

# **MORDIALLOC FREEWAY PROJECT**

Independent Reviewer and Environmental Auditor

Quarterly Construction Audit

Report 5, March 2021

## PROJECT

### Mordialloc Freeway Project

Quarterly Construction Audit, March 2021

<b>Author</b>	<b>Author Name</b>	<b><u>Vic Natoli</u></b>
<b>Checker</b>	<b>Checker Name</b>	<b><u>Ken Fraser</u></b>
<b>Approver</b>	<b>Approver Name</b>	<b><u>Ken Fraser</u></b>
<b>Report No</b>	<b>MCDDJV0321</b>	
<b>Issue Date</b>	<b>25/06/2021</b>	

This report has been prepared for the Parties in accordance with the terms and conditions of appointment of the Independent Reviewer and Environmental Auditor for the Mordialloc Freeway Project. Statewide River & Stream Management Pty Ltd (98 089 887 614) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

# CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1 INTRODUCTION.....</b>	<b>6</b>
1.1 PURPOSE OF THIS REPORT .....	6
1.2 PROJECT BACKGROUND .....	6
1.3 PROJECT APPROVALS .....	7
1.4 ROLE OF THE IREA.....	9
1.4.1 Report Scope.....	9
1.4.2 Site Audits and Inspections.....	10
1.4.3 Reporting.....	10
1.5 REPORT STRUCTURE .....	10
<b>2 SITE AUDIT .....</b>	<b>11</b>
2.1 AUDIT OBJECTIVES .....	11
2.2 THE AUDIT PROCESS .....	11
2.3 AUDIT SCOPE .....	12
2.4 CLASSIFICATION OF AUDIT FINDINGS.....	12
<b>3 PREVIOUS AUDIT RECOMMENDATIONS .....</b>	<b>13</b>
<b>4 REVIEW OF MONITORING DATA .....</b>	<b>17</b>
4.1 DUST MONITORING.....	17
4.1.1 Real Time Dust Monitors.....	18
4.1.2 Dust Deposit and Directional Gauges.....	19
4.1.3 Discussion and Conclusions.....	20
4.2 WATER MONITORING .....	20
4.3 NOISE AND VIBRATION MONITORING.....	24
4.3.1 Noise Targets.....	24
4.3.2 Construction Noise Monitoring.....	26
4.3.3 Noise Discussions & Conclusions.....	27
4.3.4 Vibration Targets.....	27
4.3.5 Vibration Monitoring.....	28
4.3.6 Vibration Discussions and Conclusions.....	28
4.4 SOIL AND GROUNDWATER MONITORING .....	29
<b>5 ENVIRONMENTAL PLANS .....</b>	<b>30</b>
5.1 FLOOD RESPONSE PLAN .....	30
5.2 WATER MANAGEMENT AND MONITORING PLAN.....	30
<b>6 COMPLAINTS MANAGEMENT .....</b>	<b>31</b>
<b>7 INCIDENTS AND NON-CONFORMANCES .....</b>	<b>34</b>
7.1 REPORTED INCIDENTS .....	34
7.2 REPORTED NON-CONFORMANCES.....	34
7.3 OBSERVATION REPORTS.....	34
7.4 DISCUSSION AND CONCLUSIONS .....	35
<b>8 SITE INSPECTION .....</b>	<b>36</b>
<b>9 SUMMARY OF RECOMMENDATIONS .....</b>	<b>38</b>
<b>10 AUDIT CONCLUSIONS.....</b>	<b>39</b>
10.1 ENVIRONMENT MANAGEMENT PLANS .....	39
10.2 ENVIRONMENT PERFORMANCE REQUIREMENTS .....	39
10.3 SITE WORKS .....	40
10.4 OVERALL CONCLUSION .....	40

## **APPENDICES**

- A – Audit Agenda
- B – Quarterly Audit Schedule
- C – Dust Monitoring Locations
- D – Water Monitoring Locations
- E – Noise Control Areas

# EXECUTIVE SUMMARY

## **Introduction**

This report summarises the audit findings of the Independent Reviewer and Environmental Auditor (IREA) for the Mordialloc Freeway Project (the Project) in Melbourne, Victoria. It covers the findings of the fifth audit and inspection carried out on the 25<sup>th</sup> and 26<sup>th</sup> March 2021 and will be provided to the Major Transport Infrastructure Authority (MTIA) and Victorian Minister for Planning, and made available to the public on the [Major Road Projects Victoria \(MRPV\) website](#).

The IREA has been appointed by McConnell Dowell Decmil Joint Venture (MCDDJV), the design and construction contractor, to provide independent oversight of the environmental performance of the Project. The IREA undertakes audits of the Project activities to assess whether conformance with Project requirements and approvals are being achieved. This includes the Environmental Management Framework (EMF), Environmental Performance Requirements (EPRs), Environmental Management Plans, site Environmental Control Plans (ECPs) and engineering designs developed by MCDDJV.

Construction on the Project has been underway since October 2019. Activities at the time of the audit consisted of earthworks, piling, asphaltting, installation of culverts and retention ponds, installation of services and utilities and landscaping. This audit has focused on these activities only.

## **Scope and Conduct of This Audit**

This report details the results of environment audit and site inspection carried out on the 25<sup>th</sup> and 26<sup>th</sup> March 2021.

The audit reviewed MCDDJV's actions to address the previous audit findings. The audit also reviewed the implementation of the following documents as they apply to the works at the time of the audit:

- Flood Response Plan (EPR: W5)
- Water Management and Monitoring Plan (EPR: W4)

Monitoring data collected to date was also reviewed to assess the adequacy of monitoring, the quality of discharges and emissions and their likely impacts.

A site inspection was also carried out to:

- Determine if the controls specified in the above plans and ECPs have been implemented, as they applied to the works to date.
- Identify any unsuitable work practices.
- Visually confirm monitoring and sampling locations.

The IREA is required to provide quarterly audit reports to MTIA and the Minister for Planning. These reports must be made available to the public. The audit and site inspection detailed in this report forms part of the IREA's reporting requirements.

## **Environmental Controls**

### Flood Response Plan (FRP):

The FRP provides details of flood prone areas under various rain scenarios. The Plan states that the most effective flood control measure would be installation of stormwater swales and collection ponds. These structures were installed early on in the project to collect stormwater. Other measures, such as making the site safe prior to a major shutdown (e.g. the recent Christmas shutdown) are occurring.

### Water Monitoring and Management Plan (WMMP):

The Water Management and Monitoring Plan (WMMP) details the:

- water related legal and contractual requirements the project must comply with;
- the Objectives and Targets the project wishes to achieve;
- the controls to protect local waterways; and
- the monitoring and inspections that will be carried out to ensure controls are effective, determine the impact on surrounding waterways and assess compliance with contractual and legal obligations.

The controls required by the Plan have been implemented and the issues identified since construction commenced successfully rectified. Water monitoring has identified no significant impact on the surrounding waterways that could adversely affect aquatic biota or cause any long term impacts.

### Complaints Management:

A complaints management process is in place which has proactively engaged the community. Members of the community who have expressed concern over various aspects of the project have been regularly contacted by the project's Community Engagement personnel to discuss any recent issues and to provide information on upcoming activities. The process receives, records and responds to complaints concerning construction activities. The complaints management process that is in place is sound and the responses to complaints appear appropriate. The number of complaints has steadily decreased over the project period (121 complaints in the March 2020 audit down to 18 complaints in this March audit).

### Incidents and Non-conformances:

There was one reported incident since the previous audit. This involved a contractor installing a kerb and channel and surface drainage entering a Tree Protection Zone. Work ceased as soon as the unauthorised entry was identified. An arborist assessed the impact on the two trees and prepared a report that concluded there was a low level impact on the trees. The incident investigation identified contractor communication and supervisor error as causal factors. Each issue was the subject of separate corrective actions. The process followed was sound and compliant with the company procedures.

There were four non-conformances raised since the previous audit. All four were due to previous audit findings. Three were due to the lack of investigation/Hazard Observation following monitoring exceedances (1 air, 1 water and 1 noise) and one due to water monitoring not being carried out following a high rainfall event. As noted above in this report, these issues have not reoccurred.

#### Site Specific Environmental Control Plans

The site specific Environmental Control Plans (ECPs) provide detail of where control structures such as sediment fences, spill control kits and concrete wash down areas will be located. The audit did not identify any issues with the infrastructure that was required by the ECPs.

### **Monitoring**

#### Dust:

The results from the real time dust monitors are all below the 10 micron 24 hour average legislative health limit (monthly maximum values of 16.4 to 27.9  $\mu\text{g}/\text{m}^3$  measured cf. the limit of 50  $\mu\text{g}/\text{m}^3$ ) and the 2.5 micron 24 hour average legislative health limit (monthly maximum values of 5.8 to 6.9  $\mu\text{g}/\text{m}^3$  measured cf. the limit of 25  $\mu\text{g}/\text{m}^3$ ). The monitoring also confirmed the measured dust levels were below the 10 micron 1 hour average target (monthly maximum values of 35.7 to 73.9  $\mu\text{g}/\text{m}^3$  measured cf. the target of 120  $\mu\text{g}/\text{m}^3$ ). In summary, dust monitoring has found the levels of off-site dust are below the health target limits and in most cases below the limits by a significant margin.

The previous issue with sampling pump failures in one of the two real time dust monitors appears to have been resolved and no data was lost due to this issue. However, the monitor in Area 2 is supplied with power from the construction compound in which it is located. Construction ceased over the Christmas period, from the 16<sup>th</sup> December to the 7th January. The generators supplying the construction compounds were turned off during the shutdown, which unfortunately resulted in the Area 2 dust monitor not operating during this period. However, the Area 1 monitor, which is powered by solar panels and batteries, continued operating. Hence there was at least 1 continuous dust monitor in operation over this period, as per the contract specification.

The dust directional gauges indicate the majority of the dust impacting each location was coming from the construction site, which is not surprising given the close proximity of the deposit gauges to the construction activities. In December 2020, dust deposit gauge 2 (behind an industrial building south of Centre Dandenong Rd) measured a dust deposition rate of 4.8  $\text{g}/\text{m}^2/\text{month}$ , which is above the 4  $\text{g}/\text{m}^3/\text{month}$  limit. A review of Nearmap for the December period found that soil had been stockpiled along the western boundary of the site, which is very close to the location of dust gauge 2. Fortunately, the industrial area is less sensitive to the dust levels measured. A Hazard Observation form was completed for the exceedance.

## Water:

### Area 1

The vast majority of the monitoring data complied with the 10% variance limit. The downstream values that did not comply were either an improvement in the water quality (higher DO or lower salinity), or very unlikely to be caused by the construction activities (increased temperature). It is therefore concluded the water monitoring did not identify any adverse issues in Area 1.

### Area 2

Again, the vast majority of the monitoring data found the downstream value was in the range of the upstream values. Two DO values that were low both occurred during a period of no flow in the water course. Given this, the fact that there are no construction processes likely to reduce DO and the lack of any rain that could wash anything into the water course it very likely this result was due to the stagnant water present in the drain at the time.

Water monitoring occurred prior to construction to obtain baseline data (contained in the Appendix A of the Water Management and Monitoring Plan). A review of this baseline data found 4 of the 5 samples had higher downstream turbidity values than any of the upstream values. This is likely due to local soil conditions around the downstream sampling location. The current turbidity results are consistent with the baseline data. Irrespective of this, the downstream turbidity levels were all of good quality for urban waterways (50 NTU/FNU or less).

