Investment Lifecycle and High Value/High Risk Guidelines

IMPLEMENT



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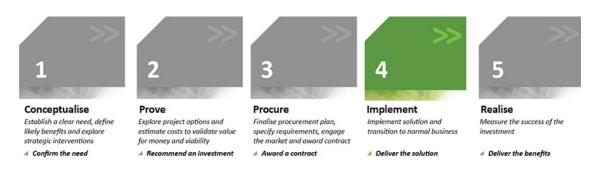
1. Context

Share the vision and work together with stakeholders to deliver it.

1.1 Purpose of the guideline

This guideline addresses the processes and requirements of solution implementation, the fourth stage of the investment lifecycle, including construction and commissioning, implementation or delivery. However because this guideline is intended for all project types, the broader term, solution implementation, will be used here.

Solution implementation is about delivering the project according to a contract established in stage 3: prove. As well as essential contract management, project governance and risk management tasks, there may be significant stakeholder management demands, including an expectation that delivery will be on time and on-budget.



This guideline is concerned with the fourth 'implement' stage of the investment lifecycle. It is part of the **Investment lifecycle and high value/high risk guidelines** and supplementary material. Of particular relevance for this stage are the technical guidelines on the procurement strategy, governance and risk management used in the development of the business case.

The guidelines address specific requirements for projects classified as 'high value/high risk' ¹ investments, but can be used for any investment, whatever its type, complexity or cost. It also refers to related processes and guidance material regarding solution implementation available at www.lifecycleguidance.dtf.vic.gov.au

Note: The guidelines are not a comprehensive source or an alternative to project management techniques. Government agencies are encouraged to adapt these guidelines to their specific requirements and to seek advice about specific project issues if they are not covered here.

¹ Projects exceeding \$100 million are considered High Value/High Risk or otherwise classified as high risk are subject to additional processes.

1.2 The implement phase

After making a judgement about the relative policy and strategic merit of an investment, investors and decision-makers need a robust understanding of the solution: that it is the best value-for-money option, and that it can be delivered as planned. Gaining an understanding of a project's deliverability involves planning in detail its costs, key sources of uncertainty, timelines and the critical dependencies associated with it.

Appropriate shaping of solutions at an early stage will help avoid investments that unnecessarily replicate infrastructure or miss opportunities to align solutions with broader policies and strategies, or fail to take advantage of new thinking and technologies. It will allow decision makers to consider solutions integrated or coordinated with other projects, for example integrating a new railway station and additional line with a proposed grade separation.

Stage 4: implement can only occur after the planning and appropriate authority/funding approval is in place. Solution implementation has three general phases:

- 1. Initiation;
- 2. Contract and delivery (construction) administration; and
- 3. Commissioning and handover.

During this stage it is essential to monitor and control the project by managing:

- time, cost and quality aspects;
- risks, and any issues that emerge (including testing the ongoing investment logic);
- change that results from the realisation of a risk or treatment of an issue;
- relationships and communication with suppliers for the procurement;
- testing of sub-components and commissioning activities;
- training of personnel who will be using the new capability, facility or system;
- effective handover to the 'user';
- required documentation, warranties, operation and maintenance manuals and 'as-built' drawings; and
- relationships with stakeholders, particularly clients and end users.

1.3 Tools and references

1.3.1 Building policy

The Department of Planning and Community Development is responsible for building policy and legislation in Victoria. This includes managing the regulatory framework and public construction procurement, tendering and contracting procedures and practices. Public construction includes the planning, building and maintenance of constructed assets such as schools, hospitals, public housing, police stations, courthouses, water, road, rail and transport infrastructure and much more.

The Minister for Finance is responsible for policy which prescribes procurement, tendering and contracting procedures and practices for public construction in Victoria. The DTF works closely with Victorian government agencies that deliver public construction projects. A variety of information and resources applicable to public construction in Victoria, including

Ministerial Directions under the *Project Development and Construction Management Act 1994*, are on the following websites:

http://www.dpcd.vic.gov.au/planning/buildingpolicy/publicconstruction and at www.dtf.vic.gov.au/viccode

1.3.2 Investment Management Standard (IMS)

Often Government agencies make the mistake of only using project reporting to track the status of their project not their investment. Project reporting often only covers the project procurement and implementation phase, mainly tracking the project against time and cost expectations. This has significant limitations. Even if a project is successfully kept to time and budget constraints, the original drivers for the investment may no longer be valid.

DTF's IMS provides tools to help investors define and validate requirements across the investment lifecycle—including the problem, the benefits of addressing the problem, the strategic response, and the solution.

DTF encourages all departments and agencies to continue to use IMS tools during the solution implementation phase. The IMS tools (investment logic map, investment concept brief and benefit management plan) establish the context and value the investment is likely to provide – early in the project's lifecycle. This gives a baseline to help track the status of the investment.

Investment reviews are reviews performed by or for the investment governance body (project steering committee or project board) to determine the continued relevance of the investment. Investment reviews are usually performed at pre-determined intervals (generally 6 monthly) during the investment lifecycle. The reviews can assist the investor and the project board by testing that the underlying investment logic remains sound. (There is more information at www.dtf.vic.gov.au/investmentmanagement.) The investor can use this information, with project performance data against cost and schedule expectations, to make informed decisions about the future of the investment.

Based on the current relevance of the investment logic and the project status, the project steering committee may decide to continue, discontinue or vary the terms for implementing the investment (subject to Government approvals where appropriate). The project steering committee endorses the reviewed investment logic map and benefit management plan, incorporating ongoing investment decisions, as valid at that decision point.

1.3.3 Construction Supplier Register

The Construction Supplier Register² is pre-qualification scheme for building and construction industry consultants and contractors. It is available by arrangement with the Department of Transport to statutory authorities, school councils and hospitals as well as to other approved Government and non-Government organisations.

The Register and its associated pre-qualification scheme support the implementation of Ministerial Direction No. 1: Tendering Provisions for Public Construction and benefits government and suppliers alike through the consistent application of suitable pre-qualification criteria and reduced tendering costs.

² http://www.transport.vic.gov.au/services/csr

1.3.4 Victorian Construction Code and Guidelines

The Victorian Government's Code of Practice for the Building and Construction Industry (the Victorian Code) adopts key elements of the National Code of Practice for the Construction Industry (the National Code). The National Code was developed jointly by the Commonwealth, state and territory governments in 1997. It contains industrial relations, occupational, health, safety and rehabilitation (OHS&R) and workforce reform elements that are adopted by the Victorian Code.

The guidelines apply to all public building and construction work that is the subject of an EOI or RFT on or after 1 July 2012.

