



DEPARTMENT FOR EDUCATION,
CHILDREN AND YOUNG PEOPLE

BUILT ENVIRONMENT GUIDE

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Learning Environment Design and Use
Towards Effective Learning Environments:
An Evidence-based Approach, 2018

Disclaimer

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Montagu Bay Primary School
M2 Architecture
Image: Adam Gibson

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Cooee Primary School
GHD Woodhead
Image: Aaron Jones Photography





INTRODUCTION

The Department for Education, Children and Young People (DECYP) is committed to ensuring that all children and young people are known, safe, well and learning. We want learners of all ages to grow as connected, creative, and curious thinkers. We want them to have big aspirations for their lives, engaged and learning more every day. This is visionary work, and we need physical environments that best support our learners and set them up for success.



Waimea Heights Primary School
M2 Architecture
Image: Matt Sansom

We have a diverse range of facilities and assets that help us to deliver public education, library, and youth services. This includes schools, school farms, Child and Family Learning Centres, youth justice facilities, libraries, education and care centres, and offices.

These spaces play important and diverse roles in our communities. They are places of growth, learning, and inclusion. They need to be safe, comfortable, inclusive, and practical, but also support innovative and flexible ways of working and learning. We know that design can make a big difference to teaching and learning. Contemporary learning facilities should support contemporary pedagogy and adapt as required as best practices continues to evolve. Our commitment is to provide the best possible facilities that instil a sense of pride, identity, and ownership for everyone who uses them.

The Built Environment Guide provides practical guidance for designing facilities that will serve the communities of today and tomorrow. Working together with consultants and communities, this guide will shape planning and decision making in capital works projects.

It is founded on seven best practice design principles:

- *Place*
- *Sustainable*
- *Accessible*
- *Safe and Secure*
- *Aesthetics*
- *Amenity*
- *Adaptive and Flexible.*

These principles will help ensure our facilities are places where children, young people, learners, and staff can feel safe and supported, flourish and engage in learning. Visionary work needs visionary spaces, and by working together with our young people, educators, consultants, and the community, we can create spaces that we can all be proud of.



Tim Bullard

Secretary, Department
for Education, Children and Young People

2. PURPOSE

*Montrose Bay High School
HBV Architects
Image: Jonathan Wherrett*



2.

PURPOSE

The Built Environment Guide promotes design excellence, and supports the delivery of new and refurbished contemporary learning and support facilities delivered by DECYP.

This guide has been prepared to support and advise educators, consultants, project working groups, communities and other DECYP stakeholders.

The Built Environment Guide has been developed to more accurately reflect DECYP's current thinking on best practice learning spaces, and captures many of the recurrent post-occupancy issues dealt with by the Department.

It is for any stakeholder who participates in the project delivery cycle. The guide establishes the project stage basics for those stakeholders and consultants that are unfamiliar with DECYP's development processes, procedures and expectations at the four key design and development stages until construction. These are explained further in Section 6 of this document.



*Austins Ferry Primary School
X-Squared Architects
Photographer: Thomas Ryan*

3. CORE OBJECTIVES AND RESPONSIBILITIES

*Windermere Primary School
M2 Architecture
Image: Matt Samson*



3.

CORE OBJECTIVES AND RESPONSIBILITIES

Four key components form the pillars of the guide: principles, aspirations, stage checklists, and design verification statements.

Seven principles are defined and are to be used as a guiding set of values. These principles offer a language to facilitate a common understanding for all involved when designing DECYP environments. Refer to **Definitions** for further clarification of terminology.

Under the principles sit a set of aspirations which provide further detail on the intent of each principle. They are an essential tool to support decision-making and help deliver a holistic and integrated built outcome.

Checklists are relevant to four project stages. They detail performance standards required to be considered by the Design Team at defined **Project Stages**: Master Planning; Schematic Design; Design Development; and Documentation. These checklists are online forms provided to the Lead Consultant via web links and are to be completed and returned to the DECYP Capital Works Project Manager. Project Working Groups (PWGs) can also use the checklists to measure design outputs against guide requirements.

To close out each stage and for quality assurance, the Lead Consultant is required to submit a Design Verification Statement to validate the design response to the checklist and project scope. It provides the opportunity for consultants to demonstrate and justify key design considerations and responses to the guide and the Return Brief. The Design Verification Statement is also an online form and is located at the end of each project stage checklist.



