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Safer Construction Project

Presented By:

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Operations Safety Manager NSW/ACT- John Holland Group

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ACEA The Association of Consulting Engineers Australia
APCC
AUSTRALIAN CONSTRUCTORS ASSOCIATION
Master Builders
PROPERTY COUNCIL of Australia
THE ROYAL AUSTRALIAN INSTITUTE OF ARCHITECTS

Project Partners

The project was initiated by Engineers Australia and is supported by:

- Australian Contractors Association
- Property Council of Australia
- Royal Australian Institute of Architects
- Office of the Federal Safety Commissioner
- Association of Consulting Engineers Australia
- Australian Procurement and Construction Council
- Master Builders Association

Funded and coordinated by:

Cooperative Research Centre for *Construction Innovation*.

Project partners:

John Holland, Bovis Lend Lease, WA Department of Housing and Works, Curtin University of Technology, Queensland University of Technology and RMIT.

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Project Overview

Focus

- Increase awareness of the importance of OHS within the construction industry
- Significantly reduce the number of deaths and injuries in the Australian construction industry through a voluntary code of practice in OHS

Deliverables

- Voluntary Code of Practice for Safer Construction
- Toolkit to support implementation of the Code
- Project Summary Reports

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Project Overview

Method

Two year research project:

- Literature review of international best practice in construction OHS
- Survey of industry participants to identify best practice (70 Projects)
- Best practice case studies by stakeholders (30 Projects)
- Consultation with industry and stakeholders

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Project Overview

Objectives

The project seeks to:

- Examine and promote best practice in safety at the design, procurement, construction and commissioning stages of Construction Projects
- Promote better uptake of construction innovation and OH&S into policy development and industry practice
- Engage and influence the development of policy in the regulatory environment including the Office of the Federal Safety Commissioner (OFSC)

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Best Practice Case Studies

Selection Process for Best Practice Cases

Primary Selection Criteria:

- OHS performance statistics
- Better than industry OHS performance

Secondary Selection Criteria:

- Demonstrated Safety Leadership
- Demonstrated Safety Commitment
- Stakeholder Engagement
- Innovation (Eg. overcoming safety challenges)

  These criteria drawn from:
  - Broad principles of best practice – Literature Review
  - Safety Competency Framework: [Construction Site Safety Culture Project]
  - National OHS Strategy 2002-2012 Priorities [ASCC]
  - Building and Construction Code of Practice 1997 [APCC]
  - 69 industry-based awards

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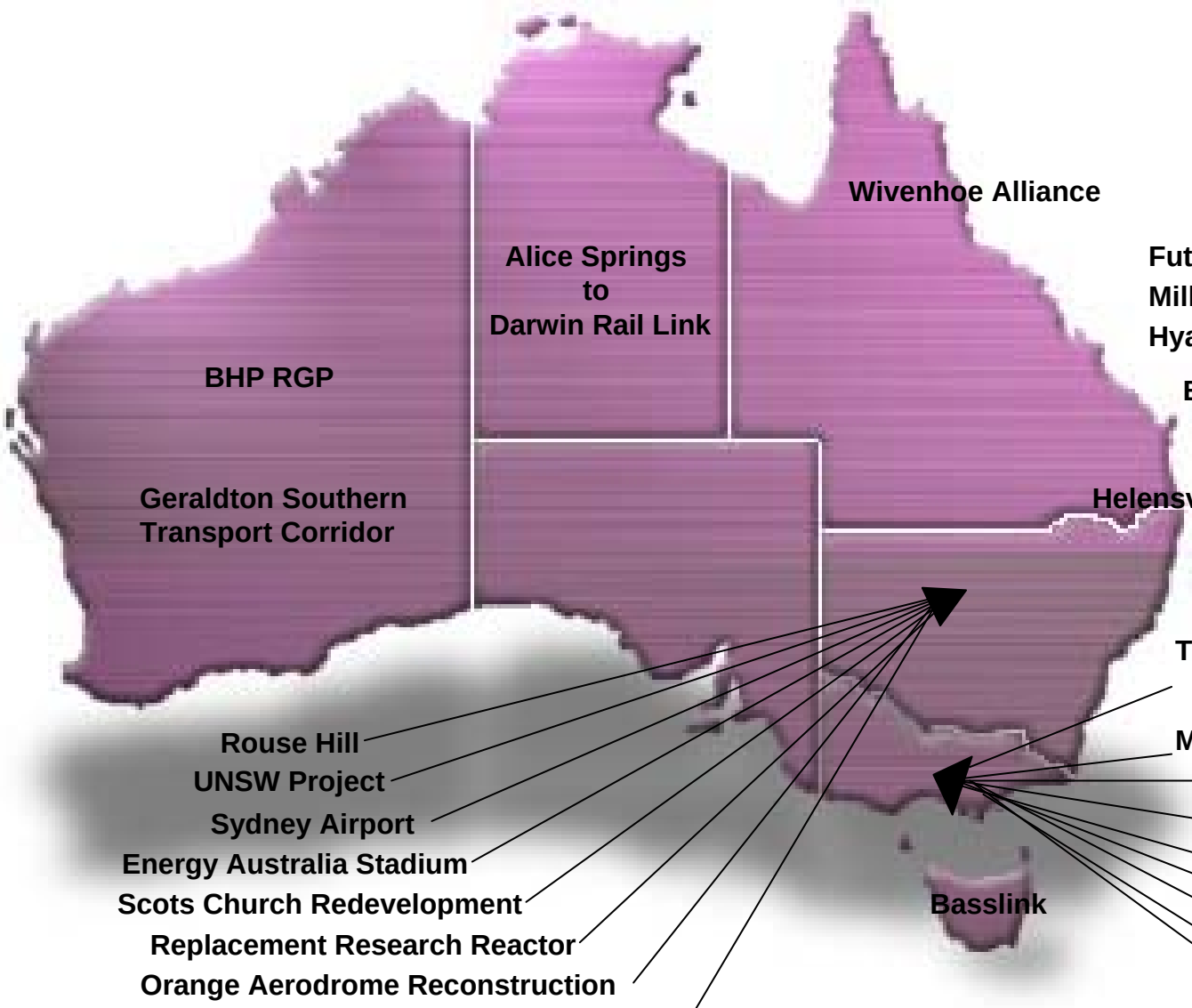
Best Practice Case Studies - QUT



