
Report on Cost of Installing Typical Accessible Adult Change Facility

Australian Building Codes Board

Costs for Installation of Incorporated and
New Facility

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New Facility

6 June 2018

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1 EXECUTIVE SUMMARY

Donald Cant Watts Corke (DCWC) at the request of the Australian Building Codes Board (ABCB) has prepared an estimate for the potential construction costs for an accessible adult change facility in an existing modified BCA facility or a separated facility as specified below:

- a. Costs associated with providing a compliant BCA sanitary facility within an existing facility
- b. Extra over cost of an integrated facility that encompasses the additional accessible sanitary requirements for each class of building; and
- c. a fully fitted out accessible facility.

The analysis encompasses three building classes as listed below:

- Class 3 Accommodation Building
- Class 6 Shopping Centre
- Class 9b Assembly Building

The analysis is presented in a summary table for each building Class and type. The table details the costs associated with supply and installation of floor tiles, wall tiles, ceiling, access panels, hoist system, change table, sanitary fixtures and fitments for typical accessible sanitary facility with and without showers, which has been calculated from first principles.

2 BASIS OF REPORT

2.1 Methodology

The aim of this report is to determine the cost impacts of installing an accessible adult change facility in an existing modified BCA facility or a separated facility.

The brief was to undertake a costing exercise to show the itemised and total cost of the facilities as specified in each of the typical BCA Class 3, 6 and 9b buildings. Our costs for installation provide the ABCB with the information to review a summary of the costs as per each scenario.

The following outlines the methodology used in preparation of the report:

1. Tabulate and cost the various building works requirements as described in the Appendix A Technical Specifications of the ABCB Approach to Market;
2. Compile the scope of works required for current and proposed provisions. This is done based on a first principles estimating process whereby quantities are established, then a rate applied to calculate a total cost;
3. Establish the itemised unit rates of construction for an ACT location with Canberra as the base cost;

4. Obtained quotations for supply and installation of the hoist system and change tables from three (3) specialist suppliers to ensure we get the best market coverage on specialist items;
5. Market inquiry rates for accessible sanitary fixtures and fitments from two (2) suppliers;
6. Confirm the approximate total installation costs for each scenario; and
7. Select representative Building Price Index, constructed in Australian Capital Cities and establish the percentage increase/decrease over the base cost for each scenario.

The costs for installation are based on DCWC's 'In-house' cost database and market research for the Architectural finishes, Sanitary Fixtures and Fitments; and industry accepted construction cost publication for Building Price Index including:

1. Rawlinson's Australian Construction Handbook (Rawlinson, Edition 34, 2016).

2.2 Documentation

The costing has been undertaken on the basis of the following documentation:

1. Proposed revised specification "Specification F2.4 Unisex Accessible Sanitary Compartments – Hoist and Table" received from ABCB on 16 May 2018;
2. NCC 2016 Volume 1;
3. AS1428.1 – 2009; and
4. www.disabilityaccessconsultants.com.au was referenced to ascertain Typical Accessible Change facility dimensions.
5. Comments from ABCB via email 27 September 2017 in relation to DCWC's draft report issued 26 September 2017.

2.3 Abbreviations

ABCB	Australian Building Codes Board
ACT	Australian Capital Territory
AS	Australian Standard
ATM	Approach to Market
BCA	Building Code of Australia
DCWC	Donald Cant Watts Corke Pty Ltd
NCC	National Construction Code

2.4 Specialist equipment specifications

Hoist system including track system

- Ceiling Hoist 200kg
- Rail system with a safe working load (SWL) equal to 200kg
- Manual Traverse to cover the complete toilet
- Lifting height up to a minimum 210cm
- Includes wall or ceiling mounted charger
- Hoist and Rail Systems supplied meet AS/NZS ISO 10535:2011 standards
- Weight testing of installation to Australian Standards

Change table

- Minimum length 1800mm
- Weight capacity 200kg
- 700mm of height adjustability
- 700mm table width
- Fold down guard and guard bumper
- Weight testing of installation to Australian Standards


2.5 Clarifications

In relation to the estimates provided the following clarifications are noted:

1. Building structural elements (roof or slab over) assumed sufficient to carry transmitted loads
2. Work is to occur within Metropolitan Area of Canberra, ACT as base cost.
3. Labour is readily available.
4. Connection to Electrical, Plumbing and Drainage systems is readily available.
5. Doorways are to be 850mm wide.
6. The current BCA ceiling height is 2100mm, however to incorporate the hoist system the ATM Appendix A confirms the ceiling height to be 2400mm.
7. Costs include for supply and installation of floor tiles, wall tiles, ceiling, access panels, hoist system, change table, sanitary fixtures and fitments.
8. A design and construction contingency has been included in the estimate.
9. The estimated costs include allowances for builders preliminaries, margins and overheads.

