

artibus INNOVATION

Developing industry skills

Property Services

IRC Skills Forecast and Proposed Schedule of Work

Version: 2.0

Date: 2 May 2018



Artibus Innovation

373 Elizabeth Street, North Hobart, Tasmania 7000

PO Box 547, North Hobart, Tasmania 7002

T: 03 6218 2841 | E: enquiries@artibus.com.au | W: artibus.com.au

Disclaimer

This report has been prepared by Artibus Innovation (Artibus) from primary and secondary sources and is intended to provide general guidance only. Artibus and its employees and other parties associated with the production of this report make no representations about the accuracy, veracity or completeness of information within it and are not liable for any omissions, errors or inaccuracies. Artibus may update, amend or supplement this document at any time, but has no obligation to do so. Artibus disclaims all liability resulting from any decisions, opinions, assumptions and actions taken in response to, and resulting from, the information provided in this report.

Acknowledgement of Support

Artibus Innovation is funded by the Australian Government Department of Education and Training through the Training Product Development Programme.

Property Services

IRC Skills Forecast and Proposed Schedule of Work

Table of Contents

Executive Summary	1
Skills Forecast	4
Administrative Information	4
Sector Overview	4
CPP Property Services Industry Sub-Sectors	4
Peak Bodies and Associations	12
Property Services Qualifications	12
Challenges and Opportunities	15
Employment and Skills Outlook	18
Employment Outlook	18
Key Skills Needed	20
Ranking of 13 Generic Workforce Skills	21
Key Drivers for Change	22
Proposed Responses and Risks of Not Proceeding	32
Proposed Schedule of Work	34
2018-19 Project Details	36
Appendix A – Units of Competency for Proposed Projects	57