Future Port Expansion Seawall
Millennium Arts Brisbane
Hyatt Northshore
Brisbane Int. Airport- Carpark
Forest Gardens
Helensvale to Nerang Rail Duplication

Tribecca East- Apartments
Eastlink
Melbourne Airport Widening
Flinders Street Overpass
Port 1010, Digital Harbour
Cobram-Barooga Bridge
Morwell River Diversion
Coles Myer, Somerton
Eastern Freeway
Hallam Bypass

Rouse Hill
UNSW Project
Sydney Airport
Energy Australia Stadium
Scots Church Redevelopment
Replacement Research Reactor
Orange Aerodrome Reconstruction
Auburn Intersection Upgrade & Rail Bridge Renewal

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Voluntary Code of Practice – Framework

Section 1.0 Best Practice Principles

Establish the foundation for the development of a shared responsibility for key stakeholders that can have an impact on safety performance on the construction project and within the construction industry.

Section 2.0 Principles in Practice

A road map for what the principles look like in practice in the construction project.

Demonstrates activities to be undertaken in the Project Process Cycle.

Section 3.0 Responsibility Matrix

Provide clear allocation of responsibilities for all stakeholders to perform activities that can impact on safety performance. Awaiting consultation period.

Section 4.0 Best Practice Activities

Provide a concise tool for implementation, performance measures and key benefits.

Section 1.0 Best Practice Principles

From the research the following key themes appeared:

Principle 1: Demonstrate Safety Leadership

Principle 2: Promote Safety in Design

Principle 3: Communicate Safety Information

Principle 4: Manage Safety Risks

Principle 5: Continuously Improve Safety Performance

Principle 6: Entrench Safety Practices

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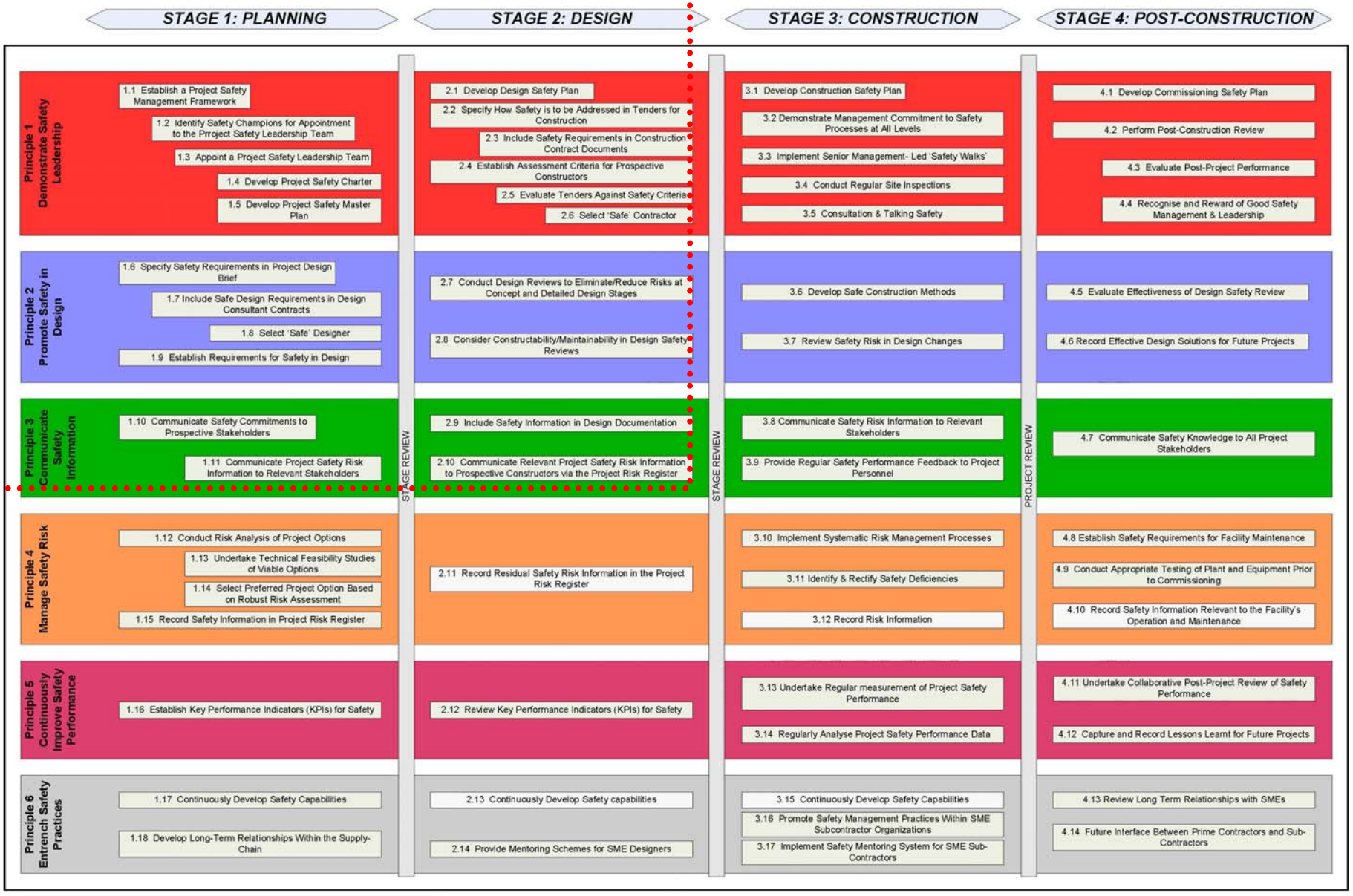
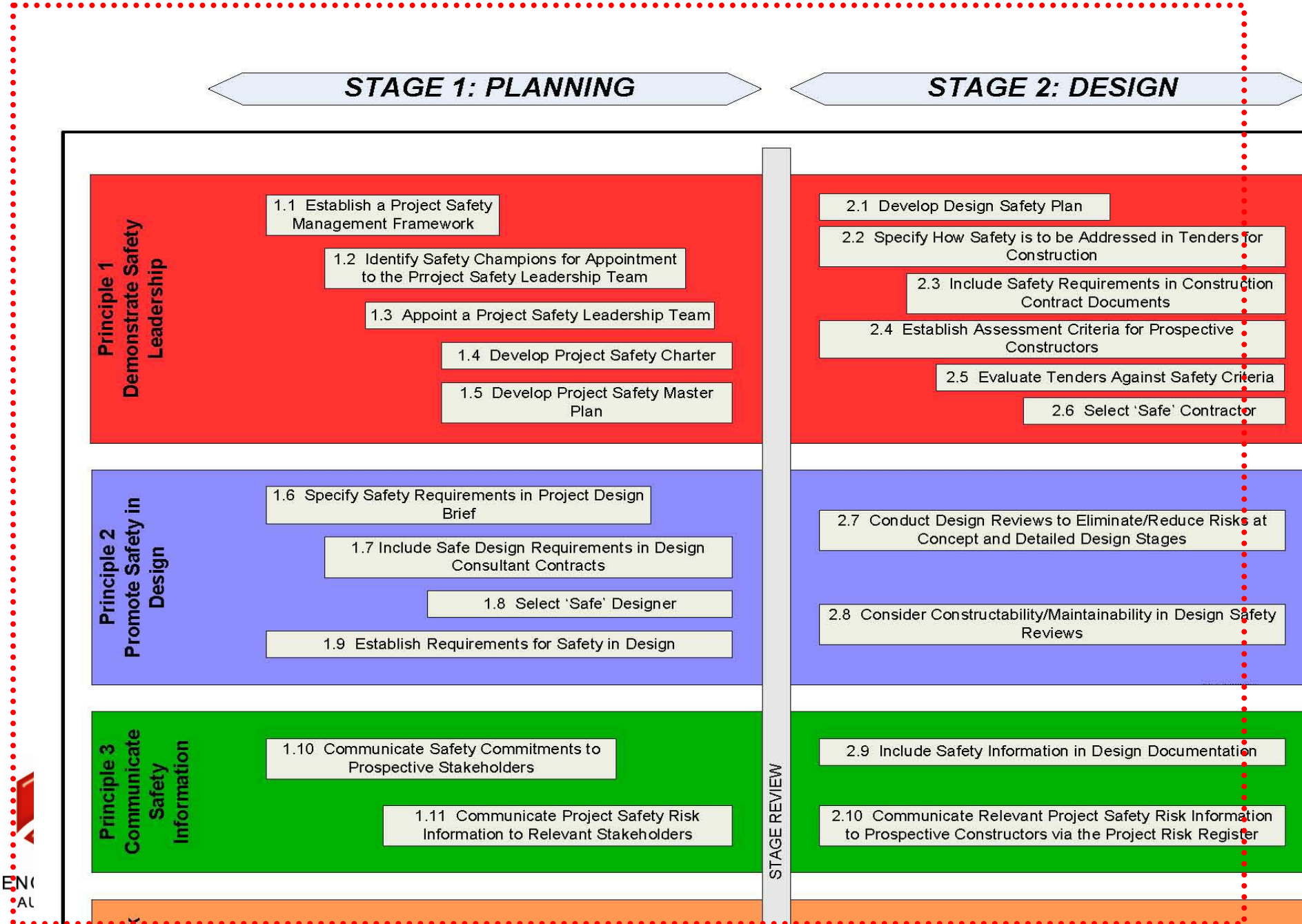


