STATEWIDE
RIVER & STREAM MANAGEMENT PTY. LTD

MORDIALLOC FREEWAY PROJECT

Independent Reviewer and Environmental Auditor

Quarterly Construction Audit

Report 6, June 2021

PROJECT
Mordialloc Freeway Project

Quarterly Construction Audit, June 2021

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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 sixth audit and inspection findings carried out on the 28th and 29th June 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 Project's environmental performance. 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 Performances 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 audit time consisted of earthworks, asphalting, completion of culverts and retention ponds, installation of services and utilities and landscaping. As such, this audit has focused on the before mentioned activities only.

Scope and Conduct of This Audit

This report details the results of environmental audit and site inspection carried out on the 28th and 29th June 2021.

The audit reviewed MCDDJV's actions to address the previous audit findings. The audit also reviewed the implementation of the Landfill Gas Management (Operations) Sub-Plan (EPR: CL5) as it applied to the works at the time of the audit:

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 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 publicly available. The audit and site inspection detailed in this report forms part of the IREA's reporting requirements.

Environmental Controls

Landfill Gas Management (Operations) Sub-Plan:

Management of landfill gas must continue into the operational phase of the Project. An Operational Landfill Gas Management Plan, must be developed, as specified contractually and as per the Environment Performance Requirements (EPR). The EPR requires the plan to be developed prior to construction completion and in consultation with the EPA.

As required, a Landfill Gas Management plan has been developed. The plan includes an assessment of the emissions from the former landfill site and a management plan to monitor and manage landfill emissions during the operational phase of the freeway. This consists of:

- quarterly monitoring for five years following Project completion
- the use of a permitting system for any construction or maintenance works carried outpost-completion that could increase exposure to landfill gas
- landfill gas collection and venting system maintenance.

Evidence that the plan was forwarded to EPA Victoria for comment has been confirmed.

This review concludes that the Landfill Gas Management plan to be implemented during the operational phase of the freeway complies with all contractual and EPR requirements.

Complaints Management:

The complaints management process in place facilitates proactive engagement with stakeholders and the community. The Project's Communications & Stakeholder Engagement personnel have regularly and proactively engaged with community members who have expressed concern over aspects of the Project to discuss recent enquiries, issues, and to provide information on upcoming works. The process in place, ensures that all construction complaints received are recorded and responded to within the contractually agreed upon timeframes. The complaints management process in place is sound, and the responses to complaints appear appropriate. The number of complaints has steadily decreased over the Project period (121 complaints recorded in the March 2020 audit down to 18 complaints in the June 2021 audit).

Incidents and Non-conformances:

Since the previous audit, one incident has been reported. This incident involved a small amount of a scabbling agent (Prime Formgel) into the Waterway wetlands as it was being washed off the overhead roadway. Works ceased immediately, the remaining fluid was collected by a wet vacuum and disposed of. The procedure for washing off scabbling agent was amended to collect the wash water, and the overhead roadway was better sealed to prevent any leakage. Water monitoring immediately following the spill did not identify any measurable impact.

There were no non-conformances raised since the previous audit.

Site Specific Environmental Control Plans

The site-specific Environmental Control Plans (ECPs) detail 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 the ECPs required. Sediment control fences will continue to be progressively removed as areas of the Project site are landscaped and vegetated.

Monitoring

Dust:

The results from the real-time dust monitors' results are all below the 10 micron and 2.5 micron 24 hour average legislative health limit (PM_{10} monthly maximum values of 9.4 to 45.7 $\mu g/m^3$ measured cf. the limit of 50 $\mu g/m^3$ / $PM_{2.5}$ monthly maximum values of 3.2 to 23.3 $\mu g/m^3$ measured cf. the limit of 25 $\mu g/m^3$). The monitoring also confirmed that the measured dust levels were below the 10 micron 1-hour average target (monthly maximum values of 46.6 to 100.5 $\mu g/m^3$ measured cf. the target of 120 $\mu g/m^3$).

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 as a result of this issue.

The off-site dust deposition levels are below the target levels in two out of the three locations. Two exceedances occurred for dust gauges 2 and 3 in April (4.9 and 6.6 g/m^2/month cf. the target value of 4 g/m^2/month). A hazard form was completed for the exceedances, and an investigation did not identify any obvious operational reasons for the exceedances. It appears they were due to an extremely windy period.

The directional gauges found that dust levels from directions facing the site and facing along the alignment are slightly higher than those directions not impacted by the construction site. Therefore, it appears the site is causing a small but measurable increase in the downwind dust levels, reinforcing the assumption that the high dust levels measured were due to the weather conditions.

Water:

Area 1

All the monitored parameters complied with the 10% variance limit and did not cause a decrease in the water quality. It is therefore concluded that the water monitoring did not identify any adverse issues in Area 1.

Area 2

In Area 2, the majority of the monitoring data found that the downstream value was within 10% of the range of the upstream values. Four DO values that were low all

occurred during a period of no or slow flow in the watercourse. Given this, and the fact that there are no construction processes likely to reduce DO, it very probable that this result was due to stagnant water present in the drain at the time.

Before construction, water monitoring occurred to obtain baseline data (Appendix A of the Water Management and Monitoring Plan). A review of this baseline data found that four of the five 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 good quality for urban waterways (50 NTU/FNU or less).

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

Rainfall Events:

A review of the Moorabbin Airport rainfall data found one rainfall event that triggered the 24-hour monitoring limit (Sunday, 11th April 2021). Monitoring occurred on the following workday as required (Monday, 12th April 2021).

Noise Monitoring:

During out-of-hours works in the Waterways area, spot noise monitoring was undertaken during the delivery of the bridge beams. The noise measured at the closest residential property on the 9th April 2021 was well below the noise nighttime trigger limit for the location (50.4 dB(A) cf. 55 dB(A) limit).

In addition, noise measurements were undertaken on the 20th May 2021 at 9.20 pm following a noise complaint regarding the operation of a temporary lighting tower situated on a public roadway. The noise level was over the evening trigger level (65.7 dB(A) cf. 57 dB(A) limit). However, the residential building is located approximately 10m from a highly trafficked roadway and intersection. Observations made during the measurement noted that the traffic noise was the predominant noise source. It was also noted that the generator powering the light tower was inaudible during brief quiet periods. It can only be concluded that the light tower itself would not exceed the noise trigger limit.

Vibration Monitoring:

As all piling activities have been completed, therefore vibration monitoring has not occurred since the previous audit.

Site Inspection Findings

The site inspection noted significant progress in road sealing, landscaping and grassing of the works area. There were no issues identified during the inspection which required rectification.

INTRODUCTION

1.1 Purpose of this Report

Independently assess compliance with Project requirements and approvals.

