

Melbourne Metro Rail Project

PREPARED FOR RAIL PROJECTS VICTORIA

MMR-AJM-PWAA-RP-NN-005119
MAIN WORKS (TUNNELS AND STATIONS)
ENVIRONMENTAL AUDIT SUMMARY
REPORT 2020 & 2021

17 NOVEMBER 2022

REVISION P3



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Glossary

TERM / ABBREVIATION	DESCRIPTION
AJM JV	Aurecon Jacobs Mott MacDonald Joint Venture
ARM	Active Risk Manager
BSGC	Business Support Guidelines for Construction
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CYP	Cross Yarra Partnership
DoT	Department of Transport
EES	Environment Effects Statement
EMF	Environmental Management Framework
EMMP	Environmental Monitoring Management Plan
EMS	Environmental Management System
EPRs	Environmental Performance Requirements
HCMTs	High Capacity Metro Trains
HSMP	Health, Safety Management Plan
IEA	Independent Environmental Auditor
ISO 14001:2015	AS/NZS ISO 14001:2015 <i>Environmental management systems — Requirements with guidance for use</i>
MMRA	Melbourne Metro Rail Authority
MTIA	Major Transport Infrastructure Authority
MTP	Metro Tunnel Project
PS&TRs	Project Scope and Technical Requirements
RIA	Rail Infrastructure Alliance
RIMG	Residential Impact Mitigation Guidelines
RNA	Rail Network Alliance
RPV	Rail Projects Victoria
RSA	Rail Systems Alliance
SEIPs	Site Environmental Implementation Plans
SEPP	State Environmental Protection Policy
UDS	Urban Design Strategy
VAGO	Victorian Auditor-General's Office
VAGO Early Works Report	Victorian Auditor-General's Office (6 June 2019) <i>Melbourne Metro Tunnel Project – Phase 1: Early Works</i>
WMS	Work Method Statement

1. Executive Summary

The Metro Tunnel Project (MTP) is currently under construction and will create a new end-to-end rail line from Sunbury in the west to Cranbourne/Pakenham in the south-east, with high capacity trains and five new underground stations.

The MTP Early Works, included relocation of services and site preparation works prior to major construction commencing have been completed. The Victorian Auditor-General's Office (VAGO) undertook an audit of the Early Works Package and published its report *Melbourne Metro Tunnel Project – Phase 1: Early Works* on 6 June 2019 (VAGO Early Works Audit Report).

A key recommendation of the VAGO Early Works Audit Report, regarding its assessment of environmental strategies and risk mitigation, was to develop summaries of the Project's Independent Environmental Auditor (IEA) reports and publish such summaries on the MTP official website. This includes the key packages of the Main Works, which include the Tunnels and Stations Package being delivered by Cross Yarra Partnership (CYP).

This report has been developed to meet the VAGO recommendation and provide the wider public with information of the Project's environmental performance for the Tunnels and Station package. Audits for the Tunnels and Station package are conducted quarterly, with the IEA also providing Six-Monthly Summary Audit reports. This report provides a summary of the IEA Six-Monthly Summary Audit reports applicable to the Tunnels and Stations Package, which is one element of the Main Works, from the start of 2020 to end of 2021.

The Project's Environmental Management Framework (EMF) requires an IEA to undertake environmental audits to assess Delivery Partner compliance with the EMF. The auditing process is designed to lead to continual improvement during projects - this is key to AS/NZS ISO 14001:2015 *Environmental management systems — Requirements with guidance for use* and best practice environmental management. As such, some Observations, Areas for Improvement and Non-conformances were identified.

This report found that CYP addressed the audit findings in a timely manner related to the associated environmental management risk; therefore, audit findings improved CYP's systems and promoted better environmental outcomes. All key audit findings (e.g. Non-conformances and areas for improvement) for the reporting period have been addressed by CYP and corrective actions implemented.

The auditing program within the scope of this report identified that, in general, the works were undertaken in accordance with the requirements of the EMF, relevant Environmental Performance Requirements (EPRs) and the MTP Incorporated Document.

2. Introduction

2.1 Purpose

Rail Projects Victoria (RPV) engaged Aurecon Jacobs Mott MacDonald Joint Venture (AJM JV) to prepare a summary report of the IEA Six-monthly summary reports for the MTP Main Works from start of 2020 until the end of 2021. This report relates to the Tunnels and Stations Package for the Project and summarises findings from the IEA audits undertaken in the same period.

This request follows a recommendation outlined in the VAGO Early Works Audit Report. The VAGO report assessed environmental strategies and risk mitigation and recommended that Department of Transport (DoT) publish summaries of key findings and recommended actions from past and future IEA reports produced for the MTP on the Project's official website. The purpose of this audit summary report is to meet the above recommendation of the VAGO Early Works Audit Report and provide the wider public with information of MTP's environmental performance during the Main Works Package.

A subsequent VAGO audit (June 2022) on Melbourne Metro Tunnel Phase 2 for Main Works found that MTP and CYP had effective systems in place for monitoring compliance with environmental requirements and methodology to ensure corrective action is taken in a timely manner. The IEA notified VAGO that CYP has maintained high standards for environmental management and no Non-conformances have been raised since February 2020. The audit also found that CYP had resolved most quarterly audit findings by the next audit.

