




OFFICE OF  
THE VICTORIAN  
GOVERNMENT  
ARCHITECT

# Government as Smart Client

<Edition 03, 2024>



'Good Design is not just about the aesthetic improvement of our environment, it is as much about the improved quality of life, equality of opportunity and economic growth'.

The Value of Good Design, Commission for Architecture and the Built Environment (CABE).



**Cover**

Project: Parliament House Member's Annexe  
Architects: Peter Elliott Architecture + Urban Design  
Landscape Architect: Taylor Cullity Lethlean  
Photographer: John Gollings

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	<b>Executive Summary</b>	<b>6</b>
<b>1.0</b>	<b>Introduction</b>	<b>10</b>
1.1	Purpose	10
1.2	Context	10
1.3	What is Good Design?	12
1.4	Who is responsible for Good Design?	13
1.5	Why is it Important to the State?	13
1.6	Why Good Design Costs Less	15
1.7	What is the Design Team?	15
1.8	What is the role of the Project Manager?	16
1.9	What is Procurement?	16
1.10	How the OVGAs can assist?	17
<b>2.0</b>	<b>Government as Informed Client</b>	<b>18</b>
2.1	Vision Statement and Objectives	21
2.2	Business Case as Feasibility Study	23
2.3	Client Team	25
2.4	Design Champion	25
2.5	Design Value of Stakeholders	27
2.6	Design Team	28
2.7	Architects, Project Management and Project Managers	30
2.8	Procuring Design Services	32
2.9	Design Team Brief	33
2.10	Project Brief	34
2.11	Design Intent Document	37
2.12	Program & Time for Design	38
2.13	Outline Budget	39
2.14	Design Review	40
2.15	Probity	41
2.16	Managing Risk through Design	43
2.17	Building Procurement Choices	44
2.18	Post Occupancy Evaluation	45
2.19	Government Policy Obligations	46
2.20	Standard Contracts	47
2.21	Intellectual Property	47
<b>3.0</b>	<b>The Design Process</b>	<b>50</b>
3.1	Masterplan	50
3.2	Feasibility Study	51
3.3	Concept Design	51
3.4	Design Development	52
3.5	Contract Documentation	53
3.6	Contract Administration & Construction	54
3.7	Procurement Participants	55
<b>4.0</b>	<b>Procurement of Design Services</b>	<b>56</b>
4.1	Quality Based Selection	59
4.2	Expression of Interest	61
4.3	Requests for Proposal, Tender & Quotation	63
4.4	Design Competition	67
<b>5.0</b>	<b>Procurement of Buildings and Infrastructure</b>	<b>70</b>
5.1	Direct Procurement of Design	71
5.1.1	Traditional Construct Only	73
5.1.2	Early Contractor Involvement	77
5.1.3	Construction Management	81
5.1.4	Managing Contractor	85
5.2	Indirect Procurement of Design	91
5.2.1	Design and Construct	92
5.2.2	Novation	96
5.2.3	Public Private Partnerships	102
5.2.4	Project Alliance	107
5.2.5	Program Alliance	112
<b>6.0</b>	<b>Appendix</b>	<b>118</b>
6.1	Glossary	118
6.2	References	123
6.3	Footnotes	125
6.4	Consultation	126





# Foreword

An important legacy for any government can be seen in the quality and design of the public projects they deliver. Well-designed buildings, infrastructure and public places work well and feel good, promoting community pride, identity and adding a valuable long-term asset to their locale. Over the life of a building, evidence shows us that bad design will cost money; whether in maintenance, running costs, poor user experience, lost opportunity, refit or even replacement. In contrast, good design, purposefully and carefully undertaken by skilled practitioners, ends up costing less. Good design continues to grow in value and worth for its client and community of users.

Good design does not just happen; it needs processes that support a quality outcome and it needs to be protected throughout all stages of delivery of a project. The process of procurement of a well-designed building includes starting with a good brief, a design vision that defines performance/outcomes-based principles and the appointment of a skilled, capable, design team.

From there, management of the construction of a building through to completion involves not just progressing a selected contractual method, but realising the project vision from idea, through delivery, to operation. The method by which a building project is procured can have significant impact on the quality of the final building. While it is possible to achieve a good design outcome with all procurement methods, some make it seriously challenging unless their potential threats to design quality are understood and well managed.

This document describes the various methods used in Victoria for the procurement of buildings. Each procurement method is overlaid with recommended strategies to assist in getting to a good design outcome. These strategies can assist Government to be a smart, informed client and deliver projects that leave a design legacy.



Jill Garner AM  
Victorian Government Architect





# Executive summary

The Victorian State Government is the largest procurer of design services in the state, having an enormous impact on the construction industry and on Victoria's standing as a state with which to do business.<sup>1</sup> The government's legacy from this role is the quality of buildings and public realm it delivers together with Victoria's reputation for innovation and liveability. It is important, therefore, that government and its agencies are informed appropriately to enable them to deliver and support well-designed outcomes for all Victorian projects.

The Office of Victorian Government Architect (OVGA) considers that there is substantial opportunity to improve design outcomes by improving design procurement practices that impact on design quality. The procurement of a quality project relies upon the engagement of a quality design team. It involves not just the contractual method used, but also the implementation of a built project from idea to delivery and on to operation. It is important to distinguish between the procurement of buildings and infrastructure and the procurement of design services.

## **Key Steps for Improving Procurement of Design Services that impact on Design Quality**

1. Develop the Vision Statement for the project at its inception, including the high level design outcomes to be achieved;
2. Appoint a Design Champion to help guide the project and procurement of design services;
3. Appoint a Client Team and Project Managers who understand that good design is fundamental to achieving high-quality buildings and infrastructure;
4. Create a quality design team brief that clearly articulates the design ambitions;
5. Ensure a realistic project budget based on initial design testing and benchmarking as part of any business case;
6. Encourage the use of Expressions of Interest (EOI) and Requests for Proposal (RFP) to procure design teams;
7. When using Competitions to procure design teams, ensure a two-stage submission is used for larger projects, a reasonable budget that reflects the brief and pay bidders for work in stage two;
8. In assessing bids for architectural services, separate the design fees from the assessment criteria and utilise Quality Based Selection. When the preferred design team is identified, evaluate their design fees to determine the value for money each bid represents;
9. Engage the design team early;
10. When using Reference Designs ensure that they are developed to set a qualitative benchmark, integrate the design ambition and establish a commitment to design excellence; and
11. Ensure design teams value the whole-of-life impact and the social, cultural, economic and environmental performance of a development.

### Key Steps for Improving the Procurement of Buildings and Infrastructure that impact on Design Quality

1. Design quality needs to be prioritised and embedded early in a project – regardless of the procurement method. If the risks to design quality are understood all procurement methods can be effective;
2. When selecting the preferred procurement methodology for a project, ensure design quality is considered as part of the procurement analysis and included as part of the selection criteria;
3. Ensure there is a clear, well-articulated vision for the project that includes expectations in relation to design and architectural quality;
4. Allow adequate time and resources in earlier stages of the project to develop a clear design intent and project design brief. This should explain the design outcome to be achieved and form an important part of the tender documents to help protect the design quality;
5. Seek design advice from a Design Champion, Design Quality Team (DQT) or the OVGA to assist with quality management in the Expression of Interest (EOI), contract and project brief;
6. Involve stakeholders, facility managers and users in the design process;
7. Consult the design team for advice in the appointment and selection of the head contractor;
8. Provide a realistic contingency for design and construction to ensure design quality can be delivered;
9. Ensure provision for independent design advice (DQT) or design review at key project milestones; and
10. Undertake Post Occupancy Evaluation to capture key lessons and to inform future projects.





All current procurement methods have the capacity to enable good design outcomes. However, with improvements to both the client culture and the procurement processes, higher standards can be achieved to the benefit of all those who use public buildings, infrastructure and places.

Victoria's future reputation for good design and the quality of its built environment relies upon recognising the value that design adds over the lifetime of the building. Well-designed buildings have a direct impact on the standard of public services provided and the quality of life of those who use them.<sup>2</sup> If we accept that the quality of architecture affects the quality of lives – and considerable evidence now demonstrates that this is the case – then it makes sense and is responsible to put in place steps that enable such quality to be achieved.<sup>3</sup>

Through discussions with government agencies and industry participants, it was identified that to support good design in public projects further initiatives should be pursued. The following list highlights the key recommendations that will support effective procurement and strategies to enable good design.

#### Key Recommendations from 'Government as Smart Client'

1. Ensure that the importance of design quality as a project selection criterion is established from the outset of the selection process through the documentation, in the weighting given to design and design capability in the bid evaluation criteria, and finally in the development of contractual documentation and sign-off procedures;
2. Allow enough design time for projects of real quality and innovation to emerge with realistic budgets that consider whole-of-life costs;
3. Develop flexible but consistent procurement processes for engaging architects and other designers to protect design quality;
4. The OVGA will help identify and support the role of Design Champions within Departments and Agencies;
5. The OVGA, in association with the Department of Treasury and Finance (DTF), support best practice in the establishment of consistent and fair Government contracts to protect design quality;
6. When appropriate utilise the OVGA's expertise to assist the Gateway process of a project to ensure design quality. Eg. Review of Briefs and EOIs, Selection Panels, Design Review, Internal Peer Review, Design Quality Teams; and
7. Establish a mechanism for OVGA design advice at a project's inception.

These guidelines provide practical steps to ensure that government, as a 'smart client', delivers excellence in the procurement of design, buildings and infrastructure. The guidelines are not mandatory and do not represent a new layer of process; rather they integrate essential design quality measures within the existing planning and delivery framework of government. They aim to influence design quality for public buildings to ensure an enduring legacy for future generations of Victorians.

#### PAGE 5

Project: Melbourne Convention and Exhibition Centre

Architect: NH Architecture

Landscape Architects: Aspect Studios

Photographer: Peter Bennetts

#### PAGE 7

Project: South Melbourne Life Saving Club

Architect: JCB

Photographer: John Gollings



Project: Penguin Parade Visitor Centre  
Architect: Terroir  
Landscape Architect: Tract Consultants  
Photographer: Peter Bennetts

# 1.0 Introduction

## 1.1 Purpose

This document provides guidance and advice to government departments on how to enable quality design outcomes for built projects through a range of contractual and delivery methods. It provides the means by which government departments may perform as a 'smart client' and advice more broadly to the construction industry.

The methods used to deliver built projects can vary substantially, not just in their decision-making process, risk sharing and contractual methods, but also the way in which they affect the interaction with the design team and their capacity to deliver good design outcomes. These guidelines provide advice on how this relationship may be structured to benefit good design and review the various procurement methods to achieve the best possible design outcomes.

The OVGA supports the Victorian Government's commitment to good design by providing leadership to enable better quality built outcomes from the public and private sectors.

## 1.2 Context

The OVGA considers there are strong opportunities to advance the quality of design outcomes by improving design procurement practices. The guidelines provide an overview of the steps and processes that potentially influence design quality and the delivery of better outcomes for public buildings.

The OVGA provides leadership and strategic advice to Government about architecture and urban design. The Office provides advice on building design to Government Ministers and Departments responsible for providing public infrastructure. The Office also promotes awareness of design in the broader community, and of the process of making great spaces and urban environments.

The OVGA reviews and comments on a range of matters which effect good design outcomes and undertakes research to assist Government to better understand the value of good design and how Government as client can achieve it.

The method by which design is procured has a significant impact on the quality of the design outcome. Currently, Government uses a wide range of methods for delivering built outcomes, with differing contractual engagements and processes for appointment of design consultants, a number of which can negatively impact on design outcomes, quality and cost.

High Value/High Risk projects are those that are:

- » considered medium risk with a total estimated investment (TEI) of between \$100 million and \$250 million;
- » considered low risk with a TEI over \$250 million; or
- » identified by Government as warranting the additional rigour applied to HVHR investments.



These guidelines are framed by the DTF's Investment Lifecycle and High Value/High Risk (HVHR) Guidelines. They seek to supplement the Investment Lifecycle Guidelines and offer an emphasis on qualitative aspects and design for those developing investment projects in Victoria. The HVHR Project Assurance Framework seeks to:

- (a) increase the likelihood that projects will achieve their stated benefits and be delivered successfully, on time and to budget;
- (b) verify that robust project planning and procurement processes have been followed to support quality project planning, procurement processes and documentation; and
- (c) provide impartial and informed advice to Government on deliverability risks.

The three stages of the investment management process are:

1. Business case	2. Procurement	3. Delivery
<p><b>Establishes need, defines benefits, explores interventions, estimates costs, identifies delivery process.</b></p> <p>What is the problem, issue or service need?</p> <p>What are the benefits from addressing the problem?</p> <p>Is there a compelling case for investing?</p> <p>Can the project be delivered as planned?</p>	<p>Explores delivery options, finalises delivery plan, engages the market, awards the contract.</p> <p>What is the preferred method for delivering the investment?</p>	<p><b>Implements solution, transitions investment into normal business.</b></p> <p>Is the investment proceeding as planned?</p> <p>Are changes to the investment needed?</p>

They help shape proposals, inform investment decisions, monitor project procurement and delivery and track the benefits that investments achieve. The Investment Lifecycle Guidelines emphasise the need to align better the policies, programs and projects of departments and agencies with government priorities and outline the approval processes for projects identified as being high value and/or high risk.

### 1.3 What is Good Design?

Good design comes in many forms and is defined by more than how it looks. Good design is defined by how it works, the benefits and value it brings and its ability to effect how people feel and behave. Informed clients seek good design and recognise that it adds value to create inspiring places, cultural symbols and a shared identity. Good design also drives value for money outcomes for the public and reduces whole-of-life costs.

Research shows that a well-designed building can help patients to recover from illness more quickly or encourage better learning among school children. It can also benefit the service deliverers who work within it, by contributing to staff recruitment, retention and motivation.<sup>4</sup> The design of public buildings and spaces is not just a functional issue or a matter of taste. Good design improves the quality of services provided by the public sector.

These guidelines work with the premise that good design is critical in creating high quality buildings and public spaces that:

- » are engaging, diverse and inclusive
- » are environmentally, economically and socially sustainable
- » are fit for purpose
- » promote confidence and wellbeing in the community
- » are culturally rich and engaging
- » offer an enduring legacy in the built environment.

The OVGA can assist to define design quality, as judgements on qualitative matters can vary depending upon the type of project.

'High quality urban design becomes even more important as we increase the density of our cities and cater for a growing and changing population. It requires excellent planning, design and management of our built environment and the supporting social and economic infrastructure.'

Creating Places for People, An Urban Design Protocol for Australian Cities



'Research into office buildings in 1998 demonstrated that over the lifetime of a 1,000m<sup>2</sup> office building maintenance and operation costs were five times higher than construction costs. The evidence demonstrated that that savings on design quality are a false economy given that design fees make up less than 20 per cent of the construction costs. The marginal costs of good design are almost irrelevant when considering the whole-life costs of operating a building.'

Raymond Evans, Richard Haryott, Norman Haste, and Alan Jones, (1998) The long-term cost of owning and engineering buildings. London, Royal Academy of Engineering.

'Stop

- » Regarding good design as an optional extra.
- » Treating lowest cost as best value.
- » Valuing initial capital cost as more important than whole-life cost.
- » Treating buildings as purely functional plant without civic significance.
- » Imagining that effectiveness and efficiency are divorced from design.
- » Being frightened to take calculated risks.
- » Assuming that the public does not care.'

Better Public Buildings – A Proud Legacy, Commission for Architecture and the Built Environment (CABE)

## 1.4 Who is responsible for Good Design?

The Government (as client and commissioning agency); the delivery agencies, the statutory authorities, the appointed consultant team and the Office of Victorian Government Architect all have a shared responsibility to deliver good public buildings, infrastructure and places. To achieve good design outcomes, design quality needs to be valued, championed and pursued. Every decision maker involved in the procurement of Government's public works has a role to play in ensuring good design outcomes and a lasting legacy for the State.<sup>5</sup>

## 1.5 Why is it Important to the State?

The Victorian State Government 2019-20 budget provided \$14.2 billion for infrastructure investment.<sup>6</sup> The government is the largest procurer of design services in the state, having an enormous impact on the construction industry and on Victoria's standing as a state with which to do business. In this field, the state's legacy is the quality of buildings and the public realm it delivers together with Victoria's reputation for innovation and liveability. It is critical, therefore, that government and its agencies are informed appropriately to enable them to deliver and support well-designed outcomes for all Victorian projects.

Well-designed buildings and places make the most of sites and their opportunities, enabling the best and most efficient use for owners, occupants and other users, while also providing benefits to the broader public and future generations.

The quality and liveability of Victoria's built environment requires careful planning and the considered application of good design principles. A commitment to quality in the design of our public buildings, places and infrastructure:

- » ensures value for money by demonstrating a whole-of-life cost benefit and providing optimum environments for user and occupant productivity, health and well-being;
- » is sustainable by creating buildings and places that are efficient, adaptable, resilient to climate change and contribute positively to urban growth challenges;
- » improves the quality of life for all Victorians by contributing to people-centred built environments of high visual and physical amenity that are inclusive, safe, and accessible to all; and
- » respects the unique and rich cultural heritage of our existing built environment and provides an on-going culturally rich legacy that fosters community pride and prosperity.





## 1.6 Why Good Design costs less

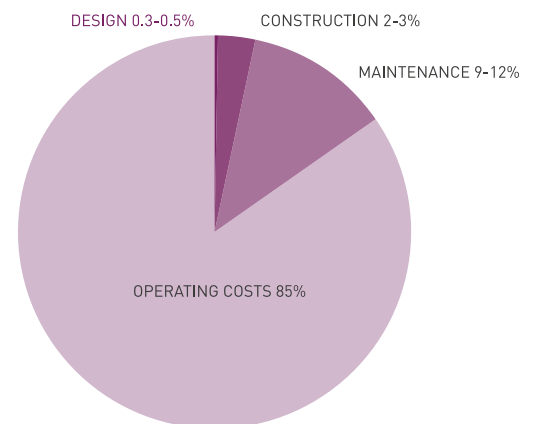
The perception that design is expensive can be easily dispelled if the breakdown of a building's whole-life costs is understood. Well-designed buildings can cost less. Over the lifetime of a building, the construction costs are unlikely to be more than 2-3 per cent of total costs, but the operating costs will often constitute 85 per cent of the total.<sup>7</sup> On the same scale, the design costs are likely to be 0.3-0.5 per cent of the whole life costs, and yet it is through the design process that the largest impact can be made on the 85 per cent figure.<sup>8</sup>

## 1.7 What is the Design Team?

The composition of the design team will largely depend upon the type of project proposed, whether infrastructure, built form or public space. The design team comprises architects, designers and landscape architects, focussed on the design outcomes for the project. Traditionally the architect is the lead consultant of the design team. They not only design the project, but when no project manager has been appointed, also co-ordinate the consultant team and client requirements. The architect will also ensure the design intent is carried through the construction process and recommend strategies to enable good design regardless of the procurement method chosen.

An architect brings professional training, vision and experience to manage the entire design and construction process. The architect's expertise can ensure that sustainability, urban design and site responsive building design are embedded in the design process. Through good design, an architect can enhance the value of a building and offer significant savings especially when it comes to operating, staffing and/or tenanting the building.

Depending on the project the design team may also be led by an urban designer and can include landscape architects, quantity surveyors, planners, building surveyors, engineers, interior designers and other technical personnel.



## 1.8 What is the role of the Project Manager?

A project manager is the person accountable for accomplishing the stated project objectives. In many cases a project manager may be an architect. Key project management responsibilities include creating clear and attainable project objectives, building the project requirements, and managing the triple constraint for projects, cost, time, and scope. The project manager acts as the agent for the client when dealing with third parties including the builder or subcontractors. A key strategy to enable good design is to ensure all project managers have an appreciation of the design process and the imperative to protect the design intent. In addition to project management skills, a project manager may advise on finance, site selection, acquisition, cost benefit studies, different methods of contracting, taxation, leasing, conveyancing, lettings, tenancies, programming, budgeting and insurance.

When well-managed, the appointment of a project manager can allow the architect the opportunity to focus on the client brief, design outcomes and documentation aspects of the project. There is broad industry agreement that there is a need for good architects and good project managers and the specialist skills they bring to a project.

## 1.9 What is Procurement?

Procurement is derived from two Latin words: pro and curare. It means to manage or to care for something.

Within the Department of Treasury and Finance, procurement is understood as the process of engaging a supplier to deliver capital asset investments, including buildings, civil infrastructure and information and communications infrastructure. Procurement commences when Government makes a decision to invest in responding to an identified objective. It includes the process of seeking market solutions to deliver the investment, and concludes with contracting the successful proponent to undertake the required scope of works.

In the context of these guidelines building procurement means the management of and stewardship for the construction of a building or infrastructure. Procurement involves not just the contractual method but also the execution of a built project from idea to delivery and onto operation and audit.

These guidelines outline the stages of investment management or project development and delivery processes and how they may influence the design outcomes. They are structured to follow potential project delivery and architectural processes. The guidelines look firstly at the architectural and briefing process, the stages of the design and documentation process and the means by which the designs are developed into built outcomes.

'The 'procurement of buildings' is the act or process of bringing about or bringing into existence buildings.'

Standen, D. Construction Industry Terminology, RAI A Practice Division, 1993.



"Government builds most of the 'public infrastructure' that cities are remembered for—the museums, galleries, government offices, railway stations, roads etc. There is a responsibility on Government that they should be well designed and be memorably representative of their time."

John Denton  
Denton Corker Marshall  
Victorian Government  
Architect 2006–08

## 1.10 How the OVGA can assist?

The OVGA is a small team of qualified design professionals with a high level of experience in government and industry, drawn from a range of disciplines including urban design, architecture and landscape design. The OVGA's key roles include advocacy, collaboration and advisory services.

The OVGA as a central agency/office advises state government departments, agencies and local government on how to improve design outcomes for capital works programs, specific projects or broader planning initiatives. The OVGA asserts that this is achieved by embedding design quality into every stage of a project's lifecycle—from inception to realisation.

The OVGA can offer:

- » strategic and broad thinking to project outcomes and assist to identify other benefits and potential risks to quality of built outcome;
- » an understanding of how a project would contribute to broader policy issues for liveability and successful productivity of the State;
- » advice on best practice procurement of architectural services and project delivery methods;
- » review and advice on the development of business cases, feasibility work, project briefs, expressions of interest, project scope and budget development; and
- » peer review conducted internally by the OVGA or through its monthly formal design review process conducted by the Victorian Design Review Panel (VDRP). The VDRP is a specialist design panel that has been established to enhance and support the OVGA's role in providing independent and authoritative advice.

The OVGA fosters partnerships and collaborations among government, professional, academic, industry and community bodies to seek excellent design outcomes in the built environment. This collaboration ensures that its advice and advocacy work is well informed, rigorous and relevant. The OVGA advocates for the importance of good design including the processes involved in making great places and sustainable urban environments.

# 2.0 Government as Informed Client

A good client is an informed client and makes for a good building or infrastructure. If appropriate initiatives are considered early in the design process then this will enable a quality design outcome.

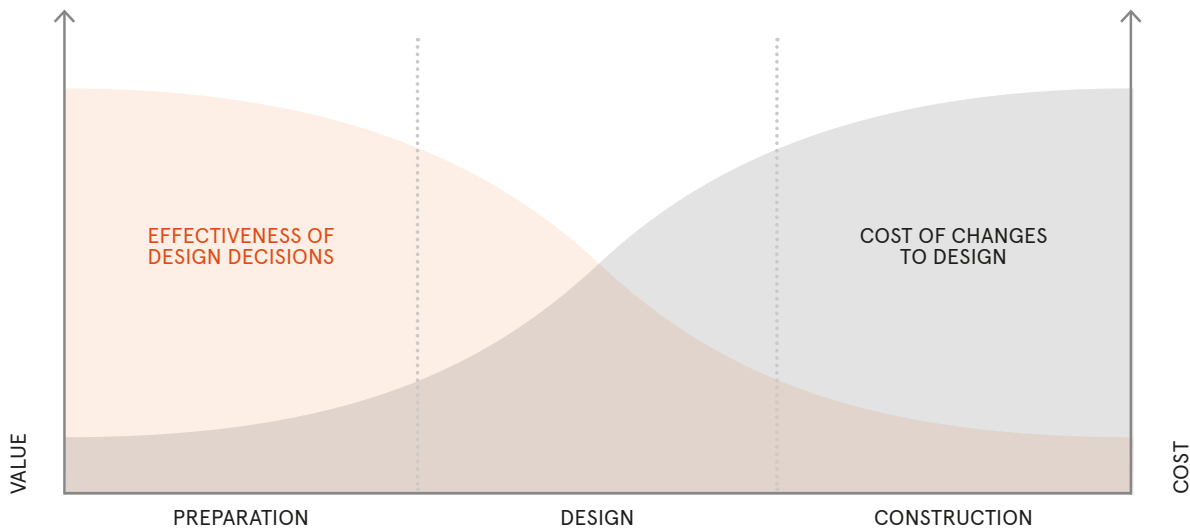
Procurement of the design is the first and most significant part of an extended process that affects the design outcomes of a project. The diagram on the next page illustrates the diminishing ability to affect the quality of design outcomes as the project progresses through its stages of delivery.

“Any required design changes are best implemented in the early stages of a project as they will be more effective, less costly and result in less down time on site.”

Peter Mould, NSW Government Architect and General Manager 2005–2012.

Project: Parliament of Victoria Members' Annexe  
Architects: Peter Elliott Architecture  
Landscape Architect: Taylor Cullity Lethlean  
Photographer: John Gollings





As the above diagram indicates, during a project's initial scoping and design phase it is possible to have a very substantial impact on the design quality. However as the project continues it is dominated by the process rigours of procurement and the contractual and commercial demands of construction. Thus the ability to impact and improve the design quality becomes more difficult and expensive as the project progresses. When key design initiatives are put in place at the early stages of a project then there is greater opportunity for design to be realised.

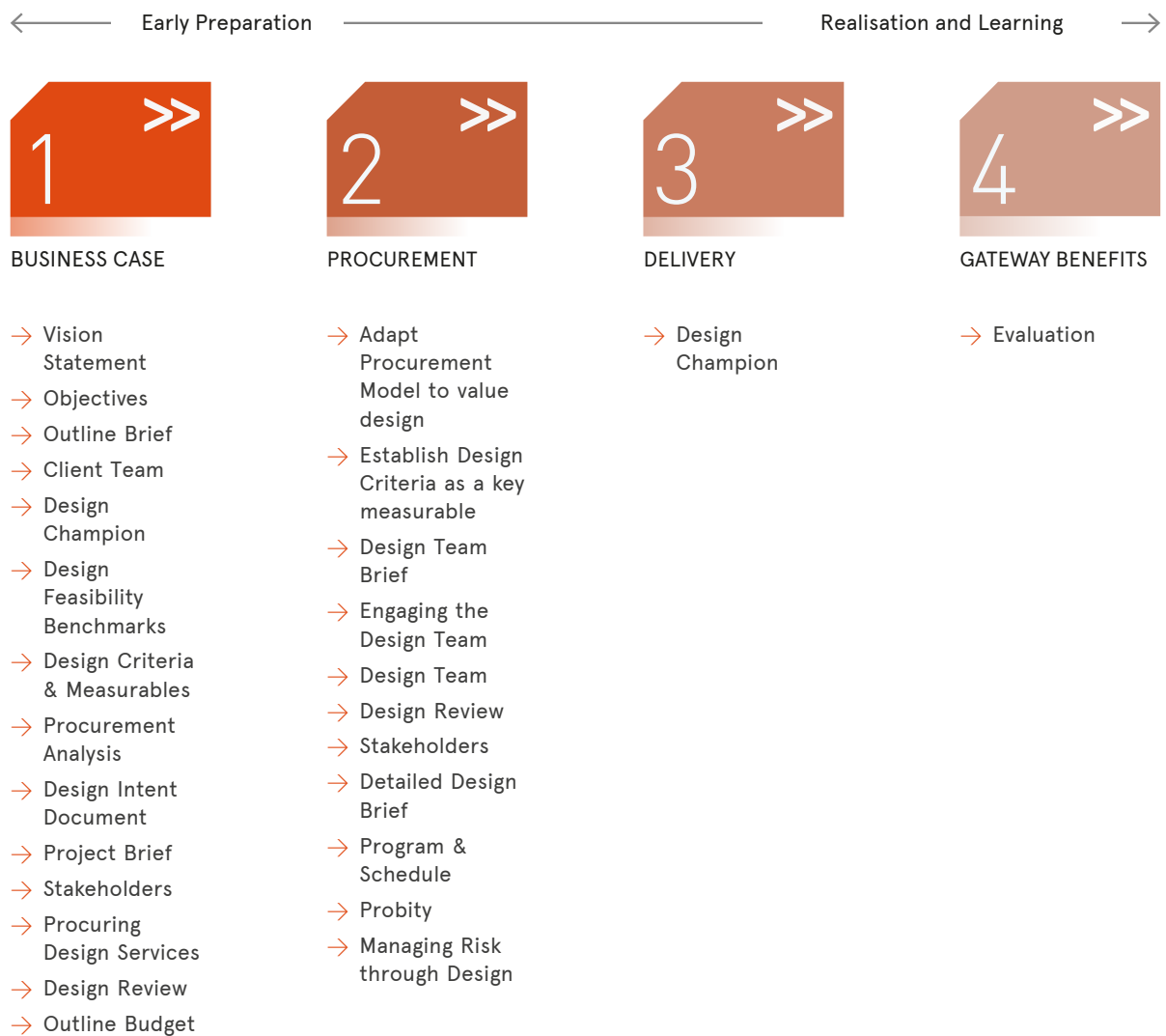
Factors which can have a significant impact on design outcomes include:

- » development of a Vision Statement;
- » quality of the Brief;
- » adequacy of the Budget;
- » adequacy of the Program;
- » need for Design Review;
- » experience and quality of the Management of the process; and
- » ability of the Design Team.

