and training for employees to increase their personal understanding of workplace hazards, promote safe working practices and ensure contractors are aware of and satisfy the Groups HSE expectations.
- Consult employees and contractors in environmental, health and safety to reduce workplace hazards and risks.
- Consult with clients, industry bodies and others in the development of appropriate standards, control strategies and monitoring techniques, which comply, with the requirements of statutory authorities.
- Set short and long term goals in occupational health and safety management, and review performance against these goals.

Mirvac Management is responsible for raising the awareness of the responsibilities of all workers on the site in regards to workplace safety and the role they play in achieving a safe and healthy work environment. Mirvac employees and all other workers on the premises or site are responsible for working towards achieving and maintaining a healthy and safe workplace. The intent of this policy is to foster a culture within Mirvac employees and its subcontractors, raising health and safety awareness, and promoting active participation in the Health Safety and Environment (HSE) program.

9.2 Workplace Risk Management Plans (WRMP) and Job Safety & Environment Analysis (JSEA)

A key tool in the management of HSE on the project will be the continued improvement of both Mirvac's WRMP and each individual Job Safety & Environment Analysis (JSEA). This plan as a minimum includes the following:

- A description of the work to be undertaken;
- An identification of the foreseeable hazards associated with the works; and
- A description of the hazard control measures to be used.

A detailed site specific Workplace Risk Management Plan (WRMP) shall be developed for the project and implemented by Mirvac prior to commencement of works and shall be updated periodically as required. This WRMP shall be implemented by Mirvac prior to commencement of works and will be updated as / when required. A sample WRMP is located in Appendix H of this report.

10 Site Management Plan

10.1 Introduction

A Site Management Plan will be developed to outline the proposed phases of the construction work on site, outline the order of works, and assess Mirvac's impact and interaction with the surrounding community.

10.2 Construction Phases

The works have been broadly divided into the following phases:

- a. Site establishment;
- b. Services isolation and demolition;
- c. Civil - excavation, piling and footings;
- d. Structure;
- e. Roof works;
- f. Building fit out and finishes;
- g. Commissioning & handover works;

10.3 Construction Staging

A summary staging plan is included within Appendix B of this document and identifies the key project stages and proposed phased handovers.

Stage 1 – Building 1 and surrounding public domain works, Building 3 (Community Building) and all footpaths immediately adjacent to these sites.

Stage 2 – Building 2 and surrounding public domain works, including roadways.

Stage 3 – Building 4 (Locomotive Workshop) and surrounding public domain works

10.4 Interaction with Surrounding Community

The following actions will be implemented, which focus on minimising the impacts of construction activity to the community surrounding the ATP project.

- Pre-commencement consultation with the existing tenants within ATP and the surrounding neighbours
- Continuation of current monthly Community Liaison Group (CLG) meetings to discuss the progress of works and to address any concerns raised by the surrounding community.
- Monitor compliance of the Construction Pedestrian and Traffic Management Plan and Construction Noise and Vibration Management Plan;
- Clear display of contact details on the hoarding for community information and contact in case of emergency;
- Make arrangements for the notification to surrounding properties of activities which may affect their amenity, including the provision of a 24-hour contact point;
- Close community liaison with neighbours Channel 7, Post Op, TOP Education Institute and National ICT Australia;
- Monthly Newsletter updating ATP tenants and surrounding residents on construction works and upcoming activities or interactions;

10.5 Dispute Resolution

Mirvac acknowledges the potential for disruption as a result of the development, and proposes that the following measures be established:

- Complaint procedure / complaint register to be developed. Should a complaint or infringement occur, the following procedures are to be adopted:
 - All complaints and infringements are to be brought to the attention of the Mirvac Site Manager immediately upon receipt;
The Mirvac Site Manager shall investigate the complaint and ensure appropriate action is taken to address the complaint or infringement within the time frame outlined in “HSE Objectives and Targets for Community Contact Issues”. This is detailed within the Mirvac Construction HSE Management Systems Manual;
 - A Community Contact Notification form shall also be completed for all complaints and enquiries (refer to following pages for this template);
 - A copy of this documentation is to be filed within the site office.

The contact details of the Site Manager will be permanently shown on the site notice to be displayed in a prominent location at site entries along with an emergency 24 hour contact.

10.6 Fire Protection Measures During Construction

Mirvac will comply with the requirements of the BCA and Australian standards during excavation and construction. Specifically, E1.9 of the BCA requires the following:

- not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each *required exit* or temporary stairway or *exit*; and

10.7 Site Specific Issues

10.7.1 Contamination

JBS&G Pty Ltd have undertaken a contamination assessment of the location of the Australian Technology Park development (refer sections 8.1 and 8.4).

