

# SAFETY IN DESIGN

(SiD)

# SELICK CONSULTANTS SID POLICY

- Where to find it?
- <https://intranet.sellickconsultants.com.au/>
- Workplace, Health and Safety > SiD

## WHAT IS A PCBU?

- Persons Conducting a Business of Undertaking (PCBU).
- i.e., the Developer (or the person commissioning the works).
- Primary duty of care falls to PCBU

### HOWEVER

- Designers, manufacturers, importers and suppliers of plants, substances or structures, officers, and works, all owe a duty of care under the Safe Design of Structures Code of Practice.

# WORK HEALTH AND SAFETY ACT 2011 (CTH)

- Enacts that the Minister may approve Codes of Practices under the *Work Health and Safety Act 2011* (Cth).

## **Division 2—Codes of practice**

### **274 Approved codes of practice**

(1) The Minister may approve a code of practice for the purposes of this Act and may vary or revoke an approved code of practice.

- (2) The Minister may only approve, vary or revoke a code of practice under subsection (1) if that code of practice, variation or revocation was developed by a process that involved consultation between:
- (a) the Governments of the Commonwealth and each State and Territory; and
  - (b) unions; and
  - (c) employer organisations.

- (3) A code of practice may apply, adopt or incorporate any matter contained in a document formulated, issued or published by a person or body whether:
- (a) with or without modification; or
  - (b) as in force at a particular time or from time to time.

Note: Subsection (4) is included in some jurisdictions to deal with publication and commencement of an approved code of practice. Under this Act, an approved code of practice is a legislative instrument (see section 273B(1)) and so will be registered on the Federal Register of Legislation and commence in accordance with section 12 of the *Legislation Act 2003*.

- (5) As soon as practicable after approving a code of practice, or varying or revoking an approved code of practice, the Minister must ensure that notice of the approval, variation or revocation is published in a newspaper circulating generally throughout the Commonwealth.
- (6) The regulator must ensure that a copy of:
- (a) each code of practice that is currently approved; and
  - (b) each document applied, adopted or incorporated (to any extent) by an approved code of practice;
- is available for inspection by members of the public without charge at the office of the regulator during normal business hours.

<https://www.legislation.gov.au/C2011A00137/latest/text>

# SAFE DESIGN OF STRUCTURES CODE OF PRACTICE



## Safe design of structures

### Code of Practice

OCTOBER 2018

<https://www.safeworkaustralia.gov.au/system/files/documents/1810/model-cop-safe-design-of-structures.pdf>

### 1.2. Who has health and safety duties in relation to the design of structures?

A person conducting a business or undertaking

#### WHS Act section 19

Primary duty of care

A person conducting a business or undertaking (PCBU) has the primary duty under the WHS Act to ensure, so far as is reasonably practicable, that workers and other persons are not exposed to health and safety risks arising from the business or undertaking.

A person conducting a business or undertaking that designs a structure

#### WHS Act section 22

Duties of persons conducting businesses or undertakings that design plant, substances or structures

PCBUs that design structures that will be used, or could reasonably be expected to be used, as a workplace must ensure, so far as is reasonably practicable, that the structure is designed to be without risks to health and safety of persons:

- who are using it for the purpose it was designed
- constructing it
- carrying out reasonably foreseeable activities at the workplace in relation to the manufacture, assembly or use of the structure for a purpose for which it was designed or the proper demolition or disposal of the structure, or
- who are in the vicinity of the workplace and are exposed to the structure at the workplace, or whose health and safety may be affected by one of the uses or activities described above.

A PCBU who alters or modifies a design themselves (instead of having another designer do it) will be and have duties as a designer. Any changes to the design of a structure may affect the health and safety of those who work on or use the structure and must be considered by the person altering or modifying a design.

This duty includes carrying out, or arranging the carrying out of, testing and analysis and providing specific information about the structure to certain persons.

A designer includes a PCBU whose business or undertaking:

- prepares sketches, plans or drawings for a structure, including variations to a plan or changes to a structure
- makes decisions for incorporation into a design that may affect the health or safety of persons who construct, use or carry out other activities in relation to the structure, or who are in the vicinity of the workplace and are exposed to the structure.