A good client with a mission to deliver a quality project needs, at the earliest possible stages of a project, to be fully aware of the risks to design quality that can arise. It also needs to be understood that, if it is not there from the outset, it is extremely difficult to add good design later in the project. Good design should underscore all decisions in the process of delivering a quality outcome.

A number of simple actions can be put in place during the client preparation of a project, which will have a significant impact on the final outcome.

The Department of Treasury and Finance's Investment Lifecycle and High Value/High Risk Guidelines, provide an example of clear, integrated guidance to promote better practice in delivering infrastructure investments. Across three stages they help shape proposals, inform investment decisions, monitor project delivery and track the benefits that investments achieve.



Equally, there is an opportunity to embed design tools in the key steps of a project strategy. The above diagram indicates to departments and agencies when there is an opportunity to use design tools within the procurement processes such as those as set out within the Investment Lifecycle Guidelines.

Subject to the complexity of the project, the tools may be used at alternative stages to that above or may even repeat. However, as the above suggests, they are best undertaken earlier in the process to determine the best outcomes.

The following sections outline key design tools to enable quality design outcomes in built projects.



**What's good about a Vision Statement?**

The Vision Statement can be used to assess whether the objectives are being delivered as the building design takes shape. It gives everyone a central reference that will measure how well the project meets its aims.

Without a Vision Statement, a building project can easily become unfocussed and wasteful.

## 2.1 Vision Statement & Objectives

The Vision Statement is the high level statement in which the client outlines the overarching objectives of the project. It identifies at the inception the project values and outcomes for the local stakeholders and wider community. It is a mechanism for immediately establishing the role for design in the project.

The defined aims and objectives of the Vision provide a key point of reference for the overall project ambitions. It must be capable of holding true for the project duration as a constant litmus test of achievement. It needs to be agreed upon early to enable feasibility and budget checks. The Vision should be stated with clarity and provide a good understanding of the shared goals of the project.

It provides an outline of the strategy for delivering the outcomes and quality, and an overview of the context, be it policy or social, cultural and physical environment. It should be developed in conjunction with those with design expertise, who can assist in establishing the design ambitions for the project and have the capacity to understand the project within a broader context of policy and state intended outcomes.

In the case of government delivery this statement should be developed within the Investment Logic Mapping (ILM) process, thereby placing the project within its policy context





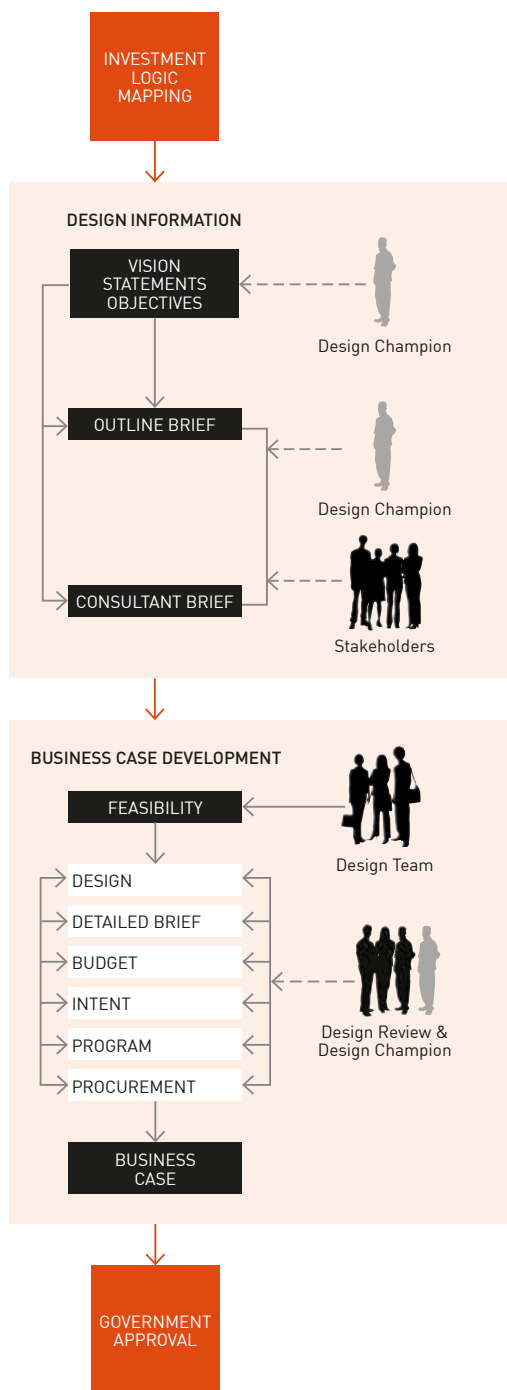
### RECOMMENDATIONS

- » Develop the Vision Statement of the project at its inception.
- » Provide a Vision Statement that is positive and engaging and with clear objectives.
- » Ensure the objectives of the Vision Statement are relevant to State and other policies.
- » Communicate the intended ambition for design in the project.
- » Seek consensus for the Vision Statement with key government agencies.
- » Consider the use of a design specialist to assist in determining the Vision Statement.
- » Include the Vision Statement and objectives in every document issued as part of the project.

Project: Darebin Yarra Trail  
Designer: Vic Roads Urban Design  
Photographer: Emma Cross



DEVELOPING A BUSINESS CASE



## 2.2 Business Case as Feasibility Study

The Department of Treasury and Finance defines a business case as “a document that forms the basis of advice for executive decision-making for an investment. It is a documented proposal to meet a clearly established service requirement and the proposed delivery approach.”<sup>9</sup>

The business case needs to articulate the main aim of the project, the reasons for it, the revenue sources, and how it will be funded. The business case considers the viability of the investment across the whole of its lifecycle, not just implementing a solution but operating and maintaining it until its end-of-life. It should be prepared to evaluate the economic relationship between the site cost, building cost, whole-of-life costs, the project brief and a project schedule while remaining focussed on the intended outcome for the project. Whole-of-life costs should ensure appropriate consideration for future demand, later stage expansion, alternative uses, maintenance, operational and decommissioning costs.<sup>10</sup>

The inclusion of a feasibility design study, as part of the business case provides an opportunity for evaluation and analysis of the proposed project, based on extensive investigation and research. It can use design as a tool to develop and test the client’s vision, objectives and brief, and explore options to suggest how the project may best be delivered. The designed options are then evaluated against the project objectives, and assist in the determination of the most appropriate value for money outcome.

In order to allow a full appreciation of the intended outcome for the project, it is beneficial that the business case, in addition to the Treasury & Finance requirements, include the:

- » Vision Statement;
- » feasibility design study;
- » Design Intent Document;
- » demonstrated policy context; and
- » whole-of-life assessment.

The business case is not a static document. It forms the basis of the brief. Therefore, the business case should be a working feasibility document that is refined and monitored in association with the project budget.



**RECOMMENDATIONS**

- » Require that the role of the project in the broader context is tested as part of the business case.
- » Undertake a design feasibility study as part of the business case process.
- » Test a range of design options in the development of the business case.
- » Establish which design aspects of the project need special consideration in order to assess their impact on the business case.
- » Test the robustness of assumptions in the business case that may impact design quality.
- » Allow flexibility within the business case to respond to design changes that may occur as the project evolves.
- » Provide the statement of design intent in the Business Case.

Project: The Royal Children's Hospital  
Architects: Billard Leece Partnership and Bates Smart  
Photographer: Peter Bennetts





### Possible client team members

Depending on the size and complexity of the project, the client team may comprise of one or many people. It may commence initially with one member responsible for the whole project, which develops into a wider team as the project develops and specialist experience is required.

Roles for the client team may include:

- » Project Director
- » Project Manager
- » Design Manager
- » Operational Manager
- » Stakeholder Manager
- » Project Steering Committee
- » Sustainability Manager
- » Universal Access Manager
- » Design Champion

### High Value High Risk Projects

Department of Treasury & Finances, Investment Lifecycle & HVHR Guidelines provide further information relating to the client team.

## 2.3 Client Team

The in-house client team or working group represents the client owner and ultimate users. The client team will inform and guide the process and lead the outcomes for the project.

As responsible purchaser of the design process the skills and experience of people on the client team are critical. An appropriately skilled client team will have a background in construction and/or design, a detailed understanding of the design process, relevant experience for the project type, and an awareness of the policies and strategic issues that relate to it.

An experienced client team with the ability to adapt to the various procurement procedures, and to form close links with stakeholders and the design team, will ensure that the key issues of cost, time and quality can be addressed.

### RECOMMENDATIONS

- » **Ensure the in-house client team includes members who understand the implications of the chosen procurement method on the design outcomes.**
- » **Seek assistance from the Office of the Victorian Government Architect with strategies to enable good design outcomes. This may involve advice on preparing EOI and RFP briefs, appointment to project and/or working groups, and the use of design review.**
- » **Ensure the client manager has a good understanding of the design process.**
- » **Ensure it is clearly articulated which member/s of the client team is/are responsible for the project brief and the primary contact/s for the design team.**
- » **Engage with the client department or the Office of the Victorian Government Architect who can assist the client team in understanding the means by which good design may be achieved.**

## 2.4 Design Champion

Experience in other governments and institutions has demonstrated the value of a Design Champion who is able to safeguard the design quality on behalf of the client. In the case of state projects, this may be a suitably experienced design member within the government client department, the Office of the Victorian Government Architect, or a separately appointed adviser.

The Design Champion can assist in articulating the vision and the client's desire for a high quality design outcome, and ensure that these ambitions are clearly stated in the outline brief. The Design Champion can assist in developing the selection criteria and the evaluation of bidding design teams, and further develop the criteria and provide assessment as the design process continues.

It is important that the Design Champion is appointed as early as possible in the process as part of the governance structure, with direct communication to the project director. Early signalling of the nature of the design ambition being sought will help ensure that the appropriate design teams bid for the project.

The retention of the Design Champion as an integral member of the client team throughout the project will help ensure that the design quality sought in the Vision Statement is embedded and safeguarded throughout the design process, and will support a successful outcome for the project.

## RECOMMENDATIONS

- » Appoint the Design Champion early in the process, during the Business Case development, as part of the Client Team.
- » Provide opportunities for the Design Champion to comment on and endorse Business Cases.
- » Retain the Design Champion for the duration of the project to ensure design quality is maintained.
- » Allow a process for the Design Champion to identify risks to quality design outcomes and the means by which they can introduce changes, which support good design.

'The purpose of a design champion is to promote good design in every area of the business, ensuring that design issues play a central role in corporate strategy and deliver demonstrable commercial benefits.'

Design Champions,  
Commission for  
Architecture and the Built  
Environment (CABE)

Project: Birrale Primary School  
Architect: Kerstin Thompson Architects  
Landscape Architect: Simon Ellis  
Photographer: Derek Swalwell



### Possible Stakeholders

- » Local authority
- » Other State Government departments and agencies
- » Local community groups
- » Funding organisations
- » Indigenous communities
- » Users and operators
- » Service delivery partners

## 2.5 Design Value of Stakeholders

It is important to identify, early in the project process, both the direct and indirect project stakeholders. Stakeholders may be users or operators who have a direct role in the project. Other stakeholders, such as the local authority and community may be indirectly affected but can offer insights of benefit to the project. To achieve the desired outcomes, it is critical to ensure all expectations are managed and all issues considered in the development of a design. Therefore, the needs and insight of stakeholders must be recognised, understood and incorporated from the very beginning of the project.

There can be many stakeholders with diverse needs who should be engaged. It is one of the very important elements of project leadership and management to identify those who are key to the project success. Equally it is important to achieve the right level of engagement with stakeholders and to manage their aspirations. Each project will be different and will have its own unique requirements.

Managing the expectations of stakeholders is often a requirement of the design team, but ideally, is controlled by the client to manage their various and sometimes conflicting requirements. Subject to the number of stakeholders engaged, the capacity to determine the nature of meetings and the time required to undertake the consultation process can be difficult to quantify, and thus can impact on the project program, budget and design.

### RECOMMENDATIONS

- » **Identify and engage the key stakeholders early in the process.**
- » **Appoint a client representative to establish and manage the stakeholder requirements.**
- » **Include stakeholder requirements as a component of the project brief.**
- » **Agree priority of the differing stakeholder requirements prior to instructing design team.**
- » **Retain stakeholder representation during the process of the project so they can understand how key decisions have been made.**
- » **Engender stakeholder ownership of the project and ensure they understand the intent of the project outcomes through clear communication.**
- » **Recognise past, contemporary and shared Indigenous & historic cultural values.**
- » **Partner with Traditional Owners and First Peoples to develop strategies and processes to enable a respectful and sincere process for embedding Indigenous culture and values into the project.**
- » **Consider engagement with Traditional Owners and First Peoples as a professional fee-for-service and not as a community engagement exercise.**

## 2.6 Design Team

The composition of the design team will largely depend upon the type of project proposed, whether infrastructure, built form or public space. The design team comprises architects, urban designers and landscape architects, focussed on the design outcomes for the project. It may also include the structural and services engineers, quantity surveyors, planners, building surveyors, interior designers, specialist environmental, access, health and sustainability consultants.

By focussing on the design outcomes for the project a design-led team will pursue the ambitions and quality outcomes outlined in the brief. In many projects the architect is the lead consultant of the design team, not only designing the building but also co-ordinating the consultant team, client requirements, budgets and construction. In others, the architect may be part of a collaborative design team, providing design thinking, which encompasses the broad context and public realm, in addition to the immediate functional requirements of the project itself. They can also ensure the design intent is carried through the construction process and recommend strategies to enable good design regardless of the procurement method chosen.

An architect brings professional training, vision and experience to inform the entire design and construction process. Their expertise can ensure that sustainability, urban design and site responsive building design are embedded in the design process. Through good design, an architect can enhance the value of a building and offer significant savings especially when it comes to operating, staffing and/or tenancing the building. They provide strategic thinking that looks at broader and long-term issues, balanced against the time and cost issues. They are crucial to the long-term success of the project, directly influencing the project experience by the users and greater community.

The project brief will assist in determining the extent and type of design team required, whether a specific architecture and landscape architecture team or an extensive team with many specialists.







## 2.7 Architects, Project Management & Project Managers

Project management encompasses the planning, organising, securing, and managing of resources to achieve specific goals. A project manager is the person accountable for accomplishing the stated project objectives. In many cases a project manager may be an architect. Key project management responsibilities include creating clear and attainable project objectives, building the project requirements, and managing the triple constraint for projects, cost, time, and scope.

A project manager is the client representative and determines the exact needs of the client based on knowledge of the client they are representing. The ability to adapt to the various internal procedures of the contracting party and to form close links with the nominated representatives is essential in ensuring that the key issues of cost, time, quality and client satisfaction, can be reconciled.

When well-managed, the appointment of a separate project manager can allow the architect the opportunity to focus on the client brief and the design outcomes for the project. When taking this approach, it is important that both the architect and project manager are engaged at the inception of a project to advise the client of the most appropriate design and procurement process.

Where this is the case, it is important that the architect maintains a senior role in the project, retaining:

- » design lead, orchestrating the strategic decisions that will impact on the design outcomes.
- » clear access to the client throughout the course of the project.
- » input to the appointment of an appropriate sub-consultant team and unimpeded access to the sub-consultants.
- » a clearly defined scope of services, particularly in regard to the responsibilities for approvals, coordination of documents and the extent of services during construction.
- » clearly defined responsibilities and liabilities.

### SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN

- » **Value good design and recognise that the architect is the best person to manage the design.**
- » **Ensure the architect has direct access to the client so that design quality ambitions are met.**
- » **The project manager assumes the key role of creating a collaborative environment to support the architect (along with other consultants and contractors) to deliver design quality and an enduring legacy for the built environment.**
- » **Engage the architect concurrently with the project manager to explain, monitor and protect the design intent.**

'Project management is defined as management of a construction project by an independent primary consultant, whose principal task is management and does not include design or construction but does include co-ordination of design and construction as agent of the owner.'

D. Standen Construction Industry Terminology, RAI A Practice Division, 1993.

'The fees charged by an architect for design and documentation rarely exceed one per cent of the total cost of constructing and operating the building throughout its useful life.'

You and Your Architect, RAI A Practice Services

There is broad industry agreement that there is a need for good architects and good project managers and the specialist skills they bring to a project. The following diagram outlines the roles and skills of the architect and the project manager and where they overlap with the management of the project.

## ARCHITECT

- » **Adviser to the client**, as a professional expert with specialist knowledge in the design and construction of buildings.
- » Develop the client's **design vision** and provide a **design response to the client's brief** to a detailed design solution that meets the client brief.
- » **Lead and coordinate** the design team and facilitate the design process.
- » **Formulate the brief** including the details of the site, regulatory requirements and other issues which impact upon the project.
- » **Consult** with **users** and **stakeholders** for functional and building related performance requirements.
- » Document and **oversee the procurement** and **implementation of the design solution** seeking client approval for each phase of the design and construction process.
- » Skilled to design buildings that **work efficiently**, solve problems of space and function, and **fit comfortably** into the environment.
- » Skilled to offer **innovation** in designing buildings that are **energy efficient**, cheaper to operate and easier to maintain.

## PROJECT ARCHITECT/PROJECT MANAGEMENT

- » **Agent for the client** when dealing with third parties eg. builder or other contractors.
- » **Independent certifier acting** with the agreement of the builder and client to determine clauses and functions within the chosen building contract.
- » Capacity to create a **collaborative environment** to ensure the design team **deliver the best design outcomes** for the project.
- » **Assisting the client** to provide clear and concise direction to the project team.
- » **Coordinates and controls**, on behalf of the client, **the work of all consultants**, contractors and specialist contractors.
- » Skilled to understand the **interrelationship of time, cost and quality** in a project and that each element is considered of equal importance.
- » Skilled to **facilitate, educate** and **advise** the client about the **procurement process**.
- » Skilled with a **background in construction** and/or **design** in many cases a project manager may be an architect.

## PROJECT MANAGER

- » **Advising** on finance, site selection, acquisition, cost benefit studies, different methods of contracting, taxation advice, legal matters such as leasing and conveyancing, lettings and tenancies, programming, budgeting and insurance.
- » Offer an **appreciation of the design process** and the imperative to **protect the design intent**.

## 2.8 Procuring Design Services

Choosing the design team is critical to the project and its long-term success. Time and attention given to this aspect of procurement will enable the selection of a team that clearly understands the client objectives, is capable of delivering the project ambitions, and which promises a good working relationship with the client.

Clients should investigate a range of designers, capable of working with stakeholders, with demonstrated good urban design thinking and an understanding of the client's objectives. It is also beneficial that they have prior experience in the design of projects of a similar scale and complexity. No matter which method is chosen when procuring the design services, it is essential that key criteria be established for the selection, focussed on design capability and capacity, giving significant weighting to these criteria. This will assist in determining an appropriate shortlist of proponents. It is equally important that those judging the submissions be qualified to do so. To build a working relationship between the client and the design team, it is strongly recommended that the design team selection process should include an interview.

### RECOMMENDATIONS

- » **Seek design services on a quality based selection process.**
- » **Ensure the capacity to deliver 'good design' is a key component of the selection process.**
- » **Establish selection criteria, which also recognise demonstrated capacity for good urban design and which value peer recognition through design awards and/or publications.**
- » **Include the Vision Statement as part of all the request documents.**
- » **Provide a clear and succinct outline brief which states the required outcomes, opportunities and constraints.**
- » **Select proponents with experience of high quality design capacity in buildings or infrastructure of a similar scale and complexity.**
- » **Interview proponents as part of the assessment process.**
- » **Ensure the assessment panel includes members with design expertise and who are qualified to select the design team.**
- » **Use standard contracts to reduce the need for costly legal review or negotiations and ensure that risk and reward is allocated fairly (e.g. AS4122-2010).**
- » **Special conditions and variations to standard contracts should be avoided, especially when there is no clear reason for their inclusion.**

**Architectural services may be generally selected by several methods such as:**

- » Quality Based Selection
- » Expression of Interest
- » Request for Proposal
- » Fee Tender
- » Architectural Competition
- » Indirectly as part of a wider consortia



'A good brief will set aims and objectives for the project against which proposals can be tested. It will signal to the design team the quality of the organisation and level of services expected.'

Creating excellent buildings; A guide for clients,' Commission for Architecture and the Built Environment, (CABE).

'A design brief is a written statement which details the client's expectations and the functions of a proposed building. It should describe the facilities to be provided and the activities to be performed. It should also clearly identify the broad policies within which these are to be achieved in respect of the time, cost and quality. The brief should not propose specific design solutions.'

Acumen Practice Notes

## 2.9 Design Team Brief

The design team brief sets out the extent and stages of the services required, including any specialist requirements. It explains the scope of the project and the ambitions that need to be met by a designer or design team. It should focus on outcomes of the design process and the business objectives of the design project, without prescribing the design solution or how the design team may approach the project.

It includes an outline project description and ambitions. Its primary focus is on the role and services required of the design team outlining:

- » the function, quality and intended life, details of approvals obtained or required;
- » the project procurement method, project budget, project schedule;
- » the means of appointing the design team such as terms of engagement, evaluation criteria, and number of design teams to be short listed;
- » the scope and extent of the services, and the role within the delivery of the project, inclusive of stakeholder engagement; and
- » the role with respect to the project team and collaboration with other consultants.

The design team brief requires an understanding of the significance of the project and the qualities sought in the consultants. The more clear and holistic the design team brief, the more appropriate the potential proponents.

### RECOMMENDATIONS

- » **Ensure the Vision Statement is highlighted in Expression of Interest (EOI) and Request for Proposal (RFP) documents.**
- » **Ensure good design is highlighted as a key criterion in EOI/RFP documents.**
- » **Outline the stages required and expected level of design service including any specialist services.**
- » **Identify stakeholder engagement and requirements.**
- » **Avoid prescriptive descriptions and outputs of design team services, instead outline the outcomes required.**
- » **Arrange peer review of design briefs prior to issuing; for State Government projects, review may be conducted by the OVGA.**

## 2.10 Project Brief

Of all of the drivers that are most likely to lead to a high quality design, a carefully conceived, documented and thoroughly reviewed brief is the most critical. Ideally it outlines the objectives and needs of the project, setting the ambitions without prescribing a solution or aesthetic.

It is also important to understand the capacity for the brief to develop in stages. The initial project brief will establish the outcomes and ambitions for the project at a broad level. Research and analysis and more detailed requirements will add further information as the design progresses from the broader high level to the more detailed finer scale. As each of the requirements, opportunities and constraints become apparent it should be reflected in the brief, capturing a more detailed story of the project ambitions. An effective brief is 'live' and 'dynamic', responding to the project as it develops.

### THE STAGES OF A PROJECT BRIEF:

Brief format	Traditional Process	High Value High Risk Process	Responsibility
Vision	Preparation	Business Case	Client
Outline Brief			
Detailed/Return Brief	Design	Procurement	Developed by Design Team and Consultants with the Client
Design Intent Document			
Schedules			
Specification	Construct	Delivery	Design Team & Consultants
Operation & Maintenance Manual	Use	Gateway Benefits evaluation	Design Team, Contractor & Client

### OUTLINE BRIEF

The Outline Brief is the initial project brief, which will inform the early design phase and ultimately inform the end-users of the project. Prepared by the client, it includes the Vision Statement and project objectives, and provides further details about the measures for success in a physical, social, environmental and economic context. It can also include an outline of potential spaces required, expectation of design quality, lifecycle issues, and other relevant background information.

The expectation of design quality should be included in the brief as a key outcome in addition to encompassing all of the objectives of stakeholders and ultimate users, so that the design team is clear about the overall requirements. In this respect, qualitative benchmarks can be a valuable tool in forming the brief and establishing the budget as a part of that brief. Citing examples of previous related and successful projects also supports government in a review process, allowing client teams to learn from each other.

A thoroughly scoped brief will assist in ensuring the budget is well-informed and represents value for money.

It is important to understand that the development of the outline brief needs to continue into the detailed brief and contribute to the Design Intent Document.

### Contents of an outline brief

- » The Vision Statement and project objectives
- » Policy and environmental context
- » High quality design ambitions
- » Succinct summary of outcomes, not outputs
- » Sustainable design outcomes
- » Universal design outcomes
- » Whole-of-life ambitions

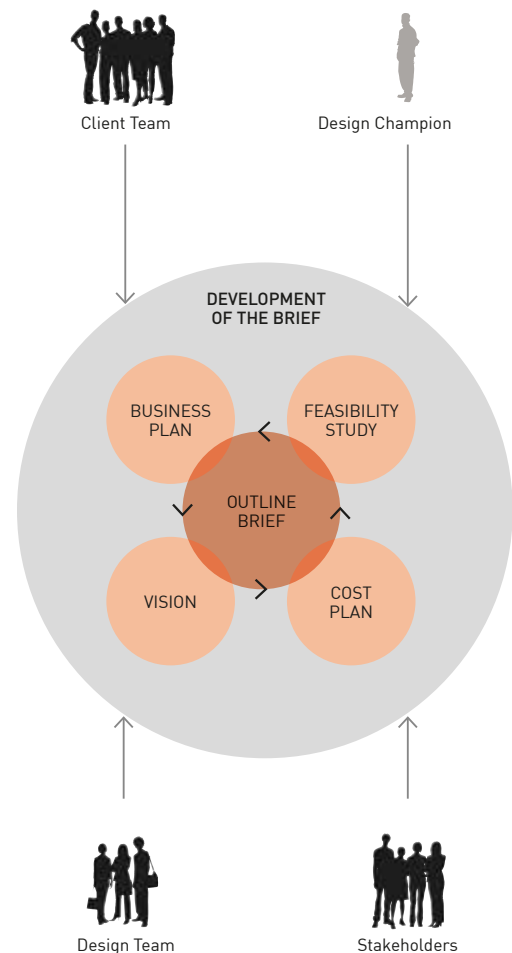
'The reward for a client of investing effort in a well-developed brief is a project that can achieve outstanding results for both the client and the end-users. A procurement process may be premature if key information is unavailable, or funding unsecured.'

Australian Institute of Architects Guidelines for EOI & RFTs 2019, p. 6.

### RECOMMENDATIONS

- » Ensure the Vision Statement and objectives of the project are included in the outline brief.
- » Compile a clear and holistic brief that outlines all the requirements of the project, both functional and qualitative.
- » Use benchmarks to assist in identifying quality and success.
- » Ensure the brief includes a background and policy context.
- » Ensure the brief includes reference to all stakeholders and their identified needs whether directly or potentially impacted by the project.
- » Ensure the brief includes business objectives, desired outcomes and the expectation of design quality.
- » Stipulate the assessment criteria for Post Occupancy Evaluation in the project brief.
- » Ensure the brief is targeted to the project and is not a standard or generic type of brief.
- » Establish if the budget and program are components of the brief, advise accordingly and ensure the brief is realistic in relation to the budget and site available.
- » Allow adequate time to develop the outline brief.
- » Arrange peer review of briefs prior to issuing; for State Government projects, review may be conducted by the OVGA.
- » Understand that the outline brief will inform and direct the Detailed Brief and Design Intent Document to be developed by the design team.