East Launceston Primary
School Kindergarten
ARTAS Architects
Image: Aaron Jones

4. BUILT ENVIRONMENT GUIDE FRAMEWORK

*Parklands High School
ARTAS Architects
Image: Aaron Jones*



4.

BUILT ENVIRONMENT GUIDE FRAMEWORK

1. DESIGN PRINCIPLES

Seven principles are to be applied to the design and decision-making process.

Principles facilitate PWG discussion and assessment of the proposed design.

Design decisions made by the PWGs should be guided by the principles.

2. ASPIRATIONS

Specific aspirations to be applied to project design, decision making and approvals stages.

Aspirations will help ensure the design meets the objectives of the principles and project stage requirements.

The PWG should use the aspirations to understand what to expect at each project stage and to review them against the stage design deliverables ensuring an integrated design review process.

Other stakeholders can use the aspirations to understand what to expect of a well-designed DECYP learning environment.

3. CHECKLISTS

The checklists are a quality assurance tool for approval to progress the design to the next stage.

Checklist items must be considered and if not applied, justification must be provided by the consultant.

4. DESIGN VERIFICATION STATEMENT

The consultant is to complete the Design Verification Statement at the end of each project stage.

This process will confirm that the principles and aspirations have been applied to the design.

5. DESIGN PRINCIPLES

*East Launceston Primary
School Kindergarten
ARTAS Architects,
Image: Aaron Jones*



5.

DESIGN PRINCIPLES

The principles establish the philosophy that underpin the guide and capture the spirit in which projects will be developed. The principles are to be used by all involved in a new building or refurbishment project and establish a common dialogue and understanding at the commencement of each project.

Under each principle are a suite of aspirations. These aspirations provide guidance on how the principles can be met. Design teams, PWGs and broader communities can use the aspirations to interrogate a learning environment design, having regard to delivering value-for-money with the available funding.



PLACE

Enhances the connections between people and places, and the integration of the learning environment into the social, natural, built, historic and local contexts.



SUSTAINABLE

Embraces environmental, social and economic design to create healthy learning environments, and minimise the environmental impact and consumption of resources through the construction process, and over the life of the building.



ACCESSIBLE

The built environment puts the learner at the centre and promotes inclusion and diversity by being able to be used, accessed, and reached by all learners, and the wider community, with dignity and ease.



SAFE AND SECURE

Provides a safe and secure environment in line with Child Safe Standards for the wellbeing of learners, staff and visitors.



AESTHETICS

Creates a welcoming, engaging and attractive learning environment.



AMENITY

Provides a comfortable, convenient and supportive environment that facilitates learning.



ADAPTIVE AND FLEXIBLE

Spaces that cater for a range of users, learning styles and group sizes. Provides flexibility for multiple uses and changes of use over time.

*New Town Primary School
Bence Mulcahy Architecture
Image: Adam Gibson*

PLACE

- Embed the design appropriately in its surroundings by responding to and enhancing its physical context, the natural environment, scenic values and local landscape setting.
- Design buildings that contribute to the community by respecting and responding to local character, streetscape quality, scale, form and existing buildings, architectural language of the area, local tradition, heritage, local materials and construction techniques.
- Create a sense of belonging and ownership for users, consider a signature element in the heart of the facility.
- Recognise First Australians people and culture, school and community histories, diversity, traditions and customs.
- Engage with the natural and constructed landscape through views, including views between interior and exterior spaces.
- Contribute to a 'sense of place' that effectively indicates to users the function of each building.
- Plan and develop sites in a manner that minimises undue disturbance of the existing site, landscaping is to be integrated and enhance the associated environmental value of the site.
- Location, orientation and spaces between buildings should be informed by topography, sun, views, prevailing winds, weather and microclimate use of existing and future buildings and outdoor spaces and contributes positively to identity.
- Optimise community connections and learning opportunities.
- Create dynamic social and physical environment that is welcoming and accessible and has a positive effect on all users including students, teachers and the wider community.