Property Services

IRC Skills Forecast and Proposed Schedule of Work

Executive Summary

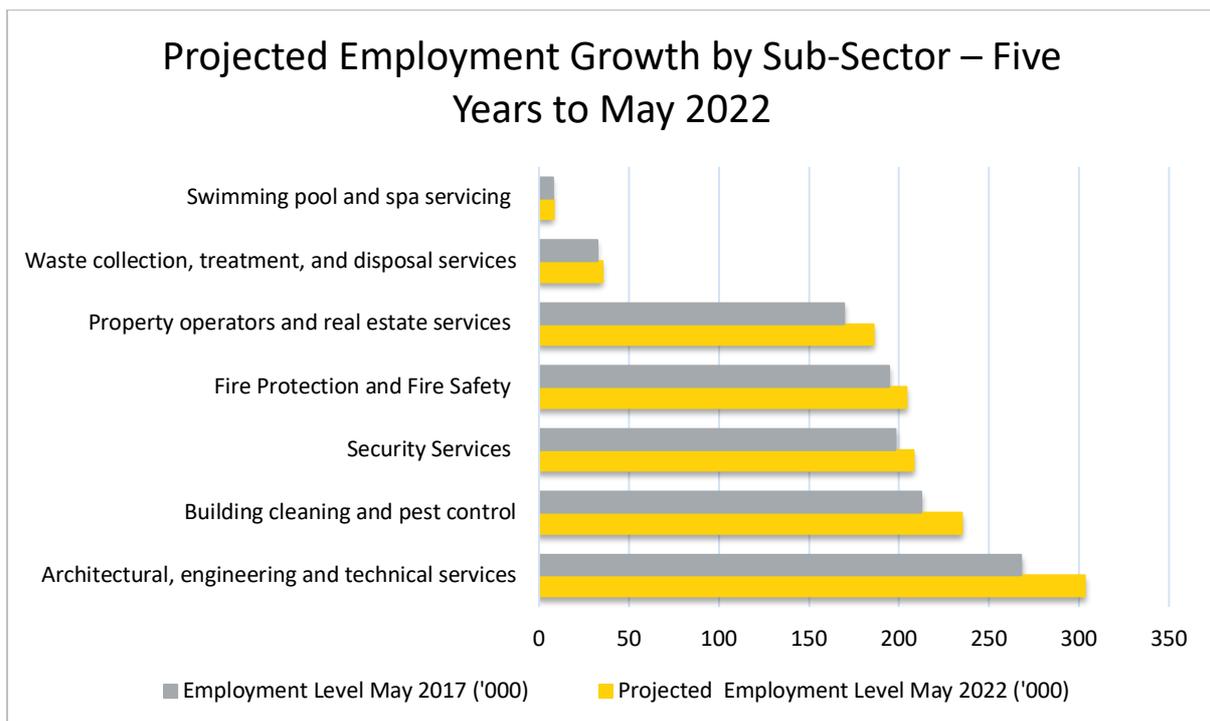
Sector Overview

The Property Services industry bookends the construction industry and encompasses a broad range of sectors providing services to the built environment - pre-build; design and compliance assessment, and post-build; sale, management, maintenance, cleaning and waste services.

Employment Outlook

The industry employs close to 1 million workers, in parity with the construction industry. This is forecast to continue to grow, with the highest growth forecast in the architectural, engineering and technical services sector.

Graph i: *Projected Employment Growth by Sub-Sector – Five Years to May 2022¹*



¹ Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmp.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

Key Skills Needs

The industry is riding a wave of change and opportunity from digital disruption. This is combined with a rapidly growing design and compliance role in environmental sustainability for the built environment. The result is an increased need for generic para professional skills coupled with technical skill sets and knowledge domains. This is called the T-shaped professional, describing a person that has both depth and breadth in their knowledge and skillset, as opposed to an I-shaped professional, who has a narrow skill set in one particular area.²

Key Drivers for Change

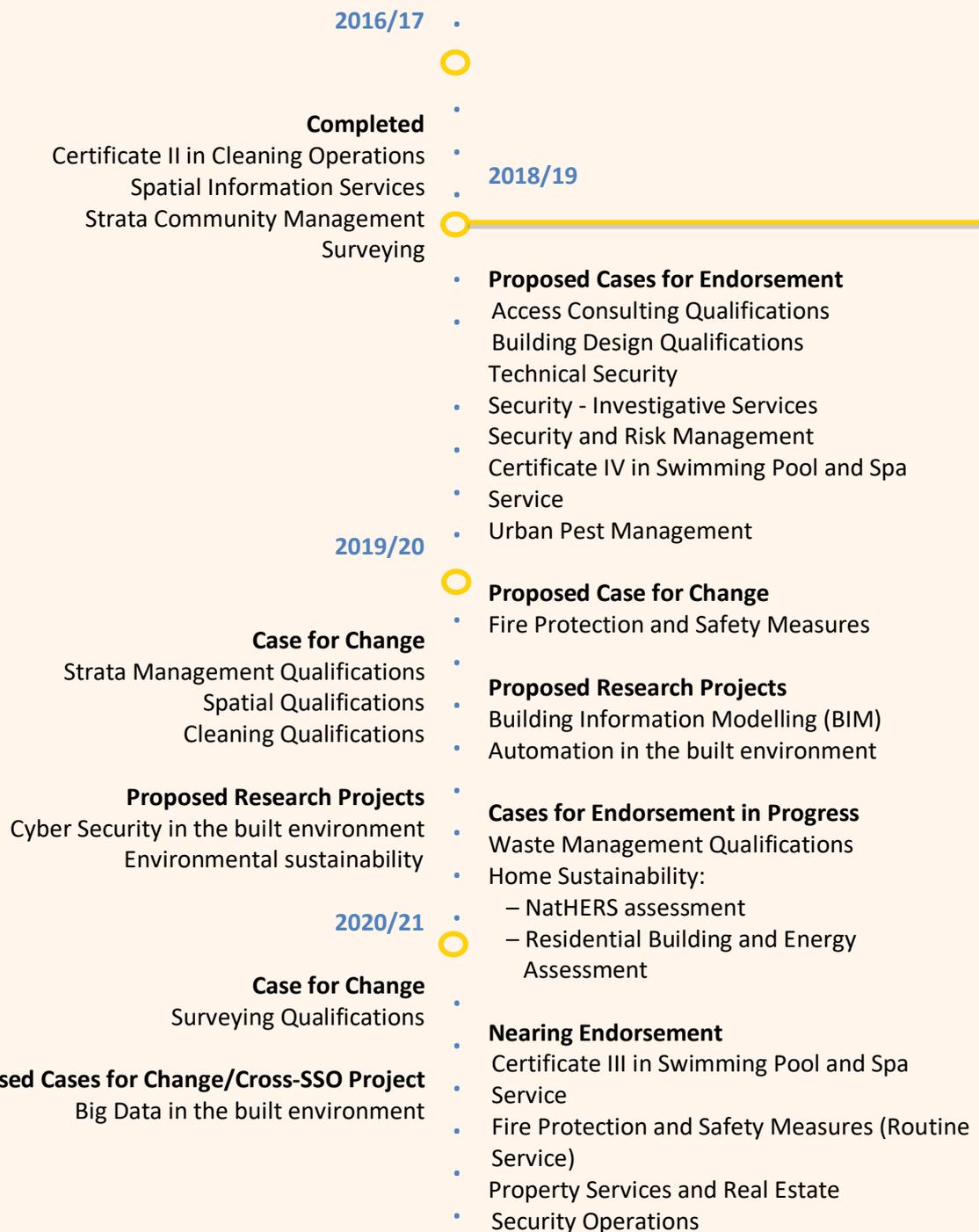
The rise, and rapid evolution, of digitisation and new technologies, and its enabling effect across the built environment is fuelling an industry 4.0 term 'the Proptech' industry. Building Information Modelling (BIM) in particular is the enabler of 'digital integrated delivery' across the industry. Along with the effects of increased urbanisation, environmental sustainability, regulation, and consumer demand is leading to a convergence of sectors and the need for more diverse skill sets among property services professionals. Therefore, updating the CPP training package to focus on the effects of these drivers for change and the shifting skill needs is vital.