### INPUTS TO THE BRIEF



### DETAILED DESIGN BRIEF

The detailed brief is a development of the outline brief, prepared by the design team in conjunction with the client and stakeholders, and sometimes referred to as the 'return brief.' It captures all the necessary information, the Vision Statement, and the specific activities and operational requirements of the project.

Subject to the complexity of the project, the detailed brief will require the input of many varied pieces of information. It will include details about local authority and stakeholder requirements, universal access and design, and measurable sustainability outcomes. As per the outline brief, it should include the expectation of design quality as a key outcome.

It is important that the client sign-off the detailed brief, once fully developed, as it becomes the reference against which the proposal can be tested as the design process continues. The detailed brief should retain a level of flexibility which allows it to be updated regularly as more details informing the design become available.

The detailed brief will not predetermine the form of the design and will not prescribe the solution to the design team. Instead it provides a clear framework, milestones and measurable criteria that allows the design team to translate it into a design solution that meets, and ideally, exceeds the client's needs and aspirations.

The development of this brief should not be confused with the Design Intent Document as outlined further.

### RECOMMENDATIONS – HOW TO DEVELOP THE DETAILED DESIGN BRIEF

- » **Ensure the Vision Statement and objectives of the project are retained in the brief.**
- » **Develop further the use of benchmarks to assist in identifying design quality and success.**
- » **Engage all stakeholders and end users to develop the brief.**
- » **Allow adequate time to develop the brief as a key part of the project.**
- » **Review and obtain client sign-off on the brief at regular intervals during the design process, updating to reflect all agreed outcomes and ensure all issues are addressed and revisions are incorporated.**
- » **Ensure the brief includes the business objectives, desired outcomes and a clearly articulated design ambition.**
- » **Ensure the brief includes sustainability and whole-of-life expectations.**
- » **Ensure the budget and the program can realistically support the design ambitions.**
- » **Establish measurable criteria as part of the brief including key criteria for design quality.**

'The extent to which innovation can be introduced into a project will be determined by the consultant's review of the scope of works, risk management process, contract terms and conditions, and the delivery model. A scope with clearly defined parameters for innovation, as well as delivery models that share risk and support collaboration, is more likely to result in innovation.'

Procurement in WA; Government as 'model client' Submission to the WA Commission of Inquiry into Government Programs and Projects June 2018 (Deloitte Access Economics report -Better Buying, Better Outcomes), p. 20.



"The Design Intent Document is often referred to by the design-architect as a way of maintaining quality during the documentation completion and construction process.

The better, and more sophisticated novated construction contracts, include such statements. These become very useful to design-architects who retain certain obligations to their original client but also to the contractor to whom they have been novated."

Paul Katsieris, Katsieris Origami, Architecture and Urbanism

## 2.11 Design Intent Document

The Design Intent Document captures the initial architectural and urban design ambitions. This document is a key step for the client in ensuring that their vision is delivered and that the design quality is protected. The Design Intent Document is a working document that embeds the key design decisions through each stage of the project and the qualitative aspects that have been agreed. It provides an agreed level of assurance to the client that the intent of the design is deliverable.

Subject to the stage and nature of the project, the format of the Design Intent Document includes a written description, masterplan and diagrams that set out the key architectural intentions. The written description outlines the response to stakeholder requirements and key decisions made as part of the design process. The Design Intent Document may also include photographs that establish qualitative benchmarks. In the case of a more developed scheme, the format may include indicative images, diagrams or sketches. The diagrams could include building sections that reflect the key details that need to be protected as part of the design process. This may include floor-to-ceiling heights, specialised environmentally sustainable design initiatives, materials, finishes, colours or junction details.

The Design Intent Document outlines the key responses to the Vision Statement and objectives of the project. It is approved by the client, to form part of the contract between the client and the party delivering the project. Including it as part of the contract allows for its use in procurement processes where the design team is no longer directly appointed by the client. This can be particularly useful in procurement processes where the design team is in-directly engaged through a contractor, such as Public Private Partnerships and Design and Construct. It is also of use where there is an infrastructure project that is led by an engineer as opposed to a design professional.

The Design Intent Document can give the client confidence that the architectural design intent has been clearly established, agreed upon and can be delivered despite the challenges to design quality associated with the procurement process being used.

### RECOMMENDATIONS

- » **Ensure the Design Intent Document embeds the Vision Statement and addresses the project objectives.**
- » **Ensure the Design Intent Document develops in conjunction with the design proposal as early as possible.**
- » **Ensure the Design Intent Document forms part of the contract between the client and the party delivering the project.**
- » **Ensure the Design Intent Document is prepared by the design team and approved by the client.**
- » **Consider penalties for non-compliance with the Design Intent Document.**

## 2.12 Program & Time for Design

The program establishes dates, sometimes referred to as milestones, for the completion of stages in the process of a project, including that of the design stages. It is an important part of the process, as many decisions, including those related to design and finance, will be made based on the project schedule.

The program will first be initiated at the commencement of the project feasibility stage. It is important to understand the program not as a series of dates but as a series of development stages, each requiring adequate time to complete the task. To achieve the best design outcome, the schedule must allocate adequate time to undertake design tasks and allow adequate flexibility to accommodate time delays should they arise.

In this regard, an important factor affecting design quality is time. It stands to reason that a quality outcome, irrespective of the brief or the budget, will take time to develop. It is important to recognise that the time taken to develop a design is a sound investment in the context of the construction time and the life cycle of the built outcome. The time allowed to research, analyse, brief, review and develop a design proposal must be adequate to ensure all needs are met.

The use of fast tracked and shortened design processes are a risk and consequently compromise the quality of a project. Sufficient time must be allocated for the preparation of concept design, design development, tender and construction documents that deliver full design resolution, and to enable builders to offer competitive tenders.

### RECOMMENDATIONS

- » **Recognise the design time required within the context of the life of the built outcome.**
- » **Allow adequate time for detailed design development, contract documentation and review.**
- » **Allow adequate time for the selection of consultants and their appointment.**
- » **Provide realistic provision for client and authority approvals.**
- » **Allow opportunity for the design team to contribute to the program schedule.**
- » **Establish a program with realistic allowances for potential delays.**
- » **Establish a program based on previous benchmarks and real delivery times.**

“An artificial deadline was created [for Federation Square] and that had to be met. In our view that deadline was set months earlier than it should’ve been and so there was a sense of it doesn’t matter how it happens as long as it happens and that meant inevitably that the quality of certain things was lost at the end.”

Peter Davidson Director  
Lab Architecture Studio,  
ABC documentary ‘Inside  
the Square’

### Establishing a benchmark rate

Building and construction rates are variable based on a number of factors including, location, timing, market conditions, quality, and complexity of services.

Rather than determining a fixed rate per square metre, the outline budget should allow a range of rates to provide some flexibility in meeting the desired outcomes.

## 2.13 Outline Budget

The budget is the cost estimate of allocated funds to deliver the final project outcome. It will include immediate cost items such as cost of land, capital costs of construction, professional fees, staff costs, contingencies for design and construction, as well as whole-of-life costs, fit out and equipment, and financing.

The allocation of the budget is related to a comprehensive understanding of the project stakeholders' needs as expressed in the brief. Detailed articulation of project outcomes at the briefing stage and a thorough scoping process will assist in determining an adequate budget.

In arriving at this determination, it is important to understand the benefit of the feasibility or masterplan process. A masterplan prepared as a first step in the design process can assist in making strategic decisions about staging in order to meet the budget while achieving the overall goals of the project.

The adequacy of budget is a critical ingredient in the achievement of a quality design outcome. It is important to make the point that quality design need not be expensive and can deliver value for money.

It is also important to understand that the cost of good design is a very small percentage of the capital and on-going running costs of a project. Adequate upfront time given to design will allow due consideration of all the budget items calculated for the whole life of the building. These can include the on-going running and operational costs, management and even disposal. The application of a good design development stage can ensure cost effectiveness through coordination and consideration of value for money.

### RECOMMENDATIONS

- » **Use Feasibility and Concept Design as an interactive process integral with determining the budget.**
- » **Provide contingencies for design and construction.**
- » **Allow time to develop a realistic budget that tests the design.**
- » **Reference policies to ensure all are adequately covered in the design response.**
- » **Use recent benchmark projects to determine realistic budgets based on a range of rates and the appropriate design quality.**
- » **Determine value for money by consideration of social, environmental and economic factors of the design proposal, and not only the capital cost.**
- » **Use rigorous design and value engineering methods to establish the value of the project capital cost and operational and life cycle costs.**

## 2.14 Design Review

Design review is an essential part of a good design process.

Design review involves the expert independent assessment of design proposals at key stages in a project to help guide, inform and deliver high quality outcomes. Design review is most effective when sought early in the stages of a project before design decisions are locked in place. However, it can have a different focus and impact at later project stages. It can assess if the proposal meets the project vision, the brief, the needs of the community and users, to ensure design integrity is maintained.<sup>11</sup>

Design review offers objectivity and an external perspective to a project drawing from the experience of built environment professionals and specialists. It adds a layer of expertise that builds on the skills of the design team and other advice provided by the local authority. Design review enables broader debate and a challenge to ensure all opportunities are achievable.

The key features of a good design review process are that it:

- » is carried out using a robust and defensible process, offering high standards in the quality of advice;
- » occurs at an early stage in the design process when changes can be implemented more easily and avoid cost implications if changed;
- » is conducted by an independent expert(s) with a high level of experience in design or its evaluation, and the skills to appraise schemes objectively. It offers specialised input on issues that may include sustainability, universal access, heritage or urban design;
- » includes professionals from across the built environment professions;
- » advises and empowers decision makers on how to improve design quality so as to meet the needs of their stakeholders, client and community;
- » allows challenges to the project brief once the initial design phase has revealed problems or unforeseen opportunities;
- » can support decision makers in resisting poorly designed schemes;
- » builds client confidence in key design decisions; and
- » protects the design intent through procurement process.

'...value is measured not only by the creation of new physical assets but by such factors as return on investment, extra value from capital, supplier margins, quality of life factors (including health), extra services provided to end-users, improved operator morale, and lower maintenance and operating costs.'

Projects as Wealth Creators, Property Council of Australia, 2001, p7.

### '10 Principles of Design Review

1. Independent
2. Accountable
3. Expert
4. Advisory
5. Accessible
6. Proportionate
7. Timely
8. Objective
9. For Public Benefit
10. Improves Quality'

CABE Design Review: principles and practice



The Office of the Victorian Government Architect (OVGA) offers design advice through design review using the Victorian Design Review Panel (VDRP), Design Quality Teams (DQT), Urban Design Advisory Panels (UDAP) and Internal Peer Review. The OVGA works with stakeholders as well as project teams to establish the most suitable form of review.

Design review should occur for projects of all types and scales including strategies, masterplans, buildings, major infrastructure, streets and public spaces. Frequency will depend upon the complexity and scale of the project but should commence prior to sign-off at early stages of a project, including Feasibility, Concept Design and Design Development.

A design champion can assist with review prior to sign-off at Contract Documentation and Contract Administration.

There is also opportunity for Design Review by the OVGA as part of Post Occupancy Review.

Design review can ensure that the project meets its full potential and that the vision and brief are met. It creates a forum to generate a discourse that can help solve problems or unlock blockages in thinking or briefing.

Design review delivers public benefit by prioritising the quality of architecture, landscape architecture and urban design, including the design of streets and public spaces. It is an internationally tried and tested method of promoting good design, a cost effective and efficient way to improve quality and is applicable to any procurement type.

#### RECOMMENDATIONS

- » **Embed design review in the overall project program.**
- » **Undertake design review early and regularly in the process.**
- » **Utilise independent experts with demonstrated appraisal skills.**
- » **Support design review with experts from a broad range of professional disciplines.**
- » **Retain the same panel members in a Design Quality Team (DQT), throughout the project's delivery.**
- » **Ensure that there are a balance of independent experts and stakeholders in Urban Design Advisory Panels (UDAP's)**
- » **Ensure design review is open and constructive.**
- » **Ensure design review feedback is timely, considered, consistent and constructive.**

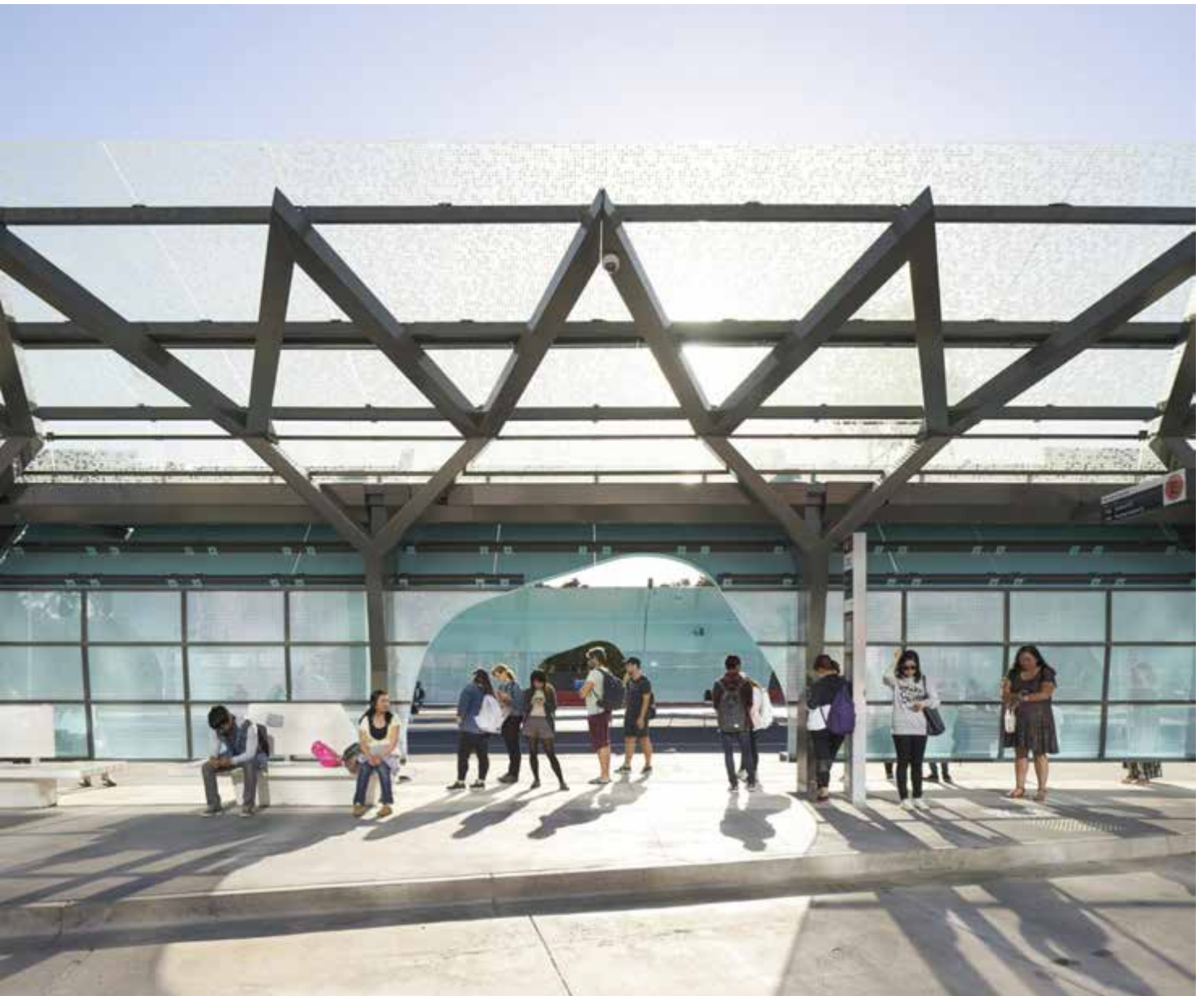
## 2.15 Probity

A mandatory requirement of all government procurement is to maintain transparency and probity.<sup>12</sup> Probity can be defined as "complete and proper ethical conduct and propriety in dealings with the market".<sup>13</sup> It requires Government to act with complete and confirmed integrity, fairness and honesty. It is demonstrated by transparency of actions, equity, confidentiality and managing actual and perceived conflicts of interest. Good procurement practices are competitive and provide equal opportunity to all parties supported by appropriately skilled and experienced probity advisors.

Where design is an integrated component of a bid process, for example as part of an Interactive Tender Workshop, the market engagement strategy will often require an open dialogue between a design team, the client and a designated stakeholder group. Undertaken in alignment with the agency's probity requirements, a rigorous but flexible probity process can assist in allowing frank dialogue and constructive critique to the benefit of better design outcomes.

**RECOMMENDATIONS**

- » Ensure design quality is published in the evaluation criteria and fairly represented in the tender assessment.
- » Ensure each tender bid remains confidential and appropriately manage tenderer's design innovations and intellectual property.
- » Include state government representatives with design expertise as part of assessment panels as appropriate.
- » Understand that probity is a tool to support fair competition and should not compromise the success of the design quality.
- » Establish a safe probity environment that supports interactive design workshops and reviews which enable the best outcome of each proposal.
- » Provide a safe probity environment which allows stakeholder representatives to participate in review of the design proposals.



'Over-sensitivity to risk can have a profound effect on the quality of public space. It can restrict innovation, leading to more standardised designs and less interesting places.

Good design can help manage risk, rather than being compelled to eliminate it. Design can help people to be risk aware rather than risk averse.'

Living with Risk: Promoting better public space design', Commission for Architecture and the Built Environment, (CABE), May 2007.

## 2.16 Managing risk through design

All construction projects contain physical risk, both in construction and eventual use of the building, and there are also time-related and financial risks inherent in the construction process. To maintain commitment to a quality result, the client should acknowledge that risk is an accepted part of the design process and needs to be set out and assessed.

An astutely structured design process can help minimise risks to a project. The key is not only to anticipate what the problems might be, but also to understand the level of risk and how that will inform realistic decisions. The risks can also be considered as opportunities for innovation that might be brought to the project through strategic design thinking. Therefore, the drive should not be to design out the risks but allow contingencies that can cater for cost or time potentially associated with these risks.

Architectural design is not a subjective or aesthetic activity, unrelated to risk management. Instead it can be evaluated in quantitative or qualitative terms. The architect's understanding of the design intent helps to anticipate a number of risks early in a project. To protect design quality an architect can assist the contractor to avoid risk related to the project's budget, constructability, services coordination and regulatory approvals as well as the time and cost risks associated with ongoing design changes.

### RECOMMENDATIONS

- » Understand design as a research and development activity offering innovation, rather than simply a problem-solving activity.
- » Protect quality by allocating each risk to the party best able to manage it.
- » Ensure that the risk management plan for an investment includes procurement risks that may impact on design quality.
- » Manage the risks to the project with design advice to ensure the quality and legacy of the project is retained.
- » Use design review to mitigate unforeseen design issues and to provide confidence to the client team that the proposal is robust.
- » Provide a contingency for both design and construction to effectively manage risk.
- » Ensure that the decision-making tools needed to assess value for money in a project design also assess the fitness for purpose requirements.
- » Ensure that the design and construction process is interactive and that the design team are part of the risk management process.

## 2.17 Building Procurement Choices

It is important to understand that the type of procurement chosen will determine the relationship of the client to the design and construction teams.

The main difference between procurement methods is the involvement of 'direct' procurement of design or 'indirect' procurement of design. Using a 'direct' procurement method ensures that the client retains a direct relationship with the design team and that both retain greater control of the design process and therefore design quality. When implementing the 'indirect' approach the client relationship to the design team is separated and the design outcomes fall within the jurisdiction of the head contractor.

It is important to obtain comprehensive advice about the most suitable building procurement models to use from those with experience in the different forms of delivery and with a balanced view of the related issues of cost, time and quality.

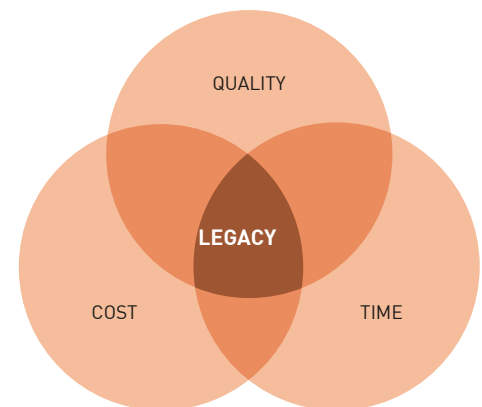
The decision about the most appropriate procurement model for delivering the project will generally be made during the business case and reconfirmed at the commencement of the procurement process. Procurement analysis will consider how a number of different procurement methodologies will treat and manage the important elements, or key evaluation criteria, of the project. To ensure that design quality is considered in the procurement methodology selection process, it is important that it is included as a key evaluation criterion. The procurement strategy will also outline how the preferred procurement methodology will be adapted to suit the specific project, including the delivery of design requirements.

### RECOMMENDATIONS

- » **Ensure that design quality is embedded within the business case and will apply in whichever model of procurement is selected.**
- » **Seek advice from those experienced in procurement methodologies and with a balanced view of the related issues of time, cost and design quality.**
- » **Allow adaptations to procurement methods where they will ensure that quality and good design are embedded in the process.**

In the context of these guidelines building procurement means the management of and stewardship for the construction of a building or infrastructure. Procurement involves not just the contractual method but also the execution of a built project from idea to delivery and on to operation and audit.

For further information on how to develop a procurement plan, see Stage 2 Procurement of DTF's Investment Lifecycle and HVHR Guidelines 2019.





'Post-occupancy evaluations can include some or all of the following:

- » building technical performance measured against specified standards
- » user satisfaction
- » fitness for purpose
- » satisfaction or adequacy of the brief
- » achievement of expected financial or investment outcomes
- » process for project delivery
- » effectiveness of the architect/client management procedures, and
- » ongoing or lifecycle performance'

Acumen AIA Practice Services

'As few as 3% of architects undertake regular POE (for clients) despite the serious benefits that it can bring.'

Procurement in the UK – Flora Samuel, NSW Architecture Bulletin March 2019.

## 2.18 Post Occupancy Evaluation

Post Occupancy Evaluation (POE) is a structured and systematic analysis of the performance of a built outcome measured against specified objectives. It can be undertaken as a detailed study by architects and specialist consultants, or as a series of surveys at regular intervals seeking feedback from operators and users. A POE should not be confused with DTF's Gate Six Benefits Realisation review.

Post Occupancy Evaluation is crucial to encouraging good project outcomes by allowing others to learn from the experience of previous projects. It is a way of reliably finding out whether a project was a success and can inform future projects. It can identify the success and weaknesses and can provide a resource of relevant benchmarks.

It is important that any evaluation outlines the purpose and the objectives of the review. It may be focussed on specific issues regarding the delivery outcomes of the project, safety and comfort, operational performance data, or even to inform future procurement methods for project delivery and their impact on design outcomes. Evaluation of the procurement method can identify what worked best or what can be improved in the project delivery approach. Such Post Occupancy Evaluations are best conducted reasonably soon after occupation, while events are still remembered and the project team is still together.

While Post Occupancy Evaluation may be focussed specifically on providing particular information through the investigation process, it may also highlight other factors impacting upon the specific issues being assessed. By undertaking a formal evaluation process, information is accurately recorded avoiding a false impression of the project and its design outcomes.

### RECOMMENDATIONS

- » **Stipulate the assessment criteria for POE in the project brief.**
- » **The design team or architect undertakes the POE at least 12 months after occupation.**
- » **Ensure the evaluation is a constructive process such that the design or consultant teams need not be defensive about identified problems in the finished product.**
- » **Seek feedback from users/occupants.**
- » **Provide satisfactory resources, time and access to all relevant information and personnel to inform the POE.**
- » **Ensure a well-considered presentation of the findings.**
- » **Ensure a commitment to apply the knowledge to future projects.**

## 2.19 Government Policy Obligations

A significant influencer on procurement methodologies and approaches, is meeting government policy.

Key policies that may have to be considered by the private sector include:

- » the Local Jobs First Policy (LJF Policy) which supports local businesses and workers by ensuring that small and medium size enterprises are given a full and fair opportunity to compete for both large and small government contracts. The LJF Policy comprises the Victorian Industry Participation Policy (VIPP) and depending on the type and scale of project, the Major Projects Skills Guarantee (MPSG).
- » the Social Procurement Framework and the Value Creation and Capture Framework are also requirements under government policy, while public construction is subject to the Ministerial Directions and Instructions under the Project Development and Construction Management Act 1994 (Vic).
- » the Modern Slavery Act 2018 which requires reporting on any modern slavery risk and providing information on the Principal Consultant's supply chain and that of its subconsultants and suppliers.
- » the Working for Victoria initiative used by the Victorian Government to assist businesses to employ Victorian jobseekers.

The appointment of a head contractor effectively transfers compliance with policy obligations to the private sector with the advantage that it reduces the administrative burden on the government agency. The challenge is that compliance with policy can add to the cost of the project and requires sufficient time during procurement for compliance, which can lead to delays. Policy compliance must also be considered in the design brief to accommodate the requirement for at least 90% local content which may limit the range of materials, finishes fixtures, fittings and other building systems that can be specified.

A key initiative to help government to be a better client is the Victorian Digital Asset Strategy. The VDAS aims to capture the valuable data generated at each stage of an asset's lifecycle, recognising that this data can and should be used for the public good.

'Decisions for public good demand quality information. Quality information needs fit-for purpose data. Any break in this chain erodes quality decision making.'

Victorian Digital Asset Strategy 2020, Office of Projects Victoria



## 2.20 Standard Contracts

The use of standard contracts fairly negotiated between industry and government reduces the need for costly legal review or negotiations. Such contracts give all parties the comfort of knowing that risk and reward is allocated fairly.

The Victorian Public Sector Consultancy Agreements – Long and Short Form – are the two forms of consultancy agreements approved by the Secretary to the Department of Treasury and Finance. The Victorian Public Sector Consultancy Agreements reflect the government's preferred commercial position and avoid the need to issue Special Conditions of Contract.

Nationally, the Australian Standard 4122-2010 General Conditions of Contract for Consultants for all professional services, was developed by government and industry representatives to agree a fair and balanced contract that would reduce the need for bespoke contracts and achieve significant cost savings by reducing the need for protracted contract negotiations.<sup>14</sup> Unnecessarily onerous contracts will result in less desirable project outcomes, higher costs and less certainty.

The decision to attach special conditions, undermines the benefit of using a standard contract, as further negotiation is often required like in the case of using a bespoke contract. Any special condition needs to have a clear reason for inclusion.

'In most cases, Project IP should be owned by the contracting party, and the State should seek a licence to use it.'

Intellectual Property in Procurement – Fact sheet for departments and agencies, Department of Treasury and Finance, 2016.

## 2.21 Intellectual Property

Procurement by the State often involves intellectual property (IP) rights. The State's IP Policy provides guidance to departments and agencies about how to deal with IP in procurement. Intellectual Property covers both copyright and moral rights. The design the architect creates for the client is considered an 'artistic work' that can attract copyright under the Copyright Act. The Architect is the 'author' of the 'artistic work' or 'design' under the Copyright Act. The Design is defined as all the architect's services, the design concepts, drawings and documents the architect produces for the client's project.

The client architect agreement should give the client a licence right to use the design only for their project and only on the site. This means the right to use the design cannot be given to another party and the client cannot use the design on another site unless the architect has first given the client permission to do so. The client may pass on the licence to whoever needs to construct and maintain the building. The client never owns the copyright in the design, unless this is specifically agreed to by the architect and client.