2.6 Assumptions

In relation to the estimates provided the following assumptions are noted:

1. No impact on sanitary fixtures of proposed specification.
2. Hoist track system to access the complete facility.
3. Connection to existing services is readily available.
4. Hoist track support system includes beam(s) supported on 'droppers' from slab or roof structure above, which is assumed to be structurally sufficient to carry imposed loads.
5. Change table supports include 25mm structural ply fixed to adjacent stud framing, which is assumed to require no additional structural upgrade of wall
-  6. 850 wide door (with no self-closing function).
7. Ceramic wall tile to full ceiling height for all scenarios.
8. Size of facility under current BCA without shower: 2400 x 2350mm
9. Size of facility under proposed provision without shower: 2400 x 3200mm

2.7 Inclusions

- Rates are inclusive of the material supply, labour and all sundries required for installation.
- Builder's preliminaries, margin and overheads.
- Design and Construction Contingency.

2.8 Exclusions

All estimates contained in this report exclude:

- Structural upgrade to carry loads of hoist system and/or change table
- Connections to light fixtures and exhaust system to shower area.
- Demolition costs.
- Authority Fees
- Design Fees
- Staging and Decanting costs
- Temporary relocation costs
- Goods and Services Tax (GST).
- Authority fees and costs associated with staging and delay.

3 SUMMARY OF COSTS

3.1 Cost of Installation

Refer to Appendix 1 for summary of detailed costing.

APPENDIX 1 – SUMMARY OF DCWC COST ESTIMATES FOR THE INCORPORATED AND NEW FACILITY

Project Summary

Ref	Description	Quantity	Unit	Rate	Total
1	Clarifications CLASS 3, 6 & 9b <u>Accessible Sanitary Facility</u>				0
2	Current BCA Compliant	5.64	m2	3,138	17,700
3	Incorporated Facility (Extra over cost to the Current BCA facility)	2.04	m2	13,971	28,500
4	Separate Facility	7.68	m2	6,016	46,200

APPENDIX 2 – FULLY ITEMISED COSTS

Estimate Details

Ref	Description	Quantity	Unit	Rate	Total
1	Clarifications				
	DOCUMENTATION				
	<u>The report has been prepared based on the following documents:</u>				
1.1	NCC 2019 Volume One - accessible adult change facilities - revised specification provided by ABCB 16.05.2018		note		
1.2	NCC 2016 Volume 1;		note		
1.3	AS1428.1 - 2009; and		note		
1.4	www.disabilityaccessconsultants.com.au for Typical Accessible Change facility dimensions.		note		
1.5	Comments from ABCB via email 27 September 2017 to DCWC's draft report issued 26 September 2017.		note		
	CLARIFICATIONS				
	<u>In relation to the estimates provided the following clarifications are noted:</u>				
1.6	All dimensions are in millimetres unless noted otherwise.		note		
1.7	Change table assumed fixed to stud wall, braced with 25mm structural ply		note		
1.8	Hoist system assumed fixed to additional beam (200PFC or LVL) within 200mm of ceiling, on threaded rod hangers from structure above		note		
1.9	Work is to occur within Metropolitan Area with Canberra, ACT as base cost.		note		
1.10	Labour is readily available.		note		
1.11	Connection to Electrical, Plumbing and Drainage systems is readily available.		note		
1.12	Sanitary fixtures and fittings remain the same including/excluding shower in all Class 3, 6 and 9b.		note		
1.13	Hoist track system to access the complete facility.		note		
1.14	Connection to existing services is readily available		note		
1.15	850 wide door without self closing function		note		
1.16	Ceramic wall tile to full ceiling height - 2400mm which is BCA compliant.		note		
1.17	Size of facility under current BCA without Shower: 2400 x 2350		note		
1.18	Size of facility under proposed provision without shower: 2400 x 3200		note		
1.19	Costs include for supply and installation of floor tiles, wall tiles, ceiling, access panels, hoist system, change table, sanitary fixtures and fitments.		note		
	EXCLUSIONS				
1.20	Assumed adjacent structural elements (slab or roof structure over) sufficient to carry imposed loads		note		
1.21	Connections to light fixtures and exhaust system to shower area.		note		
1.22	Demolition costs.		note		
1.23	Authority Fees		note		
1.24	Design Fees		note		
1.25	Staging and Decanting Costs		note		
1.26	Temporary relocation Costs		note		
1.27	Goods and Services Tax (GST).		note		
	Clarifications				0