2.2 Project Background

2.2.1 THE METRO TUNNEL PROJECT

The Victorian Government is building the MTP to connect the Sunbury line to the Cranbourne and Pakenham lines through the construction of new twin nine-kilometre rail tunnels and five new underground stations. MTP is transforming Melbourne's rail network into an international-style metro system, boosting the capacity of the rail network to keep pace with Melbourne's growing population and rail patronage.

MTP will provide the foundation for expanding Melbourne's public transport network, helping to ensure Melbourne remains one of the world's most liveable cities now and into the future. MTP will also stimulate significant urban renewal, opening up opportunities for new housing, commercial development, and jobs in and around the CBD, whilst improving train travel to and from the suburbs.

The infrastructure required for construction of MTP includes:

- Twin nine-kilometre rail tunnels from Kensington to South Yarra, connecting the Sunbury and Cranbourne/Pakenham railway lines to form a new Sunshine – Dandenong line, with the tunnels to be used by the new High Capacity Metro Train (HCMT).
- Rail tunnel portals (entrances/exits) at Kensington and South Yarra.
- New underground stations at Arden, Parkville (under Grattan Street), State Library (at the northern end of Swanston Street), Town Hall (at the southern end of Swanston Street), and Anzac (under the Domain interchange on St Kilda Road. State Library and Town Hall stations will feature direct interchange with the existing Melbourne Central and Flinders Street Stations respectively).
- Train/ tram interchange at Domain (Anzac) Station.
- High Capacity Signalling to maximise the efficiency of the new fleet of HCMTs.

Some project elements nomenclature (e.g. station names) has changed during the delivery of the Project and audit findings may reflect superseded nomenclature, and the updated name is provided in brackets.

2.2.2 MTP WORK PACKAGES

MTP is being managed on behalf of the Victorian Government by RPV, formerly known as the Melbourne Metro Rail Authority (MMRA). RPV forms part of the Major Transport Infrastructure Authority (MTIA), which is responsible for facilitating the development and delivery of the biggest transport infrastructure program in Victorian history. Figure 2-1 shows a broad schematic plan for the principal components of MTP.

Construction of MTP is being delivered by RPV on behalf of the Victorian Government in partnerships with contracted Delivery Partners; through four separate works packages with different delivery partner(s) for each works package described in Table 2.1. This report relates only to the Main Works: Tunnels and Stations Package.

TABLE 2.1: MTP WORKS PACKAGES

PACKAGE	DESCRIPTION
Early Works	The Early Works Package including three sub-packages of works, each respectively was delivered by a Managing Contractor, Yarra Trams and Utility Service Providers.
Main Works	The Tunnels and Stations Works Package, being delivered by Cross Yarra Partnership (CYP).
	The Rail Infrastructure Works Package associated with the Eastern and Western Tunnel Entrances and the western turnback, being delivered by the Rail Infrastructure Alliance (RIA).
	The Rail Systems Works Package for High Capacity Signaling, rail systems integration and commissioning, being delivered by the Rail Systems Alliance (RSA).