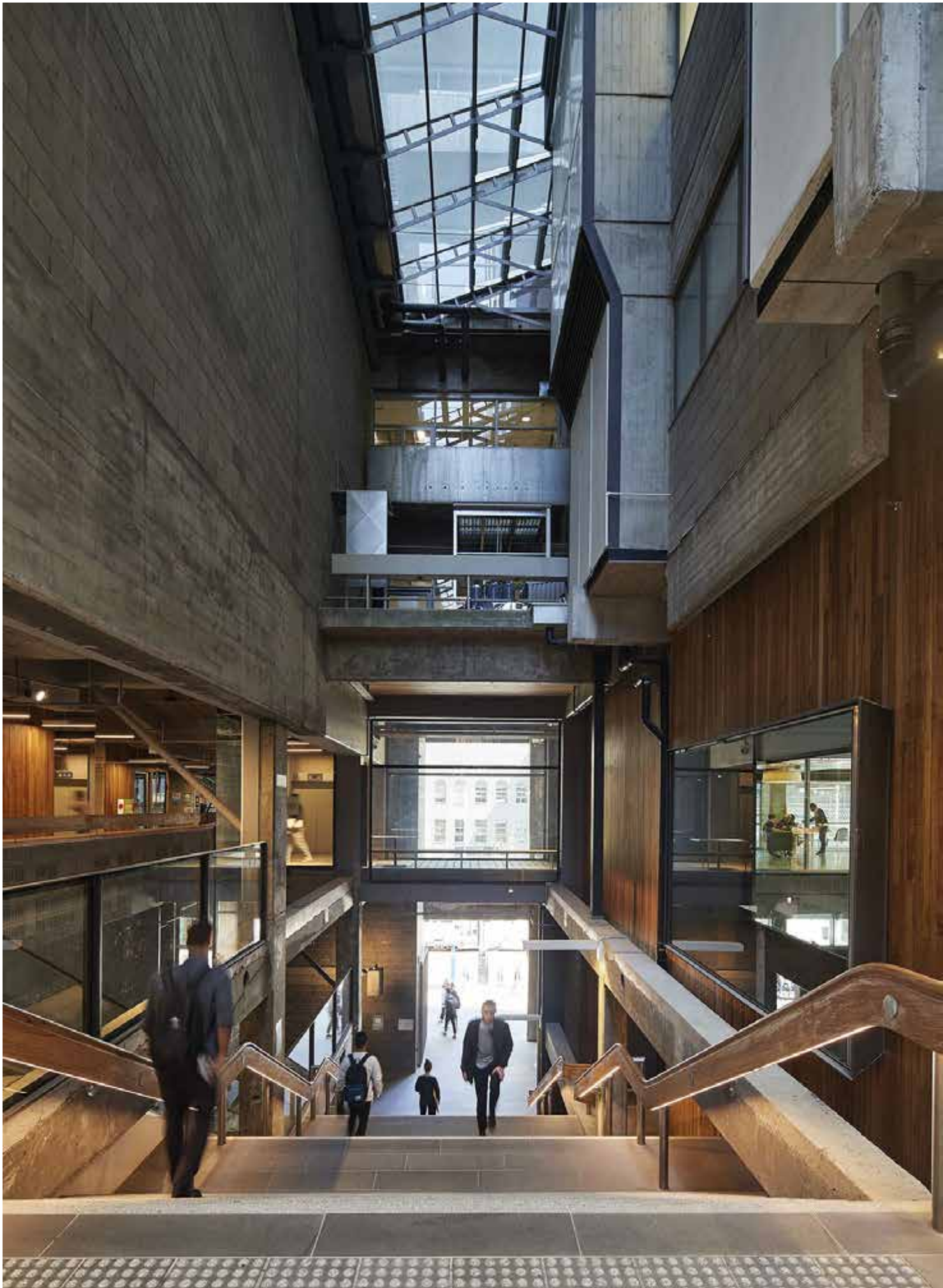
Moral rights are an intellectual property right of an author to protect the integrity and ownership of their work. These rights are protected by the Copyright Act. An architect has moral rights and, as the author of the design, is entitled to be correctly recognised (attributed) as the author of the design. The architect must be attributed in any information containing a 2D or 3D representation of the project.

The Copyright Act moral rights provisions make it mandatory for everyone, including the client, to attribute the architect as the author of the design, even if the design doesn't get built or is not completed. The moral rights provisions also give the architect a right to photograph or record the built design. It is in the best interests of the community and the profession for the views of the original designer to be considered, where possible, in the design of proposed alterations or demolition.

Project: Dandenong Mental Health Facility  
Architects: Bates Smart and Irwin Alsop Architects  
Landscape architect: LBA Design  
Photographer: Grant Cutelli







# 3.0 The Design Process

To ensure that terms referred to throughout the guidelines are clearly defined, it is worth describing the architectural design process and offering recommendations to protect design quality at each stage.

The architectural design process has traditionally been divided into four key stages, which are: Schematic or Sketch Design, Design Development, Documentation and Construction Stage. These stages can also be understood as percentages of the design developed and completed. There are also other key stages that are integral to the design process which are critical to government procuring the best outcomes, inclusive of feasibility and the masterplan.

## 3.1 Masterplan

A first step to inform a project's vision involves the development of a masterplan. A masterplan is a document that outlines the spatial ambition for the long-term development of a project, particular site, area or even city. Master planning is a service that a design team may provide, usually at the start of a project, to provide a coherent planning framework for the proposed project.

Ideally, a masterplan is a written document describing ambitious development goals for a site accompanied by a diagram or drawings which, in detail, defines matters such as development location, footprint, access and use.

Masterplans may:

- » be a strategic planning tool;
- » address development staging;
- » meet legislative requirements;
- » demonstrate development capacity;
- » be used for marketing purposes;
- » provide a development vision; and
- » facilitate infrastructure and transport planning.

The purpose of a masterplan is to allow development to be undertaken progressively as needs or opportunities arise, to avoid compromising future development options, to minimise abortive work and therefore cost, and to accommodate future needs.

In most cases, while masterplans are flexible documents, they should be reviewed on a regular basis to ensure that they remain relevant and that they continue to have the capacity to respond to demands without compromising the overall vision.

## 3.2 Feasibility Study

The feasibility study is the initial process where the client's vision, objectives and outline brief can be developed and tested, and options explored against these to suggest how the project may best be delivered. The feasibility study will test the client vision and aspirations against the reality of delivering a built outcome. It is important that the feasibility stage is measured within a policy context and nominates design quality as a key component of the objectives.

The feasibility study should consider all aspects including technical, organisational and financial. Typically it will determine the present value or dollar worth of a project. However, it is most effective when allowed to explore a range of options for the same project. The options can then be evaluated against the project objectives, and assist in the determination of the most appropriate value for money outcome. A feasibility study may recommend that there is no need for the infrastructure and building; and an alternate solution may be uncovered.

### RECOMMENDATIONS

- » **Ensure the Vision and objectives of the project are understood and clear at the beginning.**
- » **Reference good design and architecture policy as key criteria.**
- » **Include architectural consultants in the development of the business case and feasibility stages to develop the vision into a spatial and conceptual ambition for the project, addressing immediate and future issues.**
- » **Ensure good holistic research and analysis.**
- » **Collaborate with stakeholders to support holistic approach.**
- » **Ensure the feasibility has been rigorous and addressed wider issues outside the project boundaries.**
- » **Establish an understanding of the greater urban context and undertake detailed site analysis of physical, social and cultural context.**
- » **Provide a value engineering/'optioneering' process to develop the feasibility**
- » **Use realistic market benchmarks for quality and budget.**
- » **Allow time to fully develop the feasibility.**

## 3.3 Concept Design

The concept design phase, also known as the schematic design phase, is when the architect explores design ideas based on the project brief and related costs in consultation with the client. The architect produces a number of sketches and design possibilities that consider both the plan – the functional arrangement of spaces; and the form – height, width, and shape relative to constraints and opportunities that apply to the site – providing the client opportunity to comment. The option ultimately agreed upon forms the basis of the final design.

Depending on the scale of the project, generally plans, sections and elevations at 1:100 are produced. Component sheets that seek to set the standards for the building by reference to other buildings may also be produced at this stage.

### RECOMMENDATIONS

- » **Establish an understanding of the greater urban context and undertake detailed site analysis of physical, social and cultural context.**
- » **Establish a peer review process and undertake this early and regularly.**
- » **Allow further 'optioneering' and exploration of ideas in addition to those undertaken in feasibility.**
- » **Encourage and welcome innovative and creative thinking.**
- » **Establish reporting processes for stakeholder and end-user input and client sign-off to next stage.**
- » **Establish processes which identify issues to be addressed at the next design stage.**

### 3.4 Design Development

The design development stage is where the Concept Design is refined and fully detailed to meet project requirements. At this point, the 'look' of the building is finalised and the materials, fixtures and finishes to be used on both the inside and outside of the building are decided. During this phase, the architect will develop the approved design and provide documentation to explain it to the client, coordinate the work of specialist consultants, review the developed design against the budget and coordinate and assist in the preparation of an updated Opinion of Probable Cost.

The need for a design development phase is critical in order to refine the design and take it to a higher level of qualitative resolution. It provides time to rationalise and coordinate the interfaces between disciplines such as architectural, structural and services engineering. It allows the opportunity to fully develop and evaluate the sustainability and universal access outcomes and options in the detailed building fabric. It provides an opportunity to fully evaluate the life cycle costing of the building, exploring options in the building development that will meet current budget cost, but also reduce the on-going cost to client. In undertaking this development and evaluation process, it provides a critical stage to establish value for money benefit.

#### RECOMMENDATIONS

- » **Refine the design and develop it to a higher level of qualitative resolution.**
- » **Establish a peer review process and undertake this early and regularly.**
- » **Establish reporting processes for stakeholder and end-user input, and client sign-off to next stage.**
- » **Allow further exploration of ideas for development in construction phase.**
- » **Allow rigorous life cycle analysis and costing of options.**
- » **Encourage collaborative and strategic thinking with entire consultant and design team.**
- » **Allow adequate time for design development to ensure all systems are well-considered and rationalized against budget allowances.**
- » **Evaluate the proposal against the vision and objectives of the project.**

'During the design-development phase the architect will develop the approved concept design and provide documentation to explain it to the client, coordinate the work of specialist consultants, provide a schedule of proposed finishes, review the developed design against the budget and coordinate, and prepare an updated estimate of the cost of the works.'

Acumen AIA Practice Services

'Paying the designer enough to get an excellent set of documents and giving them enough time to do so will return both cost and time savings.'

Cutting design fees raises construction costs, Charles Nelson AIA, LFRAIA



### 3.5 Contract Documentation

After approval of the design by all relevant authorities, stakeholders and end users, working drawings and specifications are prepared. Known collectively as the tender documentation, the information provided is used to call tenders, to negotiate prices with the builder and ultimately to build the project. Consequently they are detailed and complex, and comprise both large and small scale-dimensioned drawings.

Comprehensive, consistent and clearly legible working drawings, coordinated with a well-drafted specification, will:

- » limit the potential for errors from misinterpretation or ambiguity;
- » minimise duplication of information by prudent cross-referencing;
- » mitigate claims by subcontractors for additional costs associated with contradictory information between drawings and the specification; and
- » clearly define the work that is the responsibility of the head contractor, and that which will be carried out by others.

The specification is a written description of the work to be carried out. It supports the drawings and incorporates standards to be met and directions to be followed, including schedules of materials, fixtures and fittings. These documents are also used to obtain requisite building construction approval and form the basis of the building contract.

#### RECOMMENDATIONS

- » **Allow adequate time to ensure comprehensive, consistent and clearly legible documentation.**
- » **Establish processes for inter-disciplinary coordination.**
- » **Ensure that the final brief is complete and signed off at 100% design development.**



## 3.6 Contract Administration and Construction

At this stage of the design process, where the architect is engaged in the administration of the contract, the architect is responsible for providing the client with professional advice, evaluating work, assisting the cost planner with certifying payments and the Project Manager with time extensions/contractions.

The role of the architect varies in some of the more complex building procurement methods. However, having been responsible for project design and documentation, the architect has an intimate knowledge of the client needs and intentions and what is required of the contract, and will therefore be in the best position to manage the delivery of design quality.

### RECOMMENDATIONS

- » **Retain the architect as design champion for the project, both as manager of design quality and as client agent.**
- » **Collaborate with the architect in strategic decisions during construction.**
- » **Establish processes for inter-disciplinary coordination.**

The following provides a summary of the design process and how it relates to authority approval and may contribute to the government delivery processes.

Architectural Stages of Services	Authority Approvals Process	Government Project
		Investment Logic Map Benefit Management Plan Response Options Analysis Report Investment Concept Brief
Brief		
Research & Analysis		Business Case Concept Design
Feasibility		
Sketch Design	Development Plan (where applicable) Planning Permit	Design
Design Development	Service Providers, other Regulatory Approvals	Detailed Design
Construction Documentation	Building Permit	Final Design Approved for Construction
Contract Administration	Certificate of Occupancy	Issued for Construction Occupation
Post Occupancy Evaluation		Benefit Reports

### 3.7 Procurement participants

Most building projects are implemented by a series of contracts, which commit the various participants in the process. The following table defines the categories of participants in the design and construction industry:

Owner / Principal (client / developer)	in the case of Government, the client agency funding the project; or the developer/consortia financing the project
Project Manager	the person responsible for the management of the building delivery process. Traditionally, this role was performed by the architect, however, more recently consultant project management firms have been appointed to the role
Design team/ Architect	professional consultants who are engaged to produce building design and documentation. Depending on type of project this includes an architectural firm - generally lead consultant; quantity surveyor or cost consultants; engineering consultants (civil, structural, mechanical, electrical, hydraulic); planners; landscape architects; interior designers; heritage consultants; ESD consultants; building surveyor; fire services engineering; and graphic designer
Construction Contractor/Builder	the person responsible for the management of the construction component of the building delivery process
Subcontractor or Supplier	appointed by the construction manager, this term refers to trade contractors and material manufacturer and resellers
Operator / Facility Manager	An organisation that runs and maintains the facility - will sometimes be the same agency as the owner/principal
Investment Owner	An entity that is providing funds for the project

These participants are connected in a project by a series of agreements, which specify the roles and obligations between the parties and allocate risk.

# 4.0 Procurement of Design Services

This section describes methods commonly used by Government for selecting a design team and directly procuring design services.

Design services are selected by one, or a combination, of the following methods:

- » Quality Based Selection
- » Expression of Interest
- » Request for Proposal
- » Request for Tender
- » Design Competition
- » Indirectly as part of a Wider Consortia

## SELECTING THE ARCHITECT AND DESIGN TEAM

Choosing the design team is critical to the project and its long-term success. Time and attention given to this aspect of procurement will enable the selection of a team that clearly understands the client objectives, is capable of delivering the project ambitions, and which promises a good working relationship with the client.

In this early stage of a project clients should investigate a range of designers, capable of working with the client and stakeholders, with demonstrated good urban design thinking and an understanding of the client's objectives. It is important that the client can form an effective relationship with the design team, with a strong capacity to work together throughout the process.

In the procurement of design services, it is important that design teams are treated equally and evaluated as objectively as possible. Key criteria should be established for the selection of the design team. These criteria should focus on design capability, experience and capacity, giving greater weighting to these criteria exclusive of fee to be charged.

A matrix can be designed to reflect different weighting of assessment criteria and provide a record of an assessment process. It will assist in reaching a decision and provides an appropriate audit trail. If however, it is used as the only method of assessment, it tends to flatten the differences between the design proponents, and may result in a compromised outcome. The best results are achieved through discussion and debate amongst the panel members, reaching a final decision through consensus. Thus the matrix, or score sheet, can assist as evaluation guide, which provides a prompt to the assessment panel discussions.

In addition, in order to test the capacity of the design team to work with the client, it is highly recommended that the design team selection process include an interview.

### Limited Quality in Request for Tender

As identified in the strength and risks table 4.3, the Office of the Victorian Government Architect considers the use of Request for Tender or Request for Quote, without an initial request for expression of interests, the least appropriate method for selection of design services.

In order to adequately select a suitable design team with required skills and expertise, capability to work with client and stakeholder and provide the best possible design outcome, government should pursue methods that embed a Quality Based Selection process.



'Each team or firm should be evaluated on the basis of its experience on similar projects if appropriate, expertise of its key professional staff, its physical equipment and facilities, references and other factors of importance to the client.

Although prior experience on similar projects may be considered a valuable asset, the client should not disregard any team or firm who has no such experience however have shown in other ways their capacity to be successful with the particular project type.'

A Guide to Competitive Quality Based Selection of Architects, International Union of Architects & Australian Institute of Architects

### DESIGN SERVICES FEES

The design team should be selected by first undertaking a qualitative assessment of criteria focused on capability, capacity and experience, and then comparing this qualitative assessment against price. This approach meets the Value for Money assessment as required by the DTF. Value for Money does not necessarily mean lowest price. According to DTF, best value procurement outcomes are based on a balanced judgement of financial and non-financial factors, taking into account: the total benefits and costs over the life of the goods, services or works procured; environmental, social and economic factors; and any risk related to the procurement. It is therefore important that the requirement for design quality is in place through all the expression of interest and request documents. Frequently, however, design teams are selected on limited criteria, inclusive of price, which cannot guarantee the delivery of design quality. Whilst fees will be considered as part of a value-for-money process, the cost of the design commission is a relatively modest financial consideration in a whole of project context and lifecycle costs.

While competitive fee tendering may result in some low fee bids, such savings on fees are a false economy if they result in diminished design quality. The savings in fees are insignificant compared to the negative consequences of a poor design outcome and the potential of a greater overall cost during construction due to less design development and poor documentation. Further, a good design can result in significant savings in operational costs.

Other public and private institutions have established various methods by which the fee may be addressed following the nomination of a design team:

- » Two envelope submissions, where the design team and their approach to the project are evaluated separately and in advance of the price, and are submitted in separate envelopes.
- » Nomination of a fee determined by quantity surveyors or experienced cost planners familiar with the project scope (in which case the teams are competing on the basis of the scope and quality of service to be offered).
- » Fee bands, where, provided the tendered fees fall within a pre-determined range (+ or - 5 percent or less), the best quality design submission is selected.

Whichever method of establishing fees is selected, it is important that it not be the determining criterion by which the design teams are selected. A good design team will have the capacity to deliver a project with good outcomes. Any marginal difference in their fees and those of a lesser quality bid will be outweighed by the long-term value-for-money outcome of the project. In appointing the design team, it is important to choose a standard form of consultancy agreement that promotes collaboration, integration and direct communication with the design team.

**SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN**

- » Allow adequate time to develop a brief and select a design team with suitable capability, experience and capacity.
- » Appoint a Design Champion or an OVGA representative as part of the assessment panel.
- » Seek advice from the Design Champion about the most appropriate method to procure design services for that project.
- » Create a series of design quality outcomes as key criteria.
- » Predetermined fee bands should be prepared by a quantity surveyor and established prior to the receipt of submissions.
- » Undertake an analysis of proposed fees against the predetermined fee bands ahead of the first selection panel or jury meeting. Practice names should be omitted and retain anonymity.
- » Discourage underquoting or 'buying work' through the use of predetermined fee bands.
- » Undertake interviews as part of the selection process.
- » Separate the design fees from the assessment criteria.
- » Ensure the design fee is understood proportionally within the context of the entire construction and whole-of-life costs of the project.

Architects' skills do not rely on how low they can bid; rather they are found in their design services.

'The best outcome is always going to be achieved by selecting best value bids, rather than simply the lowest cost.'

Procurement in WA: Government as 'model client', Submission to the WA Commission of Inquiry into Government Programs and Projects, p. 26.



'A decision to purchase an item of clothing may involve the following.

- » Colour;
- » Material;
- » Design;
- » Price;
- » Designer;
- » Durability;
- » Ease of washing;
- » Country of origin;
- » Sustainability practices in manufacture;
- » Retailer.

Frequently, architectural design teams are selected on limited criteria, with the primary one often being price. Whilst price is an important consideration in any purchase, the list of criteria above show that price is only one of many criteria in the purchase of clothing, thus similarly price should be only one of many criteria in the selection of an architectural design team.'

A Guide to Competitive Quality Based Selection of Architects, International Union of Architects & Australian Institute of Architects

## 4.1 Quality Based Selection

Quality Based Selection (QBS) is a transparent, structured process for the competitive selection of architectural and other consultants using qualifications based criteria rather than price as key criteria. The process is focussed on matching client expectations with expertise, experience, resources and innovation in a design team.

When used appropriately Quality Based Selection of design services offers a far better chance of delivering design quality. It follows the rationale that design teams should be selected on the basis of qualification and capability. A number of criteria, including understanding of the project and its objectives; proposed design approach; proposed methodology; and related experience, skill, reputation, rapport, past performance and technical competence inform this decision.

This qualitative approach offers effective processes that are carefully planned and communicated to bidders. Through clearly defined evaluation criteria, selected firms can respond in a way that is focused and specific. The selection process is effective in ensuring that the requirements of the project are known and any questions are clarified during the bid phase.

Quality Based Selection is an internationally accepted approach that organises the process in four major steps:

1. Determine the project objectives, qualifications and criteria for determining design team engagement;
2. Shortlist the most suitable design teams and undertake interview;
3. Define the services and agreement with the top ranked design team and agree fees and conditions;
4. Subject to successful negotiations of above, appoint the design team.

As outlined from the above, the selection is based on determining the most suitable design team for the project, without influence or competition of price.

### QUALITY BASED SELECTION

Strengths	Risks
> Selection based on suitability to meet project specific requirements.	> Poor outcome if client preparation inadequate.
> Allows weighting to support quality outcome.	> Poor outcome if completely reliant on a matrix system for selection.
> Allows scoping and testing of ideas in a brief.	> Perceived to create more work if a large number of bids are received.

**WHEN APPROPRIATE:**

- » When selection criteria can be well defined and assessed by a client with design expertise or with appropriate design advice.
- » Where the vision and outline brief are clear and comprehensive, and all stakeholder inputs have been received.

**SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN**

- » **Engage design experts with demonstrated skills in design advice, such as the Office of the Victorian Government Architect, to help establish selection criteria and participate as members of the assessment panel.**
- » **Request from the bidding teams a design statement responding to the project brief, and attribute a substantial part of criteria weighting to this.**
- » **Expand evidence of previous experience to broader criteria where project types may be similar.**
- » **Ensure agencies develop appropriate and clear briefing.**
- » **Ensure criteria include demonstrated capacity for good design outcomes specific to the project.**
- » **Ensure proponents are interviewed as part of selection process.**
- » **Allow proponents to provide joint venture with other designers or emerging firms to demonstrate capacity and facilitate innovation.**

**Potential Selection Criteria**

It is important there are selection and evaluation criteria with high level of support for methods that evaluate some or all of the following issues:

- » Capacity (that is size and numbers of staff of the firm).
- » Key personnel that are to be directly involved.
- » Methodology proposed.
- » Capacity to work with key stakeholders.
- » Design capability as evidenced in architecture and associated design awards, exhibitions and peer review/ publication in architecture and design magazines.





“Without clear and concise tender processes that provide equal opportunity, a fair distribution of project risk and a focus on quality design, clients can squander precious time and public resources in the procurement of architectural services and undermine the potential quality of their built project.”

Australian Institute of Architects Guidelines for EOI & RFTs 2019, p. 18.

## 4.2 Expression of Interest

The Expression of Interest (EOI) process offers an open process for all industry providers to register interest in providing services for a specific task or project. It provides an opportunity to seek high quality design as the major selection criteria for a project.

The purpose of the invitation for EOI is to:

- » formally advise the market of the project and the services which will be required;
- » communicate the proposed timeframes, evaluation criteria and outcomes to be met for the project;
- » confirm the level of market interest in the project;
- » formulate a shortlist of the most suitable proponents, capable of meeting the project objectives, to proceed to the Request for Proposal (RFP) phase.

The EOI process enables government to be alerted to design services providers otherwise unknown to them and for industry to consider if they are suited or in a position to offer such a service at that time.

As a model of Quality Based Selection, the EOI allows a simple two stage process which can obtain the most suitable design team for the project, as follows:

### Stage 1 – Expression of Interest

Design teams are publicly invited to provide a succinct response to the outline brief and scope of services, from which a shortlist of the most capable design teams is formulated. A number of criteria, including skill, reputation, rapport, past performance, technical competence and understanding of the client’s project requirements, can inform this decision.

### Stage 2 – Request for Proposal

The shortlisted teams are then invited to submit a response specific to the project brief and their capacity to fulfil the anticipated outcomes. As per the Request for Proposal process, this could include a statement of design approach specific to the project. It may include a fee proposal as part of the submission, assessed separately.

The EOI process can support young designers and emerging firms to submit realistic bids, offering emerging firms broader experience. The support of younger designers and emerging practices can provide innovation and creativity to government projects, as well as providing a broader base of available consultants capable of meeting client objectives and programs.

Where there is a specific desire to do so, there are opportunities to develop the market of professional designers and give emerging firms a chance to grow. In some cases the bid fields in smaller projects may be limited to emerging firms, or criteria may be established which emphasise factors such as the design approach to the project, rather than previous experience with that building type. Equally expressions of interest can support joint ventures of innovative design practices with more established and larger capacity practices – providing expertise across the architectural services.

**EXPRESSION OF INTEREST**

Strengths	Risks
> Selection is based on suitability to meet project specific requirements.	> Poor outcome if client preparation is inadequate.
> Allows weighting to support quality outcome.	> Potential criteria are reinvented each time.
> Allows design teams to demonstrate interest and capacity.	> Poor outcome if reliant upon detailed and inappropriate matrix system.
> Identifies design teams otherwise unknown to government.	> Perceived to create more work if a large number of submissions are received.
> Allows scoping and testing of ideas in a brief.	> Perceived increased time required to engage services.

**WHEN APPROPRIATE:**

- » When selection criteria can be well defined and assessed by a client with design expertise or with appropriate design advice.
- » Where the vision and outline brief are clear and comprehensive and all stakeholder inputs have been received.

**SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN**

- » **Engage design experts with demonstrated skills in procurement of design services, such as the Office of the Victorian Government Architect, to establish criteria and participate as members of the assessment panel.**
- » **Minimise scope of submission requirements to obtain a clear and succinct response from proponents and mitigate costs to unsuccessful proponents.**
- » **Request examples of comparable projects and demonstration of peer recognition as part of submissions.**
- » **Expand previous experience in a specific building type to broader criteria where project types, scale or complexity may be similar.**
- » **Ensure agencies develop appropriate and clear briefing and request documents.**
- » **Ensure criteria include demonstrated capacity for good design outcomes specific to the project.**
- » **Allow proponents to provide joint venture submissions to demonstrate capacity and facilitate innovation.**
- » **Avoid the requirement of sketches, drawings or an image-based design proposal at the early stage of an EOI as this compromises the ability to test assumptions in the project brief and offer alternative approaches that the client has not considered. It also undervalues the key creative input of design services and can infringe intellectual property rights.**
- » **Ensure submission requirements are proportional to the project's size and complexity.**

'Preparation of informed and thoughtful design ideas involves considerable time and therefore requires architects to be commissioned. RFPs also raise important considerations of intellectual property and moral rights.'

Australian Institute of Architects Guidelines for EOI & RFTs 2019, p. 6.

## 4.3 Requests for Proposal, Tender & Quotation

The Financial Management Act 1993, Project Development and Construction Management Act 1994 and ministerial guidelines, provide specific guidelines and legislative requirements that set the means by which goods and services, and therefore design teams, may be selected.

These include:

- » Request for Proposal
- » Request for Tender
- » Request for Quotation

While the terminology may suggest selection based on fee bidding, the state requirement to ensure 'value for money' does not preclude the need for qualitative measures.

In selecting a design team, the OVGA recommends that the most appropriate type of request is the use of a Request for Proposal in conjunction with an Expression of Interest process.

### REQUEST FOR PROPOSAL

A Request for Proposal (RFP) involves the selection of a design team on the basis of suitability, capacity, experience and overall capability. Its purpose is to outline the outcomes of the project and the design team's role and responsibilities, in order to seek responses from the shortlisted bidders.<sup>15</sup> It assumes an outline brief is provided by the client, which can be adequately interpreted. Unlike a Request for Tender or Quotation it does not prescribe to the design teams how to provide the service, but instead requests a proposition as to how the outcomes may best be achieved.

The selection of design services should focus on ensuring that the most suitable design team is selected, so it is preferable that an RFP operate on the basis of a statement of design approach, rather than the development of a specific proposal for the project. The statement may outline the critical issues identified by the proponent, and considerations of how they may approach the specific project. The selection can then be assessed based on their understanding of and response to the scope and project ambitions, in conjunction with their demonstrated design experience, capacity and capability.

In some cases, where it is difficult to finalise a selection based on the design approach statements and other criteria, it may be possible to request a further submission of proposals from a narrower field of proponents. This would allow a testing of the project brief and scope. However, the submission of a design proposal is very much like a Design Competition and requires careful consideration. It is important to recognise the extent of work required to submit a design proposal as part of a bid process. While the offer to submit a proposal may be limited to a small number of proponents, it is considerable work for those invited and requires acknowledgement of the intellectual property associated with the submission. As a result the process should allow remuneration in the form of an honorarium provided for those not successful, in accordance with the Australian Institute of Architects Competition Guidelines.

In the Request for Proposal, the selection process must consider the qualitative factors as the primary components. Therefore, in accordance with DTF guidelines, the best Request for Proposal process excludes the price as part of the weighted assessment criteria. There are various options available for the separate assessment of a fee, should it be included in the process, as outlined at the beginning of this chapter.