Mirvac shall implement the (RAP) to identify and manage the remediation process on site, obtain a Remediation and Validation Report and Site Auditor sign off prior to completion.

10.7.2 Heritage

Heritage Consultant Curio Projects have prepared a Heritage Impact Assessment for the development. The Heritage Impact Assessment has been included as part of the SSDA submission. Mirvac will liaise with Curio Projects during the excavation and construction phases to manage any potential Heritage and Archaeological Issues.

10.7.3 Infrastructure Assets

A number of existing services are present within the precinct. Mirvac shall liaise with the relevant Utility Providers throughout the design process and prior to construction for approval of the design and proposed construction methodology to ensure compliance with Health, Safety and Environmental requirements, Network Standards and Codes of Practice.

A detailed Risk and Opportunity Register and work method statements shall be completed following acceptance of the design principles.



COMMUNITY CONTACT NOTIFICATION

PURPOSE

Contact with the community is a means by which Mirvac can positively engage stakeholders and potential clients or customers by demonstrating sound management practices in resolving any concerns raised in a timely manner.

Community members that interface with Mirvac business undertakings present the opportunity for feedback and a positive response by Mirvac.

Any response shall be commensurate with Mirvac's high regard and sensitivity to social amenity and the lifestyle impacts of its business undertakings.

The details outlined below must be completed for all 'formal' (oral or written) representations to any Mirvac representative by a community member or on being directly informed of a concern by a third party and corrective (follow up) action undertaken within 48 hours of notification where required.

WORKPLACE: _____

CONTACT DETAIL:

(1) How was the contact made?:

Telephone: ☐ Personal Contact: ☐ Written Letter: ☐ Email: ☐ Fax: ☐

Other [specify]: _____

(2) Date of contact: _____ Time of contact: _____ am ☐ or pm ☐

(3) Contact made by: [who made the contact?]

Name	Address	Phone

(4) Outline concerns/issues raised:

(5) Notification details recorded in the HSE Incident Reporting System by:

Name	Mirvac Division	Date recorded	Phone

(6) Has the contact been referred to another person? Yes ☐ No ☐

(7) If 'Yes' list the name and contact details of the person:

List Name	Mirvac Division	Time Referred	Phone

(8) Has the contact been 'formally' acknowledged to the complainant? Yes ☐ No ☐

[Note: mandatory within 48 hours of contact]

(9) How was the contact formally acknowledged?

Telephone: ☐ Personal Contact: ☐ Other: [specify] _____

(10) Is follow-up action required? Yes ☐ No ☐

COMMUNITY CONTACT NOTIFICATION

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 05.04.2012	Page 1 of 2
Form Maintained by: Corporate Services - HSE Department	Current version : MG-CS-HSEF2.07-C 0412	



(11) Outline follow-up action undertaken:

[Note: mandatory within 48 hours of contact]

(12) Date of follow-up action: _____ Time of action _____ am ☐ or pm ☐

(13) Date complainant was advised of the outcome/action undertaken as a result of the contact:
Date _____ Time of action _____ am ☐ or pm ☐

[Note: mandatory within 48 hours of first contact]

(14) What were the 'Contributing Factors' and the 'Root cause' of the issue?

(Action/ inaction by persons, failure of tools/ machines or procedures not followed) (QUESTION THE CAUSE 5 TIMES)
e.g. (the issue) Slurry on public road, splashing on passing cars. Q. 1 *Where did the slurry come from?* – From concrete cutting adjacent to road. Q. 2 *How did it get on the road?* – No effective barrier in place. Q. 3 *Why was there no barrier?* – Hazard of slurry splashing on cars not identified. Q. 4 *Why was this hazard/ control not identified?* – Location/task specific risk assessment not reviewed for location. Q. 5 *Why was the risk assessment not reviewed?* – Risk assessment not maintained or checked prior to activity or during daily pre-start meeting.