Based on the monitoring and a comparison to the baseline water monitoring data, it is concluded that that construction in the Waterway area is not having any detriment on the surrounding waters.

### Rainfall Events

A review of the Moorabbin Airport rainfall data found three rainfall events that triggered the 24 hour monitoring limit. Monitoring occurred on two of the three occasions. However, one event occurred on the 23<sup>rd</sup> December 2020 when the site was shutdown for the Christmas period and staff were not available. It is unclear how such extended holiday periods are to be managed, when personnel may not be available. This audit recommends that discussions be held between MRPV and MCDDJV to determine how water monitoring will be managed during extended holiday or other closure periods.

## Noise Monitoring:

Spot noise monitoring has occurred during out-of-hours works (i.e. evening and night periods) in Area 2. Of the 72 spot readings, 7 were above the trigger levels.

Of the 7 noise levels above the trigger limits:

- three were due to noise from local traffic; and
- the noise monitoring for the final three readings were taken only 2m from the works. As the closest residents were over 200m from the works location (Soden



Rd/Springvale Rd), the noise at the residential area would have been inaudible above the background noise.

Of the 7 high readings, only one appears to have been due to the works and audible at the residential area. In this instance, the measured noise of 62.8 dB(A) was only marginally above the trigger limit of 61 dB(A).

#### Vibration Monitoring:

Vibration monitoring in Area 2 (southern section of the site) identified a number of exceedances of target vibration levels for human comfort (i.e. 0.56 mm/s). Therefore, on occasions, residents would have noticed vibration for short periods of time (typically less than 10 minutes to drive in a pile). As the piling is restricted to day time only, the impact on the residents appear to have been tolerable and no vibration complaints were lodged over the 3 month period under review. All vibration results were well under the limit for structural damage to residential properties (5 mm/s).

No vibration monitoring was required in Area 1.

#### **Site Inspection Findings**

The site inspection only identified two issues. The first was related to the improper disposal of litter in the spill kit wheelie bins. The second was due to the tracking of soil and mud onto newly paved sections of roadway and the subsequent generation of dust. The site inspection noted significant progress in road sealing, landscaping and grassing of the works area, particularly the northern section of the project site and substantial completion of works in the southern section.

# 1 INTRODUCTION

## 1.1 Purpose of this Report

Independently assess compliance with Project requirements and approvals.

## 1.2 Project Background

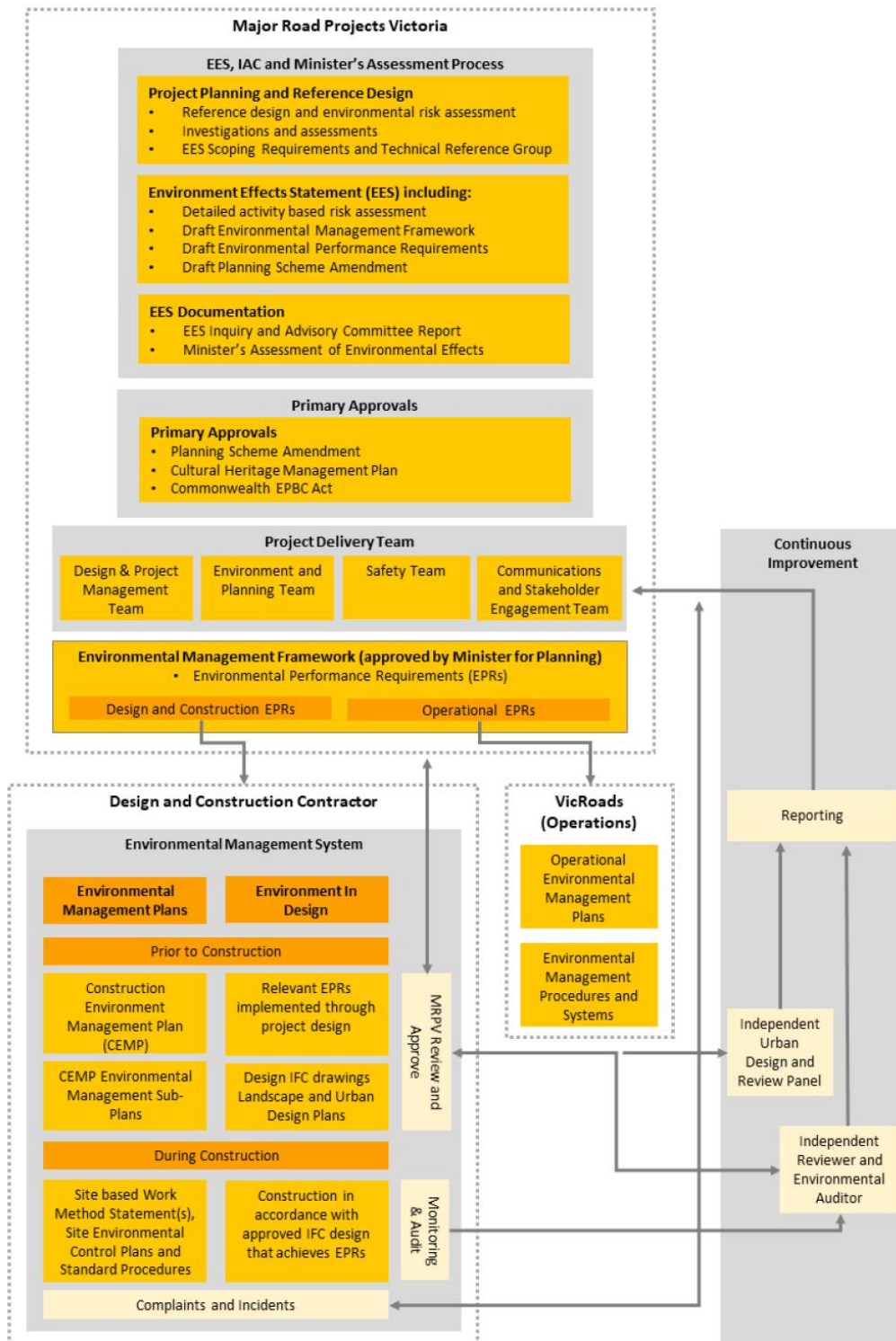
The Mordialloc Freeway will link the Mornington Peninsula Freeway to the Dingley Bypass and will:

- build bridges over Springvale, Governor, Lower Dandenong and Centre Dandenong Roads, including new freeway entry and exit ramps
- build bridges over Old Dandenong Road and the sensitive waterways area
- connect the freeway to Dingley Bypass with traffic lights
- upgrade the existing interchange at Thames Promenade, Chelsea, with the Mornington Peninsula Freeway to provide freeway entry and exit ramps
- build a new shared walking and cycling path along the entire freeway.

Construction commenced in October 2019 and is due to be completed by the end of 2021.



### 1.3 Project Approvals



The Project was assessed via a joint State and Commonwealth Environmental Effects Statement (EES) process. State approval was granted via a Planning Scheme Amendment (PSA) and associated conditions. A condition of the PSA required MRPV to prepare an Environmental Management Framework (EMF), inclusive of the Environmental Performance Requirements (EPRs) to the satisfaction of the Minister for Planning. The EMF and EPRs have been approved by the Minister for Planning and published on the MRPV

[website](#). The relationship between MRPV and MCDDJV from approvals through to delivery is outlined below.

MRPV also secured primary approvals under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Aboriginal Heritage Act 2006*. The obligation to comply with the EMF and design and construction EPRs, EPBC conditions and Cultural Heritage Management Plan (CHMP) conditions has been transferred to MCDDJV through a legally binding contract. MCDDJV is responsible for obtaining and complying with a range of secondary approvals and consents, as indicated below:

#### Summary of main statutory approvals and consents

Act	Requirements	Responsibility	Implementation
<b>Primary Approvals</b>			
<i>EPBC Act</i>	EPBC referral, assessment and approval	MRPV	MRPV will ensure that approval conditions are met by MCDDJV through contract conditions.
<i>Planning and Environment Act 1987</i>	Planning scheme amendment to permit use and development	MRPV	MRPV will ensure that approval conditions are met by MCDDJV through contract conditions.
<i>Aboriginal Heritage Act 2006</i>	CHMP	MRPV	MRPV will ensure approval conditions are met by MCDDJV through contract conditions.
<b>Secondary Approvals and Consents</b>			
<i>Environment Protection Act 1970</i>	Environmental Improvement Plan	MCDDJV	The MCDDJV will obtain and comply with EP Act permits.
<i>Flora and Fauna Guarantee Act 1988</i> (FFG Act)	Permit for the removal of listed flora from public land	MCDDJV	The MCDDJV will obtain and comply with FFG Act permits.
<i>Heritage Act 2017</i>	Permit and/or consent to disturb	MCDDJV	The MCDDJV will obtain and comply with all heritage permits and/or consents.
<i>Road Management Act 2004</i>	Consent for traffic management works on roads	MCDDJV	The MCDDJV will obtain and comply with all requisite <i>Road Management Act</i> consents.

Act	Requirements	Responsibility	Implementation
<i>Water Act 1989</i>	Approvals for works to be undertaken in relation to groundwater and waterways	MCDDJV	The MCDDJV obtain and comply with all permits and licenses under the <i>Water Act</i> .
<i>Wildlife Act 1975</i>	Permit to remove, salvage capture or relocate fauna	MCDDJV	The MCDDJV will obtain and comply with any permit that may be required.

## 1.4 Role of the IREA

The requirement and role for the IREA is outlined in EPR EM3, as follows:

*“Appoint a suitably qualified Independent Reviewer and Environmental Auditor (IREA) to review and certify the CEMP and other management plans as required by the EPRs, in accordance with the Environmental Management Framework. The IREA must be an accredited Environmental Auditor. During construction audit reports must be provided to MTIA and the Minister for Planning on a regular basis as appropriate. Audit reports are to be made available to the public.”*

The scope, role and responsibility of the IREA is further defined in the approved EMF as follows:

- a) *“Review the D&C Contractor’s Environment Management Strategy, CEMP and other management plans as required by the EMF*
- b) *Review and certify the D&C Contractors have implemented the relevant EPRs through project design in their drawings*
- c) *Monitor and audit the D&C Contractors compliance with the Environment Management Strategy, CEMP and other environmental management sub- plans as required by the EPRs*
- d) *Conduct audits of the D&C Contractors work to assess construction compliance with the approved IFC (issued for construction) design*
- e) *Assess compliance with project approvals, legislation, regulations, policies, guidelines, codes of practice and applicable industry standards.*
- f) *Review complaints which may highlight instances of non-conformance with applicable EPR*
- g) *Prepare audit reports and provide to MRPV quarterly.”*

### 1.4.1 Report Scope

As indicated above the IREA is responsible for reviewing the Construction Environment Management Plan (CEMP) and subplans (EMPs) and ECPs. The audit and inspection which is the subject of this report also included an assessment of compliance with the EPRs linked

to these CEMP and subplans. Any identified issues require the Plan/s in question to be updated by MCDDJV and resubmitted to the IREA for final approval.