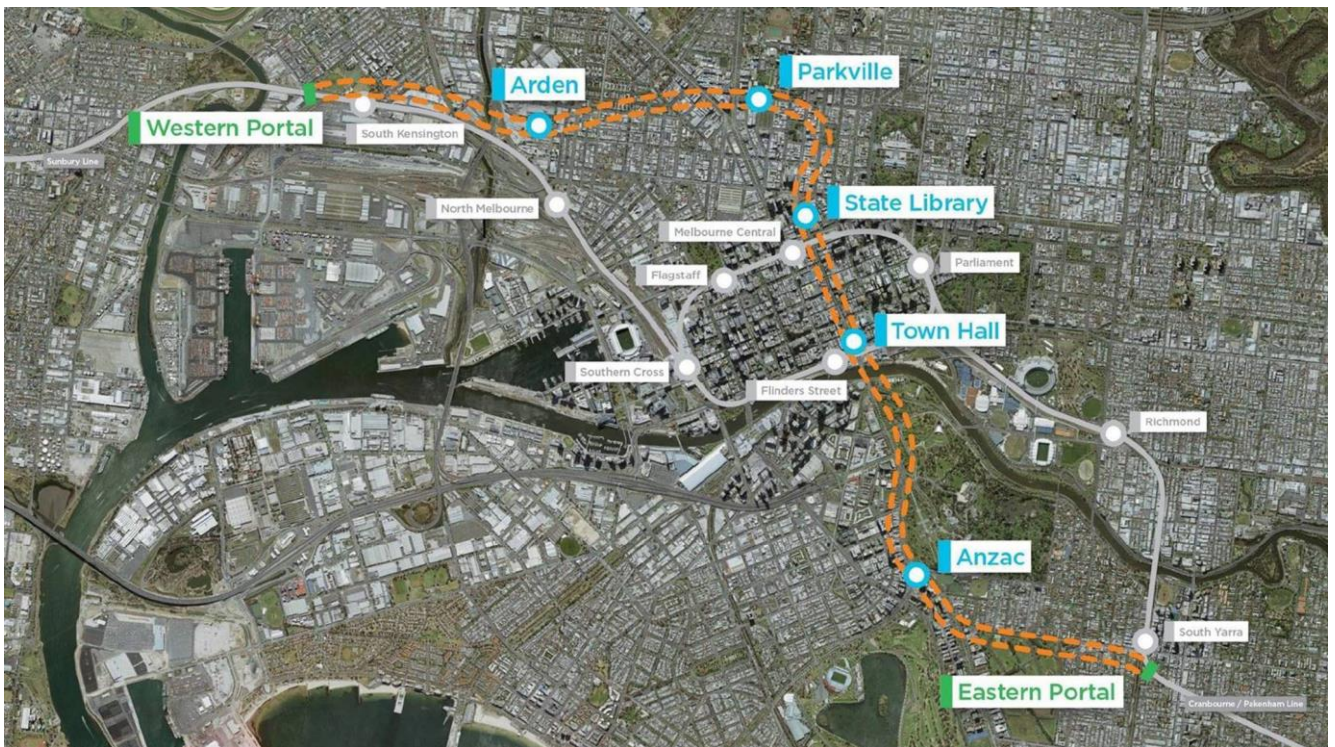


FIGURE 2-1: MTP SCHEMATIC PLAN

2.3 Scope

This report summarises environmental audits conducted as part of the MTP Main Works being delivered by CYP for the Tunnels and Stations Works Package. This report summarises the IEA Six-Monthly Audit Reports undertaken from start of 2020 until the end of 2021, highlighted in Table 2.2. It covers all works conducted under the *GC82 Melbourne Metro Rail Project Incorporated Document (May 2018)* for the Tunnels and Stations Works Package of the MTP and the associated Melbourne Metro EMF.

Subsequent summary audit reporting will be completed on an annual basis.

TABLE 2.2: IEA AUDIT REPORTS IN SCOPE

PACKAGE	SCOPE	RELEVANT IEA REPORTS IN SCOPE
GC82 Tunnels and Stations (CYP)	Publish key findings for IEA Audit reports from start of 2020 until end of 2021.	Helman Environmental Six-Monthly Summary Environmental Audit Reports: March 2020, September 2020, March 2021 and September 2021.

The following Packages are excluded from this report and will be covered in separate reports:

- Main Works carried out in 2018 and 2019, which were addressed in separated IEA summary reports which have been completed and have been published on RPVs website
- The Rail Infrastructure Works Package associated with the Eastern and Western Portals and the western turnback, being delivered by the RIA MMR-AJM-PWAA-RP-NN-005117 (report published separately)
- The Rail Systems Works Package for high capacity signalling, rail systems integration and commissioning, being delivered by the RSA (work not commenced during the time frame specified within this report; will be included in future reports and combined with RIA findings).

3. Environmental Management

3.1 Environmental Governance Framework

An Environment Effects Statement (EES) was prepared for the MTP and, following the statutory EES process, an Incorporated Document was approved by the Minister for Planning, containing compliance obligations which must be achieved by the Delivery Partners.

Each Delivery Partner is required to:

- Comply with the requirements of the Incorporated Document under the Planning Scheme Amendment (GC82), published in the Government Gazette on 26 June 2018.
- Comply with the EMF, approved by the Minister for Planning and published on the MTP website. Among other things, the EMF includes the EPRs, the Residential Impact Mitigation Guidelines (RIMG) and the Business Support Guidelines for Construction (BSGC).
- Comply with the EPRs, which includes a requirement to prepare plans to document the approach to compliance (noting that CYP will have different plans to the other Delivery Partners).
- Develop, implement and maintain a project-specific Environmental Management System (EMS), Construction Environmental Management Plan (CEMP) and Site Environmental Implementation Plans (SEIPs) for the design and construction phases, where applicable.
- Comply with the RPV EMS.
- Develop a Community and Stakeholder Engagement Management Plan (CSEMP) consistent with the RPV CSEMP.

The governance framework and relevant roles and responsibilities for MTP are set out in the EMF and are included in Section 3 of this report. The governance framework for MTP is presented in Figure 3-1.