Implementation Guidelines were developed to help achieve the objectives of the Victorian Code. The Guidelines are directed to supporting the outcomes of compliance, productivity, safety and freedom of association.

Government departments, other public bodies and principal contractors are responsible for ensuring the application of, and compliance with these Guidelines through:

- ensuring that compliance is included as an integral component of their contract management procedures; and
- all expressions of interest, tender and contractual documents clearly setting out the requirements.

Copies of the Victorian Code, Guidelines and model tender and contract documentation are available at www.dtf.vic.gov.au/viccode. The Construction Code Compliance Unit can be contacted by email at vicccc@dtf.vic.gov.au.

2. Solution implementation

2.1 Overview

Stage 4: Implement takes the project from the end of the tender stage (when the scope of the project has been defined, a contract has been signed and the costs to deliver the project are known) to project handover (when the asset or service is available for end users).

Fundamentally, the solution implementation phase translates an initiative (defined in procurement documents such as the tender and specifications) into a set of measurable outcomes to be reached in the construction (or development) and commissioning stages. This is usually realised through a contract with a third party.

Key activities in this phase include:

- the initiation phase for construction or development;
- contract administration, including progress checkpoints, inspections and pre-occupancy review; and
- commissioning and handover.

Figure 2.1: Solution implementation – key elements



This section discusses each of these activities, with a checklist designed to assist investors.

Hints:

- Involve end users, the service delivery agency and operators early in the solution implementation phase.
- Review risks regularly during this phase, and start identifying risks for the next stage of the project.
- Ensure the project schedule has a contingency should there be a delay in the handover date.

2.1.1 HVHR projects

High value/ high risk (HVHR) asset investments (TEI over \$100m and/or are high risk or are nominated by government) require greater scrutiny and support. HVHR projects are subject to enhanced rigour during the investment development stages, Gateway reviews, Treasurer's approval at key stages in the project lifecycle, and oversight to help ensure that these major projects are delivered on time and on budget, with the agreed benefits.

At Stage 4: Implement, HVHR projects are subject to closer ongoing DTF oversight of:

- time, scope and budget reporting and analysis;
- governance effectiveness;
- risk assessments and mitigation plans; and
- any recommended interventions or remedial actions.

During Stage 4: Implement, a Gate 5 Readiness for Service Review must be conducted. The Gate 5 review occurs once the asset is ready for delivery. This review tests whether the project is ready to provide the required service by confirming the current phase of the contract is complete and documented, the contract management arrangements are in place and current, organisational transition processes are in train and the business case remains valid.

Figure 1 illustrates the steps that occur in the Implementation stage for HVHR projects.

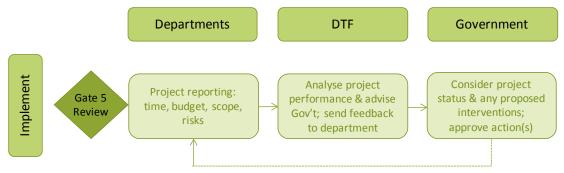


Figure 1: Responsibilities under HVHR framework at Stage 4: Implementation

During Stage 4: Implement, DTF analysts will:

- Assist project teams report and monitor delivery progress
- Provide regular advice to DTF Secretary and BERC every 6–8 weeks on project time / budget status, risks and any recommended interventions
- Participate in steering and other project committees (where feasible / appropriate)

While DTF has a role in monitoring to ensure are projects succeeding, this does not replace departmental accountability for delivering the investment and its outcomes.

More information about the HVHR Framework can be found on the dtf website here.

2.1.2 ICT projects

For ICT projects, it is expected that a staged approach to project delivery will be taken throughout the lifecycle of investments, as outlined in the ICT technical guideline. Under a staged approach, the business case should be revisited and updated at the end of each stage of the lifecycle providing:

- details of actual outcomes and spend for the stage just completed;
- refined detail at a high level of accuracy for the next stage of the project. This should include refined project cost estimates, including contingency, and a detailed project plan; and
- refined detail for each future project stage based on new information and understanding gained through the previous stage.

This updated full business case will form the basis for consideration and approval to proceed to the next stage.

There are several factors for departments to consider during delivery of ICT projects, particularly:

- active management of vendor contracts to ensure delivery to contractual agreements;
- maintaining a benefits management plan to track the realisation of benefts, as well as benefits realisation costs;
- actively managing the scope of the project, to ensure what is delivered reflects the endorsed full business case and delivers the agreed project benefits;
- undertake stakeholder engagement and business readiness activities in order to achieve stakeholder acceptance and utilisation of the new solution;
- ongoing risk management and monitoring involving DTF; and
- ensure formal governance structures are in place to provide appropriate forums for ongoing project control, monitoring and effective decision making.

2.2 Initiation

In initiating the solution implementation phase, investors in consultation with the project management team and project board need to reconsider a number of activities that they planned and considered in the earlier phase of the project lifecycle. These include:

- confirming project governance arrangements (refer technical guideline on Project Governance);
- collating and reviewing all critical project documentation (including the Investment Business Plan extracted from the business case, the contract, the project plan and the risk register);
- setting up and implementing processes for project administration, including monitoring and reporting;
- making sure there are sufficient resources (human, financial and systems) to put the contract into effect and manage it efficiently;
- identifying program activities to administer the contract through a planned transition to service delivery; and
- setting up key related processes and ensuring they continue to develop. These include managing:
 - organisational change;
 - stakeholders;
 - risks and issues;
 - benefits; and
 - knowledge.

Knowledge management in this context includes recording, retention, dissemination and application of project and contract information to ensure improvement and information continuity throughout the investment lifecycle. See section 4.5 for more information.

Figure 2 shows the main elements of the initiation stage. These elements link the earlier project lifecycle activities and the solution implementation phase.

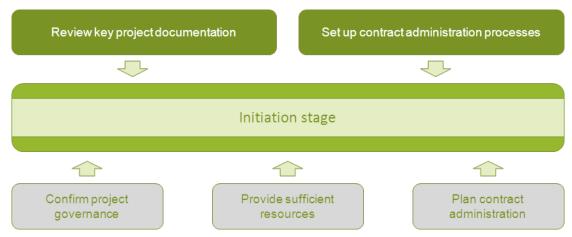


Figure 2: Key elements of the initiation phase

Project initiation is very much about establishing healthy relationships both internally and externally, particularly with the contractors who are delivering the asset or service. It is important to clearly define roles and responsibilities, and discuss these with all parties. They should be very clear, particularly where there are personnel changes during (or moving into) the solution implementation phase.

