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Environmental Risk Management Guidelines

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Environmental Risk Management Guidelines

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Cover: Anthony's Cutting realignment project 2011, Western Highway near Bacchus Marsh. Source: VicRoads

Contents

Glossary & Acronyms

CRR	Contract Risk Register - a Lotus Notes database which is used to review the risks during the delivery of a project.
EMP	Environmental Management Plan, prepared by the contractor prior to commencement of works detailing all aspects of the environmental management process for the contract.
EMS	An Environment Management System is a tool for managing the impacts of an organisation's activities on the environment. It provides a structured approach to planning, implementing, checking and reviewing environment protection measures to achieve continual improvement in performance.
EES	Environmental Effects Statement, a formal environmental assessment of a proposal under the Environment Effects Statement (Amendment) Act, 2005 (Vic).
Enviro Tracker	VicRoads web-based and email supported tool designed for prompt and accurate reporting of incidents.
EPBC	Environment Protection & Biodiversity Conservation Act, 1999 (Commonwealth).
FFG	Flora and Fauna Guarantee Act 1988 (Vic).
INVEST	The Integrated VicRoads Environmental Sustainability Tool.
PEPS	Project Environment Protection Strategy, the PEPS is the overarching strategy developed by VicRoads in consultation with stakeholders, to manage the environmental impacts of a project.
Shell brief	A template brief developed by VicRoads to specify the work that external specialists are required to do and the format that the results are to be provided.
SuMS	Surveillance Management System – a VicRoads electronic risk based system that is used to manage surveillance and audit activities.

1. Introduction

VicRoads aims to achieve a high standard of environmental performance through a strong organisational commitment to the protection of the environment, supported by a systematic approach and a process of continual improvement.

VicRoads has legal obligations to manage the road network consistent with State and Australian Government environmental legislation and policy. There is also an obligation to the community to ensure that social and environmental values are not adversely impacted during road construction or maintenance.

These guidelines have been developed to assist VicRoads staff and contractors in the management of the environment in relation to the planning, development, delivery and maintenance of the road network.

The purpose of the guidelines is to:

- describe the systems used in VicRoads to manage risk and protect the environment and how these are implemented at different stages of road construction and maintenance
- outline the tools which provide guidance to VicRoads in managing environmental issues throughout the life-cycle of a project.

These guidelines are supported by a range of other documentation and tools provided in the Environmental Sustainability Toolkit. Reference should also be made to the Project Management Toolkit.

2. Environmental Management in VicRoads

Environmental management is one of the keys to good project management and is critical for the delivery of projects on time and to budget.

All VicRoads construction and maintenance projects have the potential to affect the environment to varying degrees. As each road project occurs in a unique environment, each will have a different set of environmental priorities to manage and different elements may come into play during various phases of the works.

Potential environmental issues can include:

- air quality
- cultural heritage
- social amenity eg construction and road noise
- flora and fauna
- natural resource use including greenhouse gas emissions
- waste management
- site contamination
- water quality.

VicRoads aims to avoid and/or minimise these impacts during construction and maintenance by the application of a transparent, accountable and systematic environmental management framework and the appropriate level of training for program delivery staff.

2.1 VicRoads Sustainability and Climate Change Policy

Photo: VicRoads

The substructure of the Princes Freeway bridge over Cardinia Creek, Officer, was constructed so to as allow future bridge widening to occur without further ground disturbance. Planning the project in this way has delivered both environmental and economic sustainability benefits.

VicRoads Sustainability and Climate Change Policy and the associated Sustainability and Climate Change Strategy set out how VicRoads will contribute to sustainable transport in Victoria.

The Sustainability and Climate Change Strategy outlines three key directions:

- Direction 1: Reducing environmental and climate change impacts from the built environment.
- Direction 2: Protecting and enhancing the natural and cultural environment.
- Direction 3: Fostering a culture of leadership and best practice on sustainability and climate change.

The Sustainability and Climate Change Policy and Strategy support VicRoads' commitment to continual improvement by providing the framework for a Sustainability and Climate Change Action Plan.

VicRoads Environmental Management System and tools are established to assist and guide VicRoads staff in achieving the three key directions of the Sustainability and Climate Change Strategy.