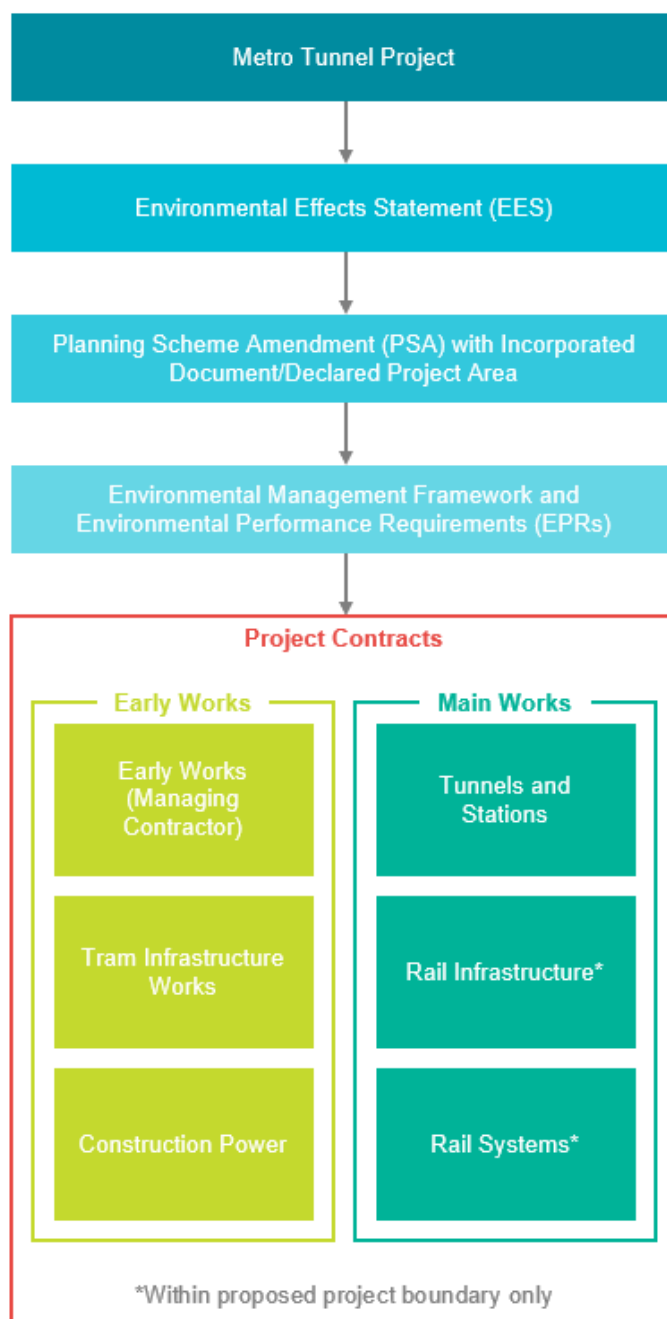


FIGURE 3-1: GOVERNANCE FRAMEWORK

3.1.1 ENVIRONMENTAL MANAGEMENT FRAMEWORK

The Incorporated Document describes the requirements of the EMF. The main elements of the EMF for the design and construction phase are:

- Applicable legislative requirements and approvals.
- EPRs, which address matters set out in the Incorporated Document and identified through the EES.
- The RIMG and the BSGC.
- A CEMP, together with subordinate document including SEIPs, EMS and other plans identified in the Incorporated Document and EMF.

The EMF documentation is summarised in Figure 3-2.

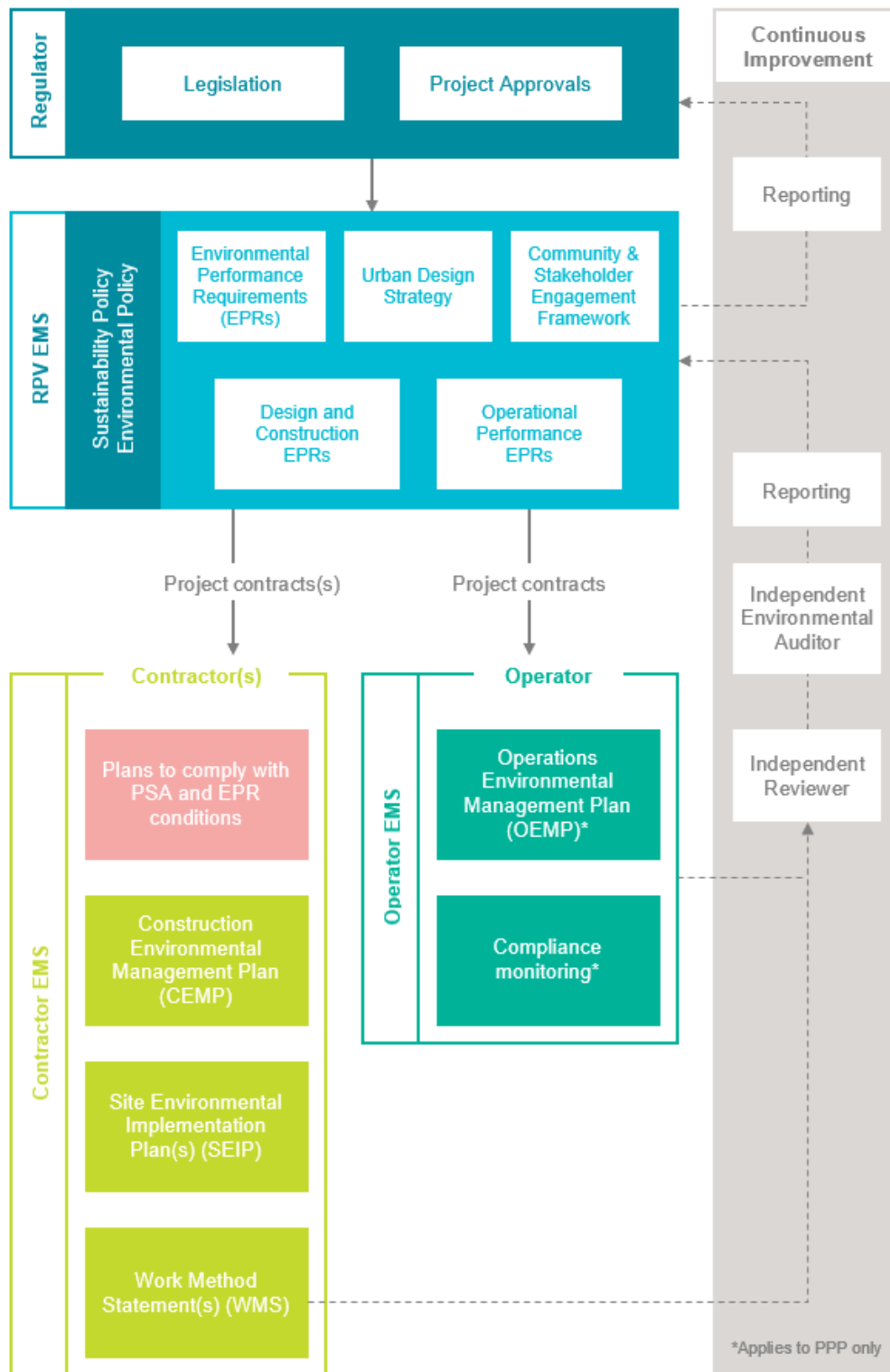


FIGURE 3-2: ENVIRONMENTAL MANAGEMENT FRAMEWORK

The EMF requires that the Delivery Partners develop and implement an EMS certified to ISO 14001:2015 and consistent with relevant legislation, policy and guidelines and RPV’s Environmental Policy.