Artibus Innovation's Current Projects

2017 has seen significant progress in the Security Operations, Real Estate, and Fire Protection Inspect and Test projects, with cases for endorsement nearing completion. Projects have been initiated in the Home Sustainability, Waste Management, Swimming Pool and Spa reviews, and cases for change are being developed for the Technical Security, Private Investigation, Building Design and Access consulting sectors. In addition, the IRC is leading work on built environment training products to support cross-sector consistency within the property sector. This will support the Minister's priorities of reducing duplication and further streamlining training packages and increasing industries shared understanding of the sector interactions.

² Foltynowicz, Zenon, 2013, T-shaped Professionals, accessed online on 27/03/2018 at: https://www.researchgate.net/publication/264419889_T-shaped_Professionals

Proposed Schedule of Work Timeline



See proposed schedule of work section of skills forecast for qualification codes

Skills Forecast

Administrative Information

Skills Services Organisation (SSO):

Artibus Innovation

Artibus Innovation has been commissioned by the Australian government to support the IRCs for Construction, Plumbing and Services and Property Services. We look at skills training and qualifications for occupations in the building and property industries. We talk to employers, workers, trainers, regulators and other industry stakeholders. We explore current and anticipated skills needs, examine data on enrolments and outcomes, and make recommendations for change.

Industry Reference Committee (IRC):

Property Services

The Property Services IRC is responsible for national training package qualifications relevant to: Waste collection, treatment and disposal services; property operations and real estate services; architectural, engineering and technical services; public order and safety; swimming pool and spa servicing; facility management; surveying and spatial information services; building cleaning and pest control; fire protection; strata management; and access consulting.

Sector Overview

The property services training package is comprised of a diverse range of sectors including:

- Real Estate Services, Strata Management and Facility Management
- Architectural Services
- Engineering and Technical Services
- Waste Collection, Treatment, and Disposal Services
- Building Cleaning Services
- Pest Control Services
- Security Services
- Fire Protection and Fire Safety Services
- Swimming Pool and Spa Servicing

CPP Property Services Industry Sub-Sectors

Real Estate Services, Strata Management and Facility Management

The real estate sector services two markets, residential and commercial. Combined they account for 38,325 businesses³, which are characterised by small, self-employed agents and property managers.

³ IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539> (p3)

In the past five years (2013-2017) residential property operators have faced competition from an increase in owner-lessors who are not utilising real estate agent services.⁴ The geographic distribution of operators is influenced by population demand pressures⁵, with most operators located in the eastern states of New South Wales (38%)⁶, Victoria (20.1%)⁷ and Queensland (25.8%)⁸.