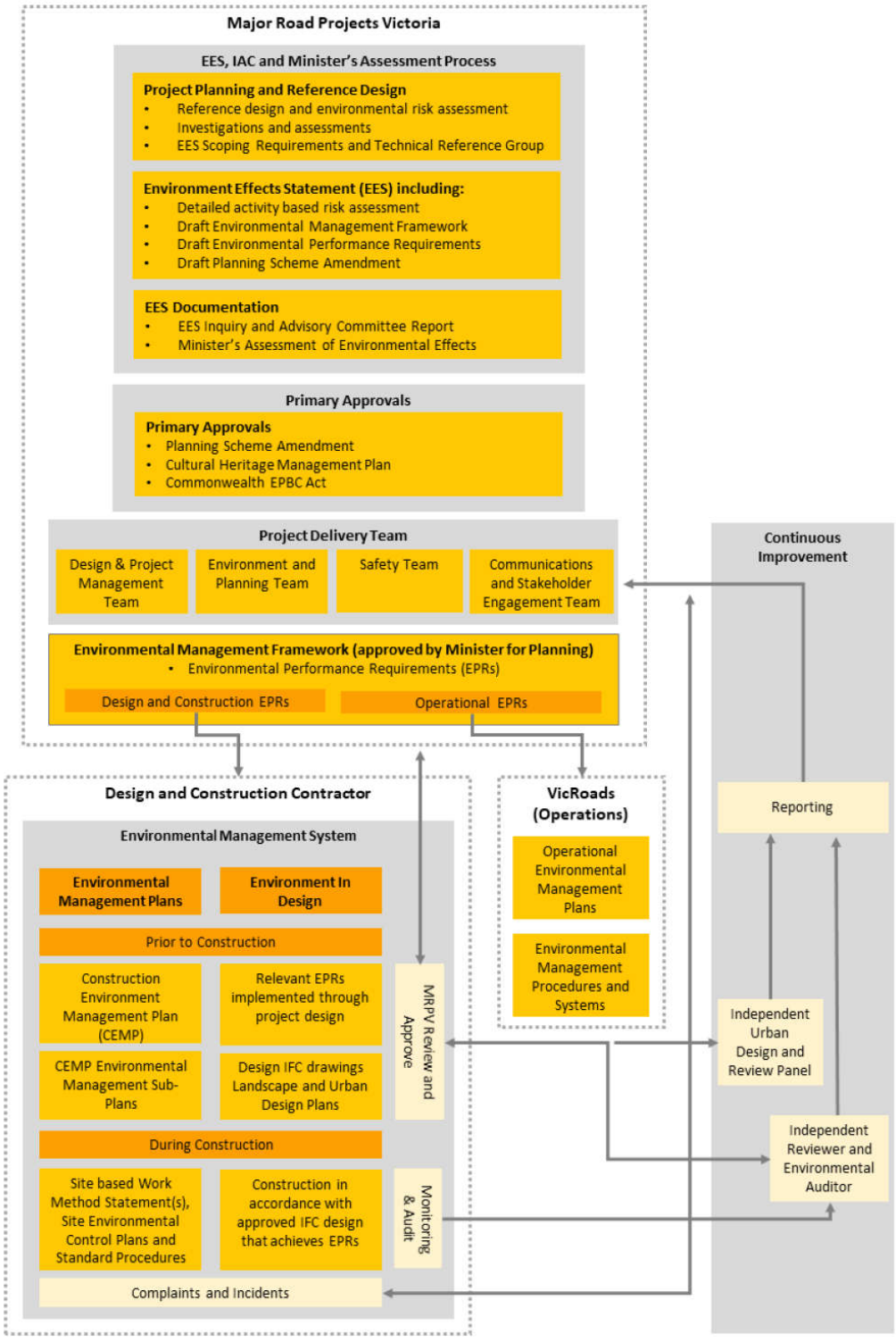
1.2 Project Background

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

Act	Requirements	Responsibility	Implementation
Water Act 1989	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 *Water Act*.
Wildlife Act 1975	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 has 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 several 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 sixth 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); and
- Landfill Gas (Operations) Sub-Plan (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[1] 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.

[1] 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. Instead, each quarterly audit will take a risk-based approach and focus on the relevant construction activities, risks, plans and controls. The scope will consider any complaints and feedback from local stakeholders, community and regulatory agencies. Over the construction period, the intention is to ensure all aspects of the project are audited at least once. Refer to Appendix B for a full EPR auditing scope and schedule.

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 several 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.	MCDDJV should hold discussions with MRPV to determine how water monitoring will be managed during extended holiday or other closure periods.	Monitoring during extended closures will be undertaken by the Environment Team in conjunction with allocated on-site supervisors.	**Y**
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.	The Environment Team has advised noise monitoring personnel of the requirement. Noise reports are also reviewed to ensure this has been occurring.	**Y**
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.	Where access to the receptor is not possible, the distance between the measurement location and the receptor are measured via Near Map and the noise at the receptor calculated as required by the CNVMP.	**Y**
4.	Spare spill kits should be sealed with breakable ties or lengths of rope. They should also be clearly labelled	Additional breakable ties have been purchased. These, along with ropes and straps have been used to secure	**Y**

Recom. No.	Recommendation	Findings	Status
	as spill kits. Personnel should be reminded not to use spill kits as rubbish bins.	spill kits.	
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.	Street sweeper and water truck drivers have been advised of the requirement. Observations by the Environment Team have confirmed that it is being implemented. The site inspection carried out during this audit found roadways did not have excessive levels of soil build up.	**Y**

Summary:

Completed = 5 out of 5 (100 %)
Partially Completed = 0 out of 5 (0 %)
Open = 0 out of 5 (0 %)
On-going actions = 0 out of 5 (0 %)
No longer applicable = 0 out of 5 (0 %)

Recommendation

NIL

4 Review of Monitoring Data

4.1 Dust Monitoring

MCDDJV operates two portable light scattering air quality monitors that measure PM10, PM2.5 and a weather station on a continuously. One unit is located at 8 Bradley Close, adjacent to 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 that 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 canbe 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 upperrespiratory tract and lungs. PM2.5 particles are small enough to pass deep into the lungs andinto 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 $\mu g/m^3$ averaged over 24 hours) and PM2.5 (25$\mu g/m^3$ 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 $\mu g/m^3$. 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 beexceeded.

There are no regulatory PM10 1-hour averages. However, the contract specification requires a 1-hour PM10 trigger level of 120 $\mu g/m^3$. 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 four locations. The dust deposit gauges measure dust deposited and provide reports as grams of dust per 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 directions. 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 g/m^2/month or 2 g/m^2/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
March	1	PM2.5	8.2	3.7
		PM10	23.9	12.9
	2	PM2.5	3.2	7
		PM10	9.4	15.9
April	1	PM2.5	18.1	5.5
		PM10	36.9	14.1
	2	PM2.5	15.1	4.4
		PM10	26	9.4
May	1	PM2.5	23.3	6.1
		PM10	45.7	15.4
	2	PM2.5	16.6	5.3
		PM10	23.8	10.6

This compares to the 24-hour average legislative limits of:
– PM2.5: 25µg/m^3
– PM10: 50µg/m^3

1 Hour Average Monitoring Results

Month	Area	Particle Size	Maximum	Average
March	1	PM2.5	19.9	3.7
		PM10	52.2	13
	2	PM2.5	22.9	3.3
		PM10	50.6	9.4
April	1	PM2.5	43.2	5.6
		PM10	100.5	14.4
	2	PM2.5	41.3	4.4
		PM10	76.6	9.5
May	1	PM2.5	49.6	6.1
		PM10	98.7	15.1
	2	PM2.5	28.2	5
		PM10	46.6	10.2

This compares to the 1-hour average project target of:
– PM10: 120µg/m^3

The previous issues with the monitors failing and data loss appears to have been resolved, with no data loss.

4.1.2 Dust Deposit and Directional Gauges

Dust Deposit Gauges

March – The six fortnightly reports for the site gauges did not exceed the dust criteria.

April – Gauges 2 and 3 exceeded the dust criteria (4.9 and 6.6 g/m^2/month). There was a hazard report raised on the 31st May 2021 for the two exceedances.

May – The three-monthly reports for the site gauges did not exceed the dust criteria.

Directional Dust Gauges

March – Dust Gauge 2 – 36% was from the north, i.e. along the alignment, with 20% from the east, which is the direction of the site.
Dust Gauge 3 – 27% from the west, which is the direction of the site
Dust Gauge 4 – 23% from the west, which is the direction of the site and 23% from the north and 37% from the south, which are along the alignment.

April – Dust Gauge 2 – 39% was from the north, i.e. along the alignment, with 15% from the east, which is the direction of the site.
Dust Gauge 3 – 47% from the west, which is the direction of the site
Dust Gauge 4 – 19% from the west, which is facing the alignment and 27% from the north and 32% from the south, which are along the alignment.

May – Dust Gauge 2 – 33% was from the north, i.e. along the alignment, with only 18% from the east, which is the direction of the site.
Dust Gauge 3 – 43% from the west, which is the direction of the site.
Dust Gauge 4 – 15% from the west, which is the direction of the site and 32% from the north and 37% 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 results from the real-time dust monitors' results are all below the 10 micron and 2.5 micron 24 hour average legislative health limit (PM_{10} monthly maximum values of 9.4 to 45.7 $\mu g/m^3$ measured cf. the limit of 50 $\mu g/m^3$ / $PM_{2.5}$ monthly maximum values of 3.2 to 23.3 $\mu g/m^3$ measured cf. the limit of 25 $\mu g/m^3$).