SUSTAINABLE

- Design that considers innovation and promotes sustainability in the built environment. Demonstrate environmentally sustainable design (ESD) principles delivering high environmental performance, return on investment, is adaptable and resilient and allows for future flexibility and modification.
- Optimise site potential, minimise non-renewable energy consumption, use environmentally preferable products, protect and conserve water, enhance indoor environmental quality and optimise operational and maintenance practices throughout the design. Avoid using natural gas, LPG or products containing HFC refrigerants.
- Consider highly visible sustainable concepts involving students, staff and the community that can be used as a teaching tool to inspire and educate during construction and over the life of the building.
- Where possible, integrate highly visible user-friendly monitoring systems with real time data available for all building users to assess energy use, production and export and water and waste production. A system that captures and stores data to build a library of building system functionality and allows for future modelling.
- Low-maintenance building forms and construction techniques. Design to minimise the use of material resources and avoid pollutants, choose materials from sustainable sources, recycled content, recyclable, non-toxic and non-petroleum based, are robust and durable and aesthetically pleasing. Consider embodied energy and emissions.
- Design building systems, finishes, furnishings and equipment that consider life cycle values including recurrent and replacement costs. A whole-of lifecycle approach when designing services, construction methods and selecting materials and considering cost over time.
- Maximise opportunities for safe walking, cycling and public transport access, provision of showers, change rooms, secure bag lockers and bicycle storage and a community re-charge unit/s for electric car/bikes.
- Sustainability audit undertaken early in the design and post build to calculate carbon footprint and ensure the build minimises harm and enhances the quality of the local environment. Including management of waste streams during demolition and construction to reduce waste to landfill.
- Onsite stormwater management, with a focus on treatment, and re-use to reduce water consumption.
- Consider a sustainability consultant as part of the design team on major projects.



ACCESSIBLE

- Delivers an equitable and inclusive learning and working environment by responding to diverse and unique needs of users and ensuring that all users can participate in all activities in an inclusive manner.
- Consider equitable access for all users, including non-able-bodied, and sight/hearing impaired.
- The design is engaging, welcoming, appropriate for users and enables everyone to participate equally, confidently and independently in everyday activities across the whole site.
- When developing the design, engage with users including students, teachers and the community to understand their unique needs and views.
- Encourage opportunities for community access, engagement, participation and use of facilities after hours.
- Teacher support spaces are centrally located and easily accessible with appropriate storage for learning and teaching resources at the point of use.
- Provide intuitive site and building layout with effective wayfinding, clearly defined signage and considered transition from public to private space for both vehicle and pedestrians.



SAFE AND SECURE

- Strong focus on Child Safe Design that responds to the findings of the Tasmanian Royal Commission into Institutional Responses to Child Sexual Abuse.
- Design to enable the everyday users and the wider community to gather in an inclusive environment where they feel safe and secure.
- Passive surveillance and design for crime prevention principles embedded through a whole of site strategy with consideration to after-hours use. For example, good sightlines, active frontages, security and access lighting.
- Spaces designed to be age and size appropriate.
- Circulation spaces that avoid bottlenecks and overcrowding during peak student movement.
- Toilet and change facility location, number, proximity and design focus on anti-bullying and providing choice for safe use by different age groups, abilities, and genders including gender neutral options.
- Unobstructed sightlines through the internal and external learning environments with visual and physical links, allowing observation and movement between indoor and outdoor settings. Spaces should be well-lit and minimise blind spots and hidden spaces that are difficult to monitor.
- Balance between optimised security and safety with a welcoming and accessible environment.
- Site and building layout with differentiation of buildings and spaces that provide natural surveillance and legibility of wayfinding. Visible and accessible exits and entries with direct links to pathways.
- Consider the Public, Privileged and Private access hierarchy during master planning so that usage zones are clearly defined and located accordingly.



AESTHETICS

- Built form is well proportioned and of appropriate scale, with balanced composition of elements including use of colour, texture and materials, creating a welcoming, nurturing, safe and stimulating environment that suit their intended use and users.
- Encourages imagination and inspires students, teachers and the broader community.
- Provides appropriate internal and external scale of learning environments with use of form, materials, texture and colour.
- Achieves a style that complements existing architecture, responds to positive elements for the site and surrounding area and is tailored to each facility.
- Aims to have a positive impact on the quality and character of the local area, is enjoyed by users and promotes pride among students, staff and the community.
- Takes advantage of the site and allows for natural light, sun, views to the outside and access the natural environment.
- Seek end-user views when creating spaces to ensure spaces are shaped by those who will utilise them.
- Design that considers the diverse range of user responses e.g., bright and stimulating or calm and relaxing as appropriate, demonstrating the ways in which the spatial aesthetic impacts on the occupants and users.