2.2 VicRoads Environmental Management System

VicRoads approach to environmental management is modelled on the ISO 14001 Environmental Management System. VicRoads Environmental Management System incorporates:

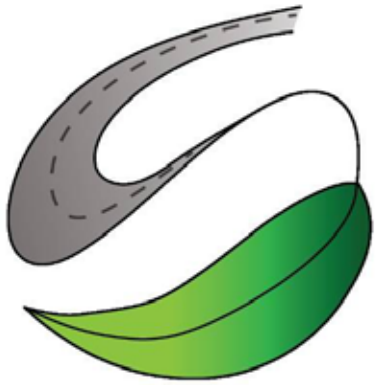
- Policy
  - Sustainability and Climate Change Policy
  - Sustainability and Climate Change Strategy
- Planning
  - Planning and Development Procedure
  - Sustainability and Climate Change Action Plan
  - Risk assessment of aspects and impacts
  - Issue-specific guidelines eg biodiversity, heritage
  - Investigations
  - Commitments Register
  - Contract Specifications
- Implementation and operation
  - Pre-construction and Delivery Procedure
  - Post-construction and Maintenance procedures
  - Environmental systems documentation and tools
  - Training
  - Emergency preparedness and response
- Checking and corrective action
  - Audit and surveillance
  - Monitoring
  - Incident reporting
- Management review
  - Review for continual improvement
  - Post project review
  - Annual report on progress against the Sustainability and Climate Change Action Plan
  - Monthly review of environmental incidents by the Corporate Management Group

The implementation of the elements of the VicRoads Environmental Management System in construction and maintenance projects is shown in Figure 1 on the following page.

Contractors engaged by VicRoads for construction and maintenance are required to operate in accordance with their own environmental management system. A contractor's environmental management system must also be modelled on ISO 14001 to align with the VicRoads system and the requirements of the Contract Specification.

VicRoads periodically reviews its Environmental Management System and associated tools based on:

- analyses of environmental incidents, audits and issues across the organisation
- new government policies and legislation
- changes to industry best practice
- feedback from staff, stakeholders and post-project reviews.



Training is an important element of the VicRoads Environmental Management System. The Centre of Excellence for Environmental Sustainability provides 11 training modules across eight environmental disciplines. The modules were developed by VicRoads to support planning, engineering and delivery staff in road construction and maintenance roles.