- The monitoring also confirmed that the measured dust levels were below the 10 micron 1-hour average target (monthly maximum values of 46.6 to 100.5 µg/m^3 measured cf. the target of 120 µg/m^3).
- The off-site dust deposition levels are below the target levels in two out of the three locations. The two exceedances for dust gauges 2 and 3 in April appear to be due to an extremely windy period.
- The directional gauges found that dust levels from directions facing the site and facing along the alignment are slightly higher than those directions not impacted by the construction site. Therefore, it appears the site is causing a slight but measurable increase in the downwind dust levels. This reinforces the assumption that the high dust levels measured were due to the weather conditions.

As most of the site is now paved, the use of water carts should concentrate on areas that are still to be paved or where earthworks are still occurring and street sweepers concentrate on areas where dirt may be tracked onto paved areas.

Opportunity for Improvement

Dust mitigation measures to focus on higher risk areas.

Recommendation:

1. **The majority of the site is now paved, therefore:**
- **water carts should concentrate on those area that are still to be paved or where earthworks, movement of stockpiles or spreading of soil is still occurring; and**
- **street sweepers should concentrate on areas where dirt may be tracked onto paved areas.**

4.2 Water Monitoring

The MCDDJV Water Management and Monitoring Plan sets severfal 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.

Period over which rain has occurred (hours)	Rainfall Over the Period (mm)
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 the 24-hour rainfall data from Moorabbin Airport, which borders the site, the only rain event above the 24-hour trigger since the last audit occurred on the 11th April 2021 - 23.2mm.

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 a 24 hour period, monitoring should have occurred on Monday 12th April 2021. A review of the monitoring data found monitoring occurred on the 12th April as required.

Monitoring Results

Area 1

A review of the monitoring data found no exceedances of the main criteria of concern, namely the turbidity and there were no occasions when the downstream values were more than 10% worse than the upstream values.

Area 2

There are four upstream locations that 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 two 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
12/3/2021	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
26/3/2021	1. DS Bowen Parkway	24	Slow
	2. US Bowen Parkway	58	Slow
	3. US Island Point	67	Slow
	4. US Mitta Avenue	68	Slow
	6. US Mordialloc Creek	36	Slow
30/4/2021	1. DS Bowen Parkway	57	Slow
	2. US Bowen Parkway	79	Slow
	3. US Island Point	98	Slow
	4. US Mitta Avenue	112	Slow
	6. US Mordialloc Creek	125	Slow
28/5/2021	1. DS Bowen Parkway	32	Slow
	2. US Bowen Parkway	48	No Flow
	3. US Island Point	65	Slow
	4. US Mitta Avenue	55	Slow
	6. US Mordialloc Creek	36	Slow

* - 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 16 samples, the downstream turbidity was more than 10% higher than any of the upstream turbidity values.

Discussion and Conclusions

Area 1

All the monitored parameters complied with the 10% variance limit and did not cause a decrease in the water quality. It is therefore concluded that the water monitoring did not identify any adverse issues in Area 1.

Area 2

The majority of the monitoring data found that the downstream values were in the range of the upstream values. The low DO values both occurred during periods of slow or no flow in the water courses. Given this and the fact that there are no construction processes occurring in the area that are likely to reduce DO, the results were very likely 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 four of the five 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 (54 NTU/FNU or less).

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

Recommendation:

NIL

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 table below. 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. Therefore, the areas bordering the project boundaries have been broken up into eight "Noise Control Areas" (NCA). Each NCA has noise targets based on the background levels.

Day / Evening / Night / Weekend Periods

Period	Time
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 seven 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 that the background levels in the EES had been determined using LA_{90} 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_{eq}, which 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_{eq}, which averages all the noise.

Resonate used the actual background data measured as the L_{eq} when no construction activities were occurring to establish 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)[1]	Construction noise trigger and/or target, dB(A) $L_{eq,15min}$					
	Normal Working Hours		Weekend / Evening Working Hours		Night Hours	
	Noise Trigger[2]	Noise Target[3]	Noise Target (where works are avoidable)[4]	Unavoidable Works Noise Trigger[5]	Noise Target (where works are avoidable)[6]	Unavoidable Works Noise Trigger[5]
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 Leq 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_{eq},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 *Acoustics – Recommended design sound levels and reverberation times for building interiors* for internal target.
Commercial buildings	External: 70
Industrial buildings	External: 75

4.3.2 Construction Noise Monitoring

There was only one out-of-hours work event in Waterway area (NCA 6) since the previous audit. Spot noise monitoring occurred during this event and following a noise complaint due to operation of a temporary light tower on a public roadway. The two noise measurement results are summarised below.

Spot Noise Summary

Date	Activity	Comments	Trigger LA(eq) d(B)A	Measured LA(eq) d(B)A
9/4/2021	Arrival of T-bean for waterways bridge	Audible noise due to arrival of truck	55	50.4
20/5/2021	Operation of mobile lighting tower. No actual works taking place.	Major noise source was traffic. Light tower generator inaudible during quiet periods.	57	65.7

4.3.3 Noise Discussions & Conclusions

The noise measured at the closest residential property for the one out-of-hours work event on the 9th April 2021 was well below the noise night time trigger limit for the location.

The noise measured on the 20th May 2021 at 9.20 pm was over the evening trigger level. However, the residential building is located approximately 10m from a highly trafficked roadway and intersection. The observation made during the measurement noted that the traffic noise was the predominant noise source. Additionally, it was noted that the generator powering the light tower was inaudible during brief quiet periods. It can only be concluded that the light tower itself would not exceed the noise trigger limit.

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 outlined in the table below.

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 several vibration targets based on the potential to cause annoyance to neighbours.

Vibration criteria for assessing potential annoyance to occupants

Location	Peak Vibration Velocity at foundation (mm/s)
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

There was no vibration monitoring over the previous three month period as piling has been completed.

Recommendations:
Nil

4.4 Soil and Groundwater Monitoring

Groundwater

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

Groundwater monitoring also occurs in the landfill vicinity to assess the level of any contaminants from the former landfill site. NOTE: any contamination is pre-existing and is not due to any construction activities.

Soil Contamination

There have been no requirements over the past three months to test any soil or stockpiles for contamination.

Recommendations:
NIL

5 Environmental Plans

5.1 Landfill Gas Management Plan (Operation)

The management of landfill gas must continue into the operational phase of the freeway project. Both the contract specification and the Environment Performance Requirements (EPR) require an operational landfill gas management plan to be developed (see below). The EPR also requires the plan to be developed before construction is completed.

Contract Specification:

Table 2065.01

Landfill Gas Management Plan (Operation)	*The Operation Phase Landfill Gas Management Plan will outline the requirements for the implementation of a monitoring program (surface, sub-surface and internal/underground voids, pits and service trenches) to assess ongoing risk associated with landfill gas generated by the former landfills in the northern portion of the project area.* *The plan will outline procedures for any future works within the target area, means of protection of inground gas protection/mitigation systems and monitoring requirements.*

Environment Performance Requirement CL5:

Landfill Gas Management Plan (Operation)

Prior to the completion of construction of the passive landfill gas capture and venting system (EPR CL3) a monitoring and management program for surface, sub-surface and internal/underground voids, pits and service trenches will be specified within a Landfill Gas Management Plan (Operation). The plan must be developed in consultation with EPA Victoria and assess ongoing risk associated with landfill gas generated by the former landfill(s) in the northern portion of the project area.

The plan must outline procedures for any future works within the project area, means of protection of in-ground gas protection/mitigation systems and monitoring and management requirements.

A landfill gas management plan has been prepared by consulting firm Tonkin & Taylor Pty Ltd on behalf of MCDDJV. The plan includes an assessment of the emissions from the former landfill site and a management plan to monitor and manage landfill emissions during the operational phase of the freeway.

Due to the results of previous landfill gas monitoring and the assessed risk, quarterly monitoring for five years following completion has been proposed in the operational plan and submitted by MRPV. The plan includes the use of a permitting system for any construction or maintenance works carried out post completion that could increase exposure to landfill gas. The plan also requires maintenance of the landfill gas collection and venting system.