AMENITY

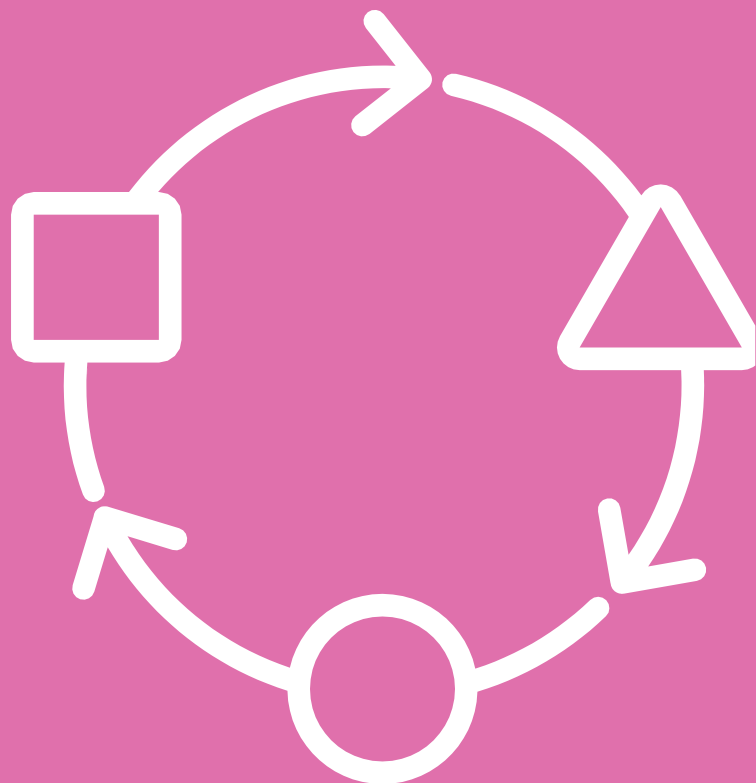
- Acoustic performance to suit the intended use that considers distraction, intelligibility of speech, hearing, noise levels and allows adjoining spaces to be effectively used when connected (opened) and when separated (closed).
- Provide thermal comfort for teaching and learning considering building thermal quality,
- Strong emphasis on natural ventilation, air quality and flow to support health and wellbeing for all users.
- The light quality provides a comfortable setting for teaching and learning minimising reflection and glare and is zoned to enable modification of natural and artificial light to suit different settings and activities.
- Learning environments have access to natural light, sun and visual outlook, with protection from sun and rain and excessive solar gain, reflection and glare.
- A range of learning environments and settings are provided (e.g. 'campfires', 'caves', and 'watering holes', indoor and outdoor learning), with connections between them that provide flexibility and ease of transition.
- Learning environments are well- proportioned, adequate, age appropriate with efficient circulation that enable easy movement within the spaces and support the desired learning activities.
- Provide adequate size of learning environment that aligns with the desired pedagogies and learning activities and supports discrete supervision.
- Uncluttered environments with adequate provision of storage for student belongings, teacher and shared resources and display for 2 and 3-dimensional artwork.
- Provision of Internet services, and location of digital and display technologies affords access for various indoor and outdoor learning settings.

- Furniture is to scale, purposeful and appropriate for the learning settings and types of activities to be undertaken.
- Easily maintained and cleaned.



ADAPTIVE AND FLEXIBLE

- Ensure maximum flexibility and ease of adaptation, to accommodate multiple uses and ability to respond to changing needs over time.
- Demonstrates opportunities for buildings and outdoor spaces to be learning tools in themselves.
- Responds to a master plan that includes the testing of options for future potential growth. Provides flexible spaces for growth and contraction, future adaptation to accommodate new teaching and learning approaches and integration of new technologies.
- Indoor and outdoor environments that feature a variety of learning and social settings to accommodate diverse activities and allow opportunities for instruction, interaction, activities and reflective retreat and provides the option for students to move between settings when required.
- Enables tasks to be undertaken in a variety of settings beyond the main learning area with good visual connection.
- Easily reconfigurable furniture allows new layouts in support of different sized settings and provides cues about how the learning setting could be used.
- Durable, resilient and adaptable structure and services enabling evolution over time to meet future requirements.
- Building systems that facilitate future refurbishment or remodelling as needs change.