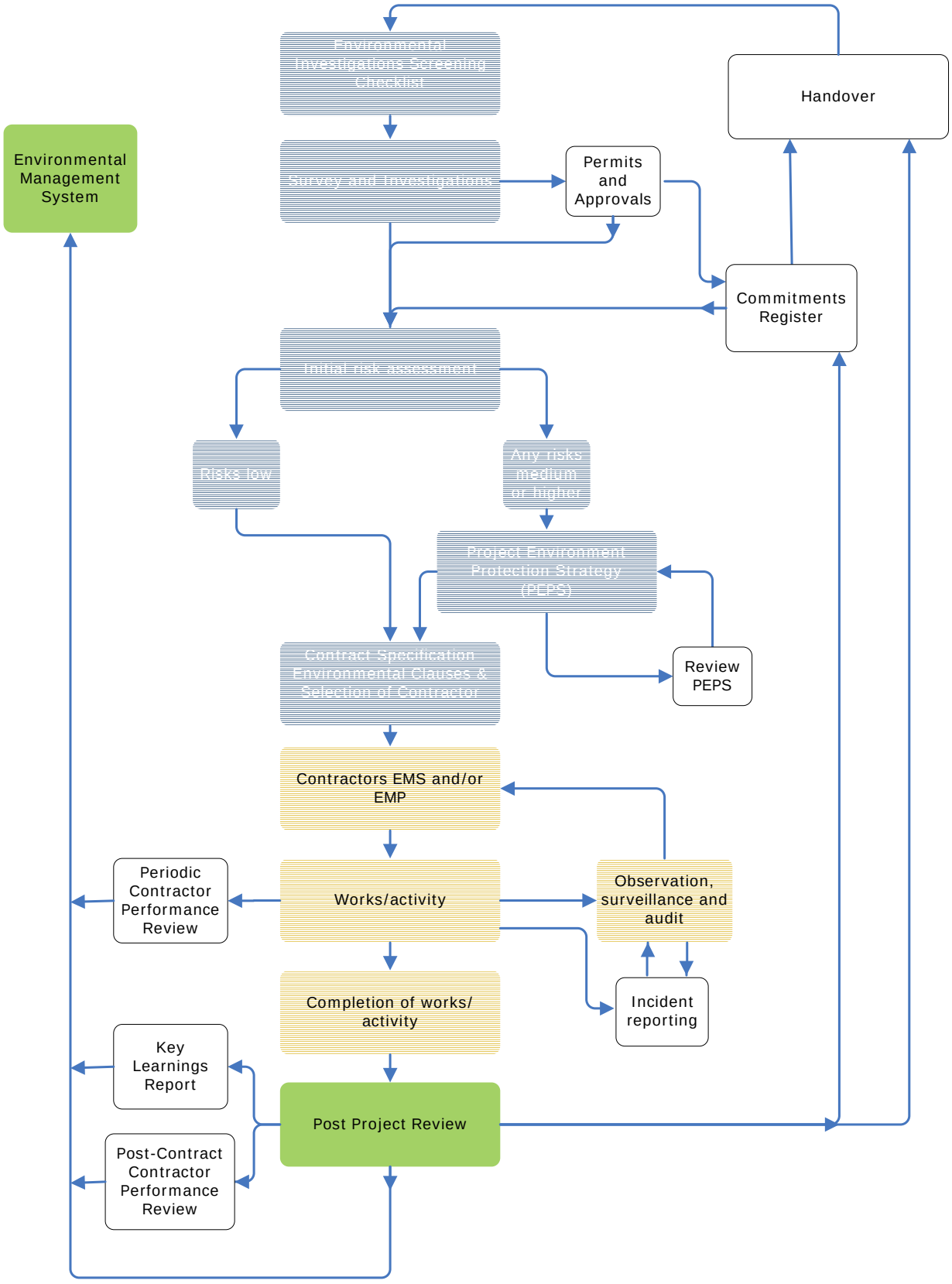


Figure 1. VicRoads Environmental Management System implementation.

VicRoads Environmental Management System is documented through the intranet-based VicRoads Environmental Sustainability Toolkit available at Exchange > How To > Build and Maintain Sustainable Roads.

The Environmental Sustainability Toolkit is designed as a first point of reference to provide relevant and appropriate information and assistance in achieving VicRoads environmental requirements. All documents provided through the toolkit must be downloaded directly from this site to ensure the most up-to-date version is always used. Further queries can be directed to the Environmental Sustainability Business Area.

The Environmental Sustainability Toolkit contains all VicRoads' environmental policies, procedures, guidelines, templates and tools as outlined in Figure 2.

To make sure you always have the current version of guidelines, documents, tools and other environmental management resources, always download your documents directly from the Environmental Sustainability Toolkit.