The EMF provides the governance framework to manage environmental aspects as identified through the EES process, including the Minister for Planning’s assessment for the design, construction and operational phases of the MTP.

3.1.2 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

EPRs have been developed through the EES and associated consultation processes, and to reflect the Minister for Planning's assessment of the EES and the requirements of the Incorporated Document.

MTP is being delivered in accordance with approved EPRs that define the project-wide environmental outcomes that must be achieved during design, construction and operation of MTP (regardless of the solutions adopted). This performance-based approach allows for a delivery model with sufficient flexibility to encourage innovation by the private sector to determine how compliance with the relevant EPRs would be achieved.

The EES presented a risk-based assessment of environmental effects of the MTP, in accordance with the EES Scoping Requirements. Potential mitigation measures were typically included in the EES as examples of how an environmental effect could be mitigated and to illustrate how an EPR could be implemented. However, the EES generally did not mandate or commit to a particular mitigation or management outcome. In the same manner, the EPRs do not typically mandate or require a particular mitigation or management solution. Instead, the EPRs are implemented by applying a risk-weighted assessment of the nature and extent of the relevant environmental effects, and the most practicable means of mitigating and managing those effects. This method is used so that the management and mitigation measures implemented are proportional to the effect they are designed to address and achieve the outcome prescribed by the EPR.

The Incorporated Document requires that the MTP is constructed and operated in accordance with the EPRs approved by the Minister for Planning. Each Delivery Partner is to comply with the EPRs and prepare necessary plans prior to commencement of their scope of work to document the approach to compliance with each EPR.

3.1.3 ASSOCIATED MANAGEMENT PLANS

RPV together with the Delivery Partners (as relevant) prepared plans to comply with the approval requirements in the Incorporated Document. RPV and the Delivery Partners developed and implemented these management plans and programs in accordance with the processes detailed in the EMF.

3.2 Roles and Responsibilities

3.2.1 RAIL PROJECTS VICTORIA

RPV, on behalf of the Victorian Government, is responsible for delivering MTP in line with the requirements and objectives of the DoT and the Victorian Government. RPV forms part of the MTIA, which is responsible for facilitating the development and delivery of the biggest transport infrastructure program in Victorian history.

The key roles and responsibilities of RPV for the MTP are set out in the EMF and include:

- Obtain applicable principal statutory approvals including the Planning Scheme Amendment, Cultural Heritage Management Plan and some heritage permits, where it is more appropriate for RPV to seek these consents.
- Establish the EMF, including the RIMG and the BSGC for approval by the Minister for Planning as required by the Incorporated Document.
- Establish the Urban Design Strategy and the Community and Stakeholder Engagement Management Framework (CSEMF) for approval by the Minister for Planning, as required by the Incorporated Document and EPRs.
- Develop and implement the RPV EMS, in accordance with ISO 14001:2015.
- Monitor compliance with the EPRs across all Project Contracts and comply with the EPRs applicable to RPV.
- Together with each Delivery Partner for each of the Project Contracts, develop and submit the required plans to comply with the requirements of the Incorporated Document and the EMF.

- Review and approve contract documentation for each Project Contract in accordance with the EMF, including the CEMPs, SEIPs, Transport Management Plans, BDPs and Construction Noise and Vibration Management Plans (CNVMP) as required by the Incorporated Document.
- Review the CSEMP for each Project Contract.
- Prior to commencement of work, verify that the Delivery Partner has complied with the relevant EPRs.
- Review the Delivery Partner performance against the approved EPRs and take corrective action as necessary.

3.2.2 DELIVERY PARTNERS

Construction of MTP is being delivered by RPV on behalf of the Victorian Government in partnerships with contracted Delivery Partners. The key roles and responsibilities of each Delivery Partner for the MTP are set out in the EMF and the contractual obligations and include:

- Comply with the EMF (including the EPRs, RIMG, BSGC and CSEMF), legislative and approval requirements.
- Obtain any additional permits from regulatory authorities (other than the approvals that would be obtained by or jointly with RPV).
- Develop and implement a project specific EMS or apply their existing EMS to the specific activities for the MTP, that is certified to ISO 14001:2015.
- Prepare a CEMP, SEIPs and associated work method statements (WMS), and other plans required by the Incorporated Document, EPRs or Project Contracts.
- Develop a CSEMP consistent with RPV's CSEMF approved by the Minister for Planning in accordance with EPR SC3.
- Provide adequate resources to establish, implement, maintain and improve the CEMP, SEIPs and the EMS.
- Implement and maintain compliance with the EPRs.
- Undertake environmental audits to confirm compliance with the EMF, EPRs and plans required by the Incorporated Document.
- Prior to commencement of work, ensure that all sub-contractors have complied with the relevant EPRs, CEMP and plans required to comply with the EPRs and Incorporated Document, where relevant.
- Review of sub-contractor's performance against the EPRs and CEMP and take corrective action as necessary.
- Appoint an IEA.