Estimate Details

Ref	Description	Quantity	Unit	Rate	Total
2	Current BCA Compliant				
	CURRENT ACCESSIBLE CHANGE FACILITY EXCLUDING SHOWER				
	<u>Fixtures & Fittings</u>				
2.1	Toilet Pan	1	no	1,750.00	1,750
2.2	Seat	1	no	300.00	300
2.3	Grab-rails	1	item	290.00	290
2.4	Flushing controls	1	no	400.00	400
2.5	Hand Wash Basin including tapware & shelving	1	no	2,200.00	2,200
2.6	Wall mounted Mirror	1	no	325.00	325
2.7	Towel Dispenser or Hand Dryer	1	no	850.00	850
2.8	Soap Dispenser	1	no	120.00	120
2.9	Clothes hook	1	no	45.00	45
2.10	Bin for the Hygienic disposal	1	no	100.00	100
2.11	Sling hook	1	no	45.00	45
2.12	850 wide door (not self closing)	1	no	1,200.00	1,200
	<u>Architectural Works</u>				
2.13	Tiling including waterproofing	1	item	4,300.00	4,300
2.14	Moisture resistant ceiling	1	item	500.00	500
2.15	Allowance for Access Panels	1	item	300.00	300
	<u>Services</u>				
2.16	Allowance for Electrical light fixtures	1	item	300.00	300
2.17	Allowance for Exhaust System	1	item	250.00	250
	Subtotal				13,275
2.18	Preliminaries (12%)	1	item		1,593
2.19	Margin (8%)	1	item		1,189
2.20	Contingency (10%)	1	item		1,643
	Subtotal				17,700
	Current BCA Compliant				17,700

Estimate Details

Ref	Description	Quantity	Unit	Rate	Total
3	Incorporated Facility (Extra over cost to the Current BCA facility)				
	PROPOSED ACCESSIBLE CHANGE FACILITY EXCLUDING SHOWER				
	<u>Fixtures & Fittings</u>				
3.1	Hoist	1	no	10,300.00	10,300
3.2	Change Table	1	no	8,430.00	8,430
3.3	Changing Rails (2 No. parallel rails)	1	no	400.00	400
3.4	Signage (Hoist/Table Symbol)	1	no	300.00	300
	<u>Architectural Works</u>				
3.5	Additional tiling including waterproofing	1	item	1,650.00	1,650
3.6	Additional moisture resistant ceiling	1	item	200.00	200
	<u>Services</u>				
3.7	Additional electrical connection	1	item	100.00	100
	Subtotal				21,380
3.8	Preliminaries (12%)	1	item		2,566
3.9	Margin (8%)	1	item		1,916
3.10	Contingency (10%)	1	item		2,639
	Total				28,500

Incorporated Facility (Extra over cost to the Current BCA facility)

28,500

Estimate Details

Ref	Description	Quantity	Unit	Rate	Total
4	Separate Facility				
	PROPOSED ACCESSIBLE CHANGE FACILITY EXCLUDING SHOWER				
	<u>Fixtures & Fittings</u>				
4.1	Hoist	1	no	10,300.00	10,300
4.2	Change Table	1	no	8,430.00	8,430
4.3	Toilet Pan	1	no	1,750.00	1,750
4.4	Seat	1	no	300.00	300
4.5	Grab-rails	1	no	290.00	290
4.6	Flushing controls	1	no	400.00	400
4.7	Hand Wash Basin including tapware & shelving	1	no	2,200.00	2,200
4.8	Wall mounted Mirror	1	no	325.00	325
4.9	Towel Dispenser or Hand Dryer	1	no	850.00	850
4.10	Soap Dispenser	1	no	120.00	120
4.11	Clothes hook	1	no	45.00	45
4.12	Bin for the Hygienic disposal	1	no	100.00	100
4.13	Sling hook	1	no	45.00	45
4.14	Changing Rails (2 No. parallel rails)	1	no	400.00	400
4.15	850 wide door (not self closing)	1	no	1,200.00	1,200
4.16	Signage (Hoist/Table Symbol)	1	no	300.00	300
	<u>Architectural Works</u>				
4.17	Tiling including waterproofing	1	item	5,950.00	5,950
4.18	Moisture resistant ceiling	1	item	700.00	700
4.19	Allowance for Access Panel	1	item	300.00	300
	<u>Services</u>				
4.20	Allowance for Electrical light fixtures	1	item	400.00	400
4.21	Allowance for Exhaust System	1	item	250.00	250
	Subtotal				34,405
4.22	Preliminaries (12%)	1	item		4,159
4.23	Margin (8%)	1	item		3,105
4.24	Contingency (10%)	1	item		4,281
	Total				46,200
	Separate Facility				46,200