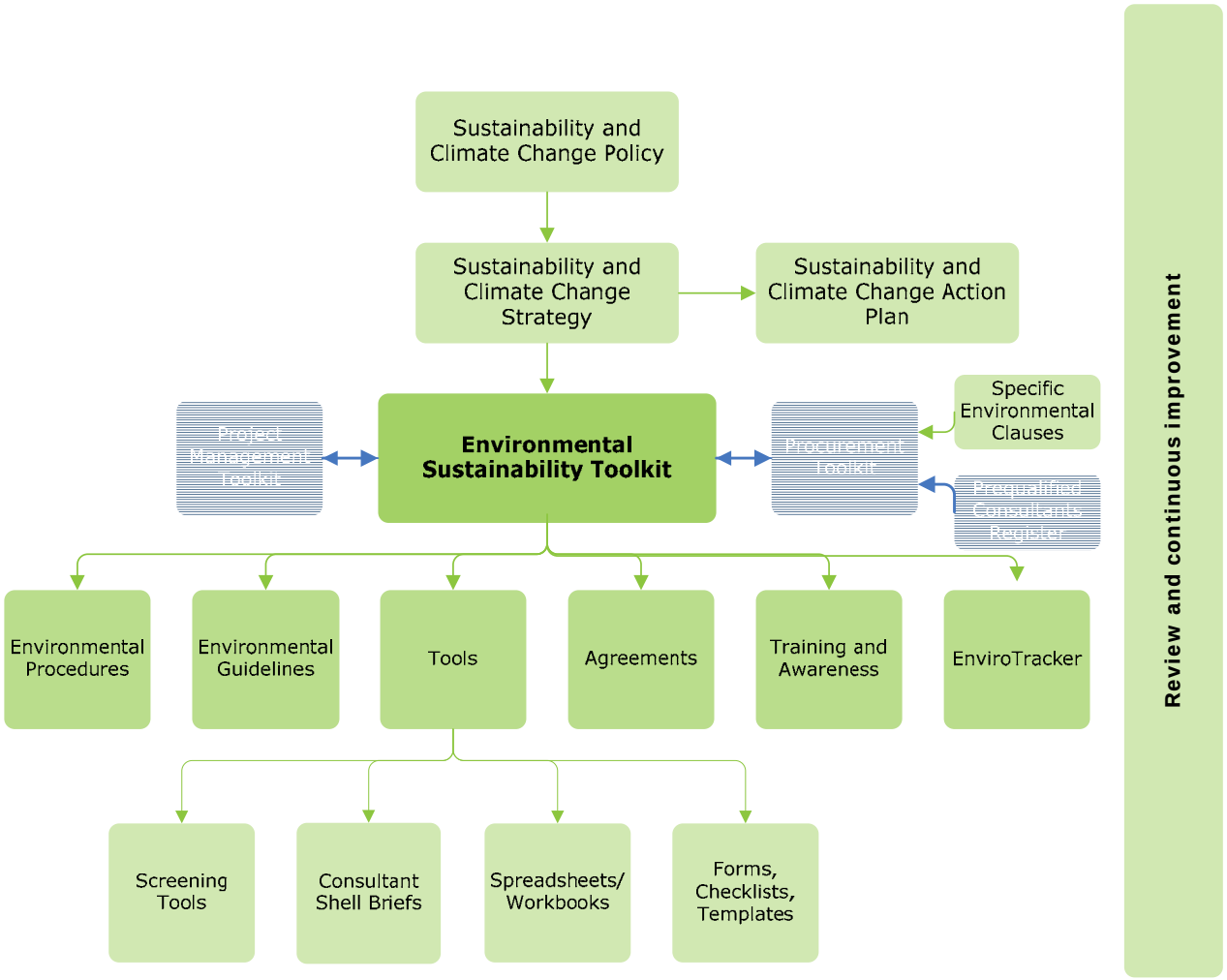


Figure 2. VicRoads Environmental Sustainability Toolkit elements

2.3 Environmental management during pre-construction and pre-maintenance

The best environmental outcomes come from comprehensive project planning. Projects can be developed and modified in the planning stages to realise significant benefits for the environment and projects alike such as:

- selection of an alignment to avoid or minimise environmental risks and harm
- reduced need for expensive mitigation measures such as bridges, noise attenuation, fauna underpasses and fencing
- selection of more environmentally sustainable road construction materials
- reduced need for ongoing monitoring.

Project planning and the identification of objectives and mitigation measures is undertaken by VicRoads. Contractors are encouraged to further enhance environmental outcomes when undertaking work in a design and construct contract.

The Integrated VicRoads Environmental Sustainability Tool (INVEST) is a means of assessing the sustainability opportunities for road projects. It sets the standards for best practice and innovation in sustainable design and practices and is a useful tool for investigating and incorporating sustainability initiatives in road projects early in the planning phase.

As part of the Project Review Committee approval process for all new construction projects, each proposal is required to be assessed against the transport system objectives as detailed in the Transport Integration Act 2010. This includes the sustainability rating that will be achieved by the project.

All new major projects are required to be assessed against INVEST immediately prior to completion.

The roles and responsibilities for environmental management during pre-construction and pre-maintenance are detailed in the Environmental Sustainability Toolkit Procedure titled “Planning and Development”.

INVEST assesses road projects across 11 categories of sustainability. Within each of the categories, sustainability indicators identify aspects that will assist in developing and delivering a sustainable project.

2.3.1 Environmental Investigations Screening Checklist

It is essential to understand the environment in which the construction project or maintenance program is being delivered so as to:

- develop an approach that avoids or minimises environmental impacts
- understand environmental risks that may arise during the project
- identify and obtain necessary permits and approvals
- identify potential environmental management measures that may be required.

The first step to understanding the environment is to complete the Environmental Investigations Screening Checklist (provided in the Environmental Sustainability Toolkit). This checklist assists in identifying what surveys and investigations are needed to gain a sufficient understanding of the environment and to assess and manage potential environmental risks.

The checklist should be completed based on:

- project information
- available site environmental information such as previous surveys or management plans
- specialist advice e.g. from Environmental Sustainability and Regional Environmental Officers
- consultation with key environmental stakeholders e.g. government agencies, local councils, heritage bodies, regional Catchment Management Authorities.

Source: VicRoads

Consultation with key environmental stakeholders will provide important information for completing the Environmental Investigations Screening Checklist.

It is important to exercise due diligence in the completion of this checklist in order to reduce the likelihood of encountering unidentified environmental issues while undertaking works.

Due diligence involves the process of assessing and substantiating relevant information and issues with the aim of becoming comprehensively informed and better placed to identify the investigations required for the works. Where limited information is available, specialist consultant advice may need to be sought to enable sufficient understanding of the environment to complete the checklist.

The Delivery Manager must review and sign off the Environmental Investigations Screening Checklist.

2.3.2 Surveys and investigations

The surveys and investigations undertaken to address issues identified in the Environmental Investigations Screening Checklist are critical inputs into the planning and design process.

It is only when the detailed investigations on the existing environment are completed that road projects can really be designed to minimise environmental impacts.

Survey and investigation reports should identify potential mitigation measures and all permits and approvals required for the proposed works. Initial investigations may, at times, identify the need for more detailed (targeted) investigations to occur. In some cases, permits and approvals may be required for surveys and investigations to be undertaken. It is usually the responsibility of the person undertaking the survey to obtain these permits and approvals.

Template shell briefs for environmental investigations provided in the Environmental Sustainability Toolkit must be used when preparing the documentation required to engage a consultant. This will ensure that consultants are directed to undertake the appropriate level of investigation and provide a report that provides all of the required information.

VicRoads prequalification register contains a list of consultants for the various environmental specialist areas that must be engaged for environmental investigations. Previous performance reports of potential consultants should be reviewed prior to engaging a consultant.