The primary activities undertaken in this industry are:

- Conveyancing
- Real estate agency, auctioning, body corporate management and brokering
- Real estate management
- Real estate title transfers
- Timeshare apartment managing
- Title sharing
- Appraisal of real estate⁹

State and territory specific licensing requirements apply to this sector.

Architectural Services

There are 13,059¹⁰ businesses, predominantly small firms and sole proprietors, in the Architectural Services sector. Businesses that have developed strong green building credentials have provided a new point of difference, setting themselves apart from competitors¹¹. The geographic distribution of operators aligns with population distribution, economic activity and construction activity.¹² The industry is heavily concentrated across the eastern seaboard, with New South Wales (32.4%)¹³, Victoria (30%)¹⁴ and Queensland (17.2%)¹⁵ accounting for 80%¹⁶ of operators.

The primary activities undertaken in this sector are:

- Architectural consultancy services
- Architectural design and drafting services
- Architectural landscaping services
- Town planning services¹⁷

⁴ Ibid (p4)

⁵ Ibid (p16)

⁶ Ibid (p15)

⁷ Ibid (p15)

⁸ Ibid (p15)

⁹ Ibid (p2)

¹⁰ IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550> (p3)

¹¹ Ibid (p7)

¹² Ibid (p17)

¹³ Ibid (p16)

¹⁴ Ibid (p16)

¹⁵ Ibid (p16)

¹⁶ Ibid (p17)

¹⁷ Ibid(p2)

A specialist area of the architectural industry is Access Consulting, which is concerned with accessible facilities and built environments. Access Consulting's primary activities include accessibility appraisals, audits, design, research, training, information on codes, and advice on good practice.¹⁸

Licensing requirements apply to this sector in some states and territories.

Engineering and Technical Services

This sector is comprised of 3,370¹⁹ businesses, characterised by many micro businesses, 95.2%²⁰ of them employ less than 20 people. The four largest businesses: Fugro Holdings (Australia) Pty Ltd, AAM Pty Ltd, Jacobs Australia Holdings Company Pty Ltd and Veris Limited²¹ account for less than 20%²² of industry revenue. The geographic distribution of operators aligns with population concentration and economic activity²³, with states such as Western Australia (20.3%)²⁴ and Queensland (22.4%)²⁵ having a slightly higher distribution of operators due to demand in these areas for mapping and mine surveying.²⁶

The primary activities undertaken in this industry are:

- Aerial surveying service
- Cadastral surveying service
- Engineering surveying service
- Geodetic surveying on a contract or fee basis
- Hydrographic and oceanographic surveying
- Land surveying service
- Map preparation service
- Mining surveying service
- Photogrammetry surveying on a contract or fee basis
- Seismic surveying service²⁷

Licensing requirements apply to this sector in some states and territories.

Waste Collection, Treatment, and Disposal Services

The Waste Collection sector is comprised of 1,964²⁸ businesses, characterised by small operators, 95.9%²⁹ of which employ fewer than 20 staff or are non-employing. The sector has four major

¹⁸ Association of Consultants in Access Australia, 2017, Accessibility in the Built Environment, accessed online 07/02/18 at <http://www.access.asn.au/index.php/accessibility-in-the-built-environment>

¹⁹ IBISWorld, February 2017, IBISWorld Industry Report M6922: Surveying and Mapping Services, accessed online 07/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=551> (p4)

²⁰ Ibid (19)

²¹ Ibid (24)

²² Ibid (19)

²³ Ibid (p18)

²⁴ Ibid (p17)

²⁵ Ibid (p17)

²⁶ Ibid (p18)

²⁷ Ibid (p2)

²⁸ IBISWorld, October 2017, IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia, accessed online 13/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023> (p4)

²⁹ Ibid (p18)

operators which account for less than 40%³⁰ of sector revenue (2017-18). The largest market share (15.3%)³¹ is held by Cleanaway Waste Management Limited. The geographic distribution of operators is related to population (household numbers) and business activity³² and for this reason New South Wales (33.2%)³³ and Victoria (28.5%)³⁴ receive the highest proportion of industry revenue.