The IREA is also required to review and certify that MCDDJV have implemented the relevant EPRs through project design in their drawings (e.g. noise wall, fauna underpasses or lighting design) and conduct audits of work to assess construction compliance with the approved IFC (issued for construction) design drawings (items b and d above). In addition, the IREA is required to review a number of other plans that do not relate to traditional CEMP matters, but are a requirement of the EPRs, such as the Business Disruption Plan, Traffic and the Lighting (operation) Plans. These engineering design EPRs and non-CEMP related ERP matters are the subject of a separate IREA report.

This scope of this report and subsequent quarterly reports relates to items c, e, f and g above (Section 1.4) and forms part of the IREA's reporting requirements.

### **1.4.2 Site Audits and Inspections**

The IREA is required to independently assess whether the Plans and ECPs developed by MCDDJV are being implemented and that the implementation of these various plans meet the requirements of the relevant EPRs and other approval conditions. The IREA is also required to inspect the physical works and confirm the controls detailed in the Plans, subplans and ECPs are in place and they are effective in controlling the impact of the works on the surrounding environment and community.

### **1.4.3 Reporting**

The IREA is responsible for preparing an audit report which MCDDJV must forward to Major Transport Infrastructure Authority (MTIA) and Minister for Planning during construction. This audit report, along with the report described in 1.4.1 above (Plans which are not part of the CEMP) will be provided to MTIA and the Minister and is the fifth of the quarterly reports. Reports will be published on the [MRPV project website](#). The audits described in this section have been undertaken by the lead Independent Auditor and Environmental Reviewer (IREA), Ken Fraser and Assistant Environment Auditor, Vic Natoli.

## **1.5 Report Structure**

This report is divided into the following sections:

- Section 1: The role of the IREA – details the IREA's primary responsibilities and the IREA's report to the Minister
- Section 2: Conduct of Audits – details the scope of the IREA's audit activities undertaken prior to, during and after the audit.
- Sections 3 to 10: Audit Findings and Conclusion – provides the IREA's findings from the audit and conclusions on the MCDDJV's conformance with the requirements of the EMPs, relevant EPRs, ECPs, legislation and good practice.

## **2 SITE AUDIT**

### **2.1 Audit Objectives**

The objective was to assess:

- Actions taken to close previous audit findings;
- Water monitoring results and compliance. (EPRs W3, W5);
- Air Monitoring results and compliance (EPR AQ2);
- Noise monitoring results and compliance (EPR NV2);
- Incident reporting since previous audit and response;
- Community complaints since previous audit and response (EPRs EM2, LV5, S1) ;
- Soil Management Sub-plan (CL1, CL2, CL6); and
- Landfill Gas EMP (CL4).

The objective of the site inspection was to assess:

- the implementation of controls;
- compliance of field activities and controls with the requirements of the applicable Plans and EPRs as they applied to the works to date; and
- compliance with applicable regulatory and good practice requirements.

### **2.2 The Audit Process**

The audit process for this particular audit consisted of the following steps:

Pre-audit –

- Preparation of an Audit Agenda<sup>1</sup> detailing the audit process and the documents to be reviewed.

Site Audit –

- Interview staff and review the various Plans and ECPs to assess the whether the controls required by the works to date were being implemented;
- Review of the monitoring data to assess compliance with legislation; and
- Inspect site to physically assess implementation of controls.

Post Audit –

- Issue a draft report along with recommendations for issues identified for review by MCDDJV and various authorities; and
- Issue final report incorporating comments received.

---

<sup>1</sup> The Audit Agenda is included in Appendix A.

## 2.3 Audit Scope

The areas covered by this audit were the EMPs and EPRs listed in section 2.1 above, the site ECPs and the physical operations occurring on the Project site.

The scope of this audit and subsequent audits is not to audit all EPRs and matters, every audit. Rather, each quarterly audit will take a risk-based approach and focus on the relevant construction activities, the risks, plans and controls. The scope will take into account any complaints and feedback from local stakeholders, community and regulatory agencies. Over the duration of construction, the intention is to ensure all aspects of the project are audited at least once. A full EPR auditing scope and schedule is included as Appendix B.

## 2.4 Classification of Audit Findings

Audit findings are classified according to the following definitions which have been utilised on previous high-profile Victorian infrastructure projects.

### Non-conformance (NC)

An instance, event or occurrence that has not-fulfilled a requirement that has been specified in the Strategy, CEMP, ECPs, EPRs, legislation, or approval conditions.

(Note 1: A non-conformance may be an individual non-conformance or a number of minor but related audit findings, which when considered in total are judged to constitute a non-conformance.)

### Area for Improvement (AI)

A deficiency in the implementation of the Strategy, CEMP, ECPs, or associated documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

### Observation (O)

An audit finding which may relate to an incidental or isolated system discrepancy, which does not compromise the effectiveness of environmental management, or constitute an actual or potential environmental risk.

IREA does not require Observations to be formally closed out after they have been issued and therefore will not report these in subsequent audit reports. It is the responsibility of MCDDJV to consider these findings.

### Priority of Recommendations

The severity and risk posed by findings may vary. In order to assist MCDDJV and the reader, each recommendation related to a finding that may require actions to be taken has been allocated a priority level A or B, with A being the most serious. The following definitions have been applied to these priority levels.

**A** - High risk of system failure, legal non-compliance, an EPR requirement or high environmental risk. **Must be corrected as a matter of priority.**

**B** - A requirement specified in an internal Plan or procedure, is affecting system efficiency, may result in system failure, or is a moderate environmental risk. **Must be corrected.**



### 3 Previous Audit Recommendations

Previous Finding Status:

"Y" - Completed

"P" - Partially completed

"O" - Open, not actioned

"On-going" - Actions that have commenced, but will need to continue for some period

"NA" - No longer applicable

Recom. No.	Recommendation	Findings	Status
1.	The Construction Noise and Vibration Management Plan should be amended to ensure noise and vibration data collected manually in the field is reviewed as it is collected to identify any compliance issues. If issues are found in the data, the Plan should require monitoring personnel to identify the potential source of the noise or vibration if possible. The Plan should also require the results of any investigations carried out during manual noise monitoring be noted in the field records.	The Construction Noise and Vibration Management Plan has been amended – viewed amended Plan.	Y
2.	The use of water carts should focus on those remaining areas on the project site where earthworks are still to be completed.	MCDDJV reports this is occurring and only 4 dust complaints have been received in the January to March quarter. Reviewed complaints records.	Y
3.	A Hazard Observation should be raised for the September dust deposition reading recorded at deposition gauge monitoring location 3, behind the Parks Victoria office, which exceeded the contract dust deposition limit. A non-conformance should also	A Hazard Observation has been raised for this issue, along with a non-conformance – viewed the Hazard Observation and non-conformance.	Y

Recom. No.	Recommendation	Findings	Status
	be raised, as the high dust deposition reading was not identified and recorded as a Hazard Observation after the results were obtained in October.		
4.	Rainfall data should be reviewed immediately following any weekend where rain has occurred. If the rainfall event/s exceeded the trigger values in the Appendix E3 of the project contract, then water samples should be collected as soon as possible from all water sampling locations.	MCDDJV have stated that this is occurring. Reviewed water monitoring spreadsheet, which demonstrated water monitoring after a trigger rain event. Organising 2 people (for safety reasons) to attend site on weekends.	Y
5.	Macros should be added to the water monitoring spreadsheet to automatically identify any potential exceedances of the water quality criteria.	A formula has been added to the Area 1 water monitoring spreadsheet that uses a “Yes” or “No” prompt to highlight compliance with each monitoring criteria. However, it was found this could not be automated in Area 2, as there are 4 upstream sources flowing into the one downstream discharge. The flow rate from each source can vary and depending on the tide and rainfall, some locations may even flow in the reverse direction at times.	Y
6.	The failure to carry out water monitoring after the rainfall event on the 24 <sup>th</sup> October 2020 should be recorded as a non-conformance in the MCDDJV non-conformance system.	An NCR has been raised (same NCR for recommendation 6 & 7 as it is the same issue) – viewed NCR	Y
7.	The lack of investigations when turbidity and pH exceedances were identified should be recorded as a non-conformance in the MCDDJV non-conformance system.	An NCR has been raised (same NCR for recommendation 6 & 7 as it is the same issue) – viewed NCR	Y

Recom. No.	Recommendation	Findings	Status
8.	The distance from the noise source to the noise measurement location, along with the distance from the noise source to the closest residence, should be recorded when noise measurements are taken. The noises register, should then calculate the noise at the closest residence using the formula: $N_{\text{estimated}} = N_{\text{measured}} + 20 \times \log (\text{Distance}_{\text{measurement point}} / \text{Distance}_{\text{residence}})$	This has been referenced in the Construction Noise and Vibration Management Plan – viewed amended Plan showing the calculation method	Y
9.	The Construction Noise and Vibration Management Plan should be amended to include requirements to calculate noise and vibration levels at the receptor when it is not possible to take measurements at the receptor. The Plan should also describe the method of calculating the noise and vibration level at the receptor.	The Construction Noise and Vibration Management Plan has been amended – viewed amended Plan	Y
10.	A non-conformance should be raised as the exceedance of the 75dB(A) noise level during the day period on the 2/10/2020 was not recorded as a Hazard Observation. Any future exceedance of the annoyance level should be investigated to ascertain the actual impact at the sensitive receiver and to ascertain if additional noise controls could be applied.	An NCR has been raised – viewed NCR	Y
11.	MCDDJV should require their contractors to label all containers containing fluid with their contents. Containers used in the field should also be placed on spill trays.	Requirement discussed at Toolbox / Pre-starts as part of safety requirements. Containers are being specifically targeted during inspections by Safety and Environment Teams –records are not maintained of all issues presented during toolbox / pre-starts	Y

**Summary:**

Completed = 11 out of 11 (100 %)

Partially Completed = 0 out of 11 (0 %)

Open = 0 out of 11 (0 %)

On-going actions = 0 out of 11 (0 %)

No longer applicable = 0 out of 11 (0 %)

**Opportunity for Improvement**

## 4 Review of Monitoring Data

### 4.1 Dust Monitoring

MCDDJV operates 2 portable light scattering air quality monitors that measures PM10 and PM2.5 and a weather station on a continuous basis. One unit is located at 8 Bradley Close, adjacent the MCDDJV Governor Road compound. A second unit is located at the Din San Nursery at 418 Old Dandenong Road (refer to plans in Appendix C).

PM10 are dust particles which are less than 10 microns (millionths of a meter) in diameter and PM2.5 are particles less than 2.5 microns in diameter. In comparison, human hair can be from 17 to 181 microns with an average of approximately 75 microns. Particles greater than PM10 are mostly filtered out in the nose and throat. PM10 can enter the upper respiratory tract and lungs. PM2.5 particles are small enough to pass deep into the lungs and into the bloodstream. Note that PM10 particles include the PM2.5 fraction.

National levels to protect the community's health are in place for PM10 ( $50 \mu\text{g}/\text{m}^3$  averaged over 24 hours) and for PM2.5 ( $25 \mu\text{g}/\text{m}^3$  averaged over 24 hours). These levels have been adopted into law in Victoria in the State Environment Protection Policy (Ambient Air Quality) and are enforced by the Environment Protection Authority of Victoria (EPA).