2.3.3 Referrals, permits and approvals

The investigations undertaken to understand the environment of the project are required to identify areas or aspects of significant environmental or cultural value. In addition, the investigations will also identify any permits or approvals that are, or may be, required.

There are a number of permits and approvals that may be required and must be obtained prior to works commencing. They include planning consent, native vegetation removal permit, Flora and Fauna Guarantee (FFG) Act Permit etc.

The VicRoads Environmental Permit Roadmap lists permits and approvals that may be required. **This list is for guidance only and may not contain all relevant permits and approvals necessary for all projects.** Advice from Environmental Sustainability, Regional Environmental Officers or appropriate consultants should be sought where there is uncertainty over the types of permits and approvals required.

Source: VicRoads

All use of non-potable water for road construction and maintenance is managed through a project-specific Environment Improvement Plan (EIP). The EIP details the potential risks and proposed management of non-potable water from source to use. Where Class A non-potable water is proposed for use, the EIP must be approved by the Environment Protection Agency (EPA) or an appointed EPA auditor and the Department of Human Services. EIPs for works requiring greater than 1ML/day or that propose using water sourced from industrial processes require signoff from the EPA or an EPA appointed auditor.

Projects with the potential to impact on significant environmental aspects may require a formal environmental assessment under State legislation, (Environment Effects Act [1978]) or Commonwealth legislation (Environment Protection and Biodiversity Conservation Act [1999]). Guidance on the referral processes in these instances is provided in the Environmental Sustainability Toolkit or through relevant government websites.

Even though a project may not require formal assessment, the Responsible Authority may still attach environmental conditions to a project.

2.3.4 Environmental commitments and handover

In many instances, the information obtained during the planning and development of a project needs to be handed over to another project or regional team for delivery.

Handover of all relevant environmental information and documentation should include:

- the completed Environmental Investigations Screening Checklist
- all environmental commitments or conditions of approvals and permits
- details of environmental and cultural heritage assets within the project area and management actions required
- reports from surveys and investigation undertaken during the planning phase
- relevant details of stakeholder consultation during the planning phase
- any further work required to be undertaken prior to work beginning eg outstanding surveys, investigations, permits and/or approvals.

All environmental commitments related to the project must be documented in a Table of Commitments and the Commitments Database (see Environmental Sustainability Toolkit).

The Table of Commitments should identify permits and approvals obtained (or that need to be obtained) and any commitments made during the course of the project through the approval process or resulting from community consultation.

Source: VicRoads

Details of cultural heritage assets in roadsides such as the 1850's Djerriwarrah Bridge in the Western Highway road reserve, are provided to the project or regional team at handover.

2.3.5 Environmental risk assessment

A key requirement of VicRoads Environmental Management System is to proactively identify potential environmental impacts and mange these through a risk-based approach.

Risk management is a fundamental principle that is integrated into VicRoads' everyday work practices and corporate procedures. Risk management is an iterative process that supports a detailed understanding of a wide range of activities and events, their likelihood of occurrence and the consequence to the community and the environment if they do occur.

An initial risk assessment is undertaken in the pre-construction and pre-maintenance phases of all projects. The potential impacts of proposed construction and maintenance activities on all aspects of the environment are identified. The level of risk to the environment is assessed based on the findings of specialist investigations, relevant legislative requirements, VicRoads' past experience and input from stakeholders.

The commercial and legal consequences of failure to adequately identify, understand and manage risks on projects can be substantial.

Small projects or activities may be risky if they involve unusual or non-routine activities, while in large projects, otherwise quite standard risks may take on extra significance due to the large scale of the works.

Risk treatment actions and business improvements are developed to avoid or mitigate the environmental risks identified. Further detailed risk assessments may be undertaken as planning activities progress, depending on the significance of the environment and nature of the proposed activities.

Environmental Risk Assessment templates are provided in the Environmental Sustainability Toolkit. These templates are generic and must be customised to specifically address the specific proposed works and the environmental sensitivities of the project area.

Risks identified in the Environmental Risk Assessment must be transferred into the Lotus Notes database called the Contract Risk Register (CRR) which is used to review the risks during the delivery of a project. Any new risks identified during delivery are assessed and added to the CRR, with mitigation measures implemented accordingly. The environmental risks in the CRR must be regularly reviewed throughout the delivery stages of projects.

The results of environmental risk assessments are a key input to the preparation of the Project Environment Protection Strategy (PEPS) and specification clauses.

2.3.6 Project Environment Protection Strategy

A Project Environment Protection Strategy (PEPS) is the overarching strategy developed by VicRoads to manage the environmental risks of a project.

The PEPS documents all identified environmental values and potential environmental impacts arising from a proposed construction or maintenance project and sets out the commitments and objectives to be achieved.