6. PROJECT STAGES

*Parklands High School
ARTAS Architects
Image: Aaron Jones*



6.

PROJECT STAGES

Every new or building refurbishment project follows certain steps to ensure a successful outcome. The project stage diagram (see overleaf) outlines the typical stages of a DECYP building project.

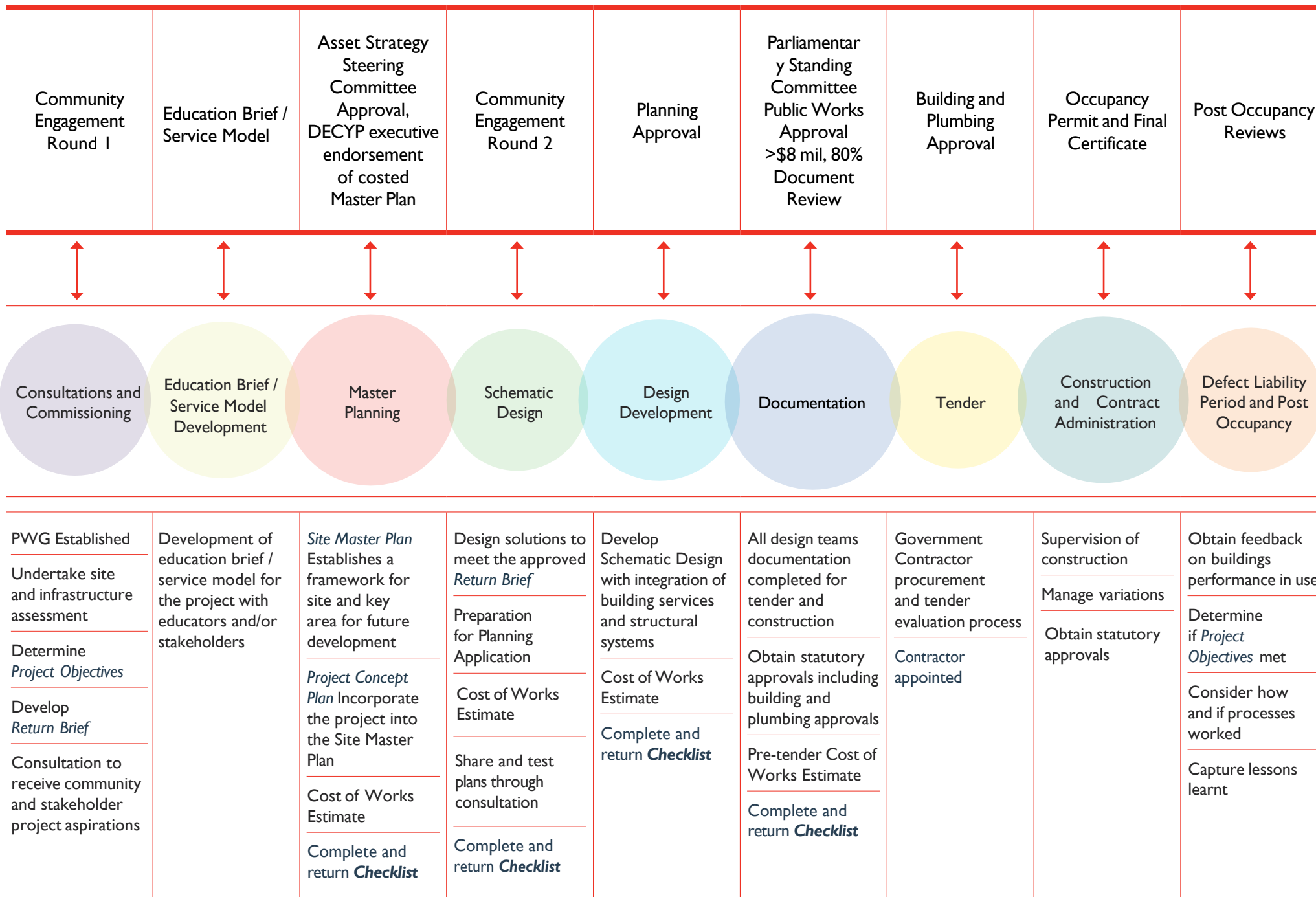
The Built Environment Guide checklists are to be used by the PWG, and the Lead Consultant, as a guide throughout the defined stages. The checklist and verification statement are completed by the Lead Consultant and submitted to the Capital Works Project Manager at the end of the relevant stage.