The State Environment Protection Policy (Air Quality Management) defined a 24 hour PM10 intervention level of  $60 \mu\text{g}/\text{m}^3$ . The intervention levels are used to assess air quality monitoring data to determine whether the beneficial uses set out in the Policy are being protected. The project contract specification and the MCDDJV Air Quality EMP have adopted this intervention level as the maximum PM10 concentration that must not be exceeded.

There are no regulatory PM10 1 hour averages, however, the contract specification requires a 1 hour PM10 trigger level of  $120 \mu\text{g}/\text{m}^3$ . An exceedance of the trigger level results in an SMS being sent to members of the MCDDJV environmental team for investigation and action.

MCDDJV also operates a dust depositions gauge and directional dust gauge at 4 locations. The dust deposit gauges measure dust deposited over a period of time and provide reports as grams of dust per  $\text{m}^2$  per month. The directional gauges face north, south, east and west and indicate the amount of dust that came from each direction. In this way, the amount of dust coming from the direction of the project can be compared to the amount of dust coming from other locations. One of the four dust deposition and directional gauges is located in a local residential area, well away from the project, to provide background dust levels. The locations of the dust deposition and direction gauges are shown in Appendix C.

The Project contract sets maximum dust deposition limits of “... $4 \text{ g}/\text{m}^2/\text{month}$  or  $2 \text{ g}/\text{m}^2/\text{month}$  above the background measurement, whichever is the lesser.”

A review was carried out of the dust monitoring data collected to date. The following summarises the monitoring results.

### 4.1.1 Real Time Dust Monitors

#### 24 Hour Average Monitoring Results

Month	Area	Particle Size	Maximum	Average
December	1	PM2.5	6.3	3.1
		PM10	22.2	12.4
	2* 16 days lost	PM2.5	5.8	3.5
		PM10	16.4	11.7
January	1	PM2.5	6.9	3.6
		PM10	27.9	14.5
	2* 6 days lost	PM2.5	6.2	3.2
		PM10	20.8	10.6
February	1	PM2.5	6.1	2.9
		PM10	26	12.1
	2	PM2.5	5.8	2.8
		PM10	19.6	9.2

\* – The Christmas break commenced on the 16<sup>th</sup> December and the generator was shut-off in the Area 2 compound until the 7<sup>th</sup> January. Unfortunately, this also shut down the dust monitor in Area 2.

This compares to the 24 hour average legislative limits of:

- PM2.5: 25µg/m<sup>3</sup>
- PM10: 50µg/m<sup>3</sup>

#### 1 Hour Average Monitoring Results

Month	Area	Particle Size	Maximum	Average
December	1	PM2.5	14.1	3.1
		PM10	73.9	12.4
	2* 16 days lost	PM2.5	12.1	3.4
		PM10	58.2	11.6
January	1	PM2.5	11.2	3.3
		PM10	53.8	13.3
	2* 6 days lost	PM2.5	9.2	3.2
		PM10	35.7	10.8
February	1	PM2.5	10.4	3
		PM10	50.5	12.4
	2	PM2.5	16.4	2.9
		PM10	35.8	9.4

\* – The Christmas break commenced on the 16<sup>th</sup> December and the generator was shut-off in the Area 2 compound until the 7<sup>th</sup> January. Unfortunately, this also shut down the dust monitor in Area 2.

This compares to the 1 hour average project target of:

- PM10: 120µg/m<sup>3</sup>

A significant amount of data has been lost in the past due to various failures in the dust monitors. No issues occurred with the reliability of the two dust monitors over the last quarterly period, therefore, it appears the previous issues, particularly with the sampling pump, have been resolved.

There was one issue over the Christmas period in Area 2. This monitor is supplied with power from the construction compound in which it is located. Construction ceased over the Christmas period, from the 16<sup>th</sup> December to the 7<sup>th</sup> January. The generator supplying the construction compounds was turned off during the shutdown, which unfortunately resulted in the Area 2 dust monitor not operating during this period. However, the Area 1 monitor, which is powered by solar panels and batteries, continued operating. Hence there was at least 1 continuous dust monitor in operation over this period, as per the contract specification.

#### **4.1.2 Dust Deposit and Directional Gauges**

##### Dust Deposit Gauges

- |          |   |  |
|----------|---|--|
| December | – | Gauge 2 measured a dust deposition rate of 4.8 g/m <sup>2</sup> /month, above the 4 g/m <sup>3</sup> /month limit (1.8 for the first fortnight and 3 g/m <sup>2</sup> /month for the second fortnight). It appears there was soil being stockpiled immediately next to the gauge. – A Hazard Observation was raised for this exceedance. |
| January  | – | The three monthly reports did not exceed the dust criteria.  |
| February | – | The three monthly reports did not exceed the dust criteria.  |

##### Directional Dust Gauges

- |          |   |  |
|----------|---|--|
| December | – | Dust Gauge 2 – 39% was from the north, i.e. along the alignment, with 22% from the east, which is the direction of the site.<br>Dust Gauge 3 – 42% from the west, which is the direction of the site<br>Dust Gauge 4 – 39% from the north, which is along the alignment.   |
| January  | – | Dust Gauge 2 – 32% was from the north, i.e. along the alignment, with 26% from the east, which is the direction of the site.<br>Dust Gauge 3 – 48% was from the south, with only 18% from the west, which is the direction of the site.<br>Dust Gauge 4 – 35% from the west, which is facing the alignment and 25% from the north and 41% from the south, which are along the alignment. |
| February | – | Dust Gauge 2 – 31% was from the north, i.e. along the alignment, with only 19% from the east, which is the direction of the site.<br>Dust Gauge 3 – 34% was from the south, with only 27% from the west, which is the direction of the site.   |

Dust Gauge 4 –29% from the west, which is the direction of the site and 18% from the north and 35% from the south, which are along the alignment.

### 4.1.3 Discussion and Conclusions

Based on the monitoring data, the following conclusions can be arrived at:

- The PM10 and PM2.5 data was well below the national health levels at all times during the period under review. The maximum levels were approximately a quarter the PM2.5 health limit and half the PM10 health limits, therefore, the risk to human health is very low.
- The off-site dust deposition levels are below the target levels in 2 out of the 3 locations.
- The direction dust gauge at location 2 confirms the majority of the dust was from the constructions site.
- A review of Nearmap for the December period found that soil had been stockpiled along the western boundary of the site, which is very close to the location of dust gauge 2 in the neighbouring industrial area, which is less sensitive to dust levels.
- The dust level coming from the project area is above background at times near to residents, therefore dust deposition levels in the residential area may occasionally be higher than normal.

The use of street sweepers and water carts should continue. This is discussed further, along with a recommendation, in the site inspection section.

NIL

## 4.2 Water Monitoring

The MCDDJV Water Management and Monitoring Plan sets a number of water quality parameters for any water discharged from the site, as shown below:

- Turbidity of less than 30 NTU/FNU (Nephelometric Turbidity Units)/(Formazin Nephelometric Unit);
- pH 6.5-8.3;
- Salinity and suspended solids equivalent to background concentrations; and
- No visible floating oil, grease, scum or litter, colours or odours.

The contract also requires the downstream water quality for these parameters to not deteriorate by more than twice the level of uncertainty in the measurement parameters when



compared to upstream measurements. It has been formally agreed to between MCDDJV and MRPV that this variation is no more than 10%.

The project contract specification includes a Rainfall Intensity Chart in appendix E3 that specifies under what rainfall intensity conditions monitoring should occur. Some of the higher rainfall events can be summarised below.

<b>Period over which rain has occurred (hours)</b>	<b>Rainfall Over the Period (mm)</b>
24	17
12	15
6	13
2	8
1	6

Therefore, if there is more than 17mm of rain in 24 hours, then water monitoring should occur. Similarly, if there is more than 15 mm of rain in 12 hours or 13mm of rain in 6 hours, then monitoring is required. The purpose of the intensity chart is to identify high intensity rainfall events that may potentially cause stormwater to run off the site.

Looking back at 24 hour rainfall data from Moorabbin Airport, which borders the site, the rain events above the 24 hour trigger for each month were:

14<sup>th</sup> March 2021 - 24.6mm  
30<sup>th</sup> Jan 2021 - 38.6 mm  
22<sup>nd</sup> Dec 2020 - 25.0 mm

The data available on the Bureau of Meteorology website does not show if the rainfall occurred over a short period or whether it was spread over the full 24 hours. However, even assuming it was spread over 24 hours, monitoring should have occurred on the:

- 15<sup>th</sup> March (14<sup>th</sup> March was a Sunday);
- 30<sup>th</sup> January or 1<sup>st</sup> of February, depending when the rain event occurred; and
- 22<sup>nd</sup> or 23<sup>rd</sup> December, depending when the rain event occurred.

A review of the monitoring data found monitoring occurred on the 15<sup>th</sup> March and the 30<sup>th</sup> January as required.

However, the 23<sup>rd</sup> December was during the Christmas shutdown and no personnel were on site. It is unclear how such extended holiday periods are to be managed, when personnel may not be available.

## **Monitoring Results**

### **Area 1**

A review of the monitoring data found no exceedances of the main criteria of concern, namely the turbidity.

There were occasions when the upstream and downstream values varied by more than 10%, as summarised below.

#### Area 1 Water Monitoring Exceedances of 10% Variation

Date / Location	Parameter	Upstream	Downstream	Comments
12/1 Centre Dandenong Drain	DO	3	6	The dissolved oxygen (DO) has increased, which is beneficial to aquatic life.
28/1 Centre Dandenong Drain	DO	0.09	0.08	Both upstream and downstream values are extremely low. It appears either a contaminant is in the water flowing onto the site which is consuming the dissolved oxygen, or the water in the drain is stagnant.
28/1 Centre Dandenong Drain	EC (uS/cm)	650	543	The salinity has decreased, which is beneficial to fresh water aquatic life. Possibly due to an inflow of fresh stormwater.
30/1 Dingley Drain	Temp. (oC)	13.1	14.6	Unclear why the temperature increased. There are no construction processes on the site that could cause a temperature change in the drain. Likely due to sunlight and slow water flow in the drain.
15/3 Woodlands Drain	DO	6.5	5.5	Unclear why it decreased. There does not appear to be any contaminants from the site that could cause a decrease.
23/3 Centre Dandenong Drain	DO	3.9	3.1	As above
23/3 Centre Dandenong Drain	EC (uS/cm)	209	186	The salinity has decreased, which is beneficial to fresh water aquatic life. Possibly due to an inflow of fresh stormwater.
23/3 Dingley Drain	EC (uS/cm)	197	122	As above

#### Area 2

There are 4 upstream locations which flow into the downstream measurement location. A review of the Area 2 water monitoring data found the majority of downstream parameters were within the range of upstream measurements. There were 2 occasions when the downstream DO was below the upstream measurements, as shown below:

### Area 2 Water Monitoring Exceedances of 10% Variation

Date	Monitoring Locations*	DO	Comments
5/3/21	1. DS Bowen Parkway	16.8	No Flow
	2. US Bowen Parkway	18	No Flow
	3. US Island Point	23	No Flow
	4. US Mitta Avenue	38	No Flow
	6. US Mordialloc Creek	22	No Flow
12/3/21	1. DS Bowen Parkway	16	No Flow
	2. US Bowen Parkway	28	No Flow
	3. US Island Point	38	No Flow
	4. US Mitta Avenue	38	No Flow
	6. US Mordialloc Creek	41	No Flow

\* - Location 1 is the downstream location and the remaining 4 locations are upstream locations that flow to location 1

It was also found that in 7 out of 10 samples, the downstream turbidity was higher than any of the upstream turbidity values.