When is a PEPS required?
All construction and maintenance projects require a PEPS to be prepared where any risk identified in the environmental risk assessment is rated as medium or above. The PEPS is required to be signed off by the Project or Regional Director.

Projects do not require a PEPS where investigations have identified that there are no significant environmental values and the risk assessment has determined that all environmental risks are low. The environmental requirements in this instance are managed through the implementation of standard contract specification clauses.

PEPS templates are provided in the Environmental Sustainability Toolkit to meet the varying requirements of the particular Contract Specification under which the project will be delivered. A PEPS Checklist has been developed to assist in the ongoing review of the PEPS. This, together with guidance for the preparation of a PEPS, are provided in the Environmental Sustainability Toolkit on Exchange and within the PEPS templates.

As a minimum, the PEPS must be developed to contain:

- project description
- description of the local environment
- planning and environmental commitments
- environmental risk assessment
- project monitoring and incident response requirements.

The level of detail provided in the PEPS will depend on the types of proposed works, the sensitivity of the local environment and the regulatory requirements of the project.

The PEPS must be regularly reviewed during the preparation, delivery and at completion of a project, to ensure that it accurately reflects the risks of project activities and that the commitments made are reviewed and actioned within the required time frames.

The PEPS and PEPS Checklist must be approved by the Project or Regional Director and provided to the contractor, together with the Contract Specification.

The PEPS provides essential information for contractors to prepare their Environmental Management Plans for the project and is the key document used to determine which environmental clauses need to be included in the Contract Specification.

Source: VicRoads

Road construction and maintenance projects where any risks are assessed as medium or higher require a Project Environment Protection Strategy.

2.3.7 Contract specification clauses and contractor selection

It is critical for successful environmental management that Contract Specifications developed for road construction and maintenance contracts contain clauses that will bind the contractor to fulfil all requirements of the project.

The standard environmental clauses provided in Contract Specifications have been developed from best industry practice, legislative requirements and VicRoads knowledge gained through the delivery of road projects.

All environmental commitments and all risks and controls documented in the Environmental Risk Assessment must be addressed by the environmental clauses of the Contract Specification. The Contract Specifications must also clearly identify what permits and/or investigations have been obtained and any additional permits required that must be obtained by the contractor. Non-contractual commitments documented in the PEPS Commitments Table must be identified and assigned to a relevant VicRoads person for implementation.

Even minor maintenance projects may have the potential to impact on significant environmental or cultural heritage values and may therefore warrant inclusion of special environmental clauses in the Contract Specification.

Significant construction projects generally utilise the Design and Construct 1 (DC1) contract shell for the preparation of the Contract Specification. All other construction and maintenance projects utilise contractual requirements associated with either Standard Contract Sections 176 or 177, depending on the level of environmental risk.

Section 176 is appropriate for use in contracts that have been assessed as having low environmental risk. All other contracts should utilise Section 177. Relevant clauses of Section 177 can also be added as 'Special Clauses' in the Section 176 Contract Specification where only a few specific environmental risks have been identified as requiring management.

Source: VicRoads

Installation of 'Welcome to Country' signage was a requirement of the Cultural Heritage Management Plan (CHMP) for the Western Highway – Anthonys Cutting Realignment Project. Specific clauses in the Contract Specification required the contractor to comply with all CHMP conditions.

Contractors must meet prescribed pre-qualification requirements for projects which require a formal tender process. This includes a demonstrated capacity to manage environmental aspects of their operations through an environmental management system.

A process has been developed to allow the evaluation of sustainability within the tender process. In this process, a more environmentally sustainable tender submission may be awarded a contract in preference to the lowest tender price submission, on the basis that it provides greater value to VicRoads. Primarily this evaluation is around the areas of sustainable materials and sustainable technologies.

Following contract award, VicRoads prepares a detailed operational level risk assessment based on the Contractor's proposed program of works and construction techniques. This risk assessment builds on preceding risk assessments and is used to develop the Surveillance Plan and Audit Schedule.

2.4 Environmental management during project delivery

Road construction and maintenance projects are generally delivered by contracts administered by VicRoads. The contractor is largely responsible for determining the sequence and program of works and the specific construction techniques to be used.

Details of specific roles and responsibilities of VicRoads personnel for environmental management during construction and maintenance are detailed in the Procedures section of the Environmental Sustainability Toolkit.

2.4.1 Contractor EMS and/or EMP

Contractors are required to submit, implement and maintain environmental documentation for construction and maintenance contracts that will, as a minimum, meet the requirements of the Contract Specification.

The DC 1 Contract Specification requires the contractor to submit to VicRoads their Environmental Management Strategy (EMS). The EMS describes the contractor's commitment to, and approach for, managing the various environmental risks associated with the project. The DC 1 Contract Specification also requires the contractor to prepare an Environmental Management Plan (EMP) that must be site specific and include detail regarding the processes and controls required to manage the works.