Effective solution implementation also requires key project staff to have a comprehensive understanding of:

- the project requirements;
- the desired project outcomes;
- how the project contributes to client service delivery;
- key sources of uncertainty (risks) and lead indicators (issues) that these risks might emerge; and
- what needs to be done to make the transition to service smooth and planned.

Developing a comprehensive understanding of the project requirements is essential. The project team is expected to develop these in a consistent way throughout the project documentation, planning and project implementation stages.

2.2.1 Review documentation

To implement the solution effectively, the project team is expected to be familiar with, and review, the project documentation. They are also expected to be proficient with managing the delivery of the project in accordance with that documentation.

Typically, the documentation follows project management principles. This includes important regulatory requirements (compliance and approvals) for project implementation.

Depending on the nature or size of the project, the documents may include:

- the updated project business case, translated into an investment business plan;
- Gateway Review Process Gate 4: Tender Decision report, if undertaken;
- key contract documents;
- design reports and supporting investigation reports;

- compliance approvals and conditions affecting the project, and information on outstanding approvals;
- the updated project management plan (or stage plan or equivalent);
- the updated risk management plan (including a risk register), with particular emphasis on risks to the successful management of (and within) the contract, project implementation, commissioning, handover, operation and potential defects maintenance;
- the issues log and change control process;
- project delivery plans;
- stakeholder management plans; and
- organisational policies regarding contract management.

The attainment of compliance approvals can be a significant task involving consideration of a wide range of legislation and policies. Appendix A provides a case study on the Channel Deepening project. Appendix A1 outlines the range of relevant legislation and policy that was considered and Appendix A2 provides a diagram of the iterative process of project development in compliance with the environmental evaluation framework.

2.2.2 Confirm governance

Effective governance arrangements are central to solution implementation. However, governance roles vary according to the type of contract, agency requirements and the characteristics of the project. For small contracts, one person may act in a number of roles. The technical guideline on Project Governance provides more detail on these issues.

The contract documents should clearly state the accountabilities, roles and responsibilities of each party to the contract. It is critical to avoid duplication or gaps in responsibilities. Table 2.3 summarises typical roles and responsibilities.

Table 2.3: Typical roles and responsibilities for contract management

Title	Typical role and responsibility
Owner, principal or client	The organisation or person identified in the contract as the contracting entity. The owner is usually responsible for paying for work undertaken.
Project board, project steering committee, governance committee or project control group	A group consisting of key agency and government stakeholders that is responsible for guiding the project. It may have the following functions: • approving changes to the project and its supporting documentation.
	 monitoring and reviewing the project;
	 resolving significant project conflicts and issues; ³ and
	formally accepting project deliverables.
Project director or project sponsor, senior responsible owner	The person representing the owner, who is ultimately accountable and responsible for the project
Project manager	A person responsible for delivering the defined project
Project team	The supporting team to the project manager
Superintendent (other terms may be used under	Person nominated by the principal to administer the contract. Obligations may include:
different contracts)	 verifying that the work complies with the contract requirements;
	 certifying that the work is satisfactorily completed and assessing and valuing progress and final claims;
	 instructing the contractor (through Superintendent's Instructions) where the contractor is seeking approval or clarification of a contract requirement so they can proceed;
	 ordering and valuing variations to the work and (on approval of the Project Board or other relevant group) approving variations within their designated authority; and
	 keeping the Principal informed of progress and contractor performance.
Superintendent's representative	Represents the superintendent, with delegated authority under the contract
Contractor	An organisation or person with an obligation to perform certain works or services as described in the contract documents
Contractor's representative	Person nominated by the contractor to supervise and manage the work under the contract.

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 $^{^{3}}$ The board or steering committee resolves issues of significance that have been escalated through the project management organisational structure.

2.2.3 Provide sufficient resources

Effective solution implementation can only be achieved if Government agencies provide adequate resources, including:

- financial resources to meet contractual requirements and to provide adequate contract administration;
- human resources with the competencies, skills and experience to manage the solution implementation phase;
- physical resources (e.g. adequate accommodation and services); and
- system support (e.g. information, records systems and knowledge management protocols).

2.2.4 Contract administration processes

Effective solution implementation requires both the principal and the contractor to set up processes to manage project cost, time, quality and contract compliance.

Section 2.3 Contract Administration, has more information. For more on managing support processes, refer to Section 3.

2.2.5 Plan contract implementation

The project team should review the contractor's preliminary and detailed implementation program, regarding:

- its feasibility;
- potential risks and issues and how these risks and issues are linked;
- target dates for principal and superintendent contractual commitments (e.g. provision of information, contractor site access, compliance with permits, approvals etc) and development of plans to achieve these commitments; and
- identifying and programming user and operator involvement in the project.

2.2.6 Project initiation checklist

Initiation checklist

- ☐ Is an effective project governance arrangement in place and has this been formally documented and communicated to relevant stakeholders?
- Has the project team reviewed relevant documentation? Are they familiar with project implementation and readiness for service requirements?
- Is there a benefits management plan and a schedule for investment reviews?
- ☐ Are there sufficient resources (human, financial and systems) and skills available to adequately manage the contract?
- □ Have contract administration processes and procedures been set up and documented?
- ☐ Has the project team reviewed the contractor's implementation program? Have the full implications of this program been assessed?

3. Managing through to handover

3.1 Contract administration

Investors need to observe fundamental contract administration principles for effective solution implementation. This overview shows the importance of basic contract administration practices for any project.

Good contract administration helps deliver a project that meets the scope, quality, and cost specified, is on time, and meets all compliance requirements. Successful contract administration relies on both clients and contractors being open and trusting in their dealings with each other and resolving all issues as they occur.

Effective contract administration is vital. It means:

- the agency obtains value for money from the contract;
- the final product or service meets the specified scope and quality specifications;
- the project is delivered within the target timeframe, quality criteria and costs; and
- there has been effective solution implementation regarding final project delivery.

Figure 2.3 outlines where contract administration fits in this stage of the project lifecycle



Figure 3: Contract administration stage

In general, Government agencies, particularly those with significant asset programs, already have well established contract administration practices and guidance material.

In addition to using agency processes and guidance material, they may also use material prepared by the Building Commission and national peak bodies such as Standards Australia or the Australian Procurement and Construction Council.

3.2 Scope, time, cost and quality management

Scope, time, cost and quality constraints and management should be incorporated into all project management lifecycle phases in the following ways:

- Scope management: Develop a written project scope statement to define the project. This statement is used as the foundation for managing scope and timing. It may further be defined by using a work breakdown structure.
- Time management: Establish a project schedule defining the high-level activities that
 must be carried out at certain points in the project to deliver the product described in
 the scope statement. Flow charts and a critical path analysis might be useful tools for
 this.
- Quality management: Define the quality criteria, processes and standards that will be used throughout the project.