Projects vary in size, budget, delivery times and number of stakeholders, and the Capital Works Project Manager may amend the checklist submission requirement accordingly.

*Tasmanian eSchool North
Robert Carroll & Associates Architects
Image: MSP Photography*



PROJECT STAGES



7.

DEFINITIONS

*Lenah Valley Primary School
Architects: Designhaus*



Asset Strategy Steering Committee

A committee of senior DECYP representatives appointed to provide strategic oversight and direction to the Secretary and Executive on activities related to the Department's asset portfolio.

Built Environment Guide Checklist

A quality assurance tool and checklist of requirements to be verified at defined staged approval submissions to the PWG and the Design Review Committee. It contains key considerations forming a set of basic criteria for a design to meet minimum compliance standards.

Commissioning Brief

A document providing details to prospective consultancies for the purposes of procuring consultancy services. The Commissioning Brief provides essential background information, and outlines services and deliverables to be provided by the Lead Consultant.

Concept Design

A range of design concepts explored to define the solution to meet the Return Brief and includes for example schematic floor plans, site plans and building elevations and computer renderings expressing spatial relationships, scale, form and material use. Statutory requirements are investigated, consideration of the integration of building services and structural systems and initial cost estimates are further considered based design options and anticipated complexity.

Consultation and Commissioning (Project Stage)

First project stage after Lead Consultant commissioned. During this stage the PWG is formed, all site information established, sub-consultants commissioned, DECYP Built Environment Guide, Project and Education Brief / Service Model considered, and a Return Brief delivered by the Consultant to the PWG for approval.

Contract Administration

The task or function of ensuring that a construction contract is executed in accordance with the terms of the contract.

Defects Liability Period

Is the period of time following the completion of construction or practical completion during which a building contractor remains responsible under the building contract for attending to and rectifying any defects which become apparent in the completed works.

Design Development

The stage during which the schematic design is refined to produce the final design. This includes the integration of building services with architectural and structural systems, verification of cost estimate, verification of time program, finishes, fixtures and materials are specified, fully dimensioned site plan, floor plan, elevations and sections.

Documentation

Documentation of the final design, including preparation of specification and tender drawings, final integration with structural and building services, statutory approvals as appropriate. Architectural documents are combined with structural, mechanical, hydraulic and electrical drawings and have all details required for pricing and construction.

Education Brief

Sets out the methods and practice of teaching and learning, and aspirations for the project's learning spaces. The educational vision of the school is key to developing the Educational Brief. Other DECYP documents, for example: School Improvement Plans, Pedagogy Frameworks, School Vision Statements and the Early Years Learning Environment Design Brief can provide additional information about teaching and learning practices and spatial aspirations. Key elements are integrated into the project brief.

Environmentally Sustainable Design (ESD)

The intention is to eliminate negative environmental impacts completely through skilful, sensitive design. Principles include, low impact material use, energy efficiency, durability, reuse and recycle, renewable resources and design impact.

Parliamentary Standing Committee on Public Works

A committee comprising members of State Parliament responsible for scrutinising major government public works projects, and specifically the necessity or advisability of carrying out the project and the present and prospective public value of the work. Applicable for projects over \$8 million.

Pedagogy

The method and practice of teaching. The function or work of teaching: the art or science of teaching, education instructional methods. (Department of Education, Employment and Workplace Relations (DEEWR), 2009a, p.42)

Bridgewater Library and Child and Family Learning Centre,
Liminal Studio

Image: Jonathan Wherrett



Chigwell Child and Family Learning Centre

Morrison & Breytenbach Architects

Image: Ray Joyce

Post Occupancy Review

A review undertaken after a building is occupied to obtain feedback on a building's performance in use. It checks whether the design process worked, establishes lessons learned, occupant feedback, and closes the loop on the objectives of the Built Environment Guide.

Practical Completion

The point where all building work is complete or almost complete, in accordance with the contract, and the building is fit for occupation.