**Request for Proposal**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Requires a quality based selection process specific to the project needs.</li> <li>&gt; Promotes quality design as key criteria.</li> <li>&gt; Use of design approach statement allows provision of response without over-commitment by the design team.</li> <li>&gt; Allows interactive process with client.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; If a design proposal is sought in lieu of a statement of design approach, opportunity for interactive process with client in initial concept design is removed.</li> <li>&gt; Remuneration required for unsuccessful proponents where design proposal is requested in lieu of statement of design approach.</li> </ul>

**WHEN APPROPRIATE:**

- » Following an EOI process at which point the client has determined the most suitable candidates to provide an RFP for the project, all of whom are judged to comply with the requirements for appointment to the project.
- » When drawing from a shortlist of identified suitable design practices, such as a Design Services Register.
- » Where the Vision Statement and Project Brief are clear and comprehensive and all stakeholder inputs have been received.
- » When the client is assisted by a Design Champion or the OVGA in developing documents and the selection process.
- » When innovation is a key project driver.

**SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN**

- » **Undertake an Expression of Interest to form a shortlist for the Request for Proposal process.**
- » **Engage design experts with demonstrated skills in design review, such as the OVGA, as key members of the assessment panel.**
- » **Establish clear and high quality criteria that identify design merits as a priority including peer recognition and awards.**
- » **Ensure statement of design approach is sought as part of the assessment.**
- » **Minimise scope of submission requirements to obtain clear succinct methodology response from proponent and mitigate costs to unsuccessful proponents.**
- » **Require in tendering documents integration of high quality architectural, engineering and landscape design, for all aspects of the project, from inception, design and construction.**



'Fee evaluation can be complex. The weighting of a fee response should be clearly articulated to the tenderers and adhered to in evaluation deliberations to engender trust in future relations between architects and clients beyond any submission process. Any marginal differences in tender fees will be outweighed by the long-term business benefits a well-resourced or more thoroughly considered design will deliver.'

Australian Institute of Architects Guidelines for EOIs & RFTs 2019, p. 16.

## REQUEST FOR TENDER OR QUOTATION

Ministerial Guidelines, in combination with Victorian Government Purchasing Board guidelines, outline the appropriate use of and differences between Request for Tenders and Request for Quotation. The client provides a detailed project brief and specifics of the required design service, which can be readily interpreted by the design teams. In addition to assessing the costs associated with fees, the selection process considers qualitative factors, to determine value for money.

Fairness and impartiality should be considered at all stages throughout a procurement process. Tender participants invest time, effort and resources in preparing and submitting tender responses. In return, they are entitled to expect fair treatment at every stage of the procurement process.<sup>16</sup>

Additionally, previous research through inter-departmental roundtables suggests that processes which encourage fee bidding drive down design quality, leading to poor outcomes in a number of ways with a variety of consequences:

- » Overall pressure on the design team to do more with less simply meaning less applied design effort and less design resolution.
- » Quality of design documents are diminished leading to unexpected costs during construction.
- » Suggestions that design cost savings through competitive tendering of fees are lost tenfold by extra construction costs.
- » Design team selection processes are preferred when focussed on quality rather than price.

Ultimately the cost of the design services is low when compared to the total project cost. While a competitive Request for Quotation may appear to reduce costs, such savings are a false economy, as they often result in poor documentation leading to additional construction costs and diminished design quality.

Without a multi-staged quality based process, the Request for Tender and/or Quotation is considered an inappropriate method for selection of design services. A more suitable process is the use of the Request for Proposal in conjunction with an Expression of Interest. The Expression of Interest assists in formulating a shortlist of candidates with capacity and capability. The Request for Proposal then follows to determine the most suitable design team based on a response to the project brief.

**REQUEST FOR TENDER OR QUOTATION**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Offers efficient process only when adequate processes such as design-based criteria and use of a prequalified register are in place.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Request for Quotation to a limited number of proponents reduces the opportunity for design innovation.</li> <li>&gt; Request for Quotation to a limited number of proponents reduces the potential pool of experienced design teams.</li> <li>&gt; Design criteria are not included as part of assessment, resulting in poor outcomes.</li> <li>&gt; Lack of focus on lifecycle costs and considerations due to pressure for a competitive fee.</li> <li>&gt; Potential lack of research development and options in early design stages due to pressure for a competitive fee.</li> <li>&gt; Poor design development and documentation as a result of lesser services to match lesser fee.</li> <li>&gt; Fees increase due to number of exclusions.</li> </ul>

**SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN**

- » **Undertake Expression of Interest and Request for Proposal process to determine the most suitable design team based on a response to the project brief.**

'Competitions take us to places we never expected to be. We don't know where we might end up, but it won't be where we intended, and that really gets us thinking.'

Nick Johnson, Urban Splash, UK 2009

### Types of competitions

According to the Australian Institute of Architects there are varieties of competition types, including:

- » Project
- » Ideas
- » Open
- » Limited or Select
- » Commissioned
- » Student

## 4.4 Design Competition

Design competitions offer an alternative way to seek high quality design as the major selection criteria for a project. With an appropriate budget in place, competitions can generate excellent outcomes for clients, opening up the field, generating public interest in the project, and stimulating the profession. Investing time to fully develop the competition design brief assists in attracting quality submissions.

There are different types of design competitions that vary in their scope and application. Decisions about which competition process is used will depend on the size, objectives, time constraints and design flexibility of the project. Key participants include the client/client group, steering committee, jury, probity adviser, legal adviser and competition adviser. The OVGA assists by advising on the characteristics and virtues of each form of competition and provides guidance with the resource: Architectural Competitions – a guide for government.

### STAGING

Competitions are often staged and may be structured as either one or two stages.

One-stage competitions select a winner and other prize-winning designs in one step. A one-stage competition may be appropriate for small to medium sized projects.

Two-stage competitions are generally appropriate for more complex projects. They encourage a large number of architects to explore a range of design concepts in the first stage and allow detailed development of designs by a limited number of architects in the second stage.

#### A two-stage competition:

- » attracts more entries by reducing the amount of work required in the first-stage submission;
- » is an excellent process for selecting a limited number of promising concepts that can be further developed in the second stage;
- » provides the opportunity for comments by the client and the jury to be incorporated in second stage development;
- » offers anonymity for entrants in the first stage and the potential for smaller emerging practices that may not be eligible or considered via other procurement methods to provide innovative solutions.

Equally, design competitions can be used in combination with Expression of Interest or Request for Proposals, seeking design ideas from a limited pool of architects. Competitions are viewed as a way to promote innovation, a range of ideas, thinking from different minds, providing solutions not previously imagined and creating opportunities for emerging practices. Competitions can offer the public a raised awareness of the importance of good design and the value they add in creating an enduring legacy. There are specialists with extensive experience that facilitate architectural and urban design competitions on behalf of clients. These competition advisers work closely with public and private partners to help refine the brief and the selection of an architect through a rigorous process.

**DESIGN COMPETITIONS**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Allows for early scoping and testing of ideas in response to the brief.</li> <li>&gt; Assists client to champion design quality from the start.</li> <li>&gt; Allows focus on the big issues of a project rather than barriers or premature detail.</li> <li>&gt; Offers evidence of expertise of the lead architect and design teams and their approach to design issues prior to selection.</li> <li>&gt; Facilitates a vision that will help capture public support.</li> <li>&gt; Provides a focus for new knowledge to be tested.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The competition sponsor is unwilling or unable to ensure that the competition conditions provide for competitors to retain their intellectual property and moral rights in their designs.</li> <li>&gt; The competition process is insufficiently resourced and fails to attract quality design teams.</li> <li>&gt; The competition sponsor limits the process and opportunities at the cost of design quality and innovation.</li> <li>&gt; The project budget is inadequate to support the focus on design as required by the competition.</li> <li>&gt; Design team does not have the relevant expertise and experience to deliver the competition winning scheme.</li> </ul>

**WHEN APPROPRIATE:**

- » When the process will benefit from the public interest generated by a competition.
- » When seeking ideas, innovation and design excellence is a high priority.
- » When the project timetable allows the time necessary for conducting a competition.
- » When a project will benefit from a wide design analysis.
- » When the client is able to set a clear and unambiguous brief.
- » When the project is of public significance or on a significant or unusual site.
- » When the budget is derived from satisfactory benchmarking and can meet the design ambitions of the competition process.

'Competitions are a regular feature in Belgium for projects with a project fee value in excess of 75,000 Euro.'

Procuring Innovative Architecture. L. Van Schaik, G. London, B. George

'An architectural competition, when conducted appropriately, can generate a broad range and high level of innovation in design solutions.'

There is therefore a need for clarity, consistency and equity in the conduct of architectural competitions as part of the procurement process.'

The Australian Institute of Architects (AIA) Guidelines for Architectural Design Competitions 2016



#### SUGGESTED ACTIONS TO BENEFIT GOOD DESIGN

- » Appoint a jury that includes a mix of specialists that will generate a broad level of interest and engender the respect of the architectural design profession and the broader community.
- » Appoint a competition advisor to assist in the process and offer impartiality and confidentiality.
- » Ensure that the competition advisor and brief writer set out the competition process and define the rules to avoid false assumptions.
- » Set a clear, unambiguous brief with relevant background material, the vision and the rules, and one that draws on good examples and follows a well laid out format.
- » Engage other stakeholders and planners to review the brief.
- » Identify and be clear about the proposed method for delivery of the built project.
- » Get the tone right: it's important to inspire people to get the vision right.
- » Familiarise entrants with the site by ensuring the context is explained.
- » Establish and publish the criteria by which the entries will be judged.
- » Establish a reasonable budget and program that accurately reflects the brief.
- » Encourage concise and targeted submissions, which communicate the design intent.
- » Offer appropriate incentives to attract a broad range of competitors.
- » Pay bidders for work in a second stage and pay architects for ideas taken from unsuccessful bids.
- » Should the project proceed, engage the winning team to deliver the project.

Project: Shepparton Art Museum  
Architects: Denton Corker Marshall  
Photographer: John Gollings



# 5.0 Procurement of Buildings & Infrastructure

Procurement is derived from two Latin words: pro and curare. It means to manage or to care for something.

Within the Department of Treasury and Finance, procurement is understood as the process of engaging a supplier to deliver capital asset investments, including buildings, civil infrastructure and information and communications infrastructure. Procurement commences when Government makes a decision to invest in responding to an identified objective. It includes the process of seeking market solutions to deliver the investment, and concludes with contracting the successful proponent to undertake the required scope of works.

In the context of these guidelines building procurement means the management of and stewardship for the construction of a building or infrastructure. Procurement involves not just the contractual method but also the execution of a built project from idea to delivery and onto operation and audit. The success of a construction project is fundamentally effected by the meshing of the client's needs and objectives with the appropriate procurement method.

The OVGA is committed to procurement that:

- » delivers the best value to the Government, community, stakeholders and users;
- » delivers a better designed built environment and provides an enduring legacy;
- » supports conservation and innovation;
- » balances social, environmental, economic and cultural issues; and
- » provides a clear and collaborative design and delivery process.

The OVGA has identified strengths and weaknesses in the most widely used procurement processes. Depending on the procurement method chosen, it may either impede or enhance achieving the best design outcomes. Different procurement methods create different balances in the critical relationship between quality, cost and time.

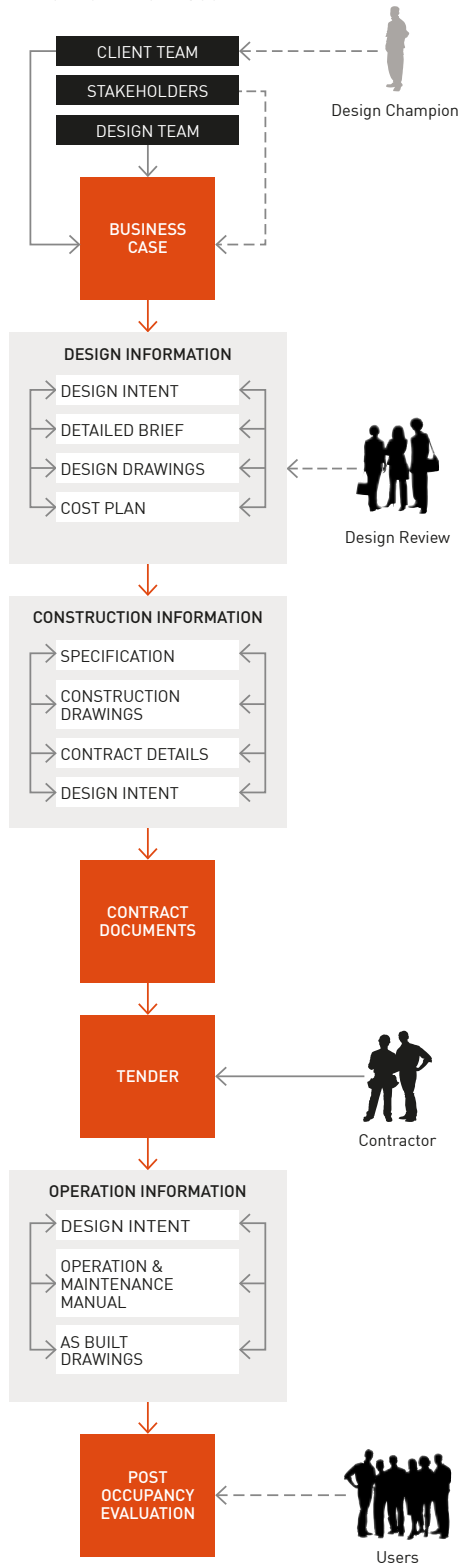
The following outlines the various procurement methods in common use and their potential impact on design. It suggests strategies to improve and enable good design outcomes.

A key difference between various procurement methods is whether they involve 'direct' procurement of design or 'indirect' procurement of design. Direct procurement of design ensures that the client has direct control of the design process whereas the indirect procurement method sees the responsibility for design delivery fall within the head contractor's jurisdiction. The selection of an appropriate procurement method is a critical part of the ambition to achieve high quality design, and to the ultimate success of the project.

'The 'procurement of buildings' is the act or process of bringing about or bringing into existence buildings.'

Standen, D. Construction Industry Terminology, RAIA Practice Division, 1993.

DIRECT BUILDING PROCUREMENT



## 5.1 Direct Procurement of Design

The 'Direct Procurement' process is where the client selects the architectural and related consultancy services independently of procurement of the building. Direct Procurement allows the client to conduct their own selection process for the design team and to engage the successful applicants directly (examples of building procurement methods where this occurs include Traditional Lump Sum, Construction Management and Management Contracting).

### DIRECT ENGAGEMENT OF THE DESIGN TEAM

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Established system and well understood in the industry.</li> <li>&gt; The selection process for the design team can include a 'design approach' or 'competition process' that encourages innovative design and enables the client to select on the basis of design ability and a match to their needs. Depending on the selection process chosen, it allows for testing of the capacity of the design team to work well with the client.</li> <li>&gt; High level of interaction between the client and the design team maximises results for the client - the design team is primarily concerned to satisfy the client.</li> <li>&gt; The client gets the design and scope it wants and can totally control the process.</li> <li>&gt; High quality outcome likely.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The client retains the risks of time and cost.</li> <li>&gt; Changes in detail will open a discussion about a variation and potential cost increases and delay during construction.</li> <li>&gt; The overall delivery process is slower because it relies on a completed design and full documentation before tendering to builders.</li> <li>&gt; Less opportunity for the builder to innovate.</li> </ul>

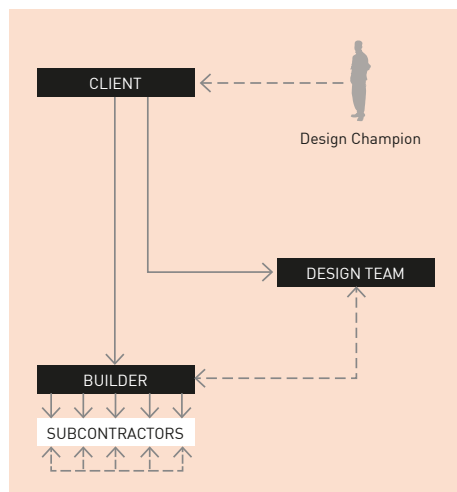
**WHEN APPROPRIATE:**

- » When close control over the design is necessary and there is a need to maximise innovation on behalf of the client.
- » When the client knows what they want and there is little or no likelihood of changes.
- » When the optimum design can be completed without involving the builder or the operator.
- » When the Client is able to manage effectively the design process and the interfaces between the design and construction.
- » When the Client's design/specifications can be thoroughly documented and effectively communicated.
- » When there is sufficient time available to complete appropriately the detailed design prior to construction award.
- » When the Client is capable of understanding the challenges associated with infrastructure design and delivery and effectively manages the design team to generate a design that meet the requirements of the Project Definition for the lowest outturn cost.





TRADITIONAL CONSTRUCT ONLY



—— Contractual relationship  
---- Working relationship

The following forms of building and infrastructure procurement all work with the direct procurement process.

### 5.1.1 Traditional Construct Only

Traditional building procurement is based upon full Lump Sum Contracts. Under these commonly used forms of contract the architect is engaged directly by the client to undertake all stages of the design process and assist in administering the client's separate contract with the builder.

The client engages the builder independently of the architect to build the works as described in the contract documentation, including specifications prepared by the architect. The client tenders these documents to a field of competitive bidders, which normally comprise a building contractor with a number of subcontractors. The selected bid documents (drawings, specification and tendered price) then form the basis of the lump sum contract between the client and the contractor i.e. the successful bidder.

Construct only Contracts are considered appropriate when:

- » The scope of work is well defined and client-instigated changes, resulting in variations to the contract price, are limited;
- » High quality design is critical from the outset of the project. As a result, the project is fully designed and thoroughly documented before tenders are called and quality management relies upon the architect and client; and
- » The client is requiring, through the period of building construction, expert advice independent of the builder.

**TRADITIONAL CONSTRUCT ONLY - IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Enables client to control scope, design and vision.</li> <li>&gt; Allows adequate time to consult a range of stakeholders to develop design fully.</li> <li>&gt; Opportunity for clear design intent from the outset of the project with detailed documents outlining overall design intent.</li> <li>&gt; Responsibility for the subcontractor performance, time and cost remains with builder.</li> <li>&gt; Completion of full documentation prior to tendering the works should reduce risk of additional claims by builder.</li> <li>&gt; Established process clearly understood by designers, contractors and client.</li> <li>&gt; If there is high quality design and documentation and a good builder, a high quality built outcome is likely.</li> <li>&gt; High level of interaction between an informed client and the design team maximises design innovation - the design team is primarily concerned to satisfy the client.</li> <li>&gt; Tender and tender evaluation costs are relatively low as only construction work is tendered.</li> <li>&gt; If interfaces between design and construction are managed effectively then construction delays are kept low as full documentation defines scope of contract.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Removes the opportunity for collaboration with the contractor during design phase. As a result, the selected builder has no prior knowledge of the design intent. The tender therefore needs to cover everything on the drawings and specification. Items that are missing from, or not clearly defined on the documents, then become the basis of claims for extras and possible disputes.</li> <li>&gt; Potential lack of consideration of whole-of-life cost.</li> <li>&gt; Relies on a completed design that is thoroughly documented and effectively communicated before tendering to builders and work commencing on site.</li> <li>&gt; Client must outlay almost all the consultant fee costs before proceeding with the construction phase.</li> <li>&gt; Industry is engaged only at the final stage of the design process. There may be insufficient consideration of constructability issues during the design development.</li> <li>&gt; There is minimal opportunity for innovation by the contractor. Consultants undertake all design work.</li> <li>&gt; A reduced scope of architectural services and/or fees leads to documentation that is not of a sufficiently high quality for a client to be confident about maintaining the tendered cost.</li> </ul>

**ACTION TO BENEFIT GOOD DESIGN**

- » **A clear design intent and brief explaining the design philosophy as part of the tender documents will help protect the design quality.**
- » **A well-defined scope of work and comprehensive documentation to reduce variations to the contract price.**
- » **Careful selection of the design team to ensure requisite design expertise in addition to capacity and experience.**
- » **Establish appropriate contingencies. and clear and rigorous documentation;**
- » **Engage design advice from the architect to assist with the design quality management in brief and contract development.**
- » **The client understands the impartial role of the architect and their expert advice, independent of the builder.**
- » **Ensure provision for independent design advice at key project milestones. This may include advice from a Design Quality Team or design review at the end of Concept Design or design development.**
- » **The Client is capable and understands the challenges associated with infrastructure design and delivery and effectively manages the design team to generate a design that meets the requirements of the Project Definition.**

## CASE STUDY

### Research Primary School, Research

#### PROJECT BACKGROUND

Research Primary School was completed in 2020, by Kennedy Nolan Architects, with a project value of \$5.7m. The scope consisted of the refurbishment of a classroom block for a new Administration and Art Centre; and a new building containing Learning Areas and amenities. Extensive landscape works were designed to resolve access and stormwater issues and the protection of significant trees. The school's declining enrolments, poor street address and need for refurbishment, informed a brief to deliver a new entrance and create a civic presence in the community.

#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- » A design and landscape led strategy, with Simon Ellis Landscape Architect, established legible and DDA compliant paths into, and around, the campus – a challenging task on steeply sloping ground.
- » Rather than relying on fencing, the building was sited to form defined external areas – a contained playing and learning space with direct access to teaching spaces and most critically a central quadrangle with a broad verandah to give the school something it had never had – a Centre.
- » Using design to stitch the school together physically and psychologically, creating an urban identity, wayfinding and a sense of address, to deliver a unified campus.
- » Elevating the relationship between built form and the landscape, with permeable edges providing easy and direct access to an active play area to the north and the south verandah facing a new quadrangle gathering space. The building parts were pulled apart, with connections provided by generous boardwalks. This arrangement positively re-balanced the relationship between built form and landscape whilst providing protection and comfort.
- » The building was clad in durable, fire-resistant timber – a material which resonates with the bush aesthetic of the area, is comfortably non-institutional, low maintenance and sustainable.
- » The interior balances a muted background palette drawn from eucalypts, which are ubiquitous in Research, tempered by intense and energising colours.
- » Large trees were preserved, compliant DDA paths were established in sweeping arcs which incorporate extensive planting and rock placement.

Project: Research Primary School  
Architects: Kennedy Nolan  
Landscape Architect: Simon Ellis  
Photography: Emily Bartlett



## CASE STUDY

Research Primary School, Research

### CONSTRAINTS

- » Dilapidated facilities and challenging site conditions that impacted meeting the required entitlement building areas.
- » Difficulty in defining the scope of landscape work and site work upgrade required.
- » Within a limited budget, there was a requirement for universal access across all site facilities that previously had very limited access and the complexities of dealing with infrastructure that had been constructed in the 1950s, 60s and 80s, of which there was little to no information.
- » A disproportionate perception of risk across the site impacting design outcomes for students, staff and the community.
- » Limited budget, tight design parameters and challenging administrative process.
- » Poor understanding of the appropriateness of timber cladding for the building, despite its sustainability and proven durability.
- » The need for a design champion for the project and an understanding that risk can be managed through good design.

### WHAT WORKED WELL

- » **Selection of architects through an Expression of Interest (EOI) from three bidders and interview process.**
- » **Aspirational brief from the architect supporting best practice in education and sustainability.**
- » **Allowing the architect to select the sub-consultants, based on previous experience and no Project Manager.**
- » **A strong design concept that was integrated with the landscape, so that regardless of value management and design restrictions, it was successful on an urban scale.**
- » **Comprehensive documentation to minimise variations to the contract price and appropriate design and project contingencies.**
- » **The architect established a good working relationship with the school, builder, landscape architect and consultants to deliver on time and on budget.**
- » **The architect advocating that the school could rely entirely on electricity and did not need natural gas.**
- » **A design team, builder (Newpol) and School Principal who followed the project through to completion.**
- » **Connecting with the community of Research and reflecting the specific qualities of the local environment.**
- » **Greater quality control on material selection and avoiding substitution – which is an issue with other forms of procurement such as Design and Construct.**
- » **The Principal identified that “the school felt right for the Research kids and presented an architecture which reflected the values and aesthetics of the people who lived there”.**





## 5.1.2 Early Contractor Involvement (ECI)

Early Contractor Involvement (ECI) is a procurement method that is used on large scale infrastructure projects where the design of the project is not fully developed, and the client requires specialist knowledge from the contractor. ECI requires an Expression of Interest (EOI) phase that can be either open or select, with contractors invited to submit an EOI. The EOI is evaluated on capability, experience, financial capacity, and personnel rather than cost. The selection process is typically conducted as a desktop evaluation, resulting in a shortlist to be invited to submit a Proposal through a Request for Proposal (RFP) process.

The RFP phase is shortlisted to ideally no more than three tenderers. This phase is more interactive than the EOI phase with each tenderer submitting a proposal to take part in the ECI phase and evaluated on their schedule of rates and program. Following appointment of the successful tenderer, the contractor is paid a lump sum fee to collaborate with the client and its consultant team to develop, refine and finalise the scope, design, and construction method for the project. The contractor will also help the client determine the preliminaries, profit and overheads. At the time of entering into the ECI contract, the actual cost of construction is unknown as the design is yet to be finalised and has not been priced.

ECI can save time by overlapping the design and documentation phases of the program with early construction activities. This process allows a client to have the benefit of the unique buildability expertise offered by the contractor market, while also giving the selected tenderer(s) an opportunity to develop an intimate understanding of the project and the distinctiveness of the site prior to finalising their proposed price to construct the works. The next phase may lead to a design and construct process, however a client is not bound to engage the ECI contractor and can competitively tender the works to another contractor.

ECI is considered appropriate when:

- » A contractor can add value through being involved the early phases of design.
- » There is a need to fast track a project, potentially with early works packages.
- » The project is complex and there is a need to alleviate uncertainty and manage risks.
- » The design and documentation phase of the program can be overlapped with early construction activities.
- » There are known, or potential, cost issues that need collaboration or value management from a contractor.
- » There are discrete parts of the work that need to be performed, and long lead items ordered, before all elements of the design have been finalised.





**ECI – IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Allows for collaborative input into the design, buildability, resolution of latent conditions and the opportunity to advise on risks that could arise during the construction phase.</li> <li>&gt; The contractor can help in the preparation of cost schedules, including guidance to assist the architect with further refinement of the design.</li> <li>&gt; The contractor can refine and detail their price for the works during the process, in consultation with the client and architect.</li> <li>&gt; The client is not contractually obligated to engage the contractor to build the works and can still procure the project as a competitive tender.</li> <li>&gt; The client can use ECI to resolve a specific construction challenge, for example latent conditions, ground works, existing structures or crane location; without having to continue their services beyond this targeted scope.</li> <li>&gt; The traditional relationship between the client and the architect can be maintained.</li> <li>&gt; Design ambiguities can be identified at an early stage and long lead items ordered before all elements of the design have been finalised.</li> <li>&gt; Potential to ensure the budget is maintained through creating transparency in pricing for trades and subcontractors.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Coordination between design packages can be challenging, and documentation disjointed if there are changes late in the process.</li> <li>&gt; Contract documentation may be prepared in a series of trade packages which fragments the design process. This can result in insufficient attention being given to design integration (such as building services) or design decisions being locked in too early.</li> <li>&gt; Between the design phase and the construction phase, a client may choose to novate the design team to the construction contractor once they have been appointed, potentially before design decisions are largely agreed.</li> <li>&gt; Changes resulting from later design information may not be able to be coordinated with earlier work or completed packages.</li> <li>&gt; Contractor advice may preference construction approaches that provide a competitive advantage to the ECI contractor over other contractors, if the project went to tender.</li> <li>&gt; Innovative design solutions can be lost in the process of having to think non-sequentially and to respond to the fast-tracked construction pressures.</li> <li>&gt; The reduced time available can create unintended inefficiencies, including over-sized risers, ducts, plant rooms and service spaces, due to inadequate information being available at an early design stage, and the need to ensure that elements designed later, will fit.</li> <li>&gt; The client has less certainty about the final cost of the project because trade or sub-contractor pricing will not have been obtained.</li> <li>&gt; There is no industry recognised ECI standard contract, apart from AS4916 construction management conditions of contract which may or may not be suitable for the project.</li> </ul>

**ACTION TO BENEFIT GOOD DESIGN**

- » **The client must clearly define the project brief and set clear design priorities.**
- » **Accept that due to time pressures the brief must incorporate a significant degree of flexibility.**
- » **A design contingency is provided to resolve unforeseen issues during the design process.**
- » **Identify design items that are likely to require a long lead time early in the program and ensure to allow for local procurement policies.**
- » **Select a highly capable contractor, project manager and design team to mitigate the risks associated with a fast-track process.**

## CASE STUDY

Allianz Stadium, Moore Park, Sydney, COX Architecture + Schlaich Bergermann Partners

### PROJECT BACKGROUND

In October 2018 plans for the new stadium to replace the original Sydney Football Stadium were released by Infrastructure NSW. The project was planned as two stages: Stage One / Demolition and Stage Two / Construction.