For Section 176 and 177 contract shells, the contractor is required to develop an EMP only. However, this EMP must include the contractor's strategy for the management processes, together with site specific information regarding the processes and controls required to manage the works.

All EMPs must be submitted with a reference table indicating what section of the EMP addresses which specific Contract Specifications.

The contractor's environmental documentation (EMS and/or EMP) becomes operational reference documentation for implementing the environment management measures identified in the Contract Specification that in turn reflects the environmental objectives, commitments, risks and actions documented in the PEPS.

A review of the contractor's environmental documentation must be to ensure that it contains adequate controls/processes to avoid and/or mitigate environmental impacts associated with construction activities and complies with the requirements of the Contract Specification.

The review is to be undertaken prior to the release of the "Hold Point" that is incorporated into each Contract Specification.

Source: VicRoads

Dust suppression techniques and continuous monitoring are required to be included in contractor EMPs to ensure that dust generated by construction processes do not create an adverse impact on neighbouring sensitive uses such as residences, parklands or commercial agriculture and viticulture.

The Hold Point stipulates that works shall not commence until the Superintendent is satisfied that the EMS and/or EMPs meets the requirements of the Contract Specification.

Where the DC1 shell or Section 177 is used, the contractor is required to arrange an independent review of the EMS and/or EMP by a prequalified environmental auditor listed in the VicRoads Prequalification Register under the category "Environmental Auditor (Construction)". The project delivery team should also review this documentation, particularly focussing on high or extreme risks, as identified in the PEPS.

The auditor is required to sign a declaration to state that the review found the EMS and/or EMP to:

- address the environmental requirements of the contract
- comply with all applicable codes of practice and guidelines
- satisfies all relevant legislative and regulatory requirements.

Where Section 176 is incorporated into the contract specification, VicRoads undertakes the review to assess if it meets the requirements of the Contract Specification. Once satisfied, the Hold Point can be released by the Superintendent.

2.4.2 Monitoring, surveillance and audit

Contractors are required to undertake their own monitoring and audits for construction activities, including works undertaken by subcontractors employed on their behalf. The contractor's monitoring requirements are detailed in the EMP and must as a minimum reflect the requirements of the contract specification.

In addition to the contractor auditing and monitoring of the works, VicRoads also conducts its own surveillance and auditing to assess the contractor's compliance with the EMS and/or EMP and the requirements of the Contract Specifications through:

- observation of project activities on a day-to-day basis
- periodic risk based surveillance of the effectiveness of environmental controls and processes implemented on site
- audit of the implementation and effectiveness of the EMS and/or EMP and the effectiveness of the controls and processes implemented on site.

VicRoads develops and implements a Surveillance Plan and Audit Schedule for each project based on the contractor's proposed program of works and construction techniques and the risks identified. The Surveillance Plan details the frequency, responsibilities and level of surveillance appropriate for the construction activity related to the identified risk.

Surveillance records are entered into the VicRoads Lotus Notes database called the Surveillance and Management System (SuMS). It is the responsibility of the Contract Administrator to ensure adequate records are entered which comprehensively document what records or controls have been assessed and whether or not compliance was observed.

Surveillance Plans and Audit Schedules are reviewed on a regular basis and revised as necessary to assess if the activities occurring on site are being appropriately managed by the contractor in accordance with the Contract Specifications, the EMS and/or EMPs and regulatory requirements.

Source: VicRoads

Surveillance and audits provide the important checks that environmental risks are being managed according to contract specifications and approved environmental management documentation.

Independent audits are commissioned by VicRoads and undertaken by environmental auditors registered on the VicRoads Prequalification Register under the category “Environmental Auditor (Construction)”. A template “Environmental Audit (Construction) Brief” shell brief is provided in the Environmental Sustainability Toolkit. It outlines the standard audit requirements for the audit of a contractor's compliance with their environmental obligations on VicRoads construction projects.

These independent audits assess the contractor's performance in regards to:

- Contract Specifications, regulatory requirements and/or permit approval conditions
- the adequacy and effectiveness of the current Environmental Management Strategy or Plans
- the adequacy and effectiveness of procedures and environmental control measures on the site
- the completeness of monitoring records and evidence of actions taken to address non conforming or incomplete monitoring data
- the implementation of actions and close-out of non-conformances raised on previous audits (if applicable).

The frequency of audits is based on the nature of the project and level of environmental risk associated with the activities being undertaken. Generally they are undertaken at a three or four monthly interval. The contractor must be informed of all non-compliance observed during audits and is expected to address these within a suitable timeframe.