- Cost management: Establish a budget breakdown for the project. Useful tools for this might include earned value management and 'cost to complete' analysis.
- Compliance management: Identify and adhere to compliance requirements. These may include agency and statutory requirements.

Figure 4 summarises the main elements of the contract administration stage.



Figure 4: Key elements of the contract administration stage

Note: The contract documents should specify provisions for variations to the contract. Some variations affect the cost, quality or time allowed. The project manager or superintendent should analyse and review variations against the contract provisions. Approval procedures should recognise who is delegated to authorise variations before any variation is implemented.

3.2.1 Scope management

The high-level project scope boundaries are generally set in the investment logic map, translated into a project scope statement in the full business case, and are likely to have been further refined with more detail during each phase. Contract documentation should fully define the scope authorised for the project, except to the extent that scope relates to in-house activities.

By the time the project reaches the solution implementation phase, there should be only very limited scope changes—provided those involved have put the appropriate attention into planning and design from the start.

When government agrees to a proposal, it expects the approved scope to be consistent with the scope to be delivered. Significant scope changes that affect the time, costs and quality outcomes during the construction stages generally require project owner acceptance before they are implemented. Note: The project board may have a defined level of delegation to approve scope changes and some scope changes may require government or Ministerial approval, particularly for high value/ high risk investments.

The project owner's acceptance is needed, since significant changes at this point in the project usually add a substantial cost and potential time over-run. Scope changes would then be negotiated with the contractor.

3.2.2 Time management

Time management is achieved by:

- specifying how long the project will take in the contract documents;
- agency review of the implementation program that the contractor submitted with the tender, and their negotiation about it (where necessary) and acceptance of it as reasonable;
- liquidated damages being included in the contract in the event of late completion by the contractor;
- the contractor submitting a detailed program for review shortly after award of the contract, and the agency accepting this as being reasonable;
- the project manager or superintendent actively monitoring progress against the agreed project timelines, milestones and the critical path to drive accountability; and
- regular communication between the project manager and contractors on performance against agreed project milestones /timelines.

3.2.3 Quality management

The contract specifications clearly and objectively show the required quality of project outputs. These specifications should refer to industry-accepted standards (e.g. Standards Australia). For some contracts, the contractor would be required to have quality accreditation. It is equally important that appropriate quality assurance systems are in place for parties both external (designers, construction managers etc.) and internal (project management team) to government.

Quality is managed through:

- the contractor being required to undertake quality control activities to ensure compliance with the contract specifications and provide the results to the project manager or superintendent;
- inspection and monitoring (by the project manager or superintendent) of testing of key components;
- active monitoring of key quality and performance criteria (such as tests and evaluation) to hold contractors accountable before a progress payment, milestone payment or Certificate of Practical Completion is issued under the contract; and
- the contract defects liability or warranty period, where any defects identified after practical completion are remedied before final construction payment.

3.2.4 Cost management

The parties should agree to contract payments and the basis of all payments, including progress and final payment in the contract documents.

Progress payments are usually based on milestone payment points submitted by the contractor. The project manager or superintendent assesses them for acceptance or adjustment before certification is issued approving payment. The project manager or superintendent should carefully review all invoices to make sure that the payment claimed is in accordance with the contract requirements and is, in fact, payable.

A properly developed project budget includes a risk-adjusted estimate with provision for contingency for unforseen events. This sum should not be made known to the contractor. The contingency amount should not be relied upon to address failure to actively cost manage the project. Access to contingency must be outside the project team delegation either through internal, or in specific instances Treasurer's, approval.

The project should be actively cost managed within the risk adjusted estimate. Contractors must be held to account for the agreed cost. If any increase in cost is expected to exceed the approved expenditure, the investor should seek approval for additional funds. This may involve a request for withheld contingency funds or, in extreme cases, an increase to the project budget approved by the Government. The former case requires a bid to the appropriate authority against agreed provisioning, while the latter case requires a revised submission justifying why Government should considered an increase. Approval is not automatic, and departments and agencies should aim to manage the project within the agreed parameters, unless the project owner initiates changes to project parameters. Use of an earned value management or 'cost to complete' analysis to monitor project progress is recommended.

Note: For HVHR projects material contract variations require the Treasurer's approval.

3.2.5 Compliance management

Compliance management involves the project manager or their superintendent monitoring the contractor's compliance with:

- the quality management system;
- workplace, health and safety;
- environmental conditions;
- the Victorian Construction Code requirements;
- development applications or permits issued by either the Commonwealth, State or local governments; and
- the currency and adequacy of insurance policies.

The project manager or superintendent should ensure that the department or agency also meets its compliance obligations. These include:

- legislative and policy requirements,
- financial management directions, and
- intergovernmental agreements.

3.2.6 Contract administration checklist

Contract administration checklist

- ☐ Have documented processes been established and implemented to manage project scope, time, quality and cost?
- ☐ Have documented processes been established and implemented to monitor the contractor's compliance with the contract?
- ☐ Have documented processes been established to ensure government [departmental or agency] compliance with the contract?

3.3 Commissioning and handover

The commissioning of a project, and subsequent handover to the controlling entity, marks the end of the solution implementation phase (and the start of the service or asset's operational phase). For complex projects, the commissioning and handover may be a staged process.

The commissioning process ensures that:

- the operator and controlling entity are assured that the project meets agreed specifications; and
- the entity or operator has sufficient knowledge to manage the infrastructure or process effectively and efficiently to meet service delivery outcomes.

Figure 5 outlines where commissioning and handover fits in the project lifecycle.



Figure 5: Commissioning and handover stage

3.3.1 Commissioning

Commissioning is usually undertaken before handover to ensure everything is ready for occupation or use. Any works outstanding under the contract should be identified and documented so there is a clear understanding of any work still to be completed as part of the project.

There should be a clearly documented history that outlines the necessary commissioning tests, acceptance criteria, tolerance levels, reporting requirements and the means for measuring the criteria. The criteria and measurements should be as quantitative as possible and relate to agreed standards (e.g. Australian Standards).

During the defects liability period of the contract (if there is such a period), the contractor is responsible for completing omissions and defects outstanding at practical completion and for rectifying additional identified defects.

Commissioning usually starts after the project manager or superintendent accepts that contract quality and performance criteria have been achieved. The commissioning team

should have sufficient skills and experience in the type of infrastructure, or in complex processes, to assess its acceptability.