Evidence has been provide that the plan was forwarded to EPA Victoria for comment.

This review concludes that the landfill gas management plan to be implemented during the operational phase of the freeway complies with all contract and EPR requirements.

Recommendations:

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 via a contact centre that collates enquiries and complaints for all MRPV projects and filters them through to the relevant project for a response. The Mordialloc Freeway Project enquiries are either forwarded to MRPV or MCDDJV, depending on the nature of the enquiry.

The Project's Community Engagement personnel produce weekly complaint summaries that detail 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 provide information on upcoming activities. This is commendable and complements the project's complaint management process.

The following is a summary of the raw events data. This summary focuses on the environmental issues relevant to the scope of this audit, namely:

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

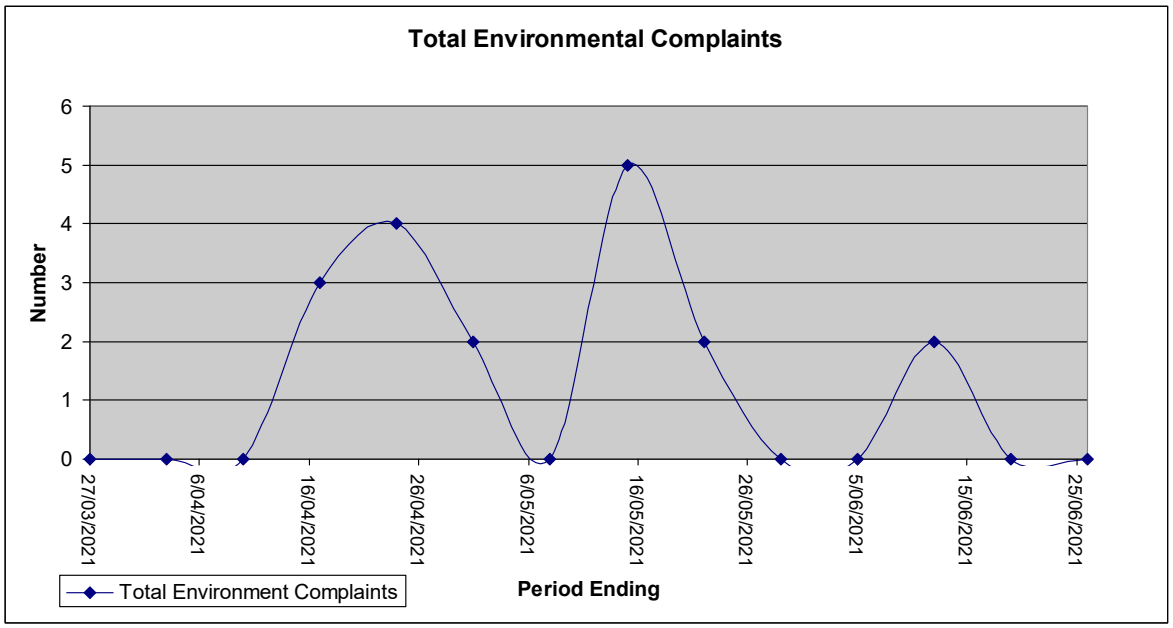
Summary of Raw Events

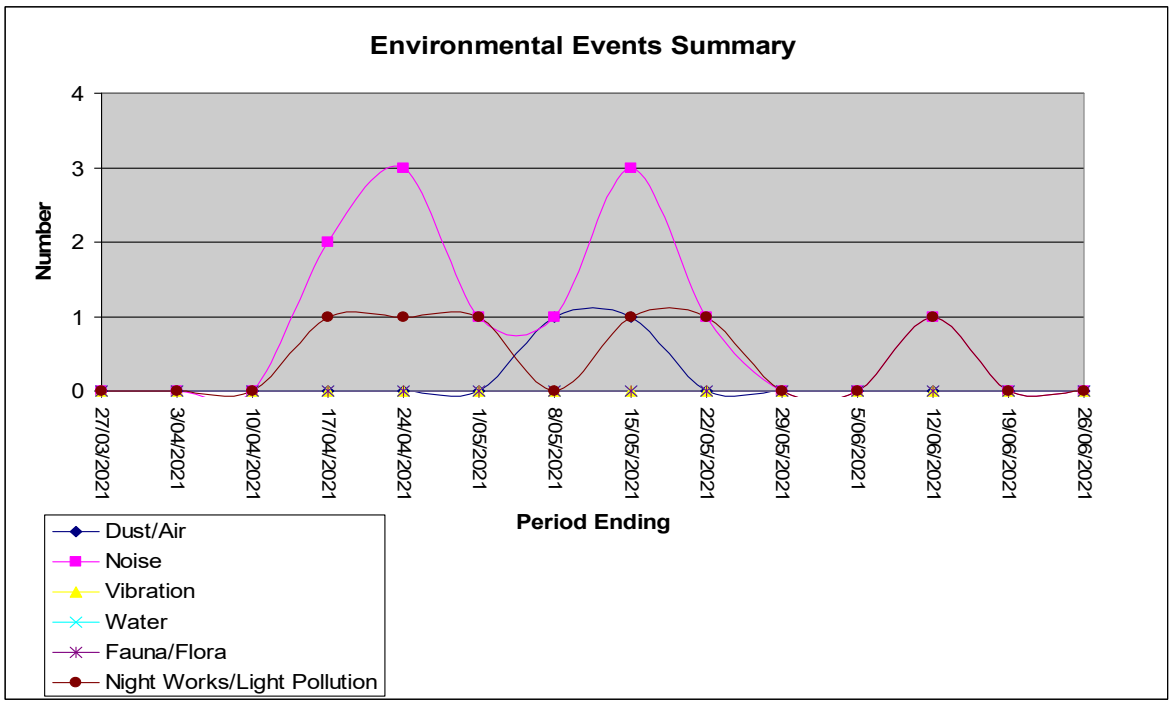
Period Ending	Total Environ. Events[1]	Dust/ Air	Noise	Vibration	Water	Fauna/ Flora	Night Works/ Light Pollution
27/03/2021	0	0	0	0	0	0	0
3/04/2021	0	0	0	0	0	0	0
10/04/2021	0	0	0	0	0	0	0
17/04/2021	3	0	2	0	0	0	1
24/04/2021	4	0	3	0	0	0	1
1/05/2021	2	0	1	0	0	0	1
8/05/2021	0	1	1	0	0	0	0
15/05/2021	5	1	3	0	0	0	1
22/05/2021	2	0	1	0	0	0	1
29/05/2021	0	0	0	0	0	0	0
5/06/2021	0	0	0	0	0	0	0
12/06/2021	2	0	1	0	0	0	1
19/06/2021	0	0	0	0	0	0	0
26/06/2021	0	0	0	0	0	0	0

TOTALS	18	2	12	0	0	0	6
PREVIOUS TOTALS	18	7	8	0	0	0	3

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 several 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 shown in the above table, noise and nighttime lighting complaints are the most frequent events (12 and 6 respectively). The number of dust complaints has decreased (from 8 to 2) as landscaping and paving of the new roadway progresses. Noise and night time lighting complaints have increased due to night works as the Waterway bridge spans were delivered and installed. A significant portion of the noise complaints appear to be due to the early morning 6am start times at Waterway location.

The Project's responses are documented in the weekly complaints 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 steadily decreased 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
- June 21 Audit - 18 complaints

Recommendations:

NIL

7 Incidents and Non-Conformances

7.1 Reported Incidents

There was one incident reported since the previous audit. A small amount of Prime Formgel was found to have entered the waterway as it was being washed off (20th May 2021). Once discovered, work was promptly stopped, and the fluid in the work area collected using a wet vacuum, contained, and then disposed of using a vac truck. Water monitoring was immediately carried out at the usual water monitoring location and no difference was noted. An incident report has been completed. The method of washing off the scabbling agent was amended to collect the waste fluid and prevent it from spilling into the waterway. A toolbox session was also presented reminding personnel to prevent chemicals and wastes from entering the waterway.