In December 2018 Lendlease were appointed to build the 42,500 seat stadium, commencing with an ECI contract. Construction was scheduled to commence in 2019 with an early 2022 completion date. In July 2019, Lendlease's contract for construction was cancelled by the government, with John Holland and Multiplex shortlisted to bid for the contract. In December 2019 John Holland was awarded the \$735 million construction contract. The stadium was completed and opened on 28 August 2022. The total construction cost of the stadium was A\$828 million.

Demolition of the previous stadium began on 8 March 2019. Opposition from local interest groups saw them attempt to prevent, or slow, demolition via legal action before the 2019 New South Wales state election. After a short court-ordered delay, just prior to the election, the existing Government was returned, and demolition of the old stadium continued through to completion on 18 December 2019 at a cost of \$40 million.

Construction of the stadium commenced on 15 April 2020 by construction group John Holland Group, with major piling and excavation works beginning the following month. By the end of 2020 work on the structure had commenced on all four sides of the new venue, which included the main lift cores and precast placement works which would make up the main seating area. Following this, the main formwork contractors commenced to allow the slabs to be poured for the main back of house areas. The project was completed in August 2022.

The ECI process took advantage of prefabricating the structural elements. This approach to modular construction meant less work at heights for construction crews, with more than 85 per cent of roof steelwork formed on the ground before being positioned in place. It also minimised materials wastage and maximised the speed of concurrent construction activities. The roof design was technically complex, yet the lightest, in Australia, with almost 5,000 individual pieces of steel, each with unique geometry. The volume of steel was reduced by 40 per cent compared with a similar traditional design, one aspect of achieving a LEED (Leadership in Energy & Environmental Design) Gold accreditation.

Project: Allianz Stadium  
Architect: COX Architecture + Schlaich Bergermann Partners  
Photographer: Christopher Frederick Jones



## CASE STUDY

Allianz Stadium, Moore Park, Sydney, COX Architecture + Schlaich Bergermann Partners

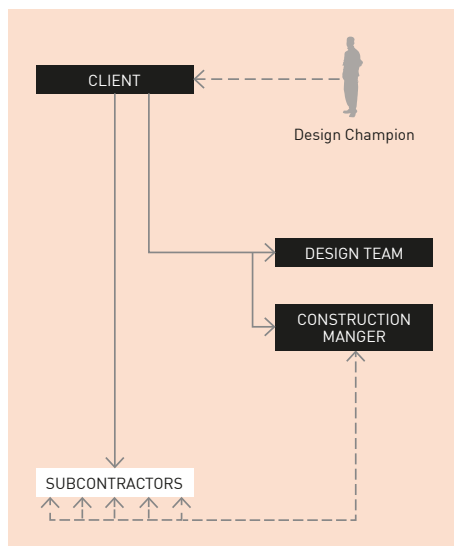
### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- » Developed a clear project methodology and design intent.
- » Ensured that risk is shared equally among all parties.
- » Ensured that the contractor brings the right culture and people to the project.
- » Appointed the contractor as early as possible.
- » Ensured the contractor can meet the Guaranteed Maximum Price (GMP) target price.
- » Ensured that the Government agency would definitively resolve issues and act in the public interest.
- » Embedded strong advocacy from the (NSW) Government Architect's office.
- » Ensured continuity of design managers throughout the project, from government and the contractor, to protect corporate knowledge.
- » Preliminaries detailed the remuneration conditions and financial incentives for design managers and construction managers to avoid conflicts of interest.

Project: Allianz Stadium  
Architect: COX Architecture + Schlaich Bergermann Partners  
Photographer: Hamilton Lund



CONSTRUCTION MANAGEMENT



———— Contractual relationship  
----- Working relationship

### 5.1.3 Construction Management

A Construction Management contract is where the 'traditional builder' is replaced by a Construction Management organisation. Their responsibility is to work directly for the client in the management of the construction phase. The works are completed by a series of trade contracts between the client and each contractor. The Construction Manager does not take any cost risk or design risk although the construction manager may be paid to assist the client with cost control and design advice. A significant aspect of construction management is that the Construction Manager has no direct involvement in the payments to the trade subcontractors.

These contracts are also used to carry out maintenance or upgrading work. The advantage is that they allow the early stages of construction to commence while the design and documentation of later trade packages are being finalised. For example, hospital upgrades often require staging such that the hospital remains operational while staged construction works are undertaken. The Construction Manager performs a purely management and coordination role without the same risk in terms of delivery and is generally paid an agreed fee. The fee may be a fixed lump sum, a percentage of the building cost, or an agreed hourly rate. The client manages the scoping and appoints the design team.

The role of the design team and their relationship with the client and Construction Manager is very similar to the traditional contracts between architect, client and contractor. More recently, the Construction Manager has taken over some of the architect's traditional roles, such as certification during construction. It is also becoming more common for the design team to be novated to the Construction Manager.

**Construction Management is considered appropriate:**

- » where the client needs to start work on the early stages of construction while the design and documentation of later trade packages are being finalised;
- » where the client needs to retain direct control over works e.g. in an operating hospital or rail corridor;
- » for complex projects where it is not possible for design of some elements to be started before work is undertaken on others; and
- » if a contractor financially collapsed mid-project, it may be more efficient to complete the project through Construction Management than to fully document and tender the balance of the works as a single package.



**CONSTRUCTION MANAGEMENT – IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; The direct payment by the client to the trade contractors provides a climate for a better working relationship on site and removes the typical delay associated with a payment from the builder to the subcontractor.</li> <li>&gt; Claims for variations and time extensions are directly related to trade contract claims as opposed to a builder's claim under lump sum contract that may or may not relate to any particular trade contract delays on site.</li> <li>&gt; Input of construction advice into the design is readily enabled.</li> <li>&gt; Construction may commence prior to the completion of the design, allowing for project time compression.</li> <li>&gt; Construction management allows for competitive tendering as packages of work are developed.</li> <li>&gt; The client selects the architect and design consultants.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The construction manager does not take any cost risk or design risk although the construction manager may be paid to assist the client with cost control and design advice.</li> <li>&gt; The final project cost is not known until later in the construction when the last package is let.</li> <li>&gt; The construction manager acts as an agent for the client and only takes the risk for their own services, with a responsibility on a best-endeavours basis to achieve defined objectives. The trade contractors are contracted directly with the client, and the client takes the risk of the trade contractors.</li> </ul>

**ACTION TO BENEFIT GOOD DESIGN**

- » **Early involvement of the Construction Manager to assess buildability prior to commencing Design Development.**
- » **Engage independent design advice from either a design champion, design quality team (DQT) or the OVGA to assist with design quality management in preparing the brief and contract development and at key project milestones.**
- » **An established and positive working relationship between the Construction Management organisation and the subcontractors.**
- » **Ensure that the construction management fee is subject to achieving design benchmarks or assessment via Key Result Areas (KRAs) as assisted by independent design advice.**
- » **Ensure that each trade contract agreement specifically refers to design quality and explains how it will be delivered.**

## CASE STUDY

### Sidney Myer Music Bowl, Kings Domain, Melbourne

#### PROJECT BACKGROUND

Originally opened in 1959, the Sidney Myer Music Bowl is a celebrated, rare survivor of Melbourne's heroic postwar period of architecture and is listed on the Victorian Heritage Register. Over time the Bowl was in need of significant restoration and upgrade required to address its substantial functional deficiencies which made it inadequate to support performances. The upgrade required a change to sightlines, regarding of the grassy berm and flexibility in delivery of the project to avoid impacting the operation of key annual events, specifically the Royal Victorian Institute for the Blind's Carols by Candlelight.

The brief required an upgrade of all facilities to integrate back of house production, catering artist change and warm up, theatre infrastructure and technologies, commercially supportive facilities, hire-out function spaces and a cafe. The refurbishment needed to respect the heritage value of the original structure, while rejuvenating its cultural life as one of Melbourne's most loved venues. Apart from the original cable network and supporting columns, the existing fabric has been restored and reconstructed. The new work extends the original footprint, mainly underground. Major areas for refurbishment included replacing the canopy damaged by prolonged water penetration through the edges of the 'Alumpy' panels which caused deterioration of the plywood, and some delamination of the aluminum cladding. The entire canopy was replaced with a new cladding system. The use of construction management offered a flexible procurement method that supported the changing nature of the brief and the potential for the design to evolve.



## CASE STUDY

### Sidney Myer Music Bowl, Kings Domain, Melbourne

#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- » Design advice early in the procurement process supported the management of design quality in contract and brief development.
- » An early understanding of the complexity and heritage sensitivities of the site.
- » Independent advice from the original architect Barry Patten.
- » An “open book” approach offered transparency with preliminaries and profits declared.
- » Use of Hooker Cockram as experienced sub-contractors, as the construction management organisation.

#### CONSTRAINTS

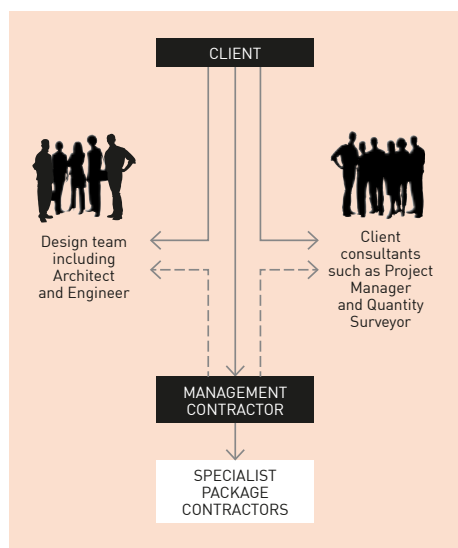
- » The breakdown of the project into two separate stages to facilitate the continuity of use for the Royal Victorian Institute for the Blind’s Carols by Candlelight.
- » Unexpected change to the brief for required patron sightlines to the stage area.
- » Unforeseen industrial issues beyond the control of the client or construction management organisation.
- » A change in government halfway through the project.

#### WHAT WORKED WELL

- » **The flexibility of construction management as a procurement method supported the design changes required, including adjustment to audience sightlines, the need to raise the berm and additional fill.**
- » **Efficient and effective resourcing of the project by Hooker Cockram as the construction management organisation.**
- » **Major Projects Victoria (MPV) acting as design champion.**



MANAGING CONTRACTOR



—— Contractual relationship  
 - - - - Working relationship

### 5.1.4 Managing Contractor

This form of contracting involves the client appointing a head contractor (the Managing Contractor) who may deliver or engage subcontractors to deliver the works. The Managing Contractor is responsible for administering these subcontracts and accepts some delivery risk, manages the scope definition, some or all of the design documentation and construction of the works. The client and the Managing Contractor generally negotiate a fixed lump sum management fee. The Managing Contractor may also receive incentive payments for achieving cost and schedule targets. There are many variants of the Managing Contractor model in use by agencies across Australia. The design team, including architect, may be appointed prior to the Managing Contractor where their primary role is to create a design brief, documentation and specifications as a basis for the tender documentation to be issued to competing Managing Contractors. Once the Managing Contractor is appointed, the design team continues to develop the documentation so that the Managing Contractor can let each specialist package.

They may be engaged early in the process to manage the scope definition, design documentation and construction of the works. The Managing Contractor can also determine elements of the design and/or construction and is paid for these services, in addition to the management fee. The Managing Contractor does not undertake the work – rather, they are engaged to manage the work of the subcontractors.

**The Managing Contractor is typically:**

- » the person who engages the subcontractors, with the Managing Contractor being paid a management fee (based on a fixed lump sum or percentage of actual cost) and may receive incentive payments for achieving target price or other key parameters;
- » responsible for preliminaries (e.g. crane hire, site sheds, supervision services etc), general project requirements (e.g. security, insurances etc) and project management (e.g. scheduling, coordinating, liaising, monitoring, reporting etc);
- » responsible for preparing the trade packages, conducting the tenders, and selecting suppliers in close collaboration with the client;
- » responsible for the quality of the design and construction;
- » responsible for warranting the fitness for purpose of the design and the completed works and the completion of the works by the date for Practical Completion;
- » responsible for the planning and implementation of quality assurance covering all of the works undertaken by the subcontractors, suppliers and consultants; and
- » warrants the suitability and completeness of the subcontract construction documentation and for ensuring that it is consistent with the developed design.



**Managing Contracting is considered appropriate:**

- » for complex or high-risk projects with uncertain scope, risks or technology;
- » where a high degree of expert government input is available;
- » where early contractor involvement is beneficial;
- » where the managerial skills of the parties involved can best be utilised; and
- » when industry input and innovation during the design stage are desirable. The specialist subcontractors, architect and Managing Contractor work together to develop project requirements, resolve issues and develop the design.

Managing Contractor is virtually the same as Construction Management with one major difference - the Managing Contractor not the client, enters into numerous Trade Contracts directly with Trade Contractors.

**MANAGING CONTRACTOR - IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; The client may appoint the design team before the Managing Contractor.</li> <li>&gt; Potentially allows for a reduction in the project duration and improved working relationships between the project parties.</li> <li>&gt; There is a single point of responsibility for the design and construction of the works including fitness for purpose.</li> <li>&gt; The client retains a higher degree of control over the management of the project – the client has the ultimate right to choose which consultants and subcontractors are used and also has final say over the design.</li> <li>&gt; Design changes to the works may be easier to accommodate due to the progressive nature of letting trade contracts. If a finishing package (e.g. joinery) has not been let, it is possible to delay the final documentation until much later in the overall program than would be allowed under a traditional lump sum approach.</li> <li>&gt; The client brings insider knowledge, stakeholder interactions, technical skills etc to complement supplier skills and it is necessary for the parties to collaborate to achieve optimal project outcomes.</li> <li>&gt; Can facilitate the early involvement of the contractor allowing buildability issues and whole-of-life considerations to be addressed during the design phase.</li> <li>&gt; The client and the Managing Contractor are able to collaborate to develop the project requirements and resolve issues through the design and construction phases of the project.</li> <li>&gt; The client can provide input into the design development and has opportunity to influence the design and construction processes.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Insufficient time to establish the scope and develop the tender documents.</li> <li>&gt; When payment does not include quality of design as a key performance parameter.</li> <li>&gt; Difficulty setting cost targets with limited design details.</li> <li>&gt; Contract obligations to achieve design ambitions are not clear and do not clearly outline the architect's role in the process.</li> <li>&gt; The Managing Contractor takes the risks of on-time completion and trade contractor performance. The number of tenderers who want to take on this role may be limited.</li> </ul>

**ACTION TO BENEFIT GOOD DESIGN**

- » Encourage the client to be involved continuously in the project and to appoint only a highly experienced and competent Managing Contractor.
- » Fully resolve the brief and scope to ensure the design team has clarity and confidence in undertaking the concept design.
- » Nominate the key specialist stakeholders to assist the development of the design.
- » Directly engage the design team early in the process and then novate the design team across to the Managing Contractor.
- » Allow adequate time and resources in earlier stages of the project's program to develop the design.
- » Engage design independent design advice from either a design champion, design quality team (DQT) or the OVGA to assist with quality management in contract and brief development and at key project milestones.
- » Effective project delivery, especially for alterations to existing buildings, necessitates a realistic contingency for design and construction.
- » Ensure the contract clearly defines what constitutes the completion of design development.
- » Be responsive to the contractual time constraints of the design team and managing contractor.

## CASE STUDY

### Melbourne Park, Margaret Court Arena

#### PROJECT BACKGROUND

The Western Precinct project will add an extra 1,500 seats to the 23-year old Margaret Court Arena, bringing its capacity to 7,500. The arena, which opened with Rod Laver Arena in 1988, will become the third enclosed stadium at Melbourne Park and will fill the gap between the 3,500-seat State Netball & Hockey Centre and the 10,500-seat Hisense Arena. A retractable roof and new spectator facilities will also be added to the venue. When complete, Margaret Court Arena will be able to host basketball, netball and concerts, in addition to tennis. The Western Precinct project is part of a \$363 million larger project, which will also feature eight new indoor courts, 13 outside courts, a plaza and a pedestrian link between AAMI Park, Melbourne Park and the MCG.

The Western Precinct design team is a joint venture between Melbourne's NH Architecture and international firm Populous and the managing contractor is Lend Lease. The Margaret Court Arena refurbishment is scheduled to be fully operational in 2015. The project is being delivered in three stages:

1. Enabling works, foundations and concrete structures (2012).
2. Erection of the roof (2013).
3. Commissioning of the operable roof and all major services, construction of main building façades and completion of 'back of house' facilities including green room, anti-doping facilities, change rooms (2014).





## CASE STUDY

### Melbourne Park, Margaret Court Arena

#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- » The design team was appointed early in the process to work directly with the client Major Projects Victoria (MPV) and stakeholders to resolve the final project scope.
- » Adequate time was given during Concept Design to establish the scope and included consideration of constructability challenges.
- » Adequate time provided to allow for design team to consult fully with stakeholders, with clear hold (review) points integrated into the design program.
- » Design team provided informal advice on the building tender to the client.
- » As lead consultant the architect was the primary point of contact for the design.
- » Strong integration of the architectural, engineering and other specialist design consultants throughout the process, with strong involvement of the engineering consultants from the early stages of the project.
- » The client (MPV) required ongoing contact with the design team following novation.
- » Design team developed a positive relationship with all stakeholders.
- » The design was able to evolve with the appointed managing contractor at novation, with time for managing contractor's input into the design prior to agreeing the final Warranted Maximum Price (WMP).
- » The project was regularly re-costed at key hold points, and a WMP was agreed based on the detailed design. This allowed the required flexibility in establishing the best design solution within budget plus allowing adequate time for extensive site assessment and exploration of latent conditions.
- » Provision for independent design advice at all key project milestones.





## CASE STUDY

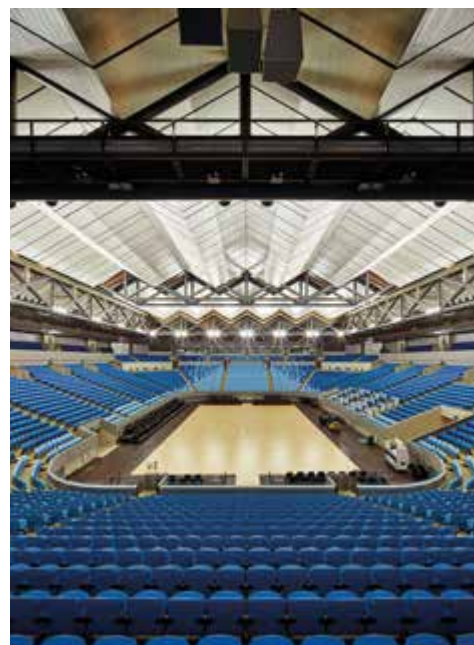
### Melbourne Park, Margaret Court Arena

#### CONSTRAINTS

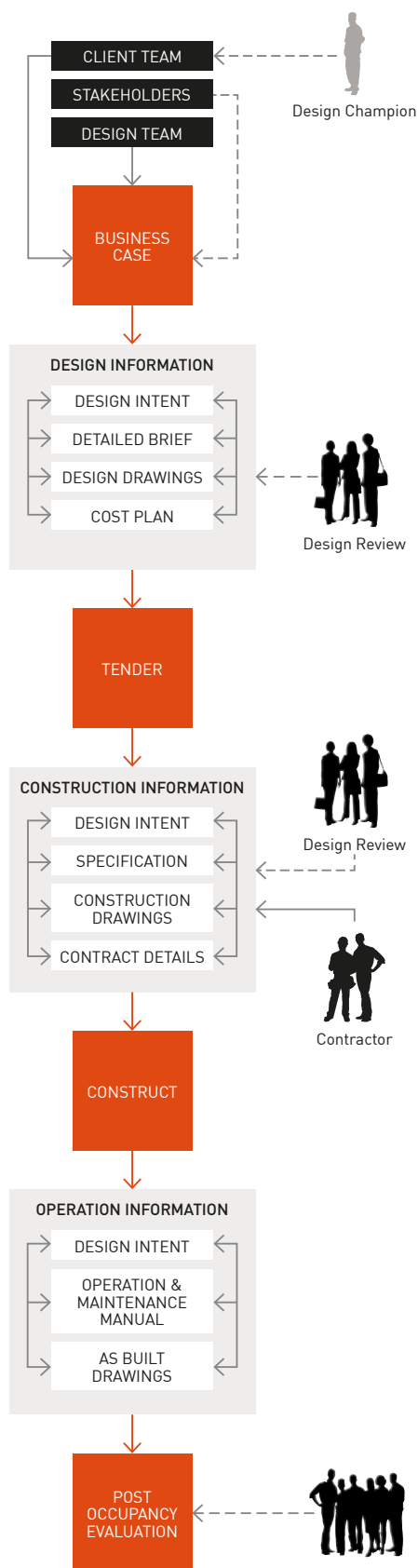
- » Complexity of project, including new roof design, and extensive latent condition challenges due to the brownfield site.
- » Availability of background information within the brief; including existing plans, surveys and detail of any latent conditions.
- » Complexity of building program which was required to allow for the Australian Open to utilise the venue annually thereby restricting construction to between February and November. Responding to moral rights issues of the original design for the adjacent Rod Laver Arena and protecting its original design intent.

#### WHAT WORKED WELL

- » Providing sufficient time to establish the scope and develop the tender documents.
- » Formal and informal interviews with tenderers, with a focus on people and team in the tender evaluations.
- » Getting the best people for each team: a competent design team and an experienced management contractor.



**INDIRECT BUILDING PROCUREMENT**



**5.2 Indirect Procurement of Design**

The 'Indirect Procurement' process is where the design team is engaged partly or wholly by an agent rather than the client, for example, by a developer or consortia. In effect, the Government -as client- procures a contract which includes the design and construction costs and may also include a combination of the finance and operating costs.

**INDIRECT ENGAGEMENT OF THE DESIGN TEAM**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; The design scope is more "open", and offers the potential of a higher degree of innovation regarding buildability and a greater variety of design options.</li> <li>&gt; The overlap between design and construction schedules enables faster project completion.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Loss of control over the design outcome and limited direct management of design quality.</li> <li>&gt; Danger of reduced design quality and consequently not a 'fit for purpose' outcome.</li> <li>&gt; Design team's primary concern may be to satisfy the consortium it is part of, rather than the client.</li> <li>&gt; The building contractor may be more focussed on the time and cost of the project than the quality of the design outcome.</li> <li>&gt; Opportunities for stakeholder and end-user input are often limited, potentially diminishing effectiveness and acceptability of outcome.</li> <li>&gt; Whole-life performance is not likely to be a key concern without direct incentives.</li> </ul>

**WHEN APPROPRIATE**

- >> **When there is a need to move quickly to tender and/or construction.**
- >> **When design can be specified.**
- >> **When design control is not critical, allowing a reduction in the contract administration, or when design requirements are well understood by all concerned.**
- >> **When it is appropriate to transfer the design risk from the client to the developer or consortia.**

The following forms of building and infrastructure procurement are all forms that work with the Indirect Procurement Process.

## 5.2.1 Design & Construct

The procurement method of Design & Construct is where the client enters into a single contract with a construction company that provides both the design and construction of a project based on requirements specified by the client. The project requirements typically include functional performance, quality and design life requirements. The design services may be subcontracted to a team of designers, depending on the requirements of the tender.

The client tenders a project brief and each tenderer prepares a preliminary design and basic indication of the time and cost needed to complete the project. The contractor/builder engages their preferred design team to undertake the design work and tenders a price for the delivery of that design and its construction costs. Once all tenders have been received the client (or client's representative) and the client's quantity surveyor will review and select a proposal best suited to the client's requirements. A single contractor is then appointed to manage the design, documentation and construction of the project, generally for a fixed price. Typically all design risk as well as construction risk is allocated to the contractor. Essentially, it represents a package deal. The design team is appointed and contracted directly to the contractor from the start of the project. Following construction, the client owns and operates the facility to deliver the service promised in the Business Case.

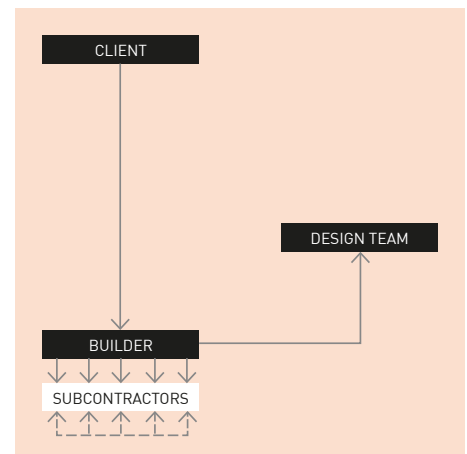
**Design and Construct is considered appropriate when:**

- » An early commencement on-site is required. This allows design and construction to occur in parallel and for a faster construction time.
- » The client can prepare clear, concise and well-documented performance and technical criteria for the project. These include criteria and objectives for durability, community standards, environmental standards, whole-of-life and any other significant issues. This will allow the contractor to understand and sensibly accept and price the risks.
- » The client requires a total commitment for time and cost for the project, at a fixed price; and
- » Client control over design quality is not a priority or design requirements are clearly specified and understood.

For Design and Construct, the design team functions as a normal design team, but with the building contractor, interpreting the client's requirements against the known maximum cost. Both the design and construction will be 'tailored' by the contractor to fit within the 'agreed price'. It is the architect's duty to put the interests of the building contractor in front of the interests of the building owner or occupier. The process can lack independent assessment or monitoring and the design team is normally unable to deal directly with the client or user. According to DTF, recent D&C contracts have additional provisions for the client to review and approve designs including independent quality assurance.

Except in the case of very simple or repetitive buildings, design and construct project delivery provides clients with reduced assurance that they will receive an end product that fully satisfies their needs or expectations.

### DESIGN AND CONSTRUCT



—— Contractual relationship  
 - - - Working relationship

'Variations to Design and Construct include:-

- » Design, novate and construct
- » Design, develop and construct
- » Design, construct and maintain

A guaranteed maximum price is often part of a design and construct offer which includes the cost of design and the cost of construction.

While some design is usually undertaken before the guaranteed maximum price is established, the design is not complete and the owner is unlikely to have made all of the decisions that will affect the design. In this case extra costs are almost certain to arise as the owner finalises his or her design requirements.

For these reasons 'guaranteed maximum price' is probably a misnomer and there is no such thing as a true, unqualified guaranteed maximum price.'