A commissioning plan should be developed by the contractor and when acceptable agreed to by the project manager or superintendent. A commission test log, checklist or report provides written evidence of tests and results. It identifies:

- areas of compliance and non-compliance;
- what corrective action is required in the event of non-compliance;
- any re-testing requirements; and
- a documented plan for re-testing or corrective action.

Involving operators in the commissioning and handover process is a key element in the transition process.

3.3.2 Handover

Once the project has reached practical completion, handover from the contractor to the service delivery agency and its users can take place. From this time on, the service provider agency takes responsibility for the asset or process, although a period of time for the contractor to rectify defects is normally allowed before finalising the contract.

The handover process generally includes:

- provision of 'as constructed' (or 'as built') drawings (hard copy and digital) in an agreed format to the controlling entity and operators;
- training of the controlling entity and operators, particularly regarding specialist equipment or procedures. Most of this training is likely to need completing before asset handover;
- provision of operation and maintenance manuals (hard copy and digital) in an agreed format to the controlling entity and operators. These should be provided to the project manager or their superintendent well before handover. The manuals should be clearly specified in the contract documents;
- provision of an asset management plan;
- unit rates or costs per functional unit for various components: these should be collated
 along with reasons for rate variation; and this should feed back into the department or
 agency's estimating database;
- provision of copies of all approvals, development conditions and permits associated with the development;
- a benefits management plan and reporting criteria;
- a commissioning report and supporting information (e.g. test results and certificates);
- provision of a schedule of warranties (from the contractor(s), sub-contractor(s) and supplier(s)), and confirmation that items identified during the defects and dilapidation surveys are covered under the associated warranty (or warranties);
- a photographic dilapidation survey (particularly useful in construction projects) as
 evidence of the actual condition at the time of practical completion and associated
 handover; this is useful in identifying any further defects or damage that may be caused
 by the new operator, or contractors themselves, during the defects liability period (this
 protects against further costs or variations);

- in certain circumstances, provision of a business plan for the operation of the asset;
- performance reports on contractors, sub-contractors and consultants, completed and stored in the department or agency's database for future reference;
- a management review: in certain circumstances, an audit of the project or contract management process may be warranted: the opportunity may be lost once the project team has disbanded, and it will be difficult to capture lessons learned;
- indexing and archiving of contract documentation at the appropriate time, with the indexing substantially completed soon after practical completion; and
- planning for the defects liability period, when rectification and make-good arrangements take place.

The following information should be supplied to the asset owner/operator so the Government agency can update its asset register:

- asset attributes and costs, disaggregated in a logical and acceptable way that is consistent with the agency's asset register hierarchy and the standards to be met;
- · asset valuation, including 'useful life' and annual depreciation; and
- post-occupancy evaluation and evaluation of consultants and contractors.

The project manager is accountable that this has been achieved and that it is consistent with agency knowledge management requirements.

3.3.3 Documentation

At this stage, the business case should be updated, particularly regarding:

- actual capital costs;
- risk management: Did the predicted risk events occur and what were the final consequences? What were the costs associated with contingent responses? Were there any useful lessons learned?;
- other implementation issues that affected the project, particularly those not anticipated (unforeseen risks) in the original business case;
- the areas of the business case that continue to be valid (provide a brief commentary); and
- whether the benefits proposed at the start of the project are still valid.

The updated Investment Business Plan (extracted from the business case) provides an historical record for reference, particularly if similar projects are considered in the future.

Lessons learned from project implementation should be documented using a project wrapup report. Refer Appendix B for a template project wrap-up report. The purpose of this report is to:

- provide a recommendation as to whether or not the project should be closed;
- summarise key project factors and recommendations, post implementation; and
- outline any unresolved project factors and how they could be managed.

This report is a communications tool and should be used to seek authorisation from the Project Steering Committee (or control group) to close the project

An important project completion task is ensuring knowledge is not lost in transition.

A suitably qualified and experienced person, independent of the project, should check and validate that the project manager has completed all necessary actions to ensure knowledge management requirements have been met.

3.3.4 Commissioning and handover checklist

requirements have been met?

Checklist for commissioning and handover Have acceptance criteria been explicitly documented in the contract documents? Does the commissioning team have sufficient skills and experience? ☐ Is the contractor's commissioning plan acceptable? ☐ Are the future operators involved in the commissioning and handover process? Do test logs, checklists or reports provide adequate evidence of acceptability or nonacceptance? Have the following been undertaken as part of the handover process? provision of 'as constructed' ('as built') drawings; training of controlling entity and operators; provision of operation and maintenance manuals; sufficient information to establish or update the asset register; provision of the asset management plan; preparation of performance reports and their entry into a database; management review (where appropriate); indexing and archiving of contract documentation; provision of a schedule of warranties, and confirmation that items identified during the defects or dilapidation surveys are covered under the associated warranty (or warranties); and provision of all certificates, permits, approvals and conditional development documentation. Has the investment business plan (extract from full business case) been reviewed or updated? Have project learnings been captured in a project wrap-up report? Are you confident that the project deliverable is ready for service? What is the basis for this confidence? Has an independent person, suitably qualified and experienced, checked and validated that the project manager has completed all necessary actions to ensure knowledge management

4. Related processes

Hints:

- Start with the end in mind: What will be the major issues when you are about to hand over the project?
- The project will be judged on time, cost and quality outcomes: What can be done to make sure these outcomes are met?
- Relationships are important in delivering major projects.
- Get your stakeholders involved early. It may take time, but it will pay off in the end.
- Spend five per cent more time planning.

This guideline refers to activities or 'key related processes'. These are important for effective solution implementation, but are undertaken in other lifecycle phases required to facilitate the contract administration process. (Figure 4.1 outlines these.)

These activities should enhance processes already established earlier in the project lifecycle, including stakeholder, change, risk, issues, and knowledge management.

Having sound processes in place for these activities helps develop an organisational culture that is prepared for the project and its ongoing requirements. This preparation:

- means that the organisation is effective in identifying risks and recognising and responding to issues so that they can be managed well before the risk emerges as a reality, and as a substantial problem;
- facilitates communication with all stakeholders;
- minimises project risk at the strategic and operational levels which helps make contract management and the handover to operators more effective and efficient; and
- helps with knowledge sharing and learning from experiences, leading to continuous improvement in the project lifecycle processes.



Figure 6: Key related processes

4.1 Stakeholder management

A stakeholder may be defined as anyone who directly or indirectly receives a benefit, or sustains a cost, resulting from the implementation of a project.