7.2 Reported Non-conformances

There were no non-conformances raised since the previous audit.

7.3 Reported Hazards

A hazard report was raised for the dust exceedances for gauge 2 and 3 in April 2021. The investigation found no obvious operational issue for the dust increase. In addition, there were no dust complaints in April 2021. There was, however, a sustained period of approximately a week where maximum wind speeds were in the 50 – 65 km/h range and the increased dust levels are likely due to these weather conditions.

5.1 Observation Reports

The MCDDJV has encouraged all employees and 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. There have been 127 Observation Reports since the last audit. The Observation Reports are an excellent method for identifying issues early and involving workers in the risk management process.

5.2 Discussion and Conclusions

Based on the above information, there are no significant incidents or issues of note. The Observation Reports are a valuable and proactive tool to help avoid issues. The reports provide employees with a method of communicating workplace issues of concern, or to highlight actions they believe have been beneficial to the project, 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 two photographs.

Above: Completed swale drain with screening panels awaiting installation.

Above: New public pathway in Waterway area. Landscaping in progress.

There were no issues identified during the site inspection that required rectification

Recommendation:

NIL

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.**

Recomm. No.	Type	Recommendation	Priority
1.	OI	The majority of the site is now paved, therefore: • water carts should concentrate on those area that are still to be paved or where earthworks, movement of stockpiles or spreading of soil is still occurring; and • street sweepers should concentrate on areas where dirt may be tracked onto paved areas.	A

10 Audit Conclusions

10.1 Environment Management Plans

The audit reviewed the Landfill Gas Management (Operations) Sub-Plan. No issues were identified and the requirements set out in the contract specification and EPR CL5 are addressed in the plan.

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.

10.3 Site Works

The site works are progressing as planned, with the majority of the site now sealed and landscaping substantially progressed in most areas. No significant impacts on the surrounding community or the environment were noted during the inspection. 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. High wind conditions for an extended period in April resulted in elevated dust deposition level, however, no dust complaints were received during the month.

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

Site:	Mordialloc Freeway Project
For:	McConnell Dowell Decmil Joint Venture
Project Environmental Auditor:	Vic Natoli
VicRoads Auditor/Reviewer:	Ken Fraser
Company Representative:	Chris DiDomenico
Audit Date/s:	28th – 29th June 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)
Landfill Gas (Operations) Sub-Plan (CL5)

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 Pans 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
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 during construction, but a number may be audited at project completion.
- 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

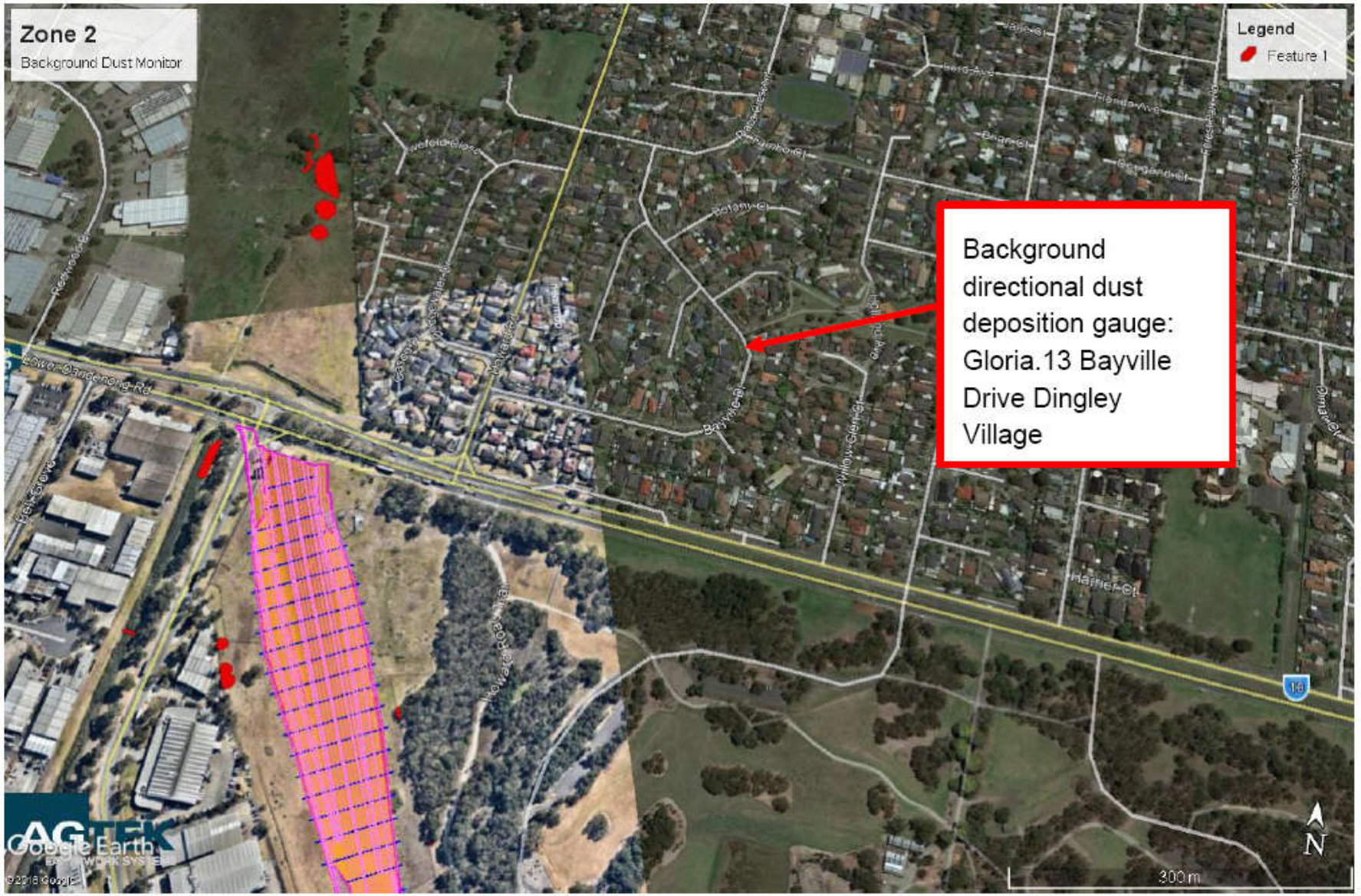
Audit Date	Quarterly Site Audit and Inspection Topics
June 2020	• Review actions taken to close previous audit findings. • Water monitoring results and compliance. (W3, W5) • Air Monitoring results and compliance (AQ2) • Noise monitoring results and compliance (NV2) • Soil Monitoring Results (where monitoring has occurred) (CL1, CL2, CL6) • Incident reporting and response since previous audit • Community complaints and response since previous audit (EM2, LV5, S1) • Flora Fauna EMP (B3, B4, B5) • Flood Management EMP (W4) • Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)
September 2020	• 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) • Soil Management Sub-plan (CL1, CL2, CL6) • Landfill Gas EMP (CL4) • Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)
December 2020	• 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