Designers include PCBUs who are:

- architects, building designers, engineers, building surveyors, interior designers, landscape architects, town planners and all other design practitioners contributing to,

### Methods of transferring information

#### Safety report

#### WHS Regulation 295

Designer must give safety report to person who commissions design

A designer of a structure or part of a structure must provide a written report to the PCBU who commissioned the design that specifies the hazards relating to the design of the structure that, so far as the designer is reasonably aware:

- create a health and safety risk to persons who are to carry out the construction work, and
- are associated only with the particular design and not with other designs of the same type of structure.

The safety report applies to designs of structures that have unusual or atypical features which present hazards and risks during the construction phase that are unique to the particular design.

The safety report should include information about:

- any hazardous materials or structural features and the designer's assessment of the risk of injury or illness to construction workers arising from those hazards, and
- the action the designer has taken to control those risks, for example changes to the design.

The information to be provided by the designer may be incorporated into the safety report prepared under the WHS Regulations.

The client must provide a copy of all the information in the safety report in relation to hazards or risks at or in the vicinity of the workplace to the principal contractor.

#### Work health and safety file

The development of a work health and safety file for a structure could assist the designer to meet the duty to provide information to others. It could include copies of all relevant health and safety information the designer prepared and used in the design process, such as the safety report, risk register, safety data sheets, manuals and procedures for safe maintenance, dismantling or eventual demolition.

ACT AND NSW CODE OF PRACTICE EQUIVALENT

Australian Capital Territory

Work Health and Safety (Safe Design of Structures Code of Practice) Approval 2020

Notifiable instrument NI2020-549

made under the

Work Health and Safety Act 2011, section 274 (Approved Codes of Practice)

- 1 Name of instrument**  
This instrument is the *Work Health and Safety (Safe Design of Structures Code of Practice) Approval 2020*.
- 2 Commencement**  
This instrument commences on the day after notification.
- 3 Code of Practice Approval**  
Under section 274 of the *Work Health and Safety Act 2011* (the Act) and being satisfied that this code of practice was developed by a process described in s274 (2) of the Act, I approve the attached Safe Design of Structures Code of Practice.
- 4 Revocation**  
This instrument revokes *Work Health and Safety (Safe Design of Structures Code of Practice) Approval 2012* [NI2012-433].

Suzanne Orr  
Minister for Employment and Workplace Safety  
03/09/20

Safe design of structures  
Code of Practice

**Disclaimer**  
Safe Work Australia is an Australian Government statutory agency established in 2008. Safe Work Australia includes Members from the Commonwealth, and each state and territory, Members representing the interests of workers and Members representing the interests of employers. Safe Work Australia works with the Commonwealth, state and territory governments to improve work health and safety and workers' compensation arrangements. Safe Work Australia is a national policy body, not a regulator of work health and safety. The Commonwealth, states and territories have responsibility for regulating and enforcing work health and safety laws in their jurisdiction.

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**Contact information**  
Safe Work Australia | [info@sawa.gov.au](mailto:info@sawa.gov.au) | [www.sawa.gov.au](http://www.sawa.gov.au)



# WHAT IS 'REASONABLY PRACTICABLE'?

Under section 18 of the *Work Health and Safety Act 2011* (Cth):

## Subdivision 2—What is reasonably practicable

### 18 What is *reasonably practicable* in ensuring health and safety

In this Act, *reasonably practicable*, in relation to a duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters including:

- (a) the likelihood of the hazard or the risk concerned occurring; and
- (b) the degree of harm that might result from the hazard or the risk; and
- (c) what the person concerned knows, or ought reasonably to know, about:
  - (i) the hazard or the risk; and
  - (ii) ways of eliminating or minimising the risk; and
- (d) the availability and suitability of ways to eliminate or minimise the risk; and
- (e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

Under section 1.3 of the Model Code of Practice 2018, Safe Work Australia:

## 1.3. What is 'reasonably practicable' in relation to the designer's duty?

The duty of a PCBU to ensure health and safety is qualified by what is reasonably practicable. Deciding what is 'reasonably practicable' requires taking into account and weighing up all relevant matters including:

- the likelihood of the hazard or the risk occurring
- the degree of harm that might result from the hazard or the risk
- knowledge about the hazard or risk, and ways of eliminating or minimising the risk
- the availability and suitability of ways to eliminate or minimise the risk, and
- after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

For example in deciding what is reasonably practicable, consideration will be given to the prevailing standards of design and the hazards and risks known at the time the designer designed the structure.