Primary stakeholders are those closely linked to a particular aspect or phase of the project or asset lifecycle. During the project implementation stage, the primary stakeholders may include the contracting parties, the funding agency, future operators and users, the community, regulators and those who will be affected by the project - neighbours or consumers of the benefits of the project, for example.

Investors identify and assess key stakeholders and their importance, involvement or influence in the conceptualise and prove phases of the project lifecycle.

You should review stakeholder requirements at each stage of a project, as they are likely to change as the project progresses. For larger projects, a stakeholder management plan should be developed to manage stakeholder needs. Departments or agencies that generate many similar projects should have generic checklists of stakeholders and their needs.

Communication is an essential part of managing and developing stakeholder relationships, and managing the project. You should document communication strategies in the stakeholder management plan or communications plan.

Effective communication between the contracting parties is also essential for effective contract management, and to minimise the risk of contract disputes. In some instances, the project team may include a person whose role is to liaise with certain primary stakeholders (e.g. facility operators or users). This can help make project implementation successful.

4.2 Change management

A project can be seen as delivering a change—whether a new service, a new asset or a new way of doing business. Organisational change management involves identifying the impacts of a project on an organisation, and developing and managing activities leading to a smooth implementation and acceptance of project outputs.

Change management strategies and tools should have been developed in the strategic assessment, options analysis and business case phases of the investment lifecycle.

At handover, the organisation accountable for service delivery must be ready to provide the governance and oversight to operate the infrastructure effectively and efficiently in an appropriate operational environment. For this to happen, appropriate change management activities and processes must be implemented through the project lifecycle stages leading up to readiness for service. Change management strategies for this stage should be developed in conjunction with the organisation and management responsible for service delivery.

Change management activities relevant to the solution implementation phase include:

- reviewing, updating or developing policies, processes or procedures for long-term project success;
- developing a training plan to ensure operators have the necessary skills to manage and operate the infrastructure or process;
- job re-design;
- allocated responsibilities for operation and maintenance: if these services are to be provided externally or as shared services, then contracts should be arranged;
- changes in organisational culture required to manage the infrastructure or process; and
- confirmation with the organisation responsible for service delivery that:
 - costs and resources required to sustainably manage the infrastructure or process have been adequately budgeted for;
 - resources (e.g. financial, staff, systems, etc.) are adequate for sustained service delivery;
 - systems are in place to effectively manage the infrastructure or process (e.g. there is an appropriate maintenance management system);
 - processes are in place to manage outstanding issues (see section 4.4);
 - provide sufficient resources and residual risk (see section 3.2.4);
 - processes exist to ensure that documentation and information provided at handover will be properly stored or archived and accessible to operators;
 - systems are in place to monitor service delivery and that suitable outputs (e.g. KPIs)
 are set up so that an effective post-implementation review can be undertaken;
 - processes are in place so that the public or users are aware of the availability of the facility or service; and
 - processes are in place to respond to user feedback when the service starts.

4.3 Risk management

Traditionally, 'risk' refers to the chance of something happening that will have an impact on an objective, or will possibly lead to harm or loss. Risk management refers to the processes for realising potential opportunities while managing adverse effects. Risk management optimises project outcomes by reducing the level of uncertainty with respect to achieving project outcomes.

Risk management is a systematic methodology applied to the identification, evaluation, treatment and control of risks. It is not just a one-off process at project start-up. It is a

dynamic and fluid process that needs continuous attention throughout the project lifecycle. Systematic and holistic risk management involves:

- communication and consultation with stakeholders in the activity;
- establishing the context (strategic and operational environment);
- risk identification, analysis and evaluation;
- risk treatment (identification of action plans of provisioning for contingent items); and
- monitoring of the risks and system, and review of the context, hazards and risks.

Effective project risk management leads to

- reduce uncertainty;
- increased comfort for the project teams, executives and politicians;
- fulfilment of the government's fiduciary responsibility to the taxpayer;
- optimising project outcomes;
- improved schedule performance; and
- improved budget performance.

Government agencies are expected to apply a consistent and transparent risk framework based on the Victorian Government Risk Management Framework (VGRMF) for capturing and controlling risks associated with the Department's objectives and deliverables. Some Government agencies have developed specific guidelines for applying risk management to projects and supplementary guidance has been developed for the investment lifecycle series.

These risk frameworks are all based on the international standard AS/NZS ISO-31000: 2009 Risk management – principles and guidelines adopted by Standards Australia and Standards New Zealand (further information can be found at www.standards.org.au).

4.3.1 The link between issues and risk

The nature of the relationship between risk and issues is an important concept. A risk, to an extent, is a hypothetical assessment of sources of uncertainty. An issue is an event that reflects the 'emergence or realisation' of a previously identified, or otherwise unidentified risk. An issue must be managed in order to avoid the full adverse consequences identified in the risk assessment.

Ideally, an issue should be able to be linked to an identified risk. The issue requires observation or active management in order to reduce the likelihood or impact of risk should it become a reality.

When an issue requires management, and cannot be associated with a previously identified risk, it is most likely an indication of the emergence of an 'unknown' risk and would indicate further investigation of the potential scale of the newly identified risk is warranted.

4.4 Issues management

Issues management involves monitoring, reviewing and addressing issues or concerns as they occur throughout the life of the project. Effective issue management can reduce identified risks to low impact or non-events. When obvious that an issue cannot be resolved

within existing resources (and the associated risk is emerging as a reality) the issue should be escalated to an authority or delegate capable of managing the risk.

Issues should be managed in order to prevent (or reduce) the likelihood or consequence of a major risk to the project having a significant negative impact on the project objectives. Issues can arise from a range of sources, such as stakeholders or the administration of the contract. Project teams should by this stage be maintaining an issues register or log. The issues log (or at least a summary of it) should be included in the regular reporting process.

An example of a regularly occurring issue is contractor's claims for variations. Reasons for this include perceived (or real) scope changes, schedule changes or schedule constraints. In these cases, contractors raise claims to formally seek financial compensation for having to make adjustments to pre-arranged methods, work plans and rates specified in the contract.

Many claims can be readily resolved. However, some claims can be contentious and complex and lead to disputes between contracting parties. The project risk assessment (proactively) identifies the need for dispute resolution processes to be specified in the contract. Alternative dispute resolution processes are available so disputes can be resolved in a mutually acceptable timeframe. This reduces the need for lengthy and expensive legal proceedings. The parties are not obliged to use the dispute resolution processes in the contract. They can agree to use a different process if both view it as more likely to lead to a satisfactory outcome. The active management of the dispute in one of the elected processes is an example of the reactive management of issues.