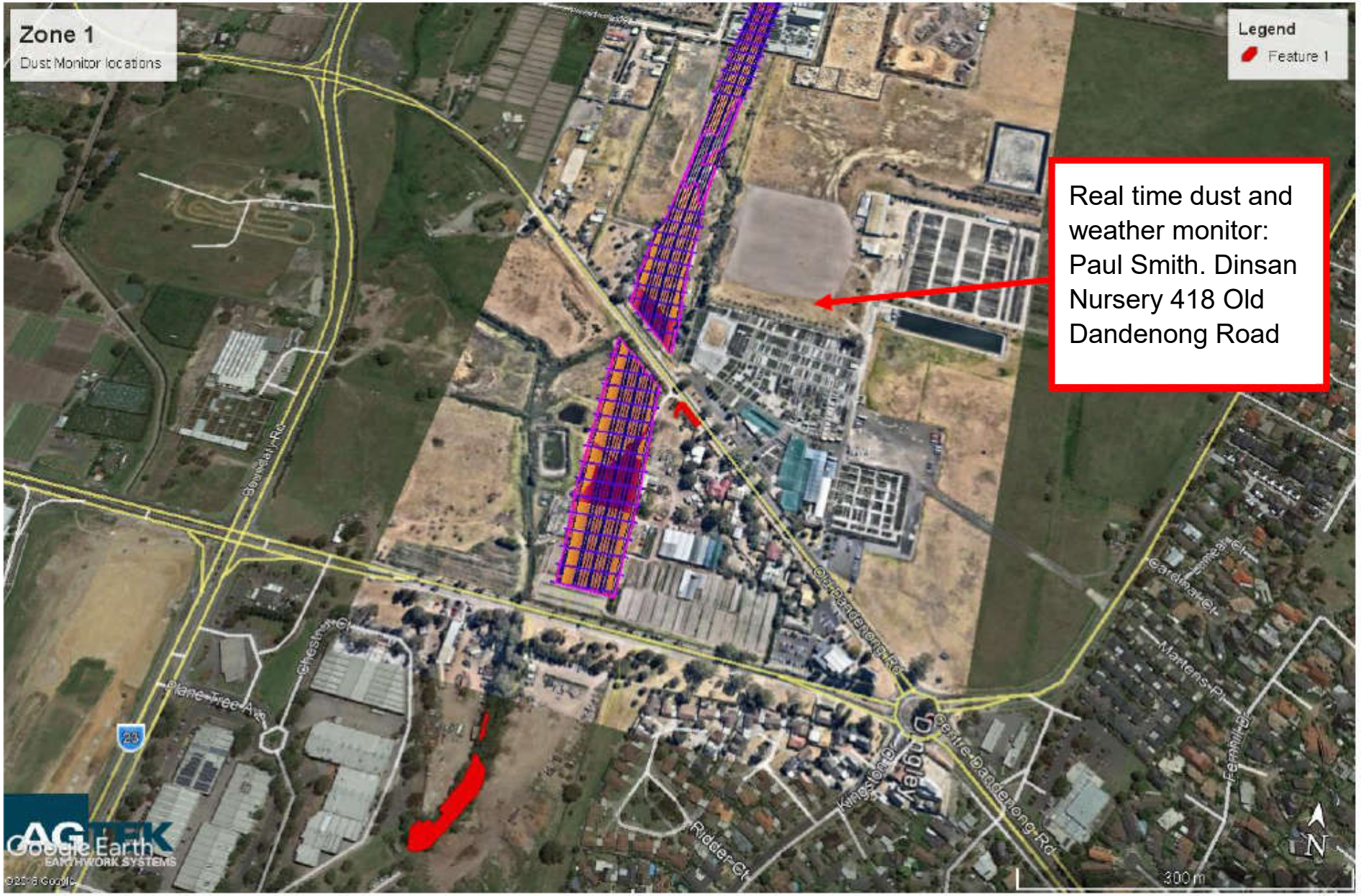
	• Community complaints and response since previous audit (EM2, LV5, S1) • Noise EMP (NV2) • Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)
March 2021	• Review actions taken to close previous audit findings. • Water monitoring results and compliance. (W3, W5) • Air Monitoring results and compliance (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) • Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)
June 2021	• 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) • Landfill Gas (Operations) Sub-Plan (CL5) • Site Inspection (AQ2, B3, B4, B5, H1, H2, H3, LV6, W3)
September 2021	• Review actions taken to close previous audit findings. • Review compliance with EPRs relevant to construction. • Review compliance with any actions listed in EPRs (Operational) that require those actions to be completed prior to commencement of the operational phase.

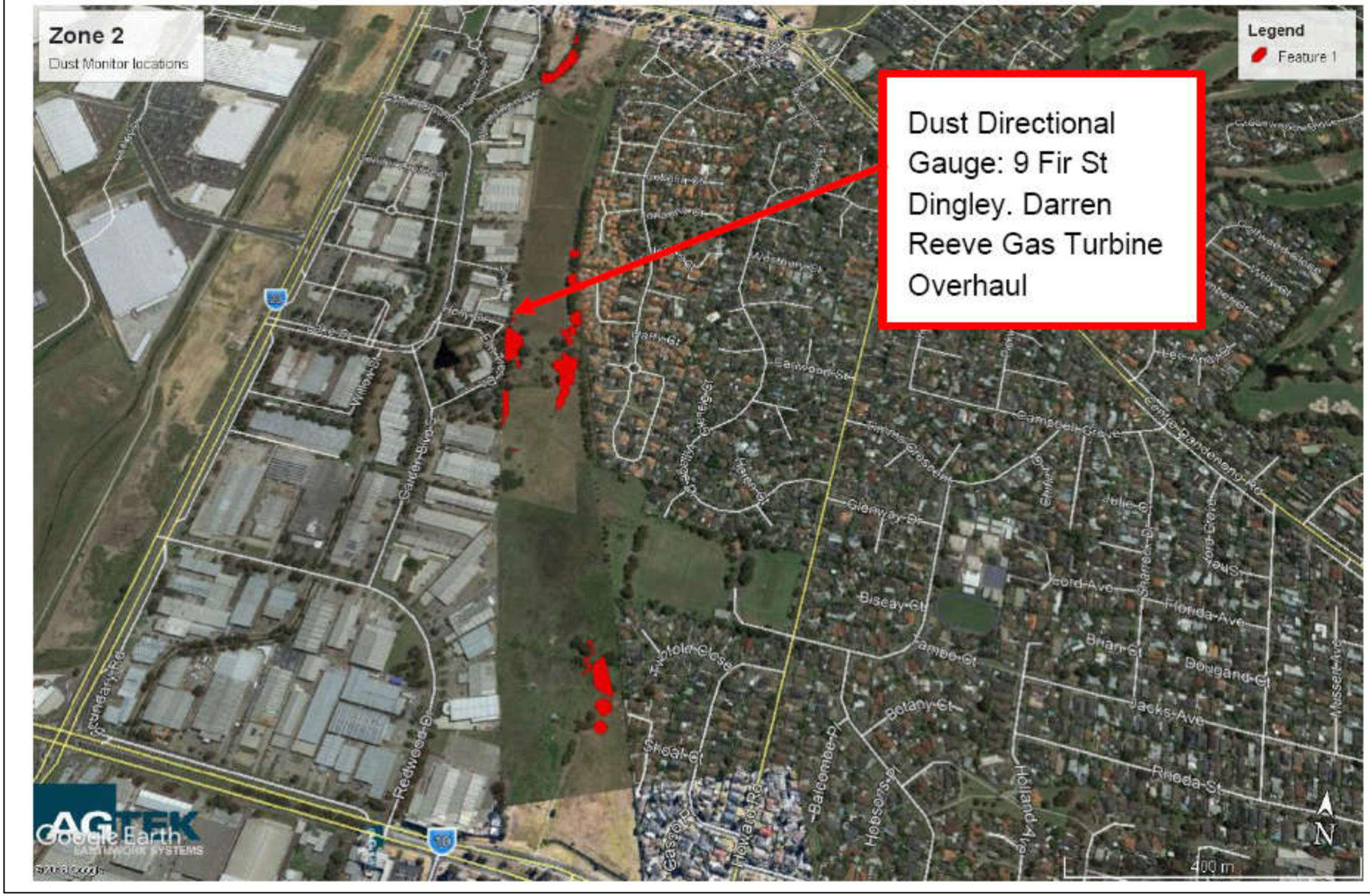
NOTE:

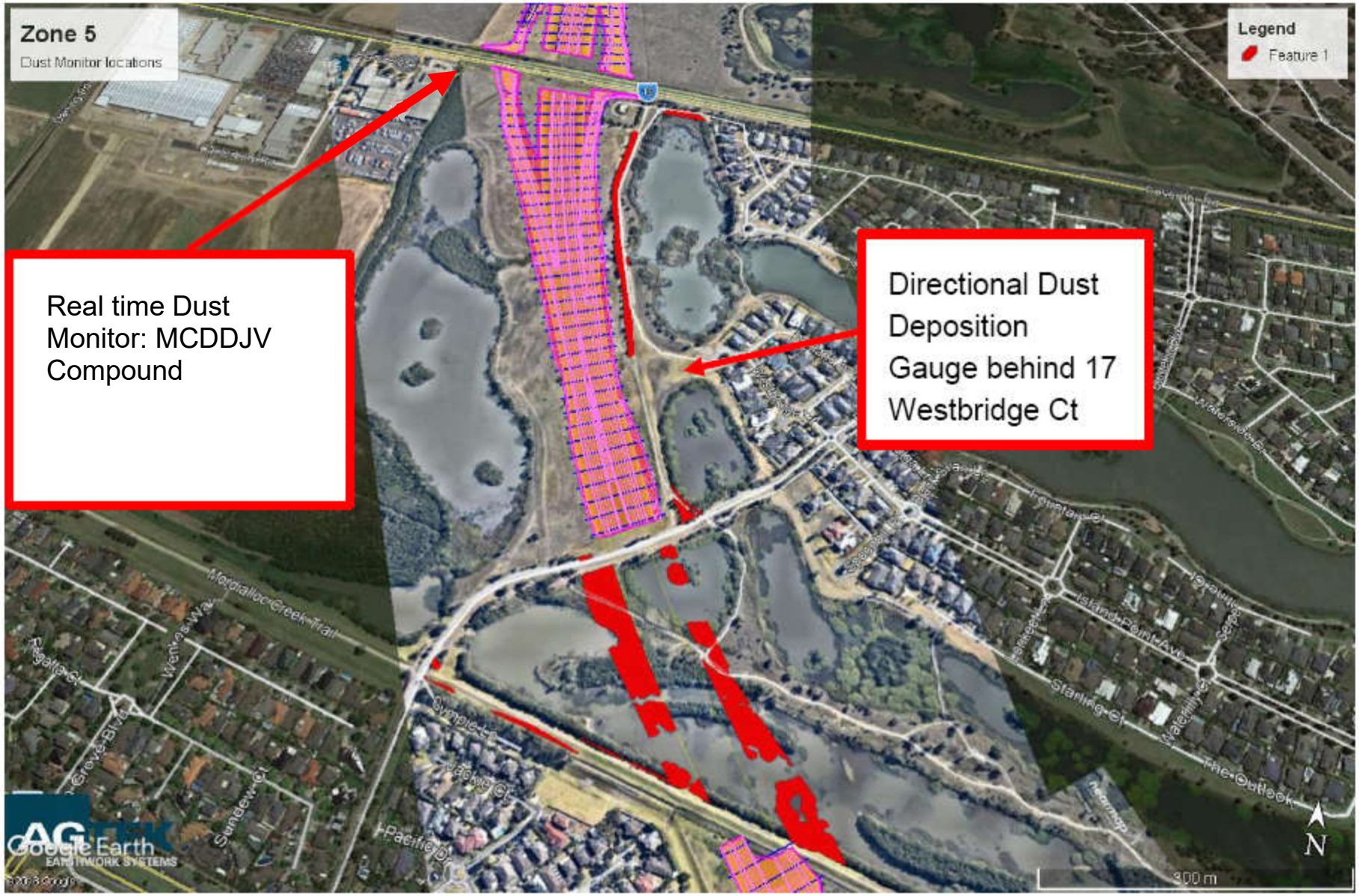
- References in brackets are the respective EPR numbers.

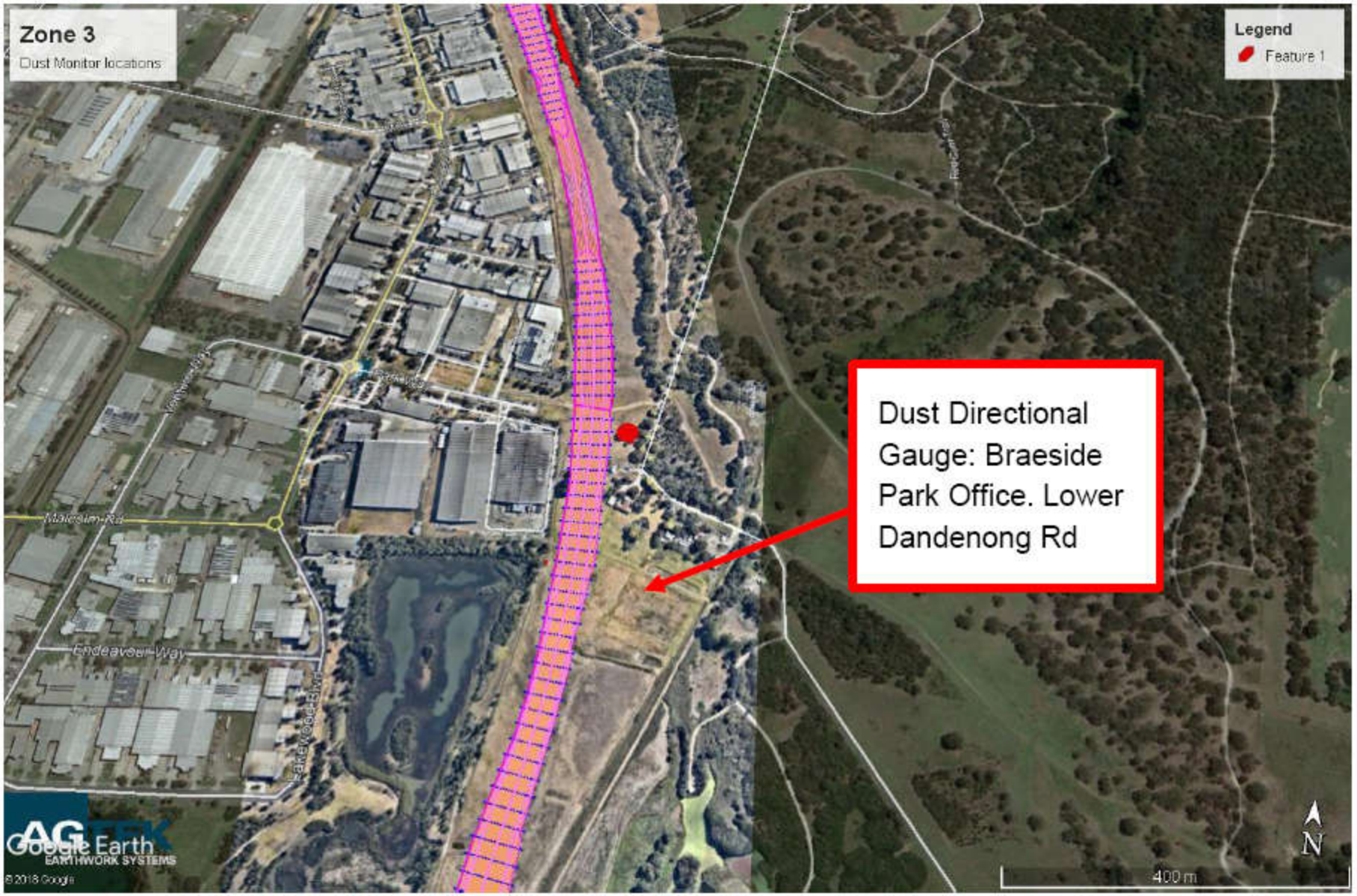
Appendix C – Dust Monitoring Locations




Zone 1
Dust Monitor locations
Legend
Feature 1
Real time dust and weather monitor: Paul Smith. Dinsan Nursery 418 Old Dandenong Road
Centre Dandenong Rd
Ridder Ct
Martens Pl
Cardinal Ct
Chesham Ct
Plane Tree Ave
Google Earth
AGTEK
EARTHWORK SYSTEMS
300 m
N