PRINCIPLES IN PRACTICE - Creating a Strong Safety Culture

This map is adapted from a best practice model developed by the School of Property, Construction & Project Management, RMIT University.


STAGE 1: PLANNING
STAGE 2: DESIGN
Principle 1
Demonstrate Safety Leadership
1.1 Establish a Project Safety Management Framework
1.2 Identify Safety Champions for Appointment to the Prroject Safety Leadership Team
1.3 Appoint a Project Safety Leadership Team
1.4 Develop Project Safety Charter
1.5 Develop Project Safety Master Plan
2.1 Develop Design Safety Plan
2.2 Specify How Safety is to be Addressed in Tenders for Construction
2.3 Include Safety Requirements in Construction Contract Documents
2.4 Establish Assessment Criteria for Prospective Constructors
2.5 Evaluate Tenders Against Safety Criteria
2.6 Select 'Safe' Contractor
Principle 2
Promote Safety in Design
1.6 Specify Safety Requirements in Project Design Brief
1.7 Include Safe Design Requirements in Design Consultant Contracts
1.8 Select 'Safe' Designer
1.9 Establish Requirements for Safety in Design
2.7 Conduct Design Reviews to Eliminate/Reduce Risks at Concept and Detailed Design Stages
2.8 Consider Constructability/Maintainability in Design Safety Reviews
Principle 3
Communicate Safety Information
1.10 Communicate Safety Commitments to Prospective Stakeholders
1.11 Communicate Project Safety Risk Information to Relevant Stakeholders
2.9 Include Safety Information in Design Documentation
2.10 Communicate Relevant Project Safety Risk Information to Prospective Constructors via the Project Risk Register
STAGE REVIEW