### Discussion and Conclusions

#### Area 1

The vast majority of the monitoring data complied with the 10% variance limit. The downstream values that did not comply were either an improvement in the water quality (higher DO or lower salinity), or very unlikely to be caused by the construction activities (increased temperature).

It is therefore concluded the water monitoring did not identify any adverse issues in Area 1.

#### Area 2

Again, the vast majority of the monitoring data found the downstream value was in the range of the upstream values. The two low DO values both occurred during a period of no flow in the water course. Given this, the fact that there are no construction processes occurring in the area that are likely to reduce DO and the lack of any rain that could wash anything into the water course, it very likely this result was due to the stagnant water present in the drain at the time.

Water monitoring occurred prior to construction to obtain baseline data (contained in the Appendix A of the Water Management and Monitoring Plan). A review of this baseline data found 4 of the 5 samples had higher downstream turbidity values than any of the upstream values. This is likely due to local soil conditions around the downstream sampling location. The current turbidity results are consistent with the baseline data. Irrespective of this, the downstream turbidity levels were all of good quality for urban waterways (50 NTU/FNU or less).

Based on the monitoring and a comparison to the baseline water monitoring data, it is concluded that that construction in the Waterway area is not having any detriment on the surrounding waters.

The Contract does not relax monitoring requirements during extended holiday periods. However, it is noted that to date, MCDDJV has not requested MRPV to allow any exemptions from the water monitoring contract conditions during extended holiday periods.

#### **Opportunity for Improvement**

**Determine on-site water management requirements during extended periods when the site is not staffed.**

#### **Recommendation:**

- 1. MCDDJV should hold discussions with MRPV to determine how water monitoring will be managed during extended holiday or other closure periods.**

### **4.3 Noise and Vibration Monitoring**

#### **4.3.1 Noise Targets**

Noise targets have been set for residential and non-residential locations as shown in the following table. Neither the Victorian EPA Noise Control Guidelines nor the VicRoads Guidelines specify a noise target for works during Normal Working Hours. Therefore, construction noise targets for non-residential uses have been adopted based on the NSW EPA Interim Control Noise Guidelines (ICNG), consistent with the approach applied on recent major Victorian infrastructure projects such as the Metro Tunnel Project and West Gate Tunnel Project.

There are targets for day, evening, night and weekend periods. The targets are also based on the background noise levels. The areas bordering the project boundaries have therefore been broken up into 8 “Noise Control Areas” (NCA). Each NCA has noise targets based on the background levels.

#### **Day / Evening / Night / Weekend Periods**

<b>Period</b>	<b>Time</b>
Day	7 am – 7 pm Monday to Friday 7 am – 3.30 pm Saturdays (other than periods noted below)
Evening and Weekends	7 pm – 10 pm Monday to Friday 3.30 pm – 10 pm Saturdays Without prior approval, no works shall be carried out on any Sunday, public holiday, between Good Friday and Easter Monday inclusive or during the Christmas to New Year period.
Night	10 pm – 7 am any day

Following the installation of 7 continuous noise loggers across the project site, it was found that the noise limits specified in the EES (and previously applied to the project) were lower than the background noise levels without any construction activities occurring. That is, the actual background noise levels without any construction activities were already exceeding the target levels set in the EES.

MCDDJV, with MRPV approval, required the acoustic consultants Resonate to review the existing EES limits along with the actual noise data. It was found the background levels in the EES had been determined using LA<sub>90</sub> noise level, that is, the noise level exceeded 90% of the time. This method excludes the highest 10% of the noise levels. In comparison, the measurements carried out during construction are the 15 minute L<sub>eq</sub>, that is, the average noise level over 15 minutes based on all noise with no exclusions. For areas impacted on by highly trafficked roads (i.e. within earshot of a major road), the frequent or constant traffic noise becomes the background. Therefore, when 10% of the loudest background noise is excluded, it results in a value far lower than what is measured by the L<sub>eq</sub>, which averages all the noise.

Resonate used the actual background data measured as the L<sub>eq</sub> when no construction activities were occurring to arrive at new target levels using the methods described in the notes under the table below.

#### Construction noise targets for residential land uses

Noise Control Area (NCA) <sup>1</sup>	Construction noise trigger and/or target, dB(A) L <sub>eq,15min</sub>					
	Normal Working Hours		Weekend / Evening Working Hours		Night Hours	
	Noise Trigger <sup>2</sup>	Noise Target <sup>3</sup>	Noise Target (where works are avoidable) <sup>4</sup>	Unavoidable Works Noise Trigger <sup>5</sup>	Noise Target (where works are avoidable) <sup>6</sup>	Unavoidable Works Noise Trigger <sup>5</sup>
NCA1	63	75	52	59	36	55
NCA2	63	75	52	59	36	55
NCA3	62	75	49	57	35	52
NCA4	63	75	54	60	41	57
NCA5	62	75	51	61	37	56
NCA6	62	75	51	58	36	55
NCA7	68	75	59	67	40	61
NCA8	68	75	59	67	40	61

1 - NCA locations are shown in Appendix E.

2 - The Normal Working Hours noise trigger has been set at 10 dB(A) above the ambient L<sub>eq</sub> based on consultation with MRPV. The noise trigger describes the noise level at which the consideration of additional noise management measures should be considered.

3 - The Normal Working Hours noise target has been set at 75 dB(A). This is the level that should be complied with, where possible. If predicted or measured to be exceeded, then further noise management measures should be implemented.

- 4 - This target represents the level with which works should comply with during the Weekend / Evening period unless they are Unavoidable works.
- 5 - This trigger level represents the level above which additional mitigation measurements should be considered for Unavoidable Works.
- 6 - This target represents the level with which works should comply with during the Night period unless they are Unavoidable works.

#### Construction noise triggers for non-residential land uses

Type of sensitive use	Construction noise target, dB(A) L <sub>eq</sub> ,15min
Classrooms at schools and other educational institutions (e.g. Chelsea Heights Primary School)	Internal: 45 External: 65
Hospital wards and operating theatres	Internal: 45 External: 65
Places of worship (e.g. Christ Church Dingley)	Internal: 45 External: 65
Active recreation areas (e.g. Chadwick Reserve)	External: 65
Passive recreation areas (e.g. wetlands and Braeside Park through NCA4)	External: 60
Community buildings	Dependent on usage. If required, refer to AS/NZS 2017:2016 <i>Acoustics – Recommended design sound levels and reverberation times for building interiors</i> for internal target.
Commercial buildings	External: 70
Industrial buildings	External: 75

### 4.3.2 Construction Noise Monitoring

Spot noise monitoring has occurred during out-of-hours works (i.e. evening and night periods) in Area 2. Of the 72 spot readings, 7 were above the trigger levels. The results for the 7 readings are summarised below.

#### Spot Noise Summary – Results Above Trigger Limits

Date	Activity	Comments	Trigger LA(eq) 15min	Measured LA(eq) 15min
14/01/2021	South East Water valve/ fitting	Audible noise traffic	55	68.4
14/01/2021	South East Water valve/ fitting	Audible noise traffic	55	63.9

23/01/2021	Asphalt works, line marking and street sweeping	Noise receivers have been notified of works and offered relocation during works	61	62.8
16/02/2021	Asphalt works along Springvale Rd	Live Traffic	55	55.4
25/02/2021	Watermain tie in	Noise monitoring was conducted 2m from works	55	64.7
26/02/2021	Watermain tie in	Noise monitoring was conducted 2m from works	55	55.9
26/02/2021	Watermain tie in	Noise monitoring was conducted 2m from works	55	57.3

### 4.3.3 Noise Discussions & Conclusions

Of the 7 noise levels above the trigger limits:

- three were due to noise from local traffic; and
- the noise monitoring for the final three readings were taken only 2m from the works. As the closest residents were over 200m from the works location (Soden Rd/Springvale Rd), the noise at the residential area would have been inaudible above the background noise.

NOTE: The trigger limits are based on the noise impact on the sensitive receiver (in this case the resident), therefore, noise should be measured as close as possible to the sensitive receiver in order to assess this impact. There does not appear to be any reason why the noise should have been measured only 2m from the works.

Of the 7 high readings, only one appears to have been due to the works and audible at the residential area. In this instance, the measured noise of 62.8 dB(A) was only marginally above the trigger limit of 61 dB(A). No additional noise controls were practical given the works (Asphalt works, line marking and street sweeping).

### 4.3.4 Vibration Targets

The project contract defines the maximum vibration allowed, based on the type of building or structure. The maximum vibration criteria are shown in the following table.

#### Vibration criteria for assessing potential for damage to buildings

Type of Structure	Peak Vibration Velocity at foundation (mm/s)
Reinforced or framed structures. Industrial and heavy commercial buildings	20
Unreinforced or light framed structure. Residential or light commercial type buildings	5

Structures that because of their sensitivity to vibration do not correspond to those listed above and are of great intrinsic value (e.g. heritage listed buildings)	3
---	---

The MCDDJV Construction Noise and Vibration Management Plan also set a number of vibration targets based on the potential to cause annoyance to neighbours.

#### **Vibration criteria for assessing potential annoyance to occupants**

<b>Location</b>	<b>Peak Vibration Velocity at foundation (mm/s)</b>
Residential (Night – 10pm to 6 am)	0.4
Residential (Day – 6 am to 10 pm)	0.56
Commercial office (Day – 6 am to 10 pm)	1.1
Workshop (Day – 6 am to 10 pm)	2.2

### **4.3.5 Vibration Monitoring**

Vibration monitoring has occurred at a number of locations on and around the project site, as summarised below.

#### **Summary of Vibration Monitoring**

Date	Number of Measurements	Number of Exceedances of the Human Comfort Level	For Measurements That Exceeded Human Comfort Level		
			Max vibration Velocity mm/s	Min vibration Velocity mm/s	Average Vibration Velocity mm/s
Area 1					
1/1/2021 - 31/3/2021	65	10	2.03	0.66	1.08
Area 2					
1/1/2021 - 31/3/2021	145	3	2.14	1.46	1.84

### **4.3.6 Vibration Discussions and Conclusions**

Vibration monitoring identified a number of exceedances of target vibration levels for human comfort (i.e. 0.56 mm/s). Therefore, on occasions, residents would have noticed vibration for short periods of time (typically less than 10 minutes to drive in a pile). As the piling was restricted to day time only and the residents were notified prior to the piling commencing, the impact to the residents appear to have been tolerable and no vibration complaints were lodged over the 3 month period under review. All vibration results were well under the limit for structural damage to residential properties (5 mm/s).



### **Opportunities for Improvement**

The noise levels at the closest residential premises should be determined when access to private property is not practicable.

#### **Recommendations:**

2. All personnel who may be carrying out noise monitoring should be clearly instructed to measure the noise as close as possible to the sensitive receiver (in most cases the resident's property boundary) in order to assess the impact on the resident.
3. The Construction Noise and Vibration Management Plan (CNVMP) has recently been amended to include requirements to calculate noise and vibration levels at the closest receptor when it is not possible to gain access to the receptor. Future measurements where this occurs (e.g. as occurred on the 25/2/2021 and 26/2/2021) should estimate the noise level at the closest receptor, as detailed in the CNVMP.