Insert main issue description

Q. 1?

Q. 2?

Q. 3?

Q. 4?

Q. 5?

(15) Identified 'long term' corrective action(s) required to prevent the issue re-occurring

(16) Date 'long term' corrective action(s) implemented and R & O Register reviewed:

(17) Date the corrective action(s) were monitored by a Mirvac representative and confirmed as having been effective:

(18) Completion:

Person completing this report:

Name: _____

Signature: _____

Date: _____

Manager of person completing this report:

Name: _____

Signature: _____

Date: _____

COMMUNITY CONTACT NOTIFICATION

Form Authorised by: Ross Trethewy Title: Group Manager Health Safety Environment	Date amended: 05.04.2012	Page 2 of 2
Form Maintained by: Corporate Services - HSE Department	Current version :	MG-CS-HSEF2.07-C 0412

Appendix A: Location Plan

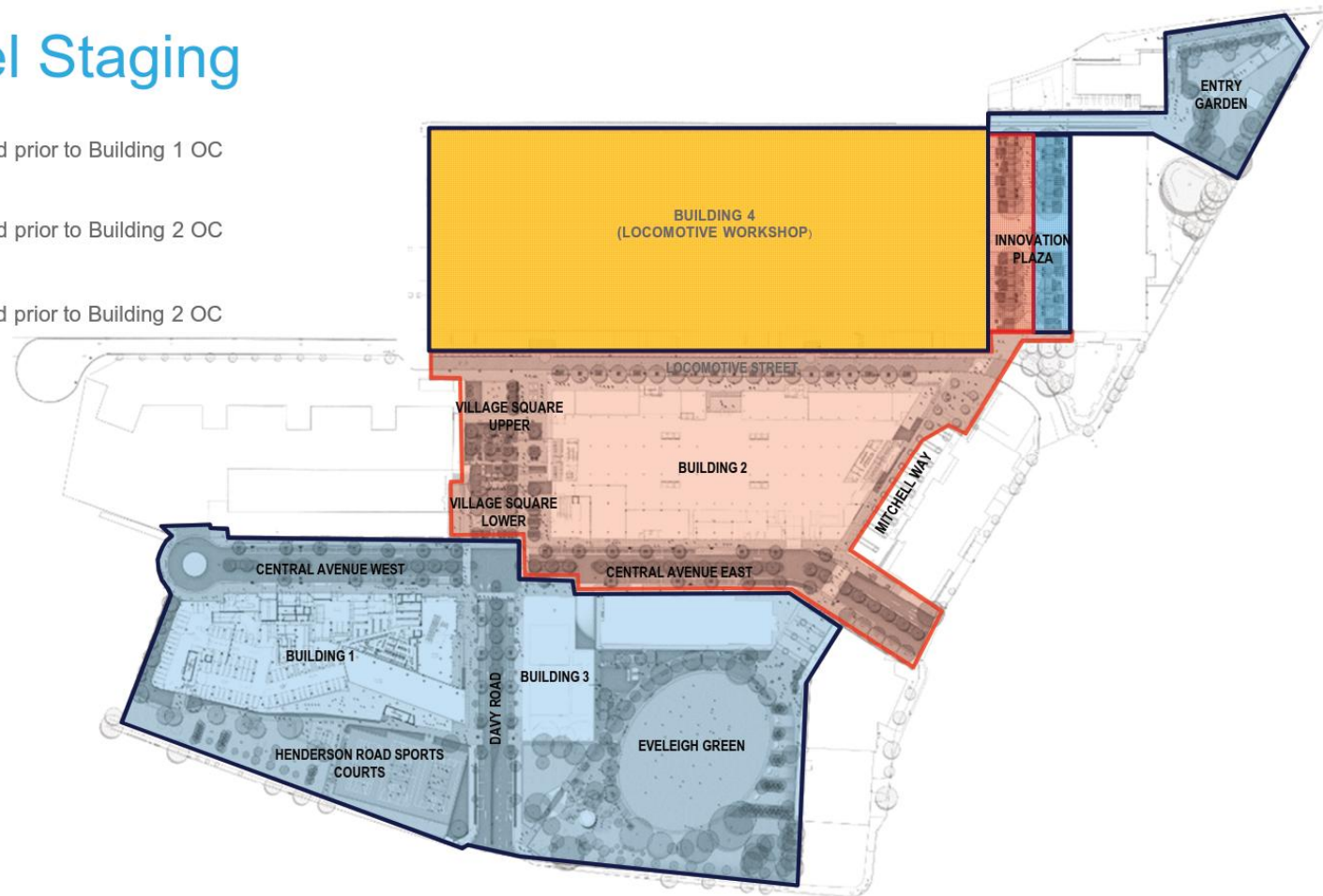


Appendix B: Site Staging Plans

Prepared by: Mirvac

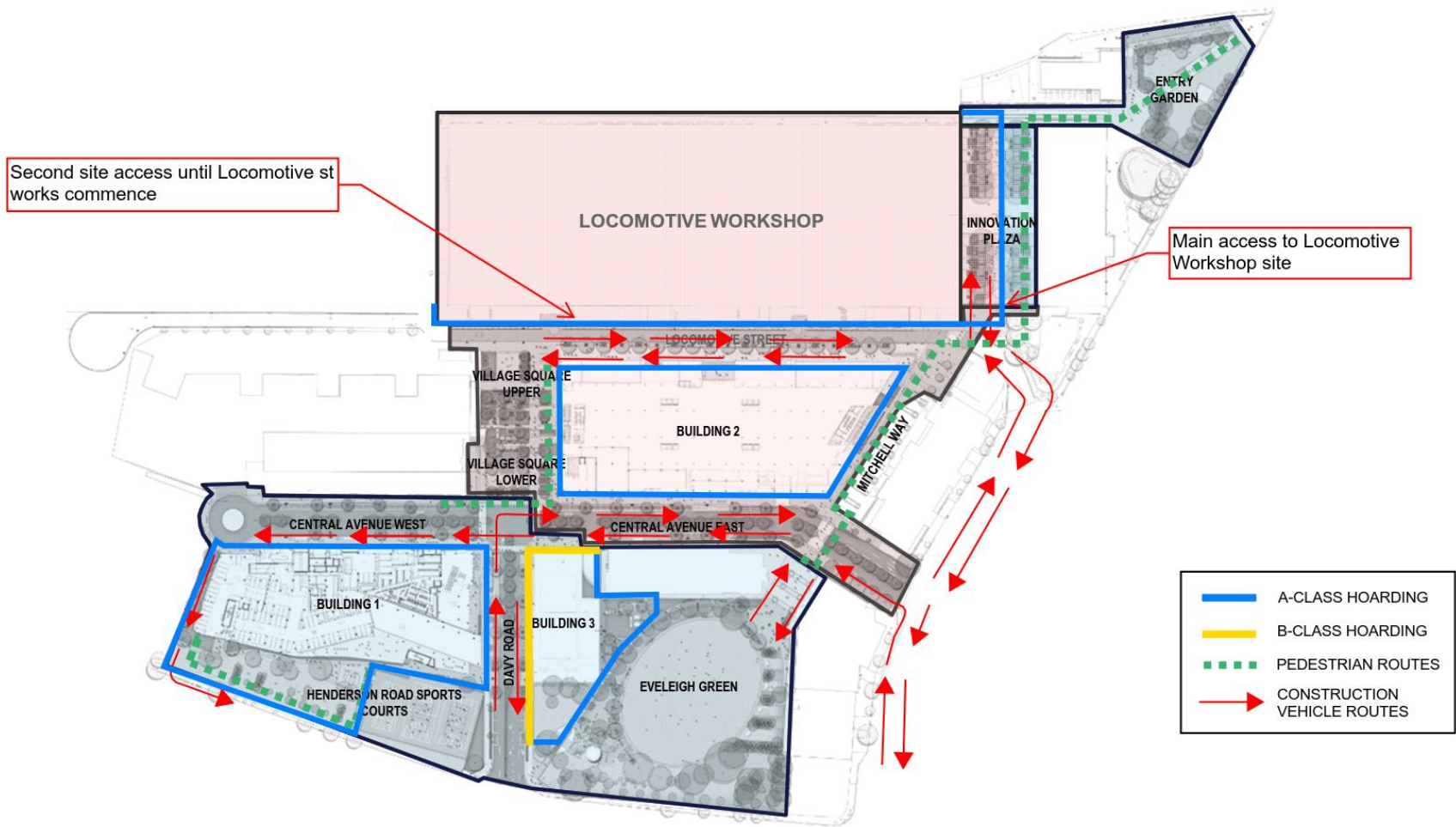
High Level Staging

-  Stage 1 – completed prior to Building 1 OC
-  Stage 2 – completed prior to Building 2 OC
-  Stage 3 – completed prior to Building 2 OC



Appendix C:
Access and Egress Plan

Prepared by: Mirvac



Appendix D:

Air Quality Management Plan

Prepared by: JBS&G

Appendix E: Water and Wastewater Management Plan

Prepared by: JBS&G

Appendix F: Waste Management Plan

Prepared by: JBS&G

Appendix G:

Sample Construction Waste Management Plan

Prepared by: Dial-A-Dump

Appendix H:

Sample Workplace Risk Management Plan

Prepared by: Mirvac Group