Several mechanisms, such as the issuing of a letter, works memorandum or a non-compliance can be used to formally notify the contractor that improvements are required. Contractors are required to formally respond to such notifications with evidence that corrective action has been implemented, including updating systems documentation such as EMPs.

Internal audits are periodically conducted by the Environmental Sustainability Business Area to assess the implementation of VicRoads and contractors environmental management systems. Audit reports are provided to projects for investigation and preventative and corrective action.

These systems and processes in place for monitoring, surveillance and audit define and document an audit trail that supports and demonstrates continual improvement in environmental management on roads projects.

2.4.3 Incident reporting

An environmental incident is an event that has caused pollution or harm to the natural or cultural environment. All incidents that occur on VicRoads managed land or off-site either by VicRoads, a contractor or a third party are required to be reported in the VicRoads incident reporting system, Enviro Tracker.

Enviro Tracker is a web-based and email supported tool designed for prompt and accurate reporting of incidents. Enviro Tracker records details of the incident and of the actions taken. All incidents are investigated to identify the root cause of the incident and appropriate preventative actions that are to be implemented. Incident reporting and the development of preventative actions provide an important mechanism for continual improvement within VicRoads and contractors systems.

Incidents are to be entered into Enviro Tracker within 7 days of their identification. The incident investigation and identification of preventative actions is to be completed within 30 days; and the completion of the preventative actions within 90 days of the incident identification.

Following the investigation and implementation of preventative actions, all incidents undergo a review and signoff by VicRoads officers with the appropriate level of authority.

VicRoads reviews and reports environmental incidents internally on a monthly basis, and externally on an annual basis, through the corporate annual report. Incident reporting and the development of preventative actions provide an important mechanism for continual improvement within VicRoads and contractors systems.

2.4.4 Contractor environmental performance review

Contractor performance reviews should be periodically completed throughout the delivery, and at the completion, of a project in accordance with VicRoads Procurement procedures.

Source: VicRoads

Incident investigation and the development of preventative measures is a key process in managing environmental risks in road construction and maintenance and driving continuous improvement in performance and environmental management systems.

The evaluation of the contractor's environmental performance considers:

- significant non-compliances/environmental incidents
- surveillance and audit report findings
- compliance with the Contract Specification and best practice
- repetition of the same non-conformance/ environmental incidents
- failure to implement corrective actions
- proactive identification and addressing of environmental issues
- quality of the Environmental Management Strategy and/or Plans.

It is important that the assessment of a contractor's environmental performance is based on factual evidence as a contractor's pre-qualification status may be reviewed if performance is demonstrably below the requirements and if appropriate corrective actions are not implemented.

2.5 Post-project review

VicRoads undertakes a post project review following practical completion of a project, in accordance with the Project Management Toolkit. The review is attended by both VicRoads and the contractor. A "Project Key Learnings Report" is prepared that provides a summary of how the project performed in terms of scope, cost, time, environment and quality and sets out actions to be taken to advise others of the learning. A separate "Project Key Learnings Report" is required for each section of a project that has multiple sections and multiple practical completion dates.

The "Project Key Learnings Report" is an important tool for driving continual improvement in environmental management on future road projects and in VicRoads systems, including the Environmental Management System.

2.6 INVEST assessment

At the completion of road projects, evidence of the incorporation of a range of sustainability measures can be submitted to the Environmental Sustainability Business Area to assess the project against INVEST. Evidence of sustainability achieved in the project is assessed by representatives of the Environmental Sustainability Business Area together with an independent expert panel. A level of up to five stars (outstanding performance) can be awarded to the project.

Although INVEST is mainly applicable to large construction projects, the tool will be adapted in the future to assess its application for smaller construction projects as well as maintenance activities.

Source: VicRoads

The Western Highway – Anthonys Cutting Realignment Project is the first to have been assessed against INVEST. The project was recognized with 2 ½ stars for sustainability initiatives implemented.

2.7 Handover to Regional Services

Once the planning, development and delivery of a construction project is complete it is usually handed over to another team to undertake the ongoing maintenance of the road asset. The process and associated requirements for handover following practical completion are the same as described in Section 2.3.5 (Environmental Commitments and Handover) of this guideline.

The environmental component of the handover includes:

- updated environmental commitments register with outstanding commitments highlighted
- details of known environmental and cultural heritage assets within the project area and management required
- relevant manuals and operational information related to assets
- any further work required to be undertaken eg post construction environmental investigations
- details of environmental risks requiring ongoing management
- permits and/or approvals obtained for the project and the status of all associated conditions.

Source: VicRoads

Relevant maintenance requirements, manuals and operational information regarding environmental assets must be passed on to the maintenance team at project handover such as those needed for the solar panels on the Tulla-Calder interchange noise barrier.

For further information please phone **13 11 71**
or visit **vicroads.vic.gov.au**

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