## ***4.4 Soil and Groundwater Monitoring***

### **Groundwater**

MCDDJV is required to monitor the depth to the underlying aquifer in a number of the site groundwater monitoring bores. This monitoring has been occurring as required.

### **Soil Contamination**

Three soil contamination assessments have occurred since the previous audit. These are summarised below.

Thames Promenade and Wells Road soil contamination assessment (Dec. 2020):

Sampling and testing was carried out by the contractors Prensa Pty Ltd. MCDDJV plans to undertake trenching works at the site, as part of the road upgrade works. The objective was to assess whether soil contamination was present at the site that may pose a potential human health risk to construction workers. The sampling and testing found the contaminant concentrations in the soil were less than levels set in national guidelines for the preliminary assessment of the potential human health risk (NEPM 2013 and CRC Care 2011).

In-Situ Soil Classification Assessment – Prensa Pty Ltd (20<sup>th</sup> Dec. 2020):

Prensa was asked to classify the in-situ soil in accordance with the EPA Victoria Industrial Waste Resource Guidelines (IWRG), prior to its proposed off-site disposal. Based on the analytical results, the assessment classified the material as fill and natural soil.

Acid Sulphate Soil Assessment of a Nominated Soil Stockpile – Prensa Pty Ltd (17<sup>th</sup> March 2021):

Sampling and testing was carried out by the contractors Prensa Pty Ltd of two soil stockpiles which potentially contained acid sulphate soil. The stockpiles were a result of piling works. The analytical results found the soil was not considered to be acid sulphate soil.

A review of the above reports did not identify any issues with the processes followed or the conclusions arrived at by the consulting company

#### **Opportunity for Improvement**

NIL

## **5 Environmental Plans**

### ***5.1 Flood Response Plan***

The Flood Response Plan provides details of high risk areas on the site that may be subject to flooding and the process to monitor and respond to varying levels of rain intensity. As stated in the Plan, the early construction of retention ponds and swales is the best method to mitigate flooding. These structures were installed progressively over the project and at the time of the audit, were in the process of being landscaped i.e. final shaping, application of topsoil, grasses, stabilising rock structures, geofabric lining and application of mulch (refer to photographs of completed areas in the Site Inspection section below). Progress in finalising the landscaping is more progressed in Area 1, though the un-landscaped structures are still capable of retaining excess levels of stormwater falling on the site.

Fortunately, severe rain events that would cause significant flooding or require the site to be evacuated have not occurred to date. As predicted by the flood study contained in the Plan, some off-site areas have undergone minor flooding during elevated rainfall events. However, the presence of on-site swales and ponds and the water they retained is likely to have reduced the level of off-site flooding that would have occurred if they had not been installed early on in the project.

MCDDJV have also implemented plans to ensure the site is secure and does not present an environmental issue during prolonged shut down periods such as the recent Christmas break.

### ***5.2 Water Management and Monitoring Plan***

The Water Management and Monitoring Plan (WMMP) details the:

- water related legal and contractual requirements the project must comply with;
- the Objectives and Targets the project wishes to achieve;
- the controls to protect local waterways; and

- the monitoring and inspections that will be carried out to ensure controls are effective, determine the impact on surrounding waterways and assess compliance with contractual and legal obligations.

The generic list of controls described in the Plan have been implemented in various forms depending on the circumstances (e.g. sediment fences, silt curtains, collection ponds, erosion control structures and spill kits). Inspections to date as part of the audit program have identified a small number of issues with sediment control devices, which have been rectified. Monitoring since construction began has also highlighted a relatively small number of exceedances, however, no significant exceedances have been identified and the water quality in surrounding waterways has not been adversely impacted to any significant extent.

The most sensitive location with respect to water quality is the Waterway area at the southern end of the construction site. Monitoring and inspection have not identified any material impact on water quality or noticeable impact on wildlife in this location, which is admirable given works are occurring within the wetlands.

In summary, the WMMP has been suitably implemented and the surrounding waterways have not suffered any significant impact during construction and no long term impact.

#### **Opportunity for Improvement**

NIL

## **6 Complaints Management**

Complaints can be generated by members of the public, motorists, community groups, regulators and businesses. They can be received via emails, phone calls, SMS, walk-ins, or letters. These can be made directly to MCDDJV or to a contact centre that collates enquiries and complaints for all MRPV projects and passes them on to the relevant project for a response. These can be passed to either MRPV or MCDDJV depending on the nature of the enquiry.

The Project's Community Engagement personnel produce weekly complaint summaries which include descriptions of the issues raised by each individual lodging the complaint and the actions taken by MCDDJV in response to the complaint. The weekly reports are provided to MRPV.

Community Engagement personnel have adopted a proactive approach when liaising with the local community. Members of the community who have expressed concern over various aspects of the project have been regularly contacted by the project's Community Engagement personnel to discuss any recent issues and to provide information on upcoming activities. This is commendable and complements the project's complaint management process.

Following is a summary of the raw events data. The summary has focused on the environmental issues relevant to the scope of this audit, namely:

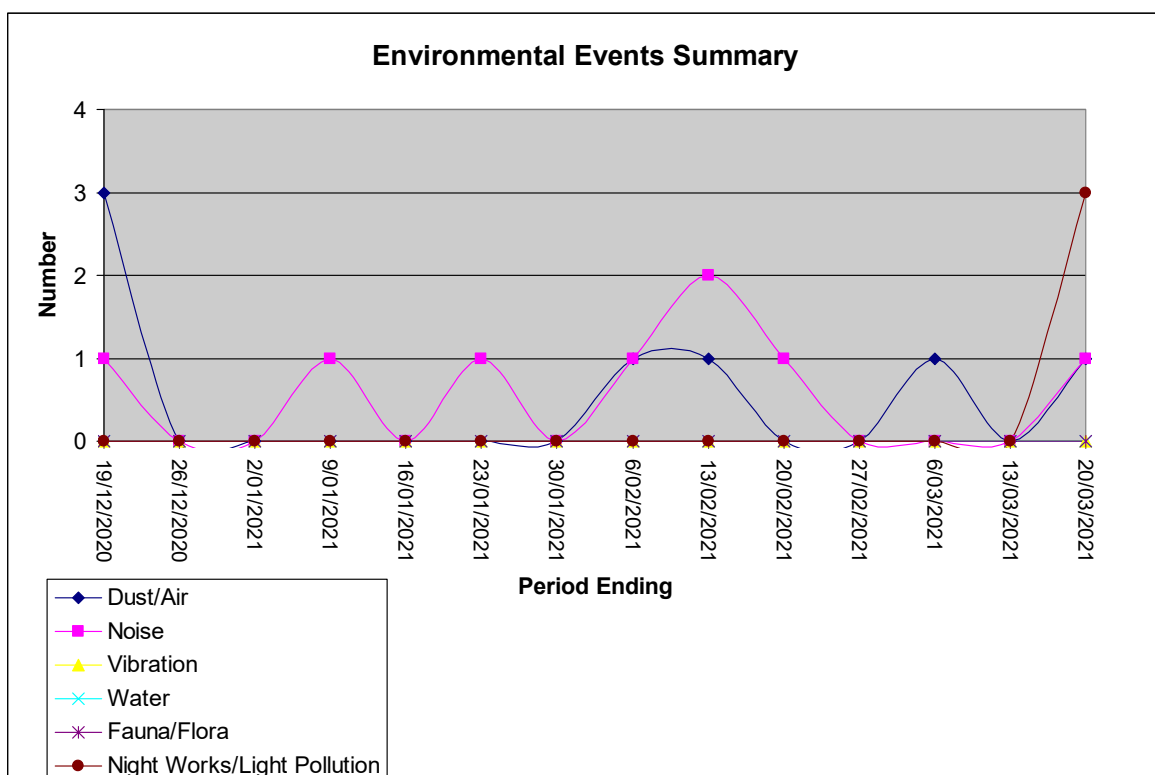
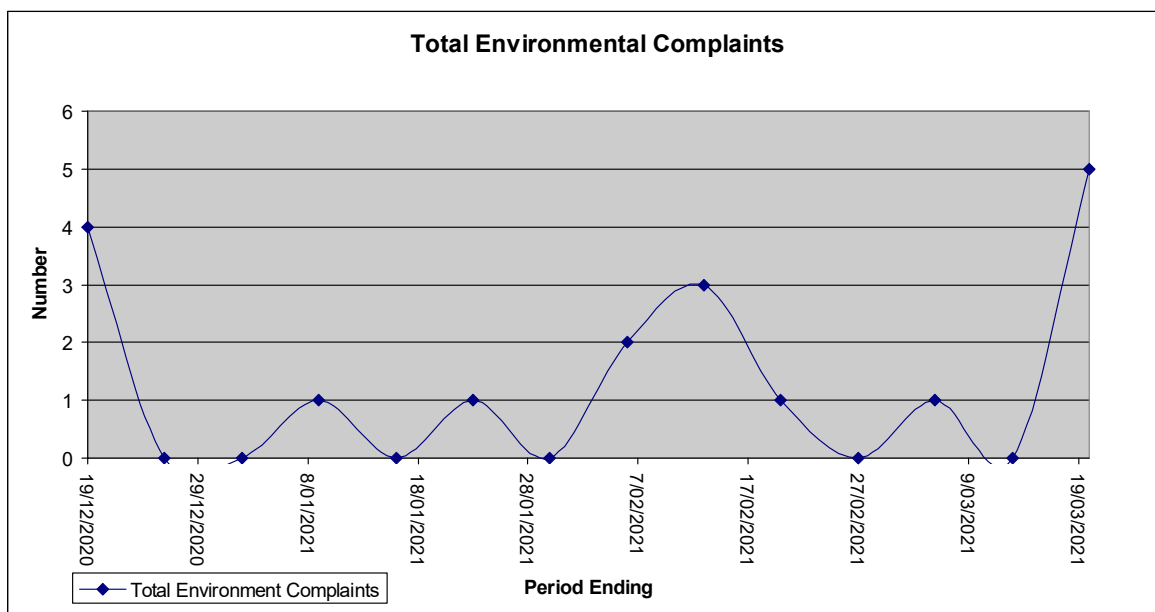
- Dust/Air
- Noise
- Vibration
- Water
- Fauna/Flora
- Night Works Light Pollution

#### Summary of Raw Events

Period Ending	Total Environ. Events <sup>1</sup>	Dust/Air	Noise	Vibration	Water	Fauna/Flora	Night Works/ Light Pollution
19/12/2020	4	3	1	0	0	0	0
26/12/2020	0	0	0	0	0	0	0
2/01/2021	0	0	0	0	0	0	0
9/01/2021	1	0	1	0	0	0	0
16/01/2021	0	0	0	0	0	0	0
23/01/2021	1	0	1	0	0	0	0
30/01/2021	0	0	0	0	0	0	0
6/02/2021	2	1	1	0	0	0	0
13/02/2021	3	1	2	0	0	0	0
20/02/2021	1	0	1	0	0	0	0
27/02/2021	0	0	0	0	0	0	0
6/03/2021	1	1	0	0	0	0	0
13/03/2021	0	0	0	0	0	0	0
20/03/2021	5	1	1	0	0	0	3
<b>TOTALS</b>	18	7	8	0	0	0	3
<b>PREVIOUS TOTALS</b>	20	11	4	2	1	0	2

1 – Total events include environmental issues only (i.e. dust, noise, vibration, water, fauna/flora and night works/light pollution). Note: A single complaint may have referred to a number of issues. In these cases, each issue raised has been recorded as a separate event in the above table e.g. if a resident referred to both dust and noise issues, then each issue was recorded separately. If the complaint was found to be due to other local companies or activities, it has not been recorded in the above table.