The primary activities undertaken in the Waste Collection sector are:

- Bin hiring and waste collection service
- Garbage collection service
- Solid hazardous waste collection service
- Solid industrial waste collection service
- Metal barrel/skip hiring and waste collection service
- Night soil collection service
- Portable toilet hiring and waste collection service
- Rubbish collection service
- Solid waste collection service
- Solid waste haulage service (local)³⁵

Licensing is not applicable to this sector.

The Waste Treatment and Disposal industry is comprised of 759³⁶ businesses, which are predominantly larger operators due to acquisition activity and outsourcing of services by local councils.³⁷ There are five major operators in the industry who account for 53.5%³⁸ of the market share, the largest of which is Suez Recycling & Recovery Holdings Pty Limited (21.7% market share).³⁹ Some operators specialise in a specific market segment such as medical waste disposal services.⁴⁰ The geographic distribution of operators is aligned with the concentration of populations, industrial manufacturing and construction activity, and the extent of government involvement,⁴¹ for these reasons New South Wales (29.1%)⁴² and Victoria (27.8%)⁴³ account for a large share of industry activity.

³⁰ Ibid (p18)

³¹ Ibid (p22)

³² Ibid (p17)

³³ Ibid (p16)

³⁴ Ibid (p16)

³⁵ Ibid (p2)

³⁶ IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 13/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024> (p4)

³⁷ Ibid (p19)

³⁸ Ibid (p24)

³⁹ Ibid (p24)

⁴⁰ Ibid (p19)

⁴¹ Ibid (p18)

⁴² Ibid (p17)

⁴³ Ibid (p17)

The primary activities undertaken in the Waste Disposal and Treatment sector are:

- Garbage disposal services
- Hazardous waste treatment and disposal services
- Non-hazardous waste treatment and disposal services
- Operating landfills
- Operating other waste treatment facilities
- Rubbish dump or tip operation
- Sanitary disposal services
- Septic tank pumping or cleaning services (except repairs and maintenance)⁴⁴

State and territory specific licensing requirements apply to waste management facilities.

Building Cleaning Services

There are 27,375⁴⁵ businesses operating in the industry, predominantly comprised of small operators (94.2%)⁴⁶ with the exception of major industry player Spotless Group Holdings Limited (5.8%),⁴⁷ which capitalised on the convergence of industries, successfully servicing the customer demand for multi-service contracts.⁴⁸ The geographic distribution of operators is influenced by population density and number of institutions⁴⁹ and for these reasons a majority of businesses are located in New South Wales (34.1%)⁵⁰ and Victoria (26.6%).⁵¹

The primary activities in this industry are:

- Bathroom and toilet cleaning
- Building interior and exterior cleaning (excluding sandblasting and steam cleaning)
- Chimney and duct cleaning
- Gutter cleaning
- Janitorial services
- House and residential building cleaning
- Office and commercial building cleaning
- Road and street cleaning
- Transport equipment cleaning
- Window cleaning⁵²

Licensing is not applicable to this sector.

⁴⁴ Ibid (p2)

⁴⁵ IBISWorld, September 2017, IBISWorld Industry Report N7311: Commercial Cleaning Services in Australia, accessed online 07/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=574> (p4)

⁴⁶ (p23)

⁴⁷ Ibid (p23)

⁴⁸ Ibid (p5)

⁴⁹ Ibid (p18)

⁵⁰ Ibid (p4)

⁵¹ Ibid (p4)

⁵² Ibid (p2)

Pest Control Services

This sector is comprised of 2,916⁵³ businesses, the majority of which are small private operators (82.9%)⁵⁴ with the exception of two major players: Rentokil Pty Limited (6.7%)⁵⁵ and Anticimex Pty Ltd (10.4%).⁵⁶ Merger and acquisition activity by major players is expected to continue over the next five years (2017-2021)⁵⁷. The geographic distribution of operators is influenced by population size and climatic conditions⁵⁸, the latter being a significant factor, with operators heavily concentrated in the warmer, humid, tropical areas of New South Wales (34.2%)⁵⁹ and Queensland (32.4%).⁶⁰

The primary activities in the industry are:

- Exterminating services*
- Fumigating services*
- Insect control services*
- Pest control services*
- Pest inspection report services*
- Termite control services*
- Weed control services*⁶¹

** except agricultural and forestry*

License requirements are applicable to this sector and all operators apart from Western Australia (WA) must complete the skill set CPPSS00046. In WA, a provisional licence may be granted after completing CPPPMT3006. The Certificate III must be achieved over a period of 12 months to continue practicing.