Section 3.0 Responsibility Matrix

	BEST PRACTICES	Traditional Type Contract			Design and Construct Contract			Collaborative Contract		
		Client	Designer	Constructor	Client	Designer	Constructor	Client	Designer	Constructor
Stage 1: Planning	1.1 Establish a Project Safety Management Framework	L	C	C	L	C	C	L	P	P
	1.2 Identify Safety Champions for Appointment to the Project Safety Leadership Team	L	C	C	L	C	C	L	P	P
	1.3 Appoint a Project Safety Leadership Team	L	C	C	L	C	C	L	P	P
	1.4 Develop Project Safety Charter	L	C	C	L	C	C	L	P	P
	1.5 Develop Project Safety Master Plan	L	C	C	L	C	C	L	P	P
	1.6 Specify Safety Requirements in Project Design Brief	L	C	C	L	C	C	L	P	P
	1.7 Include Safe Design Requirements in Design Consultant Contracts	L	C	C	L	C	C	L	P	P
	1.8 Select 'Safe' Designer	L	C	C	L	C	C	L	P	P
	1.9 Establish Requirements for Safety in Design	L	C	C	L	C	C	L	P	P
	1.10 Communicate Safety Commitments to Prospective Stakeholders	L	C	C	L	C	C	L	P	P
	1.11 Communicate Project Safety Risk Information to Relevant Stakeholders	L	C	C	L	C	C	L	P	P
	1.12 Conduct Risk Analysis of Project Options	L	C	C	L	C	C	L	P	P
	1.13 Undertake Technical Feasibility Studies of Viable Options	L	C	C	L	C	C	L	P	P
	1.14 Select Preferred Project Option Based on Robust Risk Assessment	L	C	C	L	C	C	L	P	P
	1.15 Record Safety Information in Project Risk Register	L	C	C	L	C	C	L	P	P
	1.16 Establish Key Performance Indicators (KPIs) for Safety	L	C	C	L	C	C	L	P	P
	1.17 Continuously Develop Safety Capabilities	L	C	C	L	C	C	L	P	P
	1.18 Develop Long-term Relationships Within the Supply Chain	L	C	C	L	C	C	L	P	P
esign	2.1 Develop Design Safety Plan	P	L	C	P	L	P	P	L	P
	2.2 Specify How Safety is to be Addressed in Tenders for Construction	L	P	C	L	C	C	L	C	C
	2.3 Include Safety Requirements in Construction Contract Documents	L	P	C	L	C	C	L	P	P
	2.4 Establish Assessment Criteria for Prospective Constructors	L	P	C	L	C	C	L	P	P
	2.5 Evaluate Tenders against Safety Criteria	L	P	C	L	C	C	L	C	C
	2.6 Select 'Safe' Constructor	L	P	C	L	C	C	L	C	C
	2.7 Conduct Safety Reviews to Eliminate/Reduce Risk at Concept and Detailed	P	L	C	P	L	L	P	L	P

Section 4.0 Best Practice Activities

Task 1.6	Specify Safety Requirements in Project Design Brief
Action	The Client will prepare a project brief that sets out the safety responsibilities of the Designer in relation to project safety. The Client will also collate all data relating to the site to be provided to the Designer.
Description	The Project Safety Brief will establish performance criteria for safety in the design stage. Key stakeholders whose safety might be affected through the project lifecycle will be identified - including personnel involved in construction, occupation, maintenance, cleaning and the eventual demolition of the facility. The Project Safety Brief will also include the details of the Client's project safety management framework set out in Tasks 1.1 to 1.4 and specify how the Designer will be incorporated in the framework. The brief will also include a statement of the Client's requirements for safety in design - see Task 1.7 below.
Key Benefits	▪ From the project outset, safety in design will be a key project driver, and ▪ designers will have early notice of their obligations to promote and build safety into the project design.
Desirable Outcomes	▪ Clearly documented Client requirements to provide a shared understanding of safety expectations among the Client- Designer team, ▪ clear message to the Designer that safety is a key driver of the project - to be given an equal weighting to other aspects of design - such as functionality, aesthetics, cost, program and quality, ▪ identification of project stakeholders whose interests must be considered.
Performance Measure	▪ Preparation of a project safety brief relating to the design of a project.
Leadership	▪ Client

Best Practice Example

Project Progress to Date

Project Progress includes

- Literature Reviews
- Stakeholder Interviews
- Surveys
- Best Practice Case Studies
- Draft Released for Public and Stakeholder Consultation

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Project Progress to Date

In Progress

- Compilation of stakeholder feedback
- Development of toolkit for industry uptake
- Project Launch – 12th September 2007

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Public and Stakeholder Consultation

- Currently underway
- Access draft from www.construction-innovation.info
- Closing date for written feedback is **Friday 22 June 2007**
- Contact Richard Bird on 03 9925 9659 or r.bird@construction-innovation.info

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Thank you

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