In the process of designing structures it will not always be possible to clearly delineate who has or will have responsibility, and in which circumstances, for the elimination or minimisation of hazards associated with the structure. The duties may be concurrent and overlapping.

## WHAT IS A 'REASONABLY COMPETENT PERSON'?


- Not defined in any Act or Code of Practice.
- Ambiguous meaning.
- Currently no case law or precedent to assist in defining this term.
- Safety in Design has not been brought to any court systems yet.



# SELICK INTERNAL PROCESSES FOR SID

- All internal policy, risk matrixes, and report examples are for internal use only.
- If client requests internal information, consult a Director for advice.
- [SiD – Sellick Consultants](#)

INTERNAL USE ONLY



**Safety In Design Risk Assessment – Construction Management Plan**

Project Name:	????????	Prepared By:	Sellick Consultants	Date:	DD/MM/YY	Revision:	A
Client:	Client	Principal Contractor:	Contractor				

HAZARD IDENTIFICATION RISK MANAGEMENT CALCULATOR						
		Consequence				
		1	2	3	4	5
	Human	Fatality	Disability	Lost Time Injury	Medical treatment injury	First aid injury
	Environment	Long term widespread impact	Medium long term impact	Reversible medium term impact	Reversible short term impact	Limited impact
	Community	International impact	National impact	Regional impact	Local impact	Workplace impact
	Property	Complete loss assets	Extensive damage assets	Significant damage assets	Damages recoverable assets	Minor damage assets
Likelihood	A - Certain	1 High	2 High	4 High	7 Moderate	11 Moderate
	B - Likely	3 High	5 High	8 Moderate	12 Moderate	16 Moderate
	C - Possible	6 Moderate	9 Moderate	11 Moderate	17 Low	20 Low
	D - Unlikely	10 Moderate	14 Moderate	18 Low	21 Low	23 Low
	E - Rare	15 Moderate	19 Low	22 Low	24 Low	25 Low
<b>Risk Levels</b>		<b>Explanation</b>				
High		Immediate action required to control / reduce risk				
Moderate		Take action within reasonable time to reduce risk				
Low		Take action in due time to reduce risk				

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INTERNAL USE ONLY

Risk Description	Location & Associated Hazards	Risk Rating	Design Risk Control Requirements	Design Specific Control Measures In Place	Residual Risk Rating	Responsibility / Monitoring	Drawings
<b>Structural</b>							
General Construction Risks	Location: Site wide Associated Hazards: Working at height, moving vehicles, slips/trips/falls, construction noise, manual handling, formwork design, reinforcement placing, precast lifting, structural steel installation		General construction risks are outside the scope of Sellick's design and it is reasonable to expect that their risks will occur on construction projects similar to the documented structure.	No for Sellick design Contractor / Builder to incorporate in the site-specific risk assessment	Contractor / Builder to assess	Contractor / Builder	
Temporary works on permanent structures	Location: Site wide Associated Hazards: Loads from temporary works	H2	Loads from temporary works on permanent structures overloading the permanent structures	Contractor / Builder to provide loads from all temporary works (eg scaffold, bracing, jacking, material stacking zones) and plant and equipment. Sellick to document construction exceeding the design loads on the loading plans	M11	Contractor / Builder	Loading plans
Excavation	Location: Deep excavations - perimeter retention and lift pit Associated Hazards: Embankment collapse/excavated face collapse	M6	Excavation retention system to be designed to meet project specific geotechnical engineering report. Unretained faces and temporary batters to be reviewed and advised on by geotechnical engineer	Shoring and retaining systems shown on structural engineering drawings to excavations. Builder / contractor to obtain geotechnical engineers' advice on temporary batters to all excavations	M7	Sellick / Builder/contractor and geotechnical engineer	Footings and retaining drawings Geotechnical report
Steelwork	Location: Joints, roof steelwork Associated Hazards: Instability of steelwork during installation	H5	Ensure lateral stability incorporated into design	Erector to Document bracing to suit their installation sequence. Builder and erector to ensure temporary bracing installed by erector/fabricator.	M14	Sellick / Erector/fabricator	Steel Marking Plans / Steel Shop drawings
Slab Construction - Reinforcement	Location: All slabs Associated Hazards: Trip hazards to reinforcement Material handling of large bars	M13	Reinforcement detailing to minimise trip hazards Slab design to limit large bar sizes Design suspended slabs as just tensioned to minimise reinforcement. For reinforced designs provide complete mats through top. Look to use smaller bar sizes at closer centres where practical for concrete placement	For deep members over 300 deep ensure top mat or mesh with centres 200 or less in accordance with industry standards	L17	Reinforcement contractor/head contractor / Sellick	Reinforcement Plans