Security Services

This sector is comprised of 6,239⁶² businesses, most of which are small local operators (79.8%)⁶³ who act as sub-contracted agents for larger businesses.⁶⁴ There are three major operators in the industry: Linfox Proprietary Limited (6.9%)⁶⁵, SIS Australia Holdings Pty Ltd (7.8%)⁶⁶ and Wilson Parking Australia 1992 Pty Ltd (5.5%),⁶⁷ collectively they account for roughly a quarter of industry revenue in 2016-17.⁶⁸

⁵³ IBISWorld, September 2017, IBISWorld Industry Report N7312: Building Pest Control Services in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573> (p4)

⁵⁴ Ibid (p22)

⁵⁵ Ibid (p22)

⁵⁶ Ibid (p22)

⁵⁷ Ibid (p18)

⁵⁸ Ibid (p17)

⁵⁹ Ibid (p16)

⁶⁰ Ibid (p16)

⁶¹ Ibid (p2)

⁶² IBISWorld, January 2017, IBISWorld Industry Report O7712: Investigation and Security Services in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572> (p4)

⁶³ Ibid (p24)

⁶⁴ Ibid (p19)

⁶⁵ Ibid (p24)

⁶⁶ Ibid (p24)

⁶⁷ Ibid (p24)

⁶⁸ Ibid (p19)

The geographic distribution of operators is influenced by concentration of business clients and population size.⁶⁹ For this reason a majority of operators are located in New South Wales (33.1),⁷⁰ Victoria (24.9%)⁷¹ and Queensland (20.8%).⁷² These states accounted for 78.8%⁷³ of industry revenue for 2017.

The primary activities in this industry are:

- Armoured car services (cash transfers)
- Bodyguard services
- Burglary protection services
- Detective work or private investigative services
- Locksmith services
- Nightwatchman services
- Security and protection services (except police)
- Security guard services
- Security service monitoring
- Security alarm monitoring⁷⁴

Licensing requirements apply to this occupation in all states and territories.

Fire Protection and Fire Safety Services

There are 3,140⁷⁵ businesses operating in the industry, of which 97.6%⁷⁶ employ less than 20 employees and 44.7%⁷⁷ operate as sole proprietors or partners. The two major operators, UTC Australia Commercial Holdings Pty Ltd (8.2%)⁷⁸ and Mather & Platt Pty Ltd (9.9%),⁷⁹ are expected to increase their share of the commercial market and dominate specialised service segments over the next five years (2017-2021).⁸⁰ The geographic distribution of operators is influenced by construction activity and population size.⁸¹ The majority of operators are located in the capital cities of New South Wales (37.3%),⁸² Victoria (24%)⁸³ and Queensland (18.9),⁸⁴ which have a large share of high-rise apartments and offices that require complex fire and security systems.⁸⁵

⁶⁹ Ibid (p18)

⁷⁰ Ibid (p17)

⁷¹ Ibid (p17)

⁷² Ibid (p17)

⁷³ Ibid (p18)

⁷⁴ Ibid (p2)

⁷⁵ IBISWorld, May 2017, IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia, May 2017, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327> (p3)

⁷⁶ Ibid (p20)

⁷⁷ Ibid (p20)

⁷⁸ Ibid (p25)

⁷⁹ Ibid (p25)

⁸⁰ Ibid (p20)

⁸¹ Ibid (p19)

⁸² Ibid (p18)

⁸³ Ibid (p18)

⁸⁴ Ibid (p18)

⁸⁵ Ibid (p19)

The primary activities in this industry are:

- Fire alarm system installation
- Fire sprinklers installation
- Closed circuit video surveillance system installation
- Security systems installation
- Smoke detectors installation
- Repair of installed fire or burglar security alarm systems⁸⁶

National, state and international reports in relation to key building fires (Grenfell in London, Lacrosse in Melbourne) have identified substantial gaps in the existing regulatory systems for fire protection and fire safety in high-rise and complex buildings, as well as new challenges posed by building dwellings in locations at risk of climate change-induced bushfire.^{87,88} This is made clear in response to the Grenfell tragedy, with the interim report stating “[r]esponsibility and accountability must rest with clearly identifiable senior individuals and not be wholly dispersed through the supply chain.”⁸⁹ While good practice currently exists, it is undermined by a regulatory system which does not clearly allocate primary responsibility for ensuring fire protection and fire safety systems are a) fit for purpose, and b) designed, equipped and maintained by appropriately qualified and experienced staff. Regulatory fragmentation is further reflected in existing fire protection and fire safety industry training and qualifications which are currently delivered across multiple training packages by public and private organisations.