Acumen AIA Practice Services

## DESIGN AND CONSTRUCT – IMPACT ON DESIGN

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Faster and less exposure to risk of variations for trivial or design related issues.</li> <li>&gt; In theory, design scope is more 'open' and a higher degree of innovation regarding buildability advice is possible, as well as a greater variety of design choice.</li> <li>&gt; Suitable for projects of basic infrastructure, low complexity and that can be simply specified.</li> <li>&gt; The contractor has control over design details and timing of work. This gives potential for overlapping of design and construction activities, resulting in time and cost savings.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The definition of quality relies on the preliminary bid documentation which, by definition, is preliminary and generalised. The qualitative interpretation of this documentation is therefore totally in the hands of the D&amp;C builder/contractor which may result in the client obtaining a different standard of building from that apparently conveyed by the preliminary documentation.</li> <li>&gt; Indirect relationship between client and designers.</li> <li>&gt; Changes to the design brief after early design phases can be costly and should be minimised.</li> <li>&gt; Tender evaluations are complex, taking more time to evaluate and potentially increasing costs to client and causing contract award delays.</li> <li>&gt; Loss of control of design outcome and limited direct management of design issues resulting in reduced design quality.</li> <li>&gt; Lack of option to select a preferred design expertise.</li> <li>&gt; Few opportunities for stakeholder and end user consultation to influence the design.</li> <li>&gt; Design teams' contractual obligation is transferred to contractors and removed from client, thus potentially compromising desired outcomes.</li> <li>&gt; Building contractor captures all benefits associated with final design arrangements and specifications.</li> <li>&gt; Limited connection to client compromises the design intent of the project as project develops through detailed design and documentation. This may also apply to personnel changes to the design team.</li> <li>&gt; The price may be exceeded if extra costs are requested or authorised by the client and the design quality is not protected or adequately detailed.</li> <li>&gt; Insufficient time allowed for tenderers to prepare quality designs that allow innovation and minimise risk allowances by finding appropriate alternative solutions.</li> </ul>

## ACTION TO BENEFIT GOOD DESIGN

- » **Support the client in seeking independent design advice to ensure that the ambition of design quality and performance criteria are appropriately embedded within the brief.**
- » **Encourage collaboration between the client and consortium.**
- » **Seek independent design review at key project milestones, e.g. brief, Concept Design and design development.**
- » **Ensure that the Client is capable in attracting and evaluating the tenderers to ensure high quality contractors and designers are selected.**
- » **Include non-negotiable deliverables in the brief to ensure quality and the delivery of key design features that have been signed off by the stakeholders.**
- » **Not recommended if the project is of special design interest or if there is uncertainty in the brief or in the desired outcomes of the client.**
- » **Require the completion of a Design Intent Document before finalising the contract and then ensure independent assessment of its achievement.**
- » **The Client needs to prepare clear, concise and well-documented performance and technical criteria for the project. These include criteria and objectives for durability, community standards, environmental standards, whole-of-life and any other significant issues.**



## CASE STUDY

### Craigieburn Bypass

#### PROJECT BACKGROUND

The Craigieburn Bypass sought to deliver a new freeway connection and gateway entry to Melbourne from the north. Taylor Cullity Lethlean (TCL) as lead consultant in collaboration with Tonkin Zulaikha Greer (TZG) and Robert Owen were engaged by VicRoads for this project via a design competition process. The project was designed to be experienced at a freeway speed of 110km per hour. It includes a series of sculptural sound walls, a pedestrian bridge and road bridges, crash barriers and retaining structures. The sound walls and road furniture stretch over a 32km stretch of freeway linking the Hume Highway with the Melbourne Ring Road. Artist and sculptor Robert Owen was involved in the concept design and modelling of all the elements. Two wall types were developed each distinctive and responding to their adjacent condition. The 'Curtain Wall' a long sinuous steel ribbon is fluid in its form, dynamic and experiential. The 'Scrim Wall' by contrast is located alongside a residential interface and is composed of patterned acrylic panels and repeated louvres.

Project: Craigieburn Bypass  
Architects: Taylor Cullity Lethlean, Tonkin Zulaikha Greer and Robert Owen  
Photographer: John Gollings



## CASE STUDY

### Craigieburn Bypass



#### PROCESS

In 2001, prior to the design-construct process an EOI was issued and four multi-disciplinary design teams were shortlisted. The successful teams then entered a paid competition process, similar to a Request for Proposal (RFP), to develop further the gateway and noise attenuation walls. In winning the commission TCL challenged the brief by linking the concepts of a 'gateway' and the 'sound wall' to create a single design proposition.

The design process in this instance was supported by detailed documentation required by VicRoads as part of the contract. Importantly, there was a five-month design development and documentation window prior to the project being tendered where the gateway design was detailed relative to the road design, which at that particular stage, was unfinished. This approach allowed for independent changes to the road design during the design and construct process without impacting the key gateway design elements, or its functionality.

#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- › A concise brief by VicRoads, as client with a clear design aspiration for the project.
- › A client who acted as the design champion to deliver a succinct brief, guide the design process and require complete documentation at design development prior to going to tender.
- › Use of specialist in-house design expertise within the client group to transfer industry specific design knowledge and guide the design process.
- › A client who had the foresight to set clear design parameters within the contract around what was negotiable and what was not.
- › A master plan approach that supported future opportunities to extend the length or increase the height of the sound walls.
- › An allowance for life cycle costing to the pedestrian bridge and sound wall.
- › Ensuring that the pedestrian bridge design was entirely engineered and detailed by VicRoads, as client, before handing over to builder for detailed design and construction. This avoided any buildability issues that may have led to a change to the original design through the design and construct process.
- › The design team were retained in an advisory role to the client VicRoads. This provided a level of quality control during construction.

### 5.2.2 Novation

Novation is a form of design construct. Novation relates to the transfer of the architect’s contract with the client to the builder/head contractor after the design has reached an agreed stage – ideally, the conclusion of the design development stage. Once the contract and its terms have been ‘novated,’ the architect is responsible to the builder and no longer to the client, i.e. it is the client/architect agreement, which is novated to the builder. The builder is appointed after the submission of tenders based on a brief and preliminary design development documents.

The selection of a builder is made on the tender price, capability, capacity and the construction period. The architect and the other design consultants are initially contracted to the proprietor for the pre-design, Concept Design and the preliminary design development stages of the project. In some instances, this can extend to documentation. After the selection of the builder these consultants are then novated and become contracted to the builder. They are initially paid a fee for the first stages by the proprietor.

**The builder takes responsibility for:**

- » the completion of the documentation, depending on when the builder is appointed; and
- » the construction of the project generally for a Lump Sum fee or guaranteed maximum price.

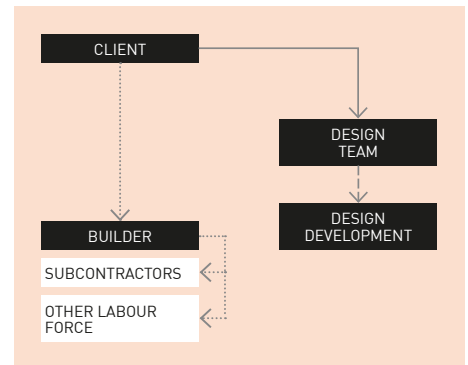
The level of documentation required before novation varies. As a minimum, it is recommended that the schematics and design development would be complete along with some part of contract documentation. A specification and preliminary schedules should also have been drafted, as is typical at the end of the design development phase. A key role of the architect is to coordinate the inputs of many disciplines. This role is compromised, if after being novated, the architect does not have visibility of the full or limited scope of services for all consultants. This transparency is required to identify what is and is not in scope for each consultant and identify conflicts and gaps between them.

By novation of the client-architect’s contract to the builder, the client’s architect is taken on by the builder at the time of the construction contract award without changes to the contract. The builder assumes full responsibility for the design, including payment of the designer’s fees, and the architect no longer has direct contractual obligation to the client. However, the client bears a risk with respect to the detailed finish of the project and the level of quality, dependent upon the stage at which novation takes place. The project outcome, as per design and construct, generally depends upon how well the client’s project requirements have been defined in the brief and/or request for proposal documents and the lines of communication between the client, builder and design team.

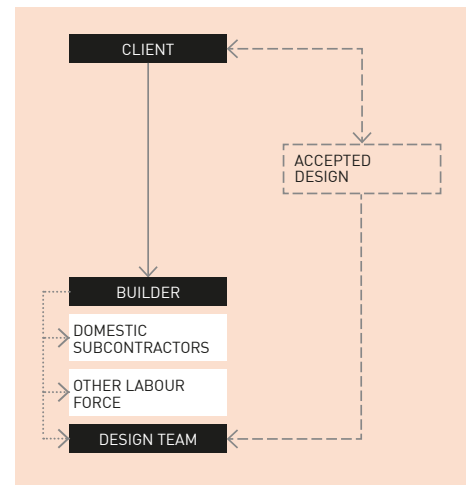
**Novation is considered appropriate where:**

- » the client requires more extended control of the design than design construct allows, but with minimum risk;
- » the builder is considered skilled enough to be responsible for the design documentation and construction;
- » the client requires competitive, comparable prices through tendering albeit in the first instance based on abbreviated documentation; and
- » the extent of works need to be fixed such that any variations to the construction contract are limited, post novation.

PRE-NOVATION STAGE – CONTRACTUAL RELATIONSHIP



POST-NOVATION STAGE



— Contracted  
 - - - - - To be formalised  
 - - - - - Responsibility to

## NOVATION – IMPACT ON DESIGN

Strengths	Risks
<ul style="list-style-type: none"><li>&gt; When compared with D&amp;C, client maintains greater control during the preliminary design phase, particularly during Concept Design.</li><li>&gt; Design teams' initial contract with client can develop design to achieve the desired outcomes.</li><li>&gt; Design team continues as Design Champion and carries the history of strategic decisions prior to contractor engagement.</li><li>&gt; Head Contractor takes on responsibility at novation for the design documentation and construction, having won the tender. The client is then no longer responsible for design or documentation errors post contract award, however, the client bears a risk with respect to the detailed finish of the project and the level of quality, dependent upon the stage at which novation takes place.</li><li>&gt; Collaboration opportunities between design team and Head Contractor.</li><li>&gt; Detailed construction methods are tailored to the preferred systems of the contractor, resulting in enhanced time, cost and quality performance.</li><li>&gt; The contractor is given full access to the original designer, with a continuity of the designer's involvement.</li></ul>	<ul style="list-style-type: none"><li>&gt; Design teams' contractual obligation is transferred to contractors and removed from client, potentially compromising desired outcomes.</li><li>&gt; Subject to timing of novation, design quality can be compromised by Head Contractor using design changes to save costs. There is potential for client specification and requirements not to be clear enough to achieve the desired outcomes.</li><li>&gt; Potential lack of focus on lifecycle costs.</li><li>&gt; Does not provide for measurement or assessment of design outcome.</li><li>&gt; Unforeseen variations are required after novation due to changes to the scope of work or a change in authority requirements.</li><li>&gt; Post contract the level of risk to government/user is high if bids are contracted on loose and generalised documentation or at insufficient scales of detail.</li><li>&gt; There is limited opportunity for innovation by the contractor because of their late entry into the project.</li><li>&gt; Tenderers may include a contingency price to cover the risks associated with entering into a contract without having established a close working relationship and by having to adhere to, terms over which they had no input.</li><li>&gt; Potential lack of design team fees allocated to the post-novation phase.</li></ul>



**ACTION TO BENEFIT GOOD DESIGN**

- » Prior to novation, develop design at an appropriate level that allows you to go down the path of tendering for a D&C contract. Depending on scale and complexity, completion of construction documentation may be appropriate.
- » Ensure delivery of good design is a key criteria in the assessment of D&C tenders, including demonstrating previous works undertaken in similar contractual arrangements.
- » Ensure collaboration between all parties is preserved during the delivery of the project, in particular the client and design team.
- » Clearly communicate the intent to novate the design team prior to their appointment, so that the design team understands this arrangement, fees are clear and suitable design professionals are sought.
- » Engage an experienced project manager with a strong understanding of the need to deliver the design intent of the project.
- » Ensure there is a clean line of novation, outlining level of design development and documentation to be completed and agreed as part of the contractual arrangements.
- » Allow the design team opportunity to comment on proposed construction team tenderers based upon past performance and relationships.
- » Appoint the architect in advance of contractor and only novate the design team after the qualitative dimensions have been determined, including design intent and documentation.
- » Ensure adequate detail on documentation as part of the contract.
- » Ensure provision for independent design advice/assessment at key project milestones and allow sufficient time for the activities required by the consultant team.
- » Before and after novation, consultants should be involved in strategic decision-making processes at project control group (PCG) meetings and this should be written in the novation deed.
- » Prior to novation, ensure protocols and scope of service for product substitution is agreed.
- » Avoid renegotiation of the original terms of the consultancy (design team) agreement after novation.
- » The novation deed should provide a clean transfer of the consultant's liability from the principal to the head contractor.
- » Construction cost estimates and cost management processes should be visible and available to all parties to ensure the correct advice regarding value management and aligned with project outcomes.
- » Require the completion of a Design Intent Document before finalising the contract – and then ensuring independent assessment of its achievement and associated reward/penalty.
- » All consultants involved in the construction process should have free and unfettered access to the site to facilitate the appropriate level of observation envisaged within the consultancy agreements and should be part of the design and construct contract.

## CASE STUDY

### STATE LIBRARY VICTORIA, VISION 2020 REDEVELOPMENT

The Vision 2020 Redevelopment project significantly transformed State Library Victoria (SLV), one of Victoria's most important cultural institutions and Australia's oldest and busiest library. The scope included refurbishing the library's incomparable heritage spaces, creating innovative new spaces for children and teenagers, and, reinventing services to embrace new technologies and promote digital literacy. Overall, public space was increased by 40 per cent and seating by 70 per cent.

The ambitious \$88.1 million project was delivered in 2019 by Development Victoria (DV) on behalf of State Library Victoria and Creative Victoria (CV). The project was funded through a \$60.4 million grant from the Victorian Government and more than \$27.7 million raised through philanthropic support. The project client team (SLV and DV) developed an extensive written brief and tested the scope against the project budget. DV built into the design and delivery strategy multiple "holdpoints" for the project to realign scope, budget and programme and client signoff prior to proceeding to the next phase.

An open Expression of Interest (EOI) shortlisted four architectural practices to tender as lead consultant of a multi-disciplinary team through all project phases, with the knowledge that novation would occur in the later design phases. Architectus was selected as Lead Consultant and contracting entity and partnered with Danish based Schmidt Hammer Lassen as a sub-consultant alongside eight engineering and specialist design consultants. The construction contract was based on Development Victoria's standard two stage Managing Contractor contract,



## CASE STUDY

### STATE LIBRARY VICTORIA, VISION 2020 REDEVELOPMENT

which provides for novation of the architect and other consultants at the point of contract award. The Managing Contractor contract allows for a period of early contractor involvement, site investigation and further design development prior to agreement of a Warranted Maximum Price.

Construction was scheduled in multiple intricately managed stages over five years to allow the library to remain open throughout the construction period. The project was further complicated by the site being a campus of 26 connected buildings from different eras, spanning the 1850's through to the 1990's. Selection criteria for the Managing Contractor were not driven by price, but instead explored their ability to operate in a collaborative environment with both client, project manager and design team, as well as their track record of complex heritage refurbishments and delivery of projects in a live environment. Built was appointed as the Managing Contractor.

The contractor appointment and subsequent novation of the design team were timed to be after the project client team had agreed on the significant strategic design decisions, but sufficiently early to allow for constructability input from the Managing Contractor. This input was further informed by as much detailed invasive site investigation as was possible in a live operating environment.



#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

- » The contractor tender occurred at 50% Design Development, allowing the Design Team time to adequately scope the works and establish quality benchmarks through fast-tracked documentation of some critical items. A full technical specification was produced as one of the tender documents.
- » A schedule of prototypes, samples and first completed examples formed part of the tender documents and the subsequent contract.
- » The novated design team remaining connected to the client and being included in key presentations and meetings. Monthly client reports also had a sparingly used 'whistleblower' clause to allow the architect to raise any matter they believed was not in accordance with design intent with the client.
- » Incentivising savings against the Warranted Maximum Price encouraged transparency around potential savings to be shared between the client and contractor, however sufficient mechanisms were embedded to ensure scope and quality were safeguarded.
- » A clear selection process for contractors fixed on the best qualifications, teams, methodology, company culture and experience level rather than the lowest cost.
- » The structure allowed for a collaborative environment which allowed for collective problem solving when the project team faced the inevitable challenges associated with such a complex project.



## CASE STUDY

### STATE LIBRARY VICTORIA, VISION 2020 REDEVELOPMENT

#### CONSTRAINTS

- » Heritage buildings with latent conditions that couldn't be destructively assessed during the design phases as they were still operational and open to the public.
- » Staged construction required to maximise ongoing operation of the library while ensuring public safety.
- » A busy constrained site with limited loading and staging areas.

#### WHAT WORKED WELL

- » **Rigorously testing the budget against scope prior to the Design Services tender, allowing conservative contingencies, and, meticulous cost planning through all project phases to ensure the project remained on budget.**
- » **Advanced design development of documentation with a full technical specification completed prior to novation with an extensive prototyping and samples schedule to safeguard scope and quality.**
- » **Collaboration between the Design Team and Contractor, with direct access to specialist subcontractors such as conservation painters and timber flooring contractors, to enable quick and effective problem solving and design resolution of unforeseen conditions on site.**



### 5.2.3 Public Private Partnerships

Public Private Partnerships projects (PPPs) are where the design team is one part of a bidding consortium (private) that bundles design, construction, finance and operational services into a single contract with Government (public) for the long-term.

A PPP is characterised by a design, development and services contract between the public and private sector where the Government pays the private sector to deliver infrastructure and related services over a specified period of time (typically 20-25 years). The private provider will not only build the facility but will also operate, service or maintain it to specified standards over a long period. The private provider usually also finances the project (as Government payments typically only commence once the infrastructure is complete and operating in accordance with contracted service levels). In recent PPPs, the government has also provided State capital contributions to complement the private financing at certain milestones. The private sector profits through various means, including the cost of capital that is passed onto Government, by efficiently managing the design, construction and operation phases and potentially developing a part of the site as a complementary adjacent property asset.

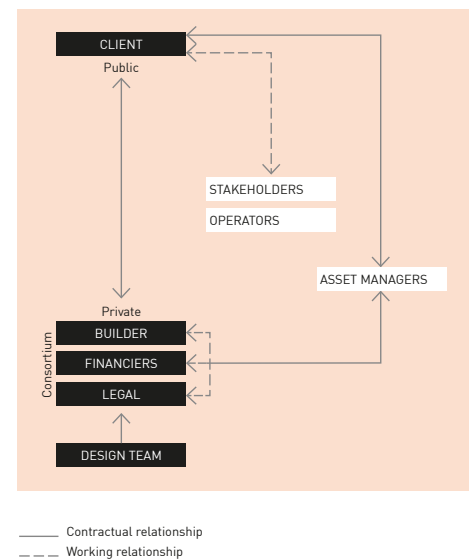
Some contracts may also include the obligation to fully operate the facility (for example a prison with a private operator).

**In a typical PPP project, the Government :**

- » prepares an output-based specification rather than a prescriptive specification;
- » commissions a Reference Design on which budget estimates are based (the Public Sector Comparator). The Output Specification is issued to bidders detailing the design and technical requirements (and therefore needs to be consistent with the Reference Design assumptions), against which bids are assessed;
- » engages the provider to deliver services over a long-term, e.g. 20 to 35 years or more;
- » requires the provider to design, build, finance, maintain and in some instances operate the facility. The private party may also provide ancillary services including cleaning, security, facilities management, catering etc (or some combination of those functions) and takes the risk for the performance of these functions;
- » typically makes no payments to the provider before the facility has commenced operations;
- » provides payments over the term of the contract based on services delivered against the achievement of key performance indicators, ensuring the infrastructure is maintained over its lifetime; and
- » eventually takes back the infrastructure/asset, operations, maintenance and ancillary services obligations of the asset at the end of the contract term, such that the private party's involvement ceases.

The State is typically seeking the whole-of-life innovation and efficiencies that the private sector can deliver in the design, construction and operating phases of the project. The State becomes a purchaser of asset-based services that are paid for according to their performance. The State allocates certain risks to the private party, locks in whole-of-life budgets and quality standards, and facilitates focus on its core business. By specifying measurable outputs, rather than inputs, the State invites the private sector to deliver the service in innovative ways and create efficiencies. The Interactive Tender Process (ITP) conducted during the RFP phase of the tender, allows State to give feedback to the bidders regarding their design, and also allows the bidders to clarify any ambiguity.

PRIVATE PUBLIC PARTNERSHIPS



A PPP is considered appropriate from a design perspective:

- » where the project is of sufficient scale;
- » where there is a need to consider a competitive environment to promote innovative solutions;
- » where outputs are measurable (and therefore an input-based specification can be avoided);
- » when there is a desire to create a collaborative relationship between the design team, the builder, the operator and the facilities manager;
- » when there is support to give sufficient weighting to design in the evaluation process;
- » where the private sector would be better placed to manage a considerable proportion of the project risks;
- » where there is a need to consider the whole-of-life costs and for this to be the responsibility of the private sector partner.

**PUBLIC PRIVATE PARTNERSHIPS – IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Design proposals can be part of the assessment process and bring together an integrated supply team from the earliest stages of the design process.</li> <li>&gt; Interactive Tender Process (ITP) between the Government and private consortia (conducted during the RFP phase in advance of bid submission) ensures that feedback is sought/given so as to minimise the risk that the private sector misinterprets the output specification.</li> <li>&gt; Government and bidders' interests (including design optimisation) are aligned, since the successful bidder will be responsible for providing ancillary long-term services, often alongside the Government which is providing the core services or operations within the facility</li> <li>&gt; Client is given the choice between different design approaches of respective consortia.</li> <li>&gt; Places a greater emphasis on the whole-of-life costs as a part of the design process. Penalties defined within PPP contracts provide commercial incentive to perform.</li> <li>&gt; Design risk rests with the private party (including Fitness For Purpose risk).</li> <li>&gt; Can offer the prospect of better value for money over the full life cycle by integrating, under the responsibility of a single consortium, upfront design and construction costs with on-going service delivery, operational, maintenance and refurbishment costs.</li> <li>&gt; Provides opportunities and incentives for innovative solutions in the delivery of service requirements.</li> <li>&gt; Innovation is embedded as private sector PPP consortia will want to use the latest, but tested, best practices for undertaking their project and reducing operational costs.</li> <li>&gt; Capital costs reduced. Where possible, contractors will ensure that facilities are not over-engineered and to provide value for money under a competitive bid process. Contractors will encourage building is fit for purpose and ensure that appropriate maintenance regimes are in place.</li> <li>&gt; Commercial and operational efficiency, where the private sector will deliver facilities as planned, on time (or ahead of schedule) and to budget. Private sector is focused on ensuring minimal waste of time, materials and labour.</li> <li>&gt; Facilities are operated and maintained to levels that are clearly defined by contract.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The State may not get the best design team due to the commercial offer preferencing a particular consortium.</li> <li>&gt; The Reference Design is a 'point-in-time' estimate. Care must be taken to ensure the design brief is consistent with the quality proposed in the Reference Design.</li> <li>&gt; Failure to include lifecycle and handback clauses that ensure that quality is protected. For example, when materials and products reach maximum warranty period at the time the client is taking ownership or 5 years prior to handback.</li> <li>&gt; Inadequate specification detail from the State's design team or time during the Interactive Tender Process.</li> <li>&gt; The time and cost required may limit the pool of design teams with the resources and finances to offer a bid.</li> <li>&gt; Lack of client expertise to appropriately monitor design quality throughout the design and construction stages.</li> <li>&gt; Transparency of costs can be difficult to establish given the complexity and commercial nature of PPP arrangements that may impact design.</li> <li>&gt; Strong relationships are required between government agencies and consortium parties to produce effective partnerships.</li> </ul>

**ACTION TO BENEFIT GOOD DESIGN**

- » Ensure there is a clear, well articulated vision for the project that includes expectations in relation to design / architectural quality.
- » Establish, before the bidding process, a detailed and robust Reference Design that has been developed through a close working relationship between the client and an architect.
- » Ensure that the Output Specification is aligned with the Reference Design in terms of design quality (i.e. so that the output requirements can be delivered for the PSC).
- » Place emphasis on design quality in the initial briefing and Request for Proposal documentation.
- » Allow adequate time for the Interactive Tender Workshops during the RFP phase, with appropriate involvement from the Design Quality Review Team.
- » Ensure that the bidding process is not rushed, allowing sufficient time between the selection of the preferred bidder and financial close to negotiate excellent design outcomes.
- » Ensure that the output specification documents emphasise to the bidding teams the importance of engaging expert design architects.
- » Require an appropriately detailed set of drawings and documents as part of the bid submissions, to assist in evaluation and to enable the client to understand what levels of quality, functionality and performance is promised to be delivered.
- » Ensure a mechanism for end-user input into the briefing process and into any options-testing or Interactive Tender Workshops that may be undertaken in the bidding process.

## CASE STUDY

### ROYAL CHILDREN'S HOSPITAL, PARKVILLE

This project was delivered under a PPP procurement model. In this model, the architectural team's client was the contractor, Bovis Lend Lease. The Children's Health Partnership was the winning consortium that included international public partnerships as equity holders, Bovis Lend Lease as builder, Spotless Group as facilities manager and architects Billard Leece, Bates Smart and HKS (US).

The Royal Children's Hospital is broadly a two-stage project. The 1st stage (greenfield component) includes the construction of the new hospital and was completed in November 2011. The 2nd stage involves demolition of much of the old hospital, construction of additional commercial elements, and the reinstatement of most of the former site as parkland. The following section relates primarily to the 1st stage.

The design and procurement processes were staged and aligned to ensure effective consultation and agreement prior to construction of each major package. User groups were assembled for some 80 departments (to resolve primarily functional issues), and reference groups established for whole of facility issues such as logistics and ITC. Design and procurement teams were also assembled for development of the façade and public places, interior design and base building documentation. Upon award of the contract, the construction team immediately took possession of the site to commence construction of the basements and north building packages.





## CASE STUDY

### ROYAL CHILDREN'S HOSPITAL, PARKVILLE

#### KEY INITIATIVES ADOPTED TO PROTECT THE DESIGN QUALITY

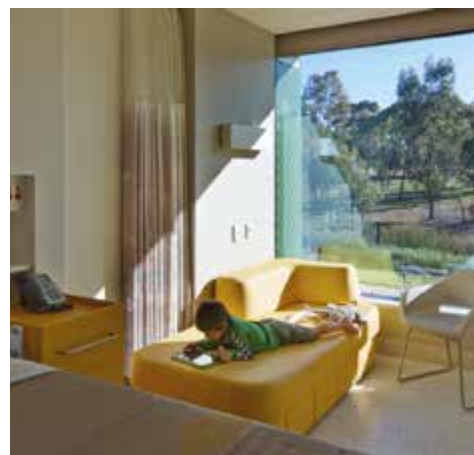
- » The involvement of state's advisers/peer review and the OVGA.
- » The preparation of design strategies up front, which could be fully scoped and measured and included in the capital cost.
- » The preparation of concept sketches and renderings for interiors, which illustrated the design intent and quality.

#### CONSTRAINTS

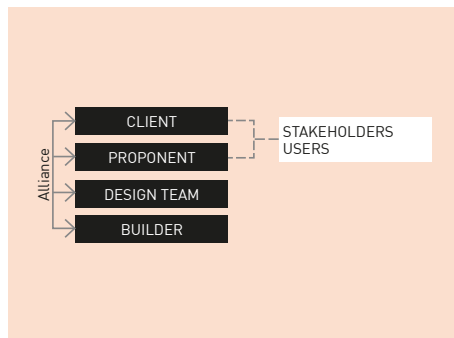
- » The Department of Health's guidelines were of benefit for describing generally compliant solutions, however, innovation beyond these was sometimes perceived as risky.

#### WHAT WORKED WELL

- » The vision components of the briefing documents remained a focus for the design team to ensure the aspirations were met.
- » The determination of all parties to ensure a quality outcome to an iconic institution.
- » The integration of artwork with the design and the inclusion of community partnerships (such as the zoo and the aquarium) added a level of design richness.
- » The master plan and expansion strategy was well considered and ensured a level of flexibility to accommodate change during the design process.
- » Cores and structural grid were locked in early to allow an early start on site while detailed design progressed.



ALLIANCE



— Contractual relationship  
 - - - Working relationship

Project alliancing has evolved from partnering, and is sometimes called strategic partnering. The main difference between 'alliancing' and 'partnering' is the introduction of risk and reward, based on the performance of the alliance team, usually comprising the major consultants, contractors and owner.

Project alliancing has been used for major infrastructure and mining projects, but is relatively untried in the Australian building industry, although it has been used for the National Museum of Australia in Canberra and the Hamer Hall redevelopment in Melbourne.'

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## 5.2.4 Project Alliance

Alliance, as a procurement method, originated in the 1990s from engineering projects and therefore requires considerable modification to be applicable on complex architectural design projects.

The two Alliance models that have emerged include:

1. A 'Project Alliance', which is generally formed for a single project, after which the team is disbanded. For example, Wandoo Offshore Oil Platform Western Australia, Hamer Hall Melbourne and National Museum of Australia in Canberra
2. A 'Program Alliance', which incorporates multiple projects under an alliance framework, where the specific number, scope, duration and budgets of projects may be unknown and the same. For example, Level Crossing Removal Authority project.

Under an alliance contract, a state agency (the 'Client') works collaboratively with private sector parties ('non-owner participants') to deliver the project.

Alliancing is aimed at creating mutually beneficial relationships between all involved parties. An agency's decision to use alliance contracting to deliver a project requires a strategic procurement analysis to be undertaken, and a good understanding of the delivery method that is most likely to best deliver value for money against business case objectives. It incorporates a legal agreement between all major participants, including the client, which sets out joint risk/reward arrangements. The alliance methodology allows such risks to be worked through collaboratively as the project develops.<sup>17</sup>

In principle, the design team, the client and the contractors are working together in good faith, acting with integrity and making best-for-project decisions. The Risk or Reward Regime is developed from and with reference to the client's specific project objectives, minimum conditions of satisfaction and cost and non-cost key result areas. All key result areas, such as timelines, budget performance, design quality and stakeholder satisfaction, are set out in the Alliance Agreement to encourage and reward exceptional performance (if required by the Owner), address poor performance, align the private sector participants' commercial interests with the client's project objectives and drive the private sector participants to meet their behavioural commitments.