Project Brief

The consolidation of preliminary briefing and scoping information developed by DECYP. It outlines the aspirations for the project and links the desired vision for learning, design solutions and the facility.

Project Description

Formal project description from State Government Budget Papers or DECYP that defines a high-level scope and budget.

Project Master Plan

The Project Master Plan illustrates the proposed project works and how it fits in the context and considers the strategic future development of the site.

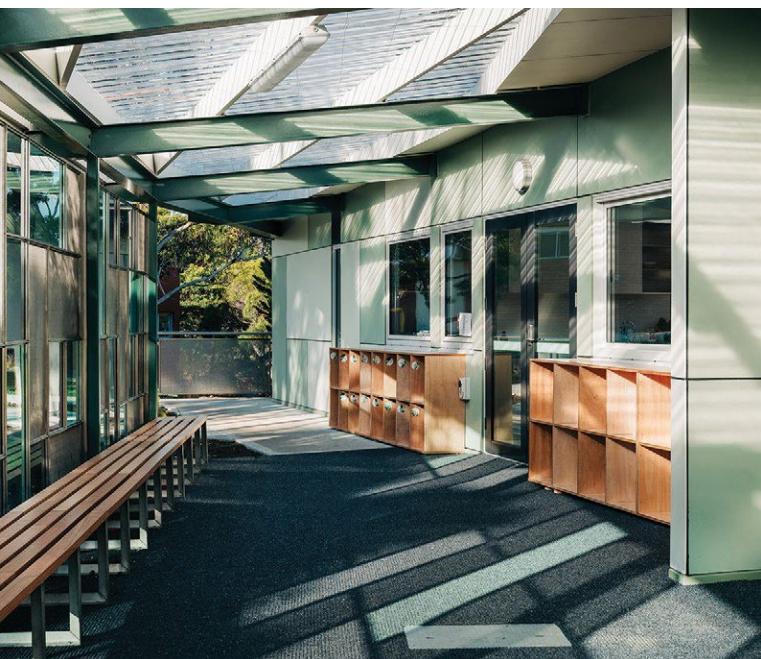
Project Objectives

Key project outcome requirements that are established and approved in the Project Plan.

Project Plan

A document prepared by the Capital Works Project Manager in consultation with key site stakeholders, establishing specific requirements for the project and includes site information, budget, scope, timeframes, opportunities, identified issues, stakeholder engagement strategies, project methodology, governance requirements, and risk mitigation strategies.

*Montagu Bay Primary School
M2 Architecture
Image: Adam Gibson*



Project Stages

Typical stages that most building projects whether simple or complex go through to ensure successful project outcomes. These include Consultation and Commissioning; Master Planning; Schematic Design; Design Development; Documentation and Tender; Construction and Contract Administration; and, Post-Occupancy and Defects Liability Period.

Project Working Group (PWG)

A group of representatives of interested parties and stakeholders responsible for key project decision making relating to the appointment of the Lead Consultant, design outcomes and scope priorities.

Return Brief

A statement from the Lead Consultant back to the PWG, prepared in response to the commissioning brief. It outlines the design ambitions without prescribing a solution. The Return Brief confirms project requirements and responds to the Design Guide, and outlines key functions, considerations and learnings identified from collaboration and investigation during the Consultation and Commissioning stage.

Schematic Design

Also known as Concept Design and is the range of design concepts explored to define the solution to meet the Return Brief and includes for example schematic floor plans, site plans and building elevations and computer renderings expressing spatial relationships, scale, form and material use. Statutory requirements are investigated, integration of building services and structural systems and initial cost estimates are further considered based design options and anticipated complexity.

Service Model

Sets out the types of activities, services and functions to be delivered that will inform development of the site / project master plan and design of facilities.

Site Master Plan

A high-level plan showing the intended site and/or building layout over the longer term (i.e. beyond the scale of a single project). Establishes the spatial framework and aligns the school's vision for the site and key areas for future development. The site master plan is a stand-alone deliverable and considers the whole site and provides options including infrastructure requirements that will ensure future utilisation or otherwise of the existing structures and/or areas will not be compromised.

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Hellyer College
Michael Wilkinson Architect
Image: Grant Wells



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Lilydale District School Kindergarten
CMK Architects
Image: Aaron Jones

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Hobart College Theatre
Cumulus Studio
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*East Launceston Primary School
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