The data in the above table is presented graphically below.



As can be seen in the above table, noise and dust complaints are the most frequent events (8 and 7 respectively). The number of dust complaints has decreased as landscaping and paving of the new roadway progresses. However, noise complaints have increased as night works in Area 2 has ramped up. This increase in night works has also resulted in a slight increase in light pollution complaints.

The Project's responses have been documented in the weekly complaint spreadsheet. All persons making a complaint were contacted and the responses appear appropriate given the complaint type and MCDDJV's ability to take action.

Complaint levels are a good indication of how well controls to protect the community are working. The numbers of complaints have been steadily decreasing since the project commenced, as shown below:

- March 20 Audit - 121 complaints
- June 20 Audit - 53 complaints
- Sept. 20 Audit - 36 complaints
- Dec. 20 Audit - 20 complaints
- March 21 Audit - 18 complaints

#### **Opportunity for Improvement**

NIL

## **7 Incidents and Non-Conformances**

### ***7.1 Reported Incidents***

There was one incident reported since the previous audit. This was due to an unauthorised entry into a Tree Protection Zone (TPZ). Works to install a kerb and channel and surface drainage were in close proximity to a TPZ. TPZ fencing at the Thames and Wells intersection was removed and excavation occurred in close proximity to two River Red Gums. Once the incursion was identified, the machine in use was removed from the TPZ, photos were taken and the environmental advisor was notified. The incident investigation identified contractor communication and supervisor error as causal factors. Each issue was the subject of separate corrective actions. An arborist assessed the impact on the two trees and prepared a report that concluded there was a low level impact on the trees. The process followed was sound and compliant with the company procedures.

### ***7.2 Reported Non-conformances***

There were four non-conformances raised since the previous audit. All four were due to previous audit findings. Three were due to the lack of investigation/Hazard Observation following monitoring exceedances (1 air, 1 water and 1 noise) and one due to water monitoring not being carried out following a high rainfall event. As noted above in this report, these issues have not reoccurred.

### ***7.3 Observation Reports***

MCDDJV has encouraged all employees and its contractors to report actual and potential hazards so they can be investigated, along with reporting workplace observations. The observations can be either positive or negative in nature. There have been 96 Observation Reports since the last audit. The Observation Reports are a very good method for identifying issues at an early stage and involving workers in the risk management process.

## **7.4 Discussion and Conclusions**

Based on the above information, there were no significant incidents or issues of note. The Observation Reports are a useful and proactive tool to help avoid issues. It also provides employees with a method of communicating workplace issues of concern, or to highlight actions which they believe have been beneficial to the project, to employees, the community or the environment.

### **Opportunity for Improvement**

**NIL**



## 8 Site Inspection

Examples of positive progress in the works are shown in the following three photographs.



Above: Landscaping and stabilising part of the Old Dandenong Drain



Above: Completed catchment pond in Area 1 with rock stabilised inlet channel (bottom right) and geofabric covered base which has been planted out with native grass.





Above: Completed underpass with walking path and landscaping near the Parks Victoria offices.

Two issue were identified, as described below:



Above Left and Right: Two spare spill kits in the Waterway compound were being used as rubbish bins and contained empty coffee cups

It was noted during the site inspection that a thin layer of mud was being tracked by vehicles onto newly paved areas. The mud quickly dried out which resulted in visible plumes of dust behind heavy vehicles travelling on these sections of paved roadway.

### **Opportunity for Improvement**

**Spill kits should not be used as rubbish bins.**

**Further reduce dust from newly paved areas.**

### **Recommendations:**

4. Spare spill kits should be sealed with breakable ties or lengths of rope. They should also be clearly labelled as spill kits. Personnel should be reminded not to use spill kits as rubbish bins.
5. Street sweepers and water trucks should concentrate efforts on at least the 100m length of newly paved roadways that abut unpaved sections of roadway and unpaved entry points.

## **9 Summary of Recommendations**

### **Recommendation Types:**

#### **Non-conformance (NC)**

An instance, event or occurrence that has not-fulfilled a requirement that has been specified in the Strategy, CEMP, ECPs, EPRs, legislation, or approval conditions.

(Note 1: A non-conformance may be an individual non-conformance or a number of minor but related audit findings, which when considered in total are judged to constitute a non-conformance.)

#### **Opportunity for Improvement (OI)**

A deficiency in the implementation of the Strategy, CEMP, ECPs, or associated documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

#### **Observation (O)**

An audit finding which may relate to an incidental or isolated system discrepancy, which does not compromise the effectiveness of environmental management, or constitute an actual or potential environmental risk.

IREA does not require Observations to be formally closed out after they have been issued and therefore will not report these in subsequent audit reports. It is the responsibility of the MCDDJV to consider these findings.

### **Recommendation Priorities:**

- A - High risk of system failure, legal non-compliance, an EPR requirement or high environmental risk. **Must be corrected as a matter of priority.**
- B - A requirement specified in an internal Plan or procedure, is affecting system efficiency, may result in system failure, or is a moderate environmental risk. **Must be corrected.**

<b>Recomm. No.</b>	<b>Type</b>	<b>Recommendation</b>	<b>Priority</b>
1.	OI	<b>MCDDJV should hold discussions with MRPV to determine how water monitoring will be managed during extended holiday or other closure periods.</b>	B
2.	OI	<b>All personnel who may be carrying out noise monitoring should be clearly instructed to measure the noise as close as possible to the sensitive receiver (in most cases the resident's property boundary) in order to assess the impact on the resident.</b>	B
3.	OI	<b>The Construction Noise and Vibration Management Plan (CNVMP) has recently been amended to include requirements to calculate noise and vibration levels at the closest receptor when it is not possible to gain access to the receptor. Future measurements where this occurs (e.g. as occurred on the 25/2/2021 and 26/2/2021) should estimate the noise level at the closest receptor, as detailed in the CNVMP.</b>	B
4.	OI	<b>Spare spill kits should be sealed with breakable ties or lengths of rope. They should also be clearly labelled as spill kits. Personnel should be reminded not to use spill kits as rubbish bins.</b>	B
5.	OI	<b>Street sweepers and water trucks should concentrate efforts on at least the 100m length of newly paved roadways that abut unpaved sections of roadway and unpaved entry points.</b>	A

## **10 Audit Conclusions**

### **10.1 Environment Management Plans**

The audit reviewed the Flood Response Plan and the Water Management and Monitoring Plan. No substantive issues were identified and the requirements set out in the plans were being implemented.

### **10.2 Environment Performance Requirements**

The EPR requirements have been incorporated into the contractor's EMPs (this was confirmed in a pre-construction audit). Therefore, compliance with the EMPs ensures

compliance with the related EPRs. Hence the conclusions in section 10.1 immediately above are also applicable to the MCDDJV's compliance with the EPR requirements.

### **10.3 Site Works**

The site works are progressing as planned. Considerable progress has been made in sealing the roadway, landscaping and grassing areas, particularly in the northern section of the site. No significant impacts on the surrounding community or the environment have been noted. All the previous audit recommendations have been completed. Noise, vibration and water monitoring has improved and no adverse impacts were identified in the monitoring data reviewed. The tracking of soil and mud onto newly paved sections of roadway and the subsequent generation of dust needs to be better addressed.

### **10.4 Overall Conclusion**

The implementation of plans and controls appear appropriate and effective. As road sealing and landscaping continues, the impact on the surrounding environment and community will continue to decrease.

## Appendix A – Audit Agenda

### Audit Agenda

<b>Site:</b>	Mordialloc Freeway Project
<b>For:</b>	McConnell Dowell Decmil Joint Venture
<b>Project Environmental Auditor:</b>	Vic Natoli
<b>VicRoads Auditor/Reviewer:</b>	Ken Fraser
<b>Company Representative:</b>	Chris DiDomenico
<b>Audit Date/s:</b>	25 <sup>th</sup> – 26 <sup>th</sup> March 2021

#### Day 1

- 9:00 Opening meeting with company representatives to review audit process, availability of data and personnel and confirm audit agenda
- 9:30 Review actions taken to close previous audit findings.  
Water monitoring results and compliance. (W3, W5)  
Air Monitoring results and compliance (AQ2)  
Noise monitoring results and compliance (NV2)  
Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)  
Incident reporting and response since previous audit  
Community complaints and response since previous audit (EM2, LV5, S1)  
Water EMP (W5)  
Flood Management EMP (W4)
- 4:30 Day 1 Wrap up meeting  
Any issues identified during the day will be reviewed and discussed.
- 5:00 End of Day 1

NOTE: Text in brackets refers to the relevant EPR. The various Plans have been confirmed as complying with the EPRs. Therefore, compliance with the Plans will ensure compliance with the EPR requirements.

## **Day 2**

### **Site Inspection**

9:00 An inspection will be carried out of the site in order to:

- Determine if the controls specified in the plans and site specific plans have been implemented, as they apply to the works to date.
- Identify any unsuitable work practices.
- Visually confirm monitoring and sampling locations.

4:30 Day 2 Wrap up meeting

Any issues identified during the day will be reviewed and discussed.

5:00 End of Day 2

## Appendix B – Quarterly Audit Schedule

EPR	EPR Title	Quarterly Site Audit and Inspection						
Audit/Review Date		6/2020	9/2020	12/2020	3/2021	6/2021	9/2021	12/2021
EM1	Construction Environmental Management Plans	*	*	*	*	*	*	*
EM2	Environmental complaints management	*	*	*	*	*	*	*
EM3	Independent Reviewer and Environmental Auditor (IREA)							
AQ1	Air quality (operation)							
AQ2	Air quality (construction)	*	*	*	*	*	*	*
B1	Fauna habitat							
B2	Lighting design (operation)							
B3	Native vegetation and habitat	*	*	*	*	*	*	*
B4	Fauna (construction)	*	*	*	*	*	*	*
B5	Native vegetation (construction)	*	*	*	*	*	*	*
B6	Flora and Fauna Monitoring Management Plan (operation)							

CL1	Soil Management Plan	*	*	*	*	*	*	*
CL2	Acid Sulphate Soil Management Plan	*	*	*	*	*	*	*
CL3	Passive landfill gas capture and venting design							
CL4	Landfill Gas Management Plan (Construction)		*				*	
CL5	Landfill Gas Management Plan (Operation)							
CL6	PFAS Management Plan	*	*	*	*	*	*	*
CL7	Landfill material							
E1	Business Disruption Plan							
E2	Utility assets							
GG1	Greenhouse gas monitoring and reporting							
GG2	Emissions reduction							
H1	Cultural Heritage Management Plan	*	*	*	*	*	*	*
H2	Unidentified non-Aboriginal historical archaeological sites	*	*	*	*	*	*	*
H3	Non-Aboriginal heritage sites	*	*	*	*	*	*	*



LV1	Landscape and urban design							
LV2	Crime prevention through environmental design							
LV3	Reinstatement works							
LV4	Lighting (operation)							
LV5	Light spillage (construction)	*	*	*	*	*	*	*
LV6	Minimise large (amenity - non native) tree removal outside no-go zones	*	*	*	*	*	*	*
LV7	Landscape management strategy							
LV8	Independent urban design review panel							
NV1	Noise and vibration (design)							
NV2	Construction Noise and Vibration Management Plan	*	*	*	*	*	*	*
NV3	Traffic noise verification							
S1	Community and Stakeholder Engagement Plan	*	*	*	*	*	*	*
S2	Recreational facilities							
T1	Intersection and freeway design and performance							

T2	Transport Management Plan							
T3	Vehicle and pedestrian access							
T4	Traffic validation							
W1	Water body health (water quality operation)							
W2	Flood protection (operation)							
W3	Surface water management (construction)	*	*	*	*	*	*	*
W4	Flood protection (Flood Management Plan for temporary works) (construction)	*			*			
W5	Water Management and Monitoring Plan	*	*	*	*	*	*	*
W6	Surface water management (design and operation)							
W7	Water Asset Management Plan (Operation)							

NOTE:

- Greyed out cells are not applicable.
- An asterisk in the “Quarterly Site Audit and Inspection” columns does not mean every item in the referenced EPR will be reviewed. Refer to the Quarterly Site Audit and Inspection Topic Agenda below for additional details.
- Separate “Quarterly Site Audit and Inspection” and “IREA EPR Review” reports will be produced for each quarter.
- The IREA’s review of EPR NV3 (Traffic Noise Verification) will occur post construction.