3.2.3 INDEPENDENT ENVIRONMENTAL AUDITOR

The EMF requires CYP to appoint an IEA to undertake environmental audits of compliance with the approved CEMP and other compliance documents.

The IEA audits compliance with the EPRs and Incorporated Document prior to implementation, as well as during project activities, to verify compliance with the EMF, EPRs, environmental management plans and approval requirements. This also includes investigations into trends in complaints, by topic or on a random basis.

The key roles and responsibilities of the IEA during the Main Works Packages, as specified in the EMF, are:

- Prior to commencement of work, verify that the Delivery Partner has complied with the relevant EPRs, the EMF and the Incorporated Document.

- Conduct audits of the Delivery Partner's work to assess compliance with the CEMP, EMF, EPRs and plans required by the EPRs and Incorporated Document.
- Prepare audit reports containing the results of audits.
- Review complaints which may highlight trends or Non-conformance with applicable EPRs.

4. Conduct of Audits

4.1 IEA Audit Requirements

Audits of the Delivery Partner's CEMP, sub-plans and SEIPs were required prior to works commencing to confirm compliance with ISO 14001:2015, the EMF, relevant EPRs and Incorporated Document.

Site audits are scheduled on a quarterly basis through the Main Works Package and considered:

- The timing of works
- The nature of the works including consideration of the level of associated risk
- Incident investigation outcomes
- Complaints received, particularly if related to EPRs and indicate instances of Non-conformances
- Previous audit outcomes
- Management review outcomes.

Upon the completion of each audit, an audit report detailing all the findings was submitted to RPV.

4.2 IEA Audit Methodology

4.2.1 AUDIT OVERVIEW

The MTP Main Works (Tunnels and Stations) Auditing Programme by the IEA is defined in the EMF to:

- Conduct audits of the Delivery Partner works to assess compliance with the CEMP, Operational Environmental Management Plan (for Tunnels and Stations operational phase only), EMF, EPRs and plans required by the EPRs and Incorporated Document.
- Prepare a six-monthly report summarising the Delivery Partner's compliance with the EMF and provide to RPV and the Delivery Partner.
- Prepare audit reports containing the results of audits.

Accordingly, the objective for these audits is to assess the conformance of the Project works with project compliance obligations.

4.2.2 AUDIT PROGRAM

Audits of the Delivery Partner's CEMP, sub-plans and SEIPs involved a review of each document to assess compliance with ISO 14001:2015, the EMF, relevant EPRs and Incorporated Document.

During site inspections, compliance is assessed through observation of project activities, interviews and review of relevant environmental records.

An audit program is prepared each year during a workshop attended by CYP, RPV and the IEA, Helman Environmental. Each quarterly audit scope is based on project status and the environmental aspects considered to be significant for the relevant works. Audit scopes are reviewed prior to each audit to confirm relevance relative to the stage of the project works.

Audits typically evaluated:

- Conformance with CYP EMS requirements

- Conformance with CYP CEMP requirements, management plans and any CEMP sub-plans
- Compliance with Project EMF and EPRs
- Compliance with the Incorporated Document
- Responses to Non-conformances, incidents and complaints received
- Effective implementation of monitoring programs.

4.2.2.1 Documentation

As part of the Tunnels and Stations Main Works program, CYP has produced several environmental documents, which have been audited by the IEA:

- Construction Environmental Management Plan and associated sub plans
- Site Environmental Implementation Plans
- Air Quality Dust and Light Management Plan
- Ecology Management Plan
- Heritage Management Plan
- Surface Water Management Plan
- Spoil Management Plan
- Land Use Management Plan
- Electromagnetic Compatibility Management Plan
- Ground Movement Plan
- Ground Movement Instrumentation & Monitoring Plan
- Groundwater Management Plan
- Monitoring Management Plan
- Environmental Monitoring Management Plan
- Noise & Vibration Management Plan
- Construction Noise & Vibration Management Plan
- Health and Safety Plan
- Emergency Response and Incident Management Plan
- EMS Manual
- Others as required.

4.2.2.2 Works

The Tunnels and Stations Main Works are being undertaken in seven construction precincts:

- Western Portal (Western Tunnel Entrance)
- Arden Station
- Parkville Station
- State Library Station
- Town Hall Station
- Anzac Station
- Eastern Portal (Eastern Tunnel Entrance).

The Main Works for the Tunnels and Stations includes:

- Piling
- Excavation
- Services works
- Traffic management
- Tunnelling
- Station construction
- Station fit out.

4.2.3 COMPLAINTS

Complaints are addressed during the course of the IEA Audits through the implementation of the CEMP audit Checklist. This includes verification that environmental-related complaints from community members or other stakeholders are managed in accordance with the processes outlined in the CEMP and Stakeholder and Communications Engagement Management Plan.

Findings against this process may result in Non-conformance if complaints are not being appropriately managed. Where there are no specific IEA findings under the CEMP, complaints are being managed in accordance with the relevant plans.

4.2.4 AUDIT CLASSIFICATIONS

Helman Environmental audit finding classifications are provided in Table 4.1.

CYP is required to develop action plans with a timeframe to address effective close out of all audit findings. These audit findings are required to be closed out by the Delivery Partner in a timely manner relative to the associated environmental management risk.