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Risk Description	Location & Associated Hazards	Risk Rating	Design Risk Control Requirements	Design Specific Control Measures In Place	Residual Risk Rating	Responsibility / Monitoring	Drawings

How severely could it hurt someone?	How likely is it to be that bad?			
	Very Likely Could happen at any time	Likely Could happen sometime	Unlikely Could happen, but very rarely	Very Unlikely Could happen, but probably never will
Death or cause permanent disability or ill health	H1	H2	H4	M7
Long term illness or serious injury	H3	H5	M8	M11
Medical attention and several days off work	H6	M9	M12	L14
First aid needed	M10	M13	L15	L16

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# SELICK EXTERNAL PROCESSES FOR SID

1. Risk is identified and cannot be designed out.
2. Consult your Senior Engineer and relevant Director. Note, this may trigger a broader collaboration with Senior Engineers and Directors in order to exhaust all possible alternate engineering solutions.
3. If it is agreed that an alternate design cannot be adopted, the Director will then need to take responsibility and manage the preparation of a SiD report, the specific alterations to documentation as required, and the issuance of those documents to the PCBU for the development.

## SiD – Sellick Consultants

“To the Directors of \_\_\_\_\_,

As part of our company policy, we have reviewed the subject project in accordance with our obligations under the Work Health Safety Act with respect to Safety in Design.

Please find attached letter and drawing set relating to the project where an unusual risk has been identified.

Please don't hesitate to reach out for further explanation should you need, or information as you require.”

## SELICK EXTERNAL PROCESSES FOR SiD

- Most other key stakeholders don't do SiD well, and understand the role of a designer
- Clients' expectations often do not align with our obligations under the Safe Design of Structures Code of Practice.
- Our expectation is for all our staff, especially engineering staff, to engage in builder/client-led SiD workshops.

- The issuing of Sellick drawings (no unusual risks) or our report with drawings (unusual risks) is considered to be fulfilling our obligation under the Act and Code of Practice.
- Example letter for when clients are difficult.
- Discussions with legal and WorkSafe Commissioner.
- Further engagement with industry bodies (i.e., HIA/MBA safety delegations).



**sellick**  
consultants

canberra | sydney

24 lonsdale street,  
suite 122 mode 3,  
braddon act 2612  
po box 5005  
braddon act 2612  
p (02) 6201 0200  
f (02) 6247 2203

Our ref: SiD\_201358  
Contact: Chris Buchanan

Thursday, 17 June 2021

Canberra Data Centres Pty Ltd  
PO Box 635, Fyshwick,  
Canberra ACT 2609

Attention: Edward Truong

**SAFETY IN DESIGN**  
**BLOCK 103 SECTION 7 HUME**  
**HUME CAMPUS 2 BUILDING H5 and H45**

This is to confirm that in pursuant to the Safe Design of Structures Code of Practice, under section 274 of the Work Health & Safety ACT 2011, Sellick Consultants have reviewed the proposed structural engineering design for the above subject location. The intent of the review was to identify potential risks or hazards associated with the proposed documented design that would not reasonably be expected with the construction of the design.

Sellick Consultants has implemented an internal design procedure that aims to remove and design out risks or hazards relating to a design that would not be reasonably expected with all documented designs.

During the documentation review process of this project, it was found that there were no 'unusual or atypical risk' that would not reasonably be expected with the construction of the design.

The issuing of this report to the client is considered by Sellick Consultants as fulfilling Regulation 295 of the Safe Design of Structures Code of Practice.

If you have any question pertaining to the above, please do not hesitate in contacting me.

*Yours faithfully*



**Chris Buchanan**  
*Director, Structural Engineer*  
BEng (Hons, Civil Engineering), MIEAust, NER, RPEQ  
Sellick Consultants Pty Ltd

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**structural civil hydraulic engineers**

www.sellickconsultants.com.au • sellick@sellickconsultants.com.au