In principle, the Alliance contract seeks to promote a positive culture based on "no-fault, no-blame" and unanimous decision-making. As the behavioural culture is crucial to the success of alliancing, the selection of the right team is paramount.

**Project Alliancing is generally considered appropriate:**

- » in the delivery of complex and high-risk high-value infrastructure projects;
- » the Owner has embedded knowledge, skills, preference and capacity to influence or participate in the development and delivery of the project;
- » urgent project start is required where the solution is unclear;
- » where a high level of innovation is required;
- » where risks are unpredictable and best managed collectively or too costly to transfer;
- » if the client can appoint senior executives to represent and manage its interests in relation to other participants and the alliance contract;
- » if the client is able to be closely involved, has sufficient internal resources and can add value; and
- » where there is a diverse and demanding range of stakeholders.

**PROJECT ALLIANCE - IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"> <li>&gt; Supports a collaborative culture capable of delivering outstanding design results;</li> <li>&gt; Avoids dispute culture between designer, contractor and a Principal/Client and greater potential for win/win outcomes; and</li> <li>&gt; Provides flexibility to modify design and allows on-going changes to be incorporated during construction.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Success highly dependent on getting the best skilled consultants and contractor, clear project objectives and lines of responsibility that are defined in the contractual agreement;</li> <li>&gt; Over emphasis on commercial incentives at the expense of design quality;</li> <li>&gt; Client not able to properly and clearly articulate the project design objectives/requirements that align to the approved business case;</li> <li>&gt; Incentives to perform are limited and there is a tendency to incur cost overruns once the incentives are diminished;</li> <li>&gt; Failure to fully consider lifecycle or long-term servicing costs; and</li> <li>&gt; Failure to include design quality as a KPI and to correctly weight.</li> </ul>

#### **ACTION TO BENEFIT GOOD DESIGN**

- » **Ensure that the Project Alliance supports a collaborative environment.**
- » **Ensure that the project team shares the same high expectations of design quality outcomes using Key Result Areas (KRAs) and performance measurement.**
- » **Seek design advice from the Office of Victorian Government Architect when developing the tender documents.**
- » **Ensure a process that formalises design review workshops during development of the Target Outturn Cost (TOC).**
- » **Ensure provision for independent design advice (Design Quality Team) or design review at key project milestones and link that into the performance regime.**
- » **Ensure an equitable balance of risk/reward for all involved parties.**
- » **Decide upon the design KRAs early in the process and ensure they are well communicated.**
- » **Allow adequate time to develop the brief.**
- » **Choose the design team early in the project.**
- » **Consult the design team about the building program, selection of builder and establishing the design deliverables.**
- » **Ensure the culture of the alliance facilitates a high level of mutual respect and trust between members of the team.**
- » **Ensure that qualitative outcomes are measured during the project and inform future projects.**

All departments and agencies which are planning alliance contracting are required to comply with the Government Alliancing policy, published as the National Alliance Contracting Guidelines (September 2015). The Guidelines promote knowledge, best practice, and give rise to cost savings by creating a consistent national alliance contracting standard, whilst ensuring the existing benefits of alliancing around the Nation are maintained.



## CASE STUDY

### HAMER HALL REDEVELOPMENT, SOUTHBANK CULTURAL PRECINCT

The Hamer Hall redevelopment was a four-year, \$135.8 million Victorian Government project that revitalised the 30-year-old hall and created:

- » new connections with the city, St Kilda Road and the Yarra River
- » better amenities with new stairs, improved disability access, escalators and lifts
- » new and expanded foyer spaces
- » improved acoustics, new auditorium seating, cutting edge staging systems and technology.

The redevelopment of Hamer Hall was an alliance between Arts Centre Melbourne, the architects ARM, the builder Baulderstone and the Victorian government (through Major Projects Victoria and Arts Victoria), with risk and reward shared between project participants. According to Architect Ian McDougall, "in an alliance there is no client – the alliance is the client".

The government's decision to use an alliance instead of a traditional building contract reflected the inherent project complexities: "fast-track redevelopment of an existing heritage building located on a severely access-constrained site", according to Tony Murphy, Arts Centre Project director and chair of the alliance leadership team. In addition, there were contamination issues for the site, operational issues for the Arts Centre, and the need to deliver the project on time due to future programming for the venue.



## CASE STUDY

### HAMER HALL REDEVELOPMENT, SOUTHBANK CULTURAL PRECINCT



#### SUMMARY OF THE KEY INITIATIVES WITHIN THE ALLIANCE APPROACH THAT HELPED PROTECT THE DESIGN INTENT

- » The selection process for the architects' appointment was very important. It was a Quality Based Selection (QBS) process, but a very time intensive one that additionally involved workshops with the short listed proponents aimed at establishing the design team that was the best fit for the project.
- » The architect was a full Alliance partner, and therefore represented on both the alliance leadership team and the alliance management team – this is critical.
- » The design team was collocated with the rest of the alliance in the project office.
- » There was a number of KRA's built into the alliance agreement that were design based, and importantly were of comparable weighting to the commercial and operational KRA's. The inclusion of the design based KRA's also required the appointment of a design panel to provide independent assessment of the design KRA's, which is a positive strategy for the protection of design intent.
- » The alliance structure provides early and direct access to the construction team, including to key sub-contractors. This is an important assistance to working out what can actually be delivered while maintaining design intent – it is much harder to sort this balance out on the other side of a signed contract if it is not fully defined and achievable as documented – which it often isn't, especially in existing buildings, or with unusual design and material solutions.

#### CONSTRAINTS

- » Alliance, as a procurement method, originates from engineering projects and therefore requires considerable modification to be applicable on complex architectural design projects.
- » Establish KRAs early in the project to offer certainty to the alliance.
- » Establish the scope against the revised budget to establish the TOC.

#### WHAT WORKED WELL

- » **An alliance gets everyone "at the table" and allows the user to interrogate the brief.**
- » **The selection of the design teams through an EOI process.**
- » **As a test case for alliance, it delivered value-for-money and exceptional outcomes.**

## 5.2.5 Program Alliance

A Program Alliance aims to create mutually beneficial relationships between all involved parties and requires an effective team culture to ensure benefits are optimised. An agency's decision to use alliance contracting to deliver a project requires a Strategic Procurement Analysis to be undertaken, and a good understanding of the delivery method that is most likely to best deliver value for money against business case objectives. It incorporates a legal agreement between all major participants, including the client, which sets out joint risk/reward arrangements. The Program Alliance methodology can allow such risks to be worked through collaboratively as the project develops.

In principle, the design team, the client and the contractors are working together in good faith, acting with integrity and making best-for-project decisions. The Risk or Reward Regime is developed from and with reference to the client's specific project objectives, minimum conditions of satisfaction and cost and non-cost key result areas. Key result areas (KRAs), such as time, cost, quality of design outcomes and stakeholder satisfaction, are set out in the Program Alliance Agreement. The intent of the Agreement is to encourage and reward exceptional performance, address poor performance, align the private sector participants' commercial interests with the client's project objectives and drive the private sector participants behaviour.

The Program Alliance Agreement seeks to promote a positive culture based on "no-fault, no-blame" and unanimous decision-making. As the behavioural culture is crucial to the success of alliancing, the selection of the right team is paramount.

Program Alliances are usually longer-term arrangements, in the order of 5-10 years and for projects greater than \$50m. A Program Alliance can be effectively a pre-qualified panel of potential alliancing parties that the Project Owner establishes so it can expeditiously and conveniently select and form an alliance for a specific project or for a package of related works. Through a pipeline of works, a Program Alliance presents the opportunity for continuous improvement and innovation from project to project. It is critical that all the lessons learned are effectively captured and applied to the next project and information is disseminated across the program. The continuous improvement process should build upon all stages of the project including, for example, innovation in processes, design, prefabrication, construction, materials and detailing.

Under the Program Alliance model, if the works are completed to the satisfaction of pre agreed performance criteria, the successful Alliance team may be invited to participate in further works nominated in the pipeline.

**Program Alliancing is generally considered appropriate:**

- » in the delivery of complex and high-risk high-value infrastructure projects;
- » where the Project Owner has embedded knowledge, skills, capacity to influence or participate in the development and delivery of the project;
- » where the Project Owner requires additional skills and resources in order to advance the project, particularly in defining, mitigating and allocating project risks;
- » where there is a pipeline of works;
- » when a project start is urgent;
- » where a high level of innovation is required;
- » where risks are unpredictable and best managed collectively or too costly to transfer;
- » where there is a diverse and demanding range of stakeholders; and
- » if there is a commitment to capture innovations and continuous improvements from project to project.



**PROGRAM ALLIANCE - IMPACT ON DESIGN**

Strengths	Risks
<ul style="list-style-type: none"><li>&gt; Supports a collaborative culture capable of delivering outstanding design results;</li><li>&gt; Avoids dispute culture between design team, contractor and a Project Owner and greater potential for win/win outcomes;</li><li>&gt; Continuous improvement through project delivery;</li><li>&gt; Provides flexibility to modify design and allows on-going changes to be incorporated during construction;</li><li>&gt; Opportunity to create a strong multi-disciplinary and collaborative design environment;</li><li>&gt; Flexibility to develop design options and advance risk mitigations, including engagement with key stakeholders and the community, prior to any commitment to the project.</li></ul>	<ul style="list-style-type: none"><li>&gt; Success highly dependent on getting the most appropriately skilled consultants and contractor, clear project objectives and lines of responsibility that are defined in the Program Alliance Agreement (PAA) and subsequent Annexures;</li><li>&gt; Failure to consider designated KRAs for urban design and correctly weight design quality;</li><li>&gt; Limited opportunity to influence short list of preferred urban designers, architects and landscape architects;</li><li>&gt; Need to actively engage designers to maintain design quality and detail through on-site design changes during construction;</li><li>&gt; Often insufficient time for designers to develop a robust reference design during the TOC period to ensure that the project ambition can be achieved and appropriately scoped;</li><li>&gt; Limited ability to improve design quality post contract award;</li><li>&gt; Failure to fully consider lifecycle and sustainability costs;</li><li>&gt; Lack of commitment to consider urban renewal opportunities in an integrated manner.</li></ul>





**ACTION TO BENEFIT GOOD DESIGN**

- » Ensure that the Program Alliance supports a collaborative and multi-disciplinary design environment.
- » Ensure that the project team shares the same high expectations of design quality outcomes using Key Result Areas (KRAs) and performance measurement.
- » Engage appropriately skilled urban design, architectural and landscape architectural expertise to closely collaborate with the design and construction teams to deliver high quality, integrated design outcomes.
- » Ensure the design team/architect are appropriately represented in key design decisions as part of the Alliance Leadership Team and/or the Alliance Management Team.
- » Seek early engagement with the OVGA during business case planning and throughout the program lifecycle to embed a rigorous design review process.
- » Establish a consistent, expert design review model (Urban Design Advisory Panel or Design Quality Team) that provides independent design review and advice at regular project milestones linked to the performance regime.
- » Ensure the program of works are adequately aligned with the State's ambition for delivering and supporting high quality built form and public realm outcomes.
- » Consider incentivising the Program Alliance to ensure that desired design intent, built outcomes and quality are achieved and community benefits are fully realised.
- » Ensure an equitable balance of risk/reward for all involved parties.
- » Articulate the urban design KRAs early in the process and ensure they are well communicated.
- » Provide a realistic contingency that covers both design and construction.
- » Ensure the culture of the alliance facilitates a high level of mutual respect and trust between members of the team.
- » Ensure that qualitative urban design outcomes are measured across the program to inform future projects.
- » Ensure lessons learnt are effectively captured during the planning, design and construction lifecycle and then applied across the program and more broadly across industry.

## CASE STUDY

### SOUTHERN PROGRAM ALLIANCE LEVEL CROSSING REMOVAL PROJECT

The Level Crossing Removal Projects' (LXRP) Southern Program Alliance (SPA) was formed, following a competitive tender process, to remove level crossings along the Frankston train line. As part of the Alliance's Initial Works Package (IWP), SPA designed and delivered:

- » The removal of three level crossings at Station Street and Eel Race Road, Carrum and Seaford Road, Seaford.
- » A well resolved urban design response with a strong coastal corridor identity.
- » High quality train station and platform environments exploiting local views and improving the public transport experience
- » New recreational and civic spaces below the elevated rail providing better connectivity and improved public realm for the community and public transport users
- » Revitalisation of Carrum's local community and business activity centre through good station precinct planning, introducing high quality facilities and improved access between the station, town centre and foreshore.
- » Extensive integrated landscape works along the rail corridor and in the vicinity of Seaford Rd level crossing, including upgrading of RF Miles reserve
- » 10km of new linear shared paths along the corridor from Patterson River to Kananook Station.
- » Integrated Indigenous cultural motifs into the Karrum Karrum bridge and yarning circle as a welcoming space for Traditional Owners to meet, gather and exchange cultural practices and values.

Project: Level Crossing Removal Project, Carrum  
Architects: Cox Architecture  
Landscape Architect: Rush Wright + Associates  
Photography: Peter Clarke



## CASE STUDY

### SOUTHERN PROGRAM ALLIANCE LEVEL CROSSING REMOVAL PROJECT

The Project was delivered as part of a Program Alliance between the State of Victoria (Level Crossing Removal Project) and the SPA. As part of the Alliance, Cox Architecture collaborated with Rush Wright + Associates to deliver on the urban design, station architecture, public realm, landscape and path networks along the corridor.

A Program Alliance was adopted as the most appropriate procurement model given the complexities of the \$500+million program of works involving the construction of elevated rail alongside live rail, realignment of a major arterial road close to residents and businesses in a sensitive coastal environment. Following the successful design and delivery of this package of works, the Southern Program Alliance have been engaged to deliver several Additional Works Packages (AWPs) now under construction.

#### **SUMMARY OF THE KEY INITIATIVES WITHIN THE ALLIANCE APPROACH THAT ASSISTED IN DELIVERING THE DESIGN INTENT:**

- » A rigorous competitive tender process at the outset involving interactive workshops with proponent teams to develop proposals for the State's thorough (Project Owner) assessment on a preferred design solution.
- » The competitive tender process allowed the State to fully appreciate the scope and complexity of works and better understand the associated risks and costs of these works
- » Regular and open engagement and design review with the Urban Design Advisory Panel (UDAP) to ensure a contextually integrated design solution was achieved and design quality was maintained.
- » Co-location of the architectural and landscape architectural design teams with the engineering teams led to a close collaboration in a multidisciplinary environment.
- » Early collaboration of the urban design team with the engineering and construction team to influence key design decisions including:
  - horizontal and vertical geometry of the rail alignment
  - the siting, design and integration of the station and corridor design elements with the surrounding urban fabric
  - increasing the extent and quality of open space below the viaduct
  - minimising impacts on adjacent residents and significant vegetation
  - improved connectivity with walking and cycling prioritised throughout the station precinct and along the rail corridor

#### **CONSTRAINTS**

- » The Alliance, as the Superintendent of the contract, can formally sign-off on hold points for construction activities without urban design involvement. This has potential negative impacts on the quality of architectural and landscape outcomes through the construction phase. For this IWP, this constraint was well managed by the Alliance.
- » Coordination and agreement between the Alliance and local government as the ultimate asset owners, specifically for the maintenance of public realm areas and open space, continues to prove a challenging process. Again, this constraint was well managed by the Alliance.

## CASE STUDY

### SOUTHERN PROGRAM ALLIANCE LEVEL CROSSING REMOVAL PROJECT

#### WHAT WORKED WELL

- » The Program Alliance model provides an environment for all design teams to function in an open, collaborative, multidisciplinary design environment.
- » The Program Alliance model fostered an open and collaborative engagement with the Urban Design Advisory Panel through regular forums during the intensive design stages of the project.
- » The Program Alliance model provides flexibility to engage with the urban design team to address any changes to the scope of works during the design process.
- » A rigorous selection criteria and competitive tender process ensured the preferred design solution and team were awarded the contract for the IWP.
- » For a major transport project that traversed a sensitive coastal setting, with potentially significant impacts on the local community, the Alliance model was able to deliver a positive and high quality design outcome for the station precinct and corridor.



# 6.0 Appendix

## 6.1 Glossary

ACCA: Association of Consulting Architects Australia.

AIA: Australian Institute of Architects.

Benefit Management Plan: A short document that defines the prerequisites for the delivery of each expected benefit, how the delivery of each benefit will be measured, and who will be responsible for measuring and realising each benefit.

Benefit Reports: A report for the investor that depicts the status of delivery of the benefits compared to the original expectations.

BOOT: Build, Own, Operate and Transfer.

Brief: The needs of the client, set out in a document.

Buildability: The ease and efficiency of construction.

Building users' guide: Complements the operation and maintenance manual, and explains to users, maintenance contractors and others how the building works.

Business Case: The document that articulates the rationale for undertaking an investment and whether to support a proposed project, before significant resources are committed to its development.

Capital budget: The money spent on one-off investment costs.

Capital costs: Costs incurred on the purchase of land, buildings, construction and equipment to be used in the production of goods or the delivery of services.

Client team: The in-house team responsible for delivering the project for the client, and liaising with project partners.

Consortium: Those private party persons who together intend to deliver a PPP.

Construction manager: A person, or company, that manages the construction and performs a purely management and co-ordination role (without delivery risk) and is generally paid a fee based on a percentage of the value of the works.

Construction management: The client engages a construction manager (contractor or consultant) to manage construction works on its behalf.

Consultant team: The group of professionals you need to produce a project – architects, structural engineers, quantity surveyors and potentially many other specialists.

Contingency: An amount of money kept aside for unforeseen costs.

Contract administrator: The person who ensures the activities and roles are carried out as per the contract. In smaller projects this can be the architect or the quantity surveyor.

Contractor: The industry term for a builder. There can be a main contractor, and subcontractors, and specialist subcontractors, depending on your procurement route.

Cost Benefit Analysis (CBA): The comparison of payback by initial cost and lifecycle costing of options for elements of the project.

Cost Plan: Financial guidelines prepared prior to concept design, from project goals the project delivery can confidently be completed within. Final project definition and documentation occur after the cost plan preparation.

D&C: Design and Construct.

Design, Develop and Construct (DDC): The client prepares a Concept Design in addition to performance specifications, thereby giving a degree of control over the design output, while still transferring some of the design risk to the construction contractor.

Design, Construct and Maintain: In this procurement model, the contractor has on-going maintenance obligations in addition to design and construction. Lifecycle costs can be reduced if the contractor takes into account on-going maintenance obligations when designing and constructing the facility.

DBFM: Design, Build, Finance and Maintain.

DBFO: Design, Build, Finance, Operate.

DBOM: Design, Build, Operate, Maintain.

DCM: Design, Construct and Maintain.

Design Champion: A person at a senior level in an organisation who promotes the benefits of good design, and supports and challenges colleagues to maintain design quality in their activities.

Design development: is the phase in a construction project where the architect will develop the approved concept design and provide documentation to explain it to the client. They also coordinate the work of specialist consultants, provide a schedule of proposed finishes and review the developed design against the budget. Following this they coordinate and prepare an updated estimate of the cost of the works.

Design team: The group of professionals you need to produce a project, such as architects, structural engineers, quantity surveyors and potentially many other specialists.

Detailed brief: The document that gives all the detail for the client's needs – down to the requirements in each room.

Detailed design: The documents that describe the design in detail, such as materials, services, structure and all the various products that they are made of.

ECl: Early Contractor Involvement.

ESD: Ecologically Sustainable Development.

Expression of Interest (EOI): a written request that outlines an intention to acquire goods or services. An EOI invites suppliers to indicate their interest in meeting the requirement. It allows for an exploration of the market and an opportunity to identify the level of interest in supplying the requirement. The process may also include a second stage. This may involve: the calling of competitive tenders from all registrants or tenders from a selected list of suitable registrants or direct negotiations with one or more registrants.

FEED: Front-End Engineering and Design. FEED is the basic, initial engineering and design undertaken for a project, usually following a conceptual exploration or a feasibility study. It defines the specific technical requirements for a project, identifies key issues including technical, contextual and environmental matters and resolves them where possible and enables the cost of the investment to be estimated.

**Gateway review process:** The Gateway Review Process examines projects and programs at key decision points. It aims to provide confidential timely advice to the Senior Responsible Owner (SRO) as the person responsible for a project or program. A review provides the SRO with an independent view on the current progress of the project or program and assurance that it can proceed successfully to the next stage. The SRO has ownership of the report and is accountable for the implementation of any recommended remedial action and the progress of the program or project.

**Head Contractor:** The party responsible for the physical construction works on the project site, including the coordination of all subcontractors' inputs for design, documentation and physical construction of the works on the project site. Post novation the head contractor becomes responsible to the principal for design and manages the consultants' design services.

**High Value High Risk (HVHR):** Projects that have a total estimated investment (TEI) of more than \$100 million, are classified 'high-risk' using the Gateway Project Profile Model, or are nominated by the Government as being part of the HVHR process.

**Investment Logic Mapping (ILM):** A single page depiction of the logic that underpins an investment. It represents an 'agreed investment story' that is created in an informed discussion. It is written in plain English in a way that will allow an ordinary person to understand the language and the concepts.

**Investment Management Standard (IMS):** Developed by Department of Treasury and Finance (DTF) the IMS aims to develop a best practice approach applied over the full project lifecycle to reduce the risk of investment failure.

**Intellectual Property (IP):** Inventions, original designs, and practical applications of good ideas protected by statute law through copyright, patents, registered designs, circuit layout rights and trademarks; also trade secrets, proprietary know-how and other confidential information protected against unlawful disclosure by common law and through additional contractual obligations, such as confidentiality agreements.

**Key Performance Indicator (KPI):** A measure that has been selected to demonstrate that a benefit expected from an investment has been delivered.

**Lifecycle Cost:** The total cost of an item or system over its full life. It includes the cost of development, production, ownership (operation, maintenance, support), and disposal, if applicable.

**Novation:** A term used in contract law describing the act of replacing a party to an agreement with a new party. A novation is valid only with the consent of all parties to the original agreement. An example would be when an architectural team developing the outline design is 'passed' from the client's, to the contractor's, responsibility.

**Novation deed:** The contract between the principal, head contractor and consultant which implements novation.

**Outline brief:** The document that describes the 'problem' that the design needs to 'answer' i.e. the client's goals and requirements.

**Post Occupancy Evaluation (POE):** Post Occupancy Evaluation provides an assessment of the final built outcome against specified objectives or standards. It can be undertaken as a detailed study by specialist consultants, or as a series of surveys at regular intervals seeking feedback from operators and users. It may also be used to review the procurement process.

**Principal:** The party that formed the original contract with the consultants, which is subsequently novated to the head contractor. The principal may either own the site/project or represent the owner/s of the site project.

Principal's Project Requirements (PPRs): The documents that form part of the design and construct contract that embody the principal's brief up to the point of novation and against which the final built form will be assessed. The head contractor must deliver what is documented in the PPRs, which can only be varied by agreement with the principal.

Private finance initiative (PFI): A procurement process where private sector consortia submit bids to provide and manage public buildings, usually on a 25-year contract.

Procurement: the management of and stewardship for the construction of a building or infrastructure. Procurement involves not just the contractual method but also the execution of a built project from idea to delivery and onto operation and audit.

Procurement Strategy: Method of project delivery detailing the participant's methods and outcomes necessary to complete the project strategy.

Project Budget: An amount established by the client which represents the total available funds for the project including building costs, provisional sums, escalation, contingency sums, consultant's fees, GST, furniture and equipment, approval costs and any other cost, allowance or item defined by the client.

Project program: The 'timetable' for when things happen in the project. Essential for all types of project, and usually drawn up by the project manager.

Project Steering Committee (PSC): provides strategic direction and monitors the project and is usually chaired by the Senior Responsible Officer (SRO).

Project vision: A simple statement of objectives for the particular project.

Public Private Partnership (PPP): A partnership between a public sector organisation, i.e. a local authority and the private sector to deliver a project (and sometimes manage it later as well).

Public realm: The spaces used freely on a day-to-day basis by the general public, such as streets, parks, squares, verges and other public infrastructure.

Public Sector Comparator (PSC): The PSC is an estimate of the hypothetical, whole-of-life cost of a public sector project if delivered by government. The PSC is developed according to the output specification, the risk allocation and based on the most efficient form of government delivery, adjusted for the lifecycle risks of the project. This is also referred to as the Reference Design.

Quantity surveyor: A professional cost consultant who monitors, and advises on, costs.

Quality Based Selection (QBS): enables a transparent selection process for the selection of an architectural design team on the basis of the whole range of criteria without undue loading being given to any one criterion such as the current fashionable profile of a particular design firm, personal association of a member of the selection panel with a particular design firm, or price.

Request for Proposal (RFP): This is between the tender development and tender evaluation stages in a procurement process and is the formal bid document issued by government.

Request for Tender (RFT): refers to a request for offer against a set of clearly defined and specified requirements. Tenderers are advised of all requirements involved, including the conditions of tendering and proposed contract conditions.

Risk allocation: The allocation of responsibility for dealing with the consequences of each risk to one of the parties to the contract; or alternatively, agreeing to deal with a particular risk through a specified mechanism which may involve sharing that risk.



Senior Responsible Owner (SRO): The SRO is the effective link between the organisation's senior executive and the management of the project. The SRO is also a core member of the project steering committee, usually the Chair. The SRO has accountability and responsibility for the project.

Stakeholder: People and groups who are affected by, or have a financial or practical interest in, the outcome of your project.

Subcontractor: A firm or person (under contract to the main contractor) who performs work or who supplies and/or installs an item forming part of the works in the contract. The contractor is responsible for the selection, engagement, supervision, performance and payment of all subcontractors in accordance with the contract. Subcontractors do not include any firms or persons directly engaged and paid by the owner for work outside the contract. These are separate contracts.

Sustainable development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Tender: A proposal, with costs, to carry out a piece of work.

Target Outturn Cost (TOC): The TOC represents an agreement of the contractual cost to achieve the agreed project outcomes. It must show value for money and be reflective of key project assumptions and risks. Agreeing the TOC requires active participation by all participants in the alliance as there is a natural tension between the owner wanting to ensure they have lowest reasonable cost and the non-owner participants (NOP) wanting to minimise their risk exposure and provide opportunity for cost savings.

Value for Money (VFM): The best value procurement outcomes based on a balanced judgement of financial and non-financial factors, taking into account: the total benefits and costs over the life of the goods, services or works procured; environmental, social and economic factors and any risk related to the procurement.

Value Management: A disciplined method of identifying areas of potential cost saving, for considering design options and to assist in the selection of the best value solution. It helps identify where the conflicting criteria of minimum cost, maximum quality, best performance and minimum delivery time can be addressed and balanced.

Variation: In a construction context, a variation is a change to the project from what a contractor was obliged to deliver as part of the contracted documents. These changes could be for a number of reasons – unforeseen site conditions, the change in client brief.

Vision Statement: A simple statement of main objectives. Required for early consensus to start the feasibility and budget checks and as a constant reference point throughout the project.

Whole-of-life (or lifetime or lifecycle) costs: The costs over the 30 to 60 year lifetime of the building or project. This includes running and maintenance costs and the costs for people working there.

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## 6.3 Footnotes

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## 6.4 Consultation

**THE FOLLOWING GOVERNMENT DEPARTMENTS AND PEAK INDUSTRY BODIES OFFERED VALUABLE FEEDBACK IN THE DEVELOPMENT OF THESE GUIDELINES, COMMENCING IN 2013:**

ACT Government Architect

Association of Consulting Architects Australia

Australian Institute of Architects, Victorian Chapter

City of Melbourne

City of Port Phillip

Creative Victoria

Department of Education and Training

Department of Health and Human Services

Department of Justice and Community Safety

Department of Environment, Land Water and Planning

Department of Premier and Cabinet

Department of Transport

Department of Treasury and Finance

Development Victoria

Infrastructure Victoria

New South Wales Government Architect's Office

Northern Territory Government Architect's Office

Office of Projects Victoria

Parks Victoria

Queensland Government Architect

South Australian Government Architect

Victorian Planning Authority

Western Australian Government Architect



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