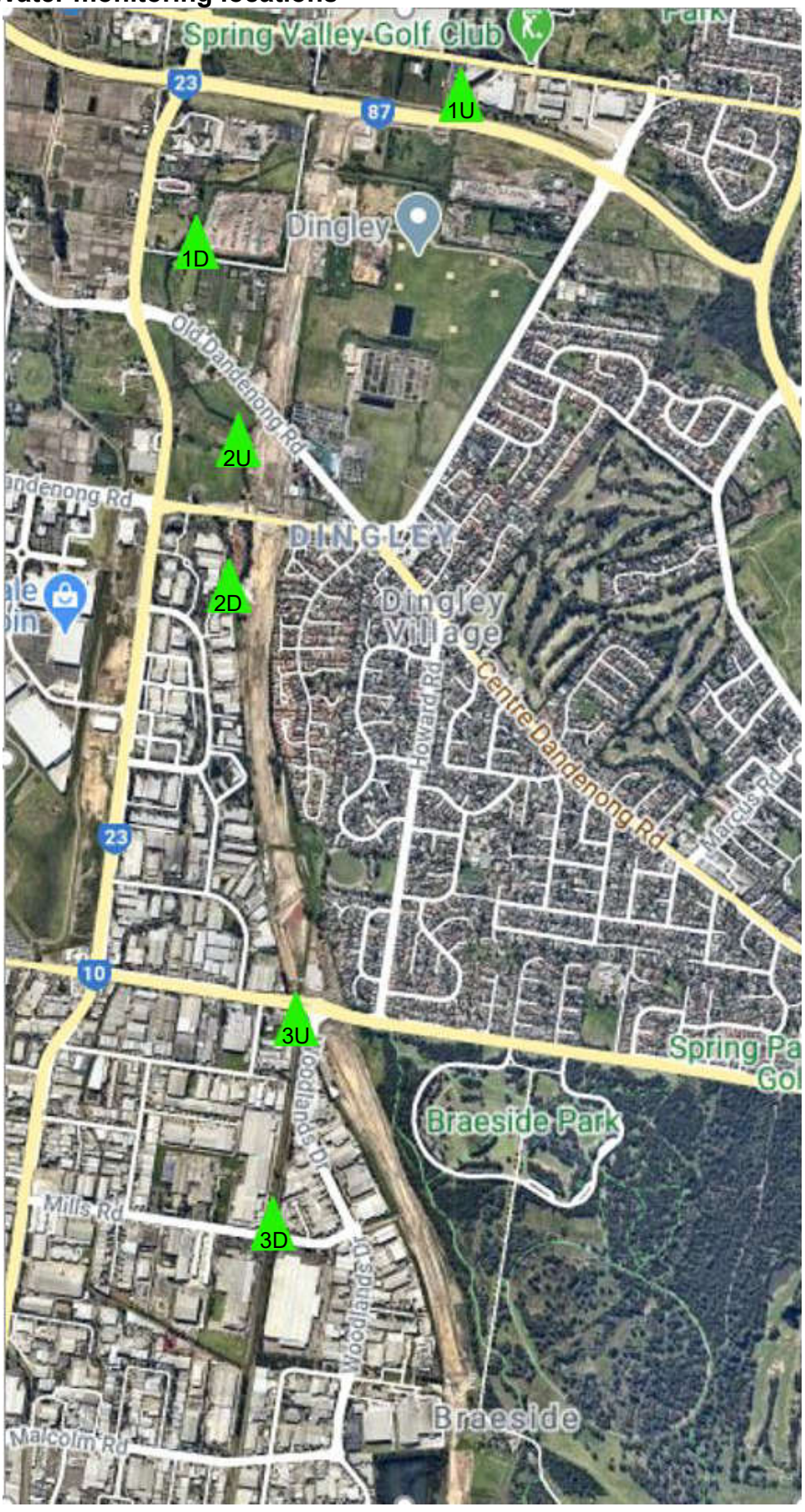

Zone 2
Dust Monitor locations
Legend
Feature 1
Dust Directional Gauge: 9 Fir St Dingley. Darren Reeve Gas Turbine Overhaul
Google Earth
400 m
N


Zone 5
Dust Monitor locations
Legend
Feature 1
Real time Dust Monitor: MCDDJV Compound
Directional Dust Deposition Gauge behind 17 Westbridge Ct
Google Earth
300 m
N

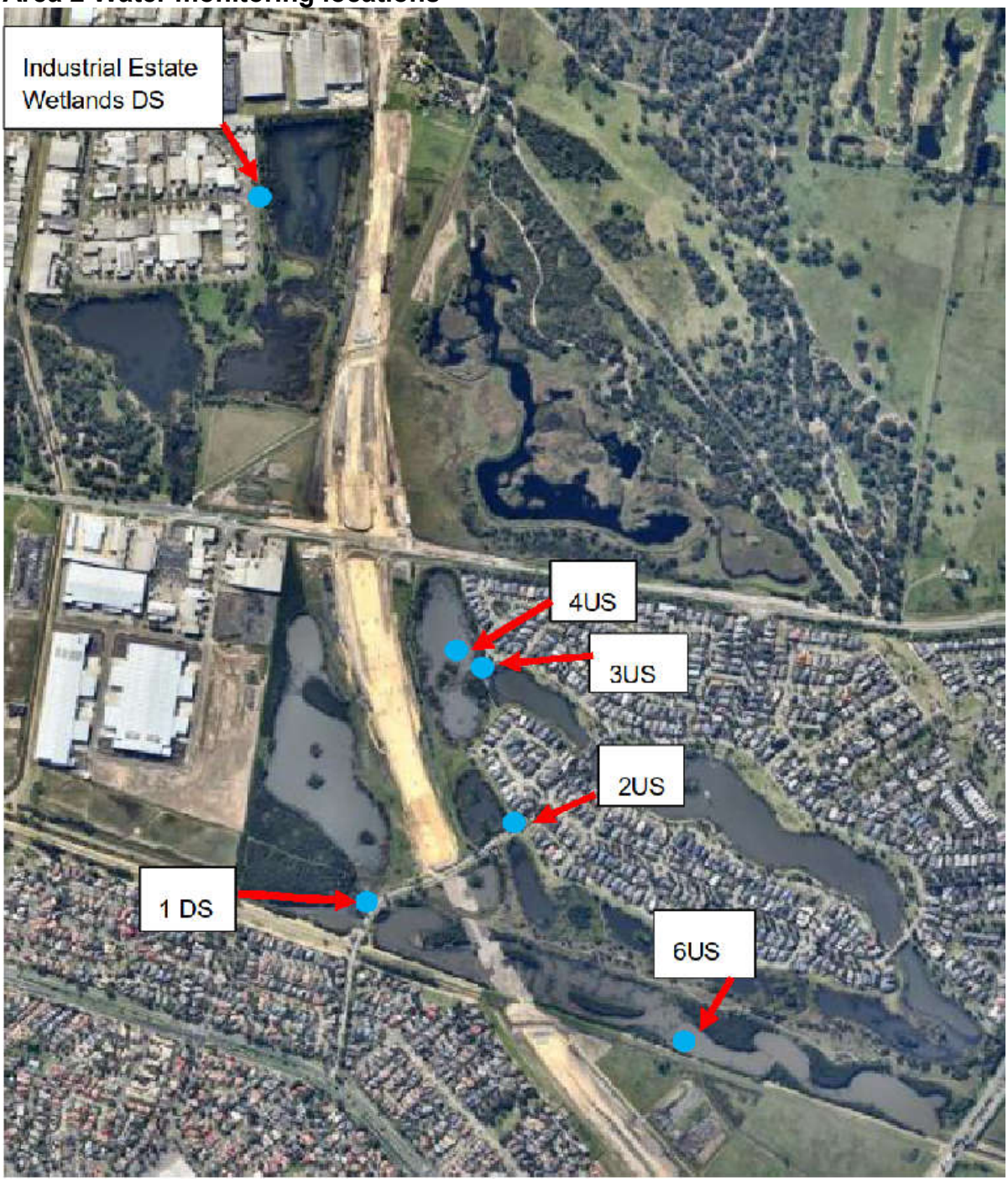

Zone 3
Dust Monitor locations
Legend
Feature 1
Dust Directional Gauge: Braeside Park Office. Lower Dandenong Rd
Malcolm Rd
Endeavour Way
Lakewood Blvd
AGTEK
EARTHWORK SYSTEMS
Google Earth
© 2018 Google
400 m
N

Appendix D – Water Monitoring Locations

Area 1 Water monitoring locations



Area 2 Water monitoring locations



Appendix E – Noise Control Areas