## Quarterly Site Audit and Inspection Topic Agenda

Audit Date	Quarterly Site Audit and Inspection Topics
June 2020	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Flora Fauna EMP (B3, B4, B5)</li> <li>• Flood Management EMP (W4)</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
September 2020	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Soil Management Sub-plan (CL1, CL2, CL6)</li> <li>• Landfill Gas EMP (CL4)</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
December 2020	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> </ul>

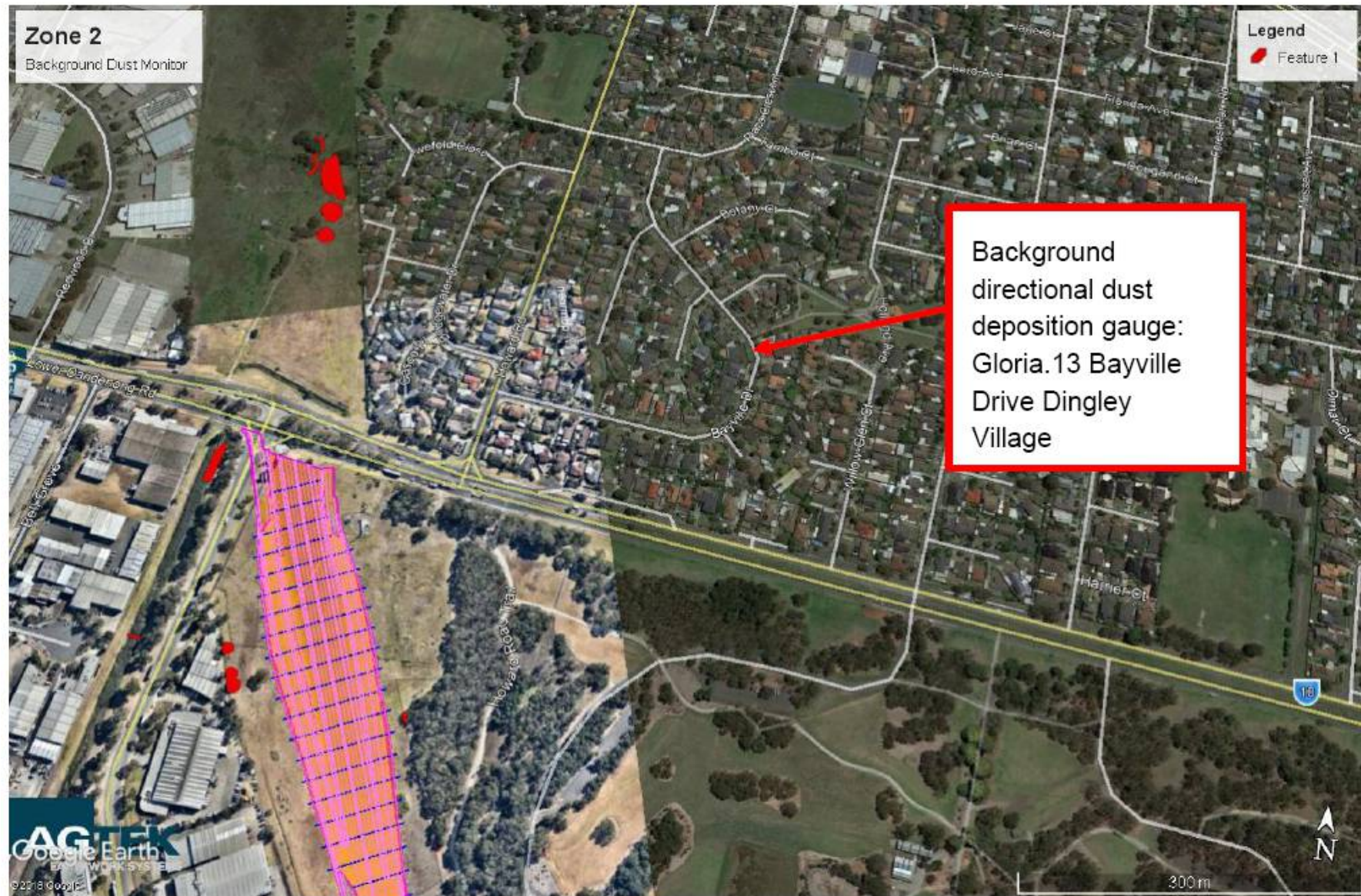
	<ul style="list-style-type: none"> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Noise EMP (NV2)</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
March 2021	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Water EMP (W5)</li> <li>• Flood Management EMP (W4)</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
June 2021	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Waste Management EMP</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
September 2021	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> </ul>

	<ul style="list-style-type: none"> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Landfill Gas EMP (CL4)</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>
December 2021	<ul style="list-style-type: none"> <li>• Review actions taken to close previous audit findings.</li> <li>• Water monitoring results and compliance. (W3, W5)</li> <li>• Air Monitoring results and compliance (AQ2)</li> <li>• Noise monitoring results and compliance (NV2)</li> <li>• Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6)</li> <li>• Incident reporting and response since previous audit</li> <li>• Community complaints and response since previous audit (EM2, LV5, S1)</li> <li>• Waste Management EMP</li> <li>• Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)</li> </ul>

NOTE:

- References in brackets are the respective EPR numbers.

## Appendix C – Dust Monitoring Locations





## Zone 1

Dust Monitor locations

## Legend

Feature 1

Real time Dust and  
weather Monitor:  
Paul Smith. Din  
San Nursery 418  
Old Dandenong



## Zone 2

Dust Monitor locations

### Legend

Feature 1

Dust Directional  
Gauge: 9 Fir St  
Dingley. Darren  
Reeve Gas Turbine  
Overhaul





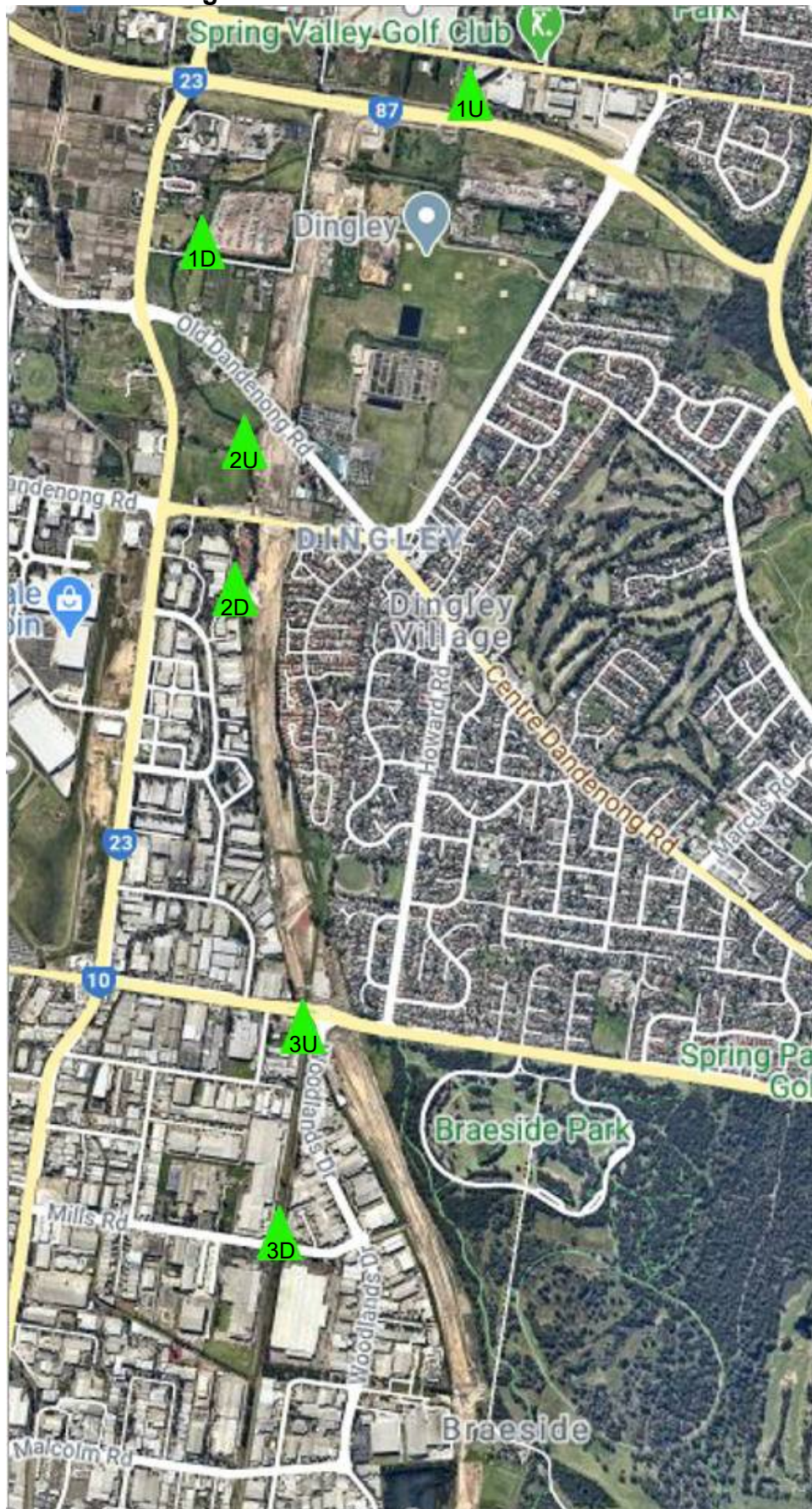






## Appendix D – Water Monitoring Locations

### Area 1 Water monitoring locations





## Area 2 Water monitoring locations





Appendix E – Noise Control Areas