TABLE 4.1: HELMAN ENVIRONMENTAL AUDIT FINDING CLASSIFICATIONS

FINDING	DESCRIPTION
Conformance (C)	There is sufficient evidence to confirm that actions have been undertaken, prepared and/or implemented in full conformance with the requirements of the auditable element.
Non-conformance (NC)	An event that has not fulfilled a requirement specified in the EMS, CEMP, Sub Plans and Management Plans, EPRs, SEIPs, legislation and permit conditions. A situation, which would, on the basis of available objective evidence raise significant doubt as to the effectiveness of environmental management.
Area for improvement (AFI)	A deficiency in the implementation of the EMS, CEMP or subordinate 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.
Undetermined	There is insufficient evidence to make a judgement on compliance.
Not Applicable (N/A)	The auditable element falls outside the scope of the audit, e.g. work relevant to the element being audited has not yet commenced.

5. Audit Findings

This section presents a summary of the six-monthly audit reports within the reporting period (March 2020 to September 2021), including a summary of the findings raised in each period. A summary of the non-conformance's raised during the reporting period is provided in Section 5.5.

5.1 IEA Summary Report (March 2020)

5.1.1 FINDINGS

During the March 2020 six-monthly reporting period, there were two IEA quarterly audits in November 2019 and February 2020. During the reporting period, sixty (48%) of the 125 EPRs across 14 of the 19 EPR categories were audited. Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In this period, a total of 13 audit findings were raised (as shown in Table 5.1); of these 5 findings were raised in the November 2019 audit and 8 findings in the February 2020 audit.

A total of 1 Non-conformance was raised during the reporting period, which is summarised in Section 5.5.

TABLE 5.1: SUMMARY OF AUDIT FINDINGS (MAR 2020)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	1	1	1	1
Area for improvement	6	3	4	5
Observation	9	9	11	7
Total	16	13	16	13

5.1.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and the objectives outlined in Section 4, and criteria that were applicable to the specific audits completed during the reporting period. Against the key audit objectives, the March 2020 IEA summary report determined:

- The audited EPRs were largely compliant. One Non-conformance relating to noise management and alert levels for night works (EPR NV6) was raised. This Non-conformance and the subsequent action taken to remedy it is summarised in Section 5.5.
- During the audit period the EMS has been integrated into the CEMP and is audited as part of the CEMP audit; and the CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were related to minor process matters and do not represent a material risk to environmental management.
- The audit findings demonstrated that the requirements of the SEIPs were largely met and related to minor issues.

- Requirements of the management plans appeared to be largely robust and most of the requirements of the environmental management plans were being implemented. Several minor findings were raised against the requirements of the Stormwater Management Plan at three separate construction sites, and minor findings were raised against the requirements of the Construction Noise and Vibration Management Plan, and the Ecology Management Plan. These findings do not represent a material risk to environmental management.

5.2 IEA Summary Report (September 2020)

5.2.1 FINDINGS

During the September 2020 six-monthly reporting period, there were two IEA quarterly audits in May 2020 and August 2020. During the reporting period, seventy-one (57%) of the 125 EPRs across 14 of the 19 EPR categories were audited. Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In this period, a total of 21 audit findings were raised (as shown in Table 5.2); of these 9 findings were raised in the May 2020 audit and 12 findings in the August 2020 audit.

A total of 0 Non-conformances were raised during the reporting period.

TABLE 5.2: SUMMARY OF AUDIT FINDINGS (SEPT 2020)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	1	0	1	0
Area for improvement	5	6	7	4
Observation	7	15	10	12
Total	13	21	18	16

5.2.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the September 2020 IEA summary report determined:

- The audited EPRs were largely compliant. Any findings raised during the audit do not pose a material risk to environmental management. One Area for Improvement related to operational air quality modelling was noted and an Observation on the description of decision-making processes documented in the Groundwater Management Plan.
- The EMS has been integrated into the CEMP and was audited as part of the CEMP audit; and the CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were associated with minor process matters.
- The audit findings demonstrated that the requirements of the SEIPs were largely met with audit findings considered generally minor. There were deficiencies noted in stormwater protection which could be improved. These deficiencies did not represent a material risk to environmental management.
- The audit found that there was general conformance with the requirements of the management plans with requirements being implemented and on-ground environmental management largely robust. An Area for Improvement was raised against the requirements of new regulations governing the disposal of TBM spoil.

Several minor findings were identified against various requirements relating to protection of stormwater. These findings do not represent a material risk to environmental management.

5.3 IEA Summary Report (March 2021)

5.3.1 FINDINGS

During the March 2021 six-monthly reporting period, there were two IEA quarterly audits in November 2020 and February 2021. During the reporting period, forty-seven (38%) of the 125 EPRs across 16 of the 19 EPR categories were audited. Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In this period, a total of 15 audit findings were raised (as shown in Table 5.3); of these 11 findings were raised in the November 2020 audit and 4 findings in the February 2021 audit.

A total of 0 Non-conformances were raised during the reporting period.

TABLE 5.3: SUMMARY OF AUDIT FINDINGS (MAR 2021)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	0	0	0	0
Area for improvement	4	3	3	4
Observation	12	12	15	9
Total	16	15	18	13

5.3.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the March 2021 IEA summary report determined:

- The audited EPRs were largely compliant. One minor audit finding was raised relating to operational air quality modelling.
- The EMS has been integrated into the CEMP and was audited as part of the CEMP audit.
- The CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings found that the CEMP was largely compliant. The findings were related to process matters and do not represent a material risk to environmental management. The CEMP was found to be effectively implemented during the reporting period.
- The audit findings demonstrated that the requirements of the SEIPs were largely met. The audit findings were considered generally minor, but there were some opportunities noted in noise management at several sites as well as to tree protection at the Western Portal.
- Requirements of the management plans were being implemented and on-ground environmental management was largely robust. An Area for Improvement was raised against the CNVMP relating to the management of Out of Hours Works. Otherwise, the audit found that there was general conformance with requirements of specified plans.