4.5 Knowledge management

Knowledge and information management are connected. Knowledge management involves making the best use of knowledge by applying it in the collective interest of users. Information management is the process for managing how information is created, stored, retrieved and distributed.

Knowledge and information management are essential related processes for contract management. They:

- ensure continuity and availability of project knowledge for effective contract management;
- help meet legislative, policy and contractual requirements;
- facilitate organisational learning and use of these learnings to continuously improve;
- ensure that systems are established to deliver information that is readily accessible, accurate, consistent and current; and
- facilitate cooperative sharing of knowledge within and beyond the project team and with relevant stakeholders to help meet ongoing governance expectations.

Document and records management are critical to information management. For contract administration, records should include:

- correspondence with contractors and other stakeholders;
- records of discussions, including minutes of meetings;
- monthly reports to owner, project steering committee and other agency stakeholders;

- financial records, including contractor claims, approvals of progress and final claims and contract variations;
- issues log;
- risk management plan and the associated risk register;
- documents (e.g. drawings) issued and revisions;
- · original contract documents; and
- approvals from regulatory authorities.

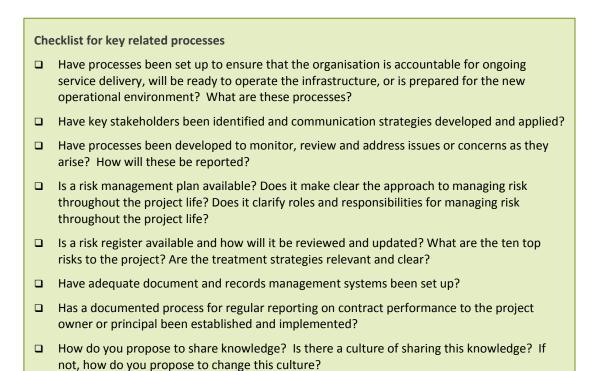
Knowledge sharing can take place in a number of ways, including:

- project managers reporting to senior management;
- internal agency project team meetings;
- meetings with contractors or other stakeholders;
- monthly project reporting to the owner or principal;
- updating databases (e.g. contractor performance);
- training programs for service operators;
- updating key project documentation (e.g. business case or business plan);
- transferring knowledge to the agency and other agencies through formal briefings and project audit reports; and
- ensuring documentation is maintained electronically and accessibly in the agency's information system to maximise value to the organisation particularly of lessons learnt for reference in future investments or subsequent stages of the existing investment.

All projects should have a clear governance structure which includes regular reporting on contract performance. Reporting occurs at multiple levels including to project steering committees and to government (e.g. through quarterly Major Projects Performance Reporting , budget papers etc.). It is essential to report regularly (e.g. weekly, monthly, quarterly) on contract performance. This covers the scope, cost, time and quality indicators. It gives the owner or principal the knowledge to make informed decisions on the contract and other related issues, activities or projects.

The project team must encourage a culture of adherence to knowledge and information management processes, tools and systems. Fostering an appropriate culture is also useful for sharing and transferring tacit knowledge within the agency and to other State Government agencies. Project team must always treat any 'commercial-in-confidence' information appropriately.

4.6 Checklist – key related processes



5. Project assurance

There is a range of options for reviewing projects and making sure they are being effectively delivered. Gateway Reviews may be required for medium risk projects and are mandated for HVHR projects. Whether required or not, it may be useful to review the issues that would normally be considered in a Gateway Review.

The fifth Gateway Review focuses on assessing:

- whether the business solution is robust before it is delivered into service;
- organisational readiness to implement business changes pre and post-delivery;
- what contract management arrangements are in place or being arranged; and
- whether there is a basis for evaluating ongoing performance.

There is more information at www.gatewayreview.dtf.vic.gov.au and in the Gateway Review Process guidance material.

5.1 Gateway Review Gate 5: Readiness for Service

Gateway Review Gate 5 investigates the organisation's readiness to make the transition from the solution to implementation. Where appropriate, it assesses the capabilities of delivery partners and service providers.

The aims of the review include, but are not limited to, confirming that:

- contractual arrangements are up to date;
- the business case (as reflected in the investment business plan) is still valid and is not affected by internal and external events or changes;
- the original projected business benefits are likely to be achieved;
- there are processes to ensure the long term success of the investment;
- necessary testing (commissioning, business integration, acceptance testing) was done;
- agreed plans for training, communications and roll-out are complete and robust;
- all defects and incomplete works have been identified;
- all parties agree plans for managing risk and ongoing risks are being managed effectively;
- arrangements for handover to the operational business owner; and
- lessons for future projects are identified and recorded.

Documentation reviewed during Gate 5 includes:

updated requirements definition and investment business plan (benefits); and

close-out (if completion at implementation) or status reports (for budget versus cost, actual versus planned schedule, risk management, communications, environmental performance, change management, benefits management plan, a plan for performance measurement, updated contract).

Appendix A1: Channel deepening compliance

This information is from the Channel Deepening Environmental Effects Statement (EES) Panel Report, 11 February 2005.

The statutory and policy compliance for the Channel Deepening Project included the following conventions, acts of legislation (Victorian unless separately annotated) and policies. It is presented as a case study to show the complex legal frameworks with which a project may have to comply.

Primary environment assessment and protection legislation and policy:

- Environment Protection and Biodiversity Conservation Act 1999 (Cwth) (EPBC)
- Environment Effects Act 1978
- Environment Protection Act 1970
- Planning and Environment Act 1987

Relevant generic policy

- National Strategy for Ecological Sustainable Development 1992 (Cwth)
- Inter-Governmental Agreement on the Environment 1992 (inter-governmental)
- Growing Victoria Together
- Melbourne 2030
- Linking Victoria

Ports and freight legislation and policy:

- Port Services Act 1995
- Channel Deepening Facilitation Bill
- Victorian Ports Strategic Framework 2004
- Melbourne Port@L 2002
- Victoria: Leading the Way 2004
- Shaping a Prosperous Future, Prospects Issues and Choices, 2003
- Next Wave of Port Reform in Victoria 2001
- Linking Melbourne Metropolitan Transport Plan 2004
- Future Directions 2001

Marine and water environment legislation and policy:

- Quarantine Act 1908 (Cwth)
- National Ocean Disposal Guidelines for Dredged Material 2002 (Cwth)
- Australia's Ocean Policy 1998 (Cwth)
- Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters 2000 (Inter-governmental)