5.4 IEA Summary Report (September 2021)

5.4.1 FINDINGS

During the September 2021 six-monthly reporting period, there were two IEA quarterly audits in May 2021 and August 2021. During the reporting period, seventy-six (61%) of the 125 EPRs across 16 of the 19 EPR categories were audited. Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In this period, a total of 10 audit findings were raised (shown in Table 5.4); of these 5 findings were raised in the May 2021 audit and 5 findings in the August 2021 audit.

A total of 0 Non-conformances were raised during the reporting period.

TABLE 5.4: SUMMARY OF AUDIT FINDINGS (SEPT 2021)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	0	0	0	0
Area for improvement	4	0	2	2
Observation	9	10	7	12
Total	13	10	9	14

5.4.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the September 2021 IEA summary report determined:

- The audited EPRs were largely compliant. Two minor audit findings were raised relating to the requirements of EPRs GW2 and AR3. These were not considered to pose a material risk to environmental management.
- The EMS has been integrated into the CEMP and was audited as part of the CEMP audit.
- The CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were related to process matters and do not represent a material risk to environmental management.
- The audit findings demonstrated that the requirements of the SEIPs were largely met and findings were considered minor.
- Requirements of the management plans were being implemented and on-ground environmental management was largely robust. Most requirements of the environmental management plans were being implemented.
- The two AFI's were subsequently closed in the November 2021 and May 2022 Summary Audit reports.

5.5 Summary of Non-conformances

This section outlines the Non-conformance raised during the reporting period, and how these key findings have been addressed by CYP and the corrective actions that were implemented. During the reporting period, a total of 1 Non-conformance was raised by the IEA, which has now been addressed by CYP.

5.5.1 GENERAL

No general Non-conformances were raised during the reporting period.

5.5.2 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

Noise and vibration (NV6) – Noise levels

MTEM provides alerts when there are exceedances of Guideline Noise Levels. There is a requirement to meet external construction noise targets, where CYP has an unattended noise monitoring program to measure compliance. Several precincts were monitoring against the lower Guideline Noise Levels as defined for “up to 18 months after project commencement”. However, the CBD North and South precincts were monitoring against the higher levels.

Responding to the audit finding CYP has updated the noise monitoring program to include new 18-month levels for noise monitors as required by NV6. CYP adequately addressed the Non-conformance, which was found to be closed by the IEA in the May 2020 quarterly audit.

6. Conclusions

This report summarises the IEA reports for the MTP Main Works for the Tunnels and Stations Works Package from the start of 2020 until the end of 2021. It was prepared in response to a recommendation in the VAGO Early Works Audit Report. The VAGO report assessed the environmental strategies and risk mitigation and recommended that the DoT publish summaries of key findings and recommended actions from past and future IEA reports.

The purpose of this report is to meet the above recommendation of the VAGO Early Works Audit Report and provide the wider public with information on MTP's environmental performance during the Main Works Package. The Tunnels and Stations Package is a highly complex package of works with a diverse and intricate construction program, with works occurring in a highly urbanised environment with a number of constraints. The auditing process is designed to lead to continual improvement during projects - this is key to implementing best practice ISO 14001:2015 environmental management systems.

An audit program is prepared each year during a workshop attended by CYP, RPV and the IEA, Helman Environmental. Each quarterly audit scope is based on project status and the environmental aspects considered significant for the relevant works. Audit scopes are reviewed prior to each audit to confirm relevance relative to the stage of the project works. The Delivery Partner, CYP, is required to develop action plans with a timeframe to address effective close out of all audit findings.

Table 6.1 provides a summary of audit findings raised during the audit period. These audit findings are required to be closed out by the Delivery Partner in a timely manner relative to the associated environmental management risk.

TABLE 6.1: RAISED IEA FINDINGS DURING REPORTING PERIOD

FINDING TYPE	MAR 20	SEP 20	MAR 21	SEP 21	TOTAL RAISED FINDINGS
Non-conformance	1	0	0	0	1
Area for improvement	3	6	3	0	12
Opportunity	9	16	12	10	47

In the audit periods covered by this report, CYP closed out the audit findings in a timely manner related to the associated environmental management risk; therefore, audit findings improved CYP's systems and promoted better environmental outcomes.

At the time of writing, all key audit findings (E.g. non-conformances and areas for improvement) have been addressed by CYP and corrective actions implemented. The two Area for Improvement findings were subsequently closed in the November 2021 and May 2022 Summary Audit reports. The auditing programme identified that, in general, the construction of the Tunnels and Stations Package was undertaken in accordance with the requirements of EMF, relevant EPRs and Incorporated Document.

In the audit period, there is a general trend away from significant findings that may result in material environmental harm (I.e. Non-conformance and areas for improvement), which highlights the project's overall improvements in compliance and the commitment to the continuous improvement principle.

Further summaries of key findings and recommended actions from future IEA reports produced for the remaining work packages of the MTP will be prepared and published on the Project's official [website](#)



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