- Coastal Management Act 1995
- Marine Act 1998
- Pollution of Waters by Oil and Noxious Substances Act 1986
- State Environment Protection Policy (Waters of Victoria) Act 1988
- Schedule F6 Waters of Port Phillip Bay 1997
- Schedule F7 Waters of the Yarra Catchment 1999
- State Environment Protection Policy (Groundwaters of Victoria) Act 1998
- Victorian Coastal Strategy
- Victorian Biodiversity Strategy
- Waste Management Policy (Ships' Ballast Water) 2003
- Industrial Waste Management Policy (Waste Acid Sulphate Soils)1999
- Best Practice Environmental Management Guidelines for Dredging 2001

Resource conservation and management legislation and policy

- EPBC Act (Cwth)
- Fisheries Act 1995
- National Parks Act 1975
- National Parks (Marine National Parks and Marine Sanctuaries) Act 2002
- Crown Land (Reserves) Act 1978
- Flora and Fauna Guarantee Act 1988
- Wildlife Act 1975
- Water Act 1989
- Water Industry Act 1994
- Catchment and Land Protection Act 1994
- Land Act 1958
- Victoria's Biodiversity Strategy 1997
- Victoria's Native Vegetation Management: A Framework for Action 2002

Cultural resource legislation and policy

- EPBC Act (Cwth)
- Native Title Act 1993 (Cwth)
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)
- Historic Shipwrecks Act 1976 (Cwth)
- Archaeological and Aboriginal Relics Preservation Act 1972
- Heritage Act 1995

Noise policy

- State Environment Protection Policy (Control of Noise from Commerce Industry and Trade) 1992
- Interim Guidelines for Control of Noise from industry in Country Victoria 1989

• EPA Noise Control Guidelines (Construction)

Air policy

- State Environment Protection Policy (Ambient Air Quality) 1999
- State Environment Protection Policy (Air Quality Management) 2001
- Industrial Waste Management Policy National Pollutant Inventory
- Victoria's Greenhouse Strategy 2002

Tourism and recreation policy

- A Medium to Long Term Strategy for Tourism Green Paper 2003 (Cwth)
- Victoria's Tourism Industry Strategic Plan 2002-2006
- Melbourne Surrounds Regional Tourism Development Plan 2004-2007
- Victoria's Food and Wine Tourism Plan 2004-2007
- Victoria's Adventure Tourism Action Plan 2002-2004
- Victoria's Nature Based Tourism Directions and Opportunities for Victoria 2000-2003

State Planning Policy Framework

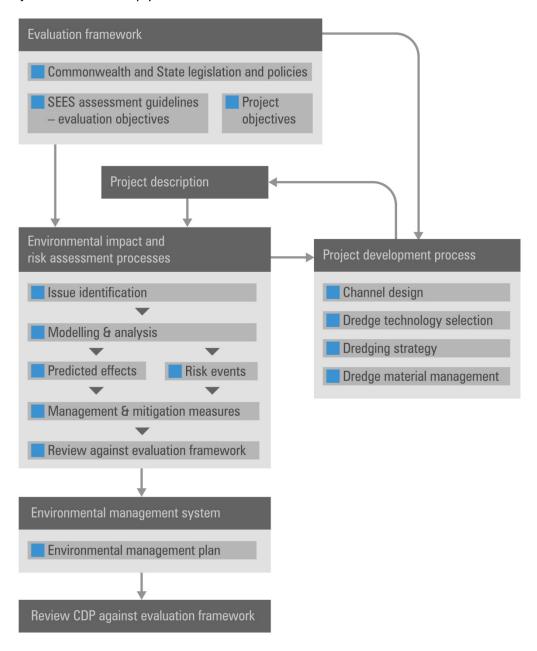
Local Planning Policy Framework

Other legislation and policy

- Occupational Health and Safety Act 2004
- Essential Services Act 1958
- Electrical Industry Act 2000
- Mineral Resources (Sustainable Development) Act 1990
- Gas Safety Act 1997
- Pipelines Act 2005
- Health Act 1958
- Seafood Safety Act 2003
- Victorian Shellfish Quality Assurance Program
- Dredging Strategy for the Port Waters of Geelong and Melbourne Environmental Management Plan 2000
- Victoria Emergency Management Manual
- Melbourne Port Emergency Management Plan 2004
- Port Phillip Region Marine Pollution Contingency Plan 1999

Appendix A2: Channel deepening environmental evaluation

This flowchart shows the statutory and policy requirements that the Channel Deepening Project needed to comply with.



Source: Channel Deepening Supplementary Environment Effects Statement 2007

Appendix B: Project wrap-up template

1. Background

Describe in one paragraph the project that is being wrapped up.

2. Risks and issues

Outstanding risks

Complete the table below to describe outstanding risks. These are risks in the area that need to be managed following closure of the project. (Add lines as required.)

Outstanding risks (Post Implementation Review)	Mitigation	Proposed area of responsibility
1.		
2.		
3.		
4.		

Outstanding issues

Complete the table below to describe outstanding issues. These are issues that need to be managed by someone following the closure of the project.

Outstanding issues (Post Implementation Review)	Proposed management approach	Proposed area of responsibility
1.		
2.		
3.		
4.		

3. Deliverables

Complete the following table to show completion of all project deliverables as documented in the implementation plan.

Deliverable	Actual completion date	Reason for non-delivery (if applicable)
1.		
2.		
3.		
4.		

4. Lessons learned

Report	Scheduled	Report approved
Post-implementation Review		Y/N
Outcomes evaluation		Y/N

Plan for outcomes evaluation

If outcomes report has not been done, explain plan for completion of outcomes review.

5. Finance and administration checklist

Use the following checklist to prepare to wrap-up project finance and administration. You may add additional tasks.

Task	Y/N	Actual date (Day/Month)
Received final invoices		
Final payments made		
Ensure all staff expenses paid		
New pay points determined for staff transferred		
Advise APU		
Finalise contracts		
Transfer of assets on Asset Management System		
Transfer project files		
Transfer Issues Log		

Appendix B: Project wrap-up template

Task	Y/N	Actual date (Day/Month)
Transfer Risk Log		
Transfer project resources/equipment		
E-File project documentation		
File project documentation		
Submit Project Documentation to Project Office		
Update Oracle/MIS		
Finalise contracts		
Project team celebration		
Final communication to stakeholders.		
Project marked as completed in BPR		

6. Authorisation

This wrap-up document must be authorised. Authorisation is achieved by obtaining signatures from relevant officers including the Senior Responsible Owner. (This text may be adapted to incorporate the approval process specific to the project.)

Author		/	/
Name:			
Position:			
Department/Agency:			
Senior Responsible Owner		/	/
Name:			
Position:			
Department/Agency:			
		/	/
Name:			
Position:			
Department/Agency:			

This template is based on the Project Wrap-up Report used by the Department of Sustainability and Environment.