Licensing is not currently applicable to this occupation but national accreditation schemes exist.

Swimming Pool and Spa Servicing

The sector is comprised of 1,053⁹⁰ businesses, predominantly small, independent and locally owned and there are no major players.⁹¹ The geographic distribution of operators is influenced by warm climatic conditions and population size and for these reasons the coastal regions of northern New South Wales (35.1%)⁹² and Queensland (25.1%)⁹³ have a disproportionately high number of operators.⁹⁴

The primary activities in this industry are:

- Routine maintenance of domestic, commercial and public swimming pools and spas⁹⁵

⁸⁶ Ibid (p2)

⁸⁷ Senate Economic References Committee (6 September 2017), *Non-conforming Building Products Inquiry: Interim Report – Aluminium composite cladding*, p.7, accessed 18/04/2018.

⁸⁸ UK Crown (December 2017), *Building a Safer Future, Independent Review of Building Regulations and Fire Safety: Interim Report*, pp.9-10, , accessed 23/04/2018.

⁸⁹ Ibid (p.9)

⁹⁰ IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034> (p3)

⁹¹ Ibid (p17)

⁹² Ibid (p15)

⁹³ Ibid (p15)

⁹⁴ Ibid (p16)

⁹⁵ training.gov.au, Qualification details: CPP31212 - Certificate III in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/ CPP31212>

- Treatment of water quality problems
- Service and repair of key components of domestic, commercial and public swimming pools and spas⁹⁶

Varying licensing requirements are applicable to this sector in Queensland and South Australia, dependent on the scope and cost of work.

Peak Bodies and Associations

- Association of Building Sustainability Association
- Association of Consultants in Access Australia
- Australian Environmental Pest Managers Association
- Australian Graphic Design Association
- Australian Environmental Pest Managers Association
- Australian Institute of Building Surveyors
- Australian Security Industry Association
- Building Service Contractors Association of Australia
- Building Designers Australia
- Consulting Surveyors National
- Facility Management Association of Australia
- Fire Protection Association of Australia
- National Association of Building Designers
- Property Services Industry Advisory Body
- Property Council of Australia
- Prudential Investment Company
- Real Estate Institute of Australia
- Royal Institute of Chartered Surveyors Australia
- Strata Community Australia
- Swimming Pool and Spa Association of Australia
- Swimming Australia
- Surveying and Spatial Sciences Institute
- Waste Management Association of Australia

Property Services Qualifications

Table 1: CPP Property Services Qualifications by Sub-Sector

Real Estate Services, Strata Management and Facility Management	No. of Enrolments 2016 ⁹⁷	No. of Completions 2016 ⁹⁸
CPP30211 Certificate III in Property Services (Agency)	1471	143
CPP30311 Certificate III in Property Services (Operations)	77	5

⁹⁶ training.gov.au, Qualification details: CPP41312 - Certificate IV in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/ CPP41312>

⁹⁷ NCVET, 2016, Data Product: Total VET students by industry – Total VET program enrolments, accessed online on 20/02/2018 at: <https://www.ncver.edu.au/data/collection/students-and-courses-collection/total-vet-students-and-courses>

⁹⁸ NCVET, 2016, Data Product: Total VET students by industry – Total VET program completions, accessed online on 20/02/2018 at: <https://www.ncver.edu.au/data/collection/students-and-courses-collection/total-vet-students-and-courses>

CPP40307 Certificate IV in Property Services (Real Estate)	18012	3025
CPP40407 Certificate IV in Property Services (Stock and Station Agency)	141	81
CPP40507 Certificate IV in Property Services (Business Broking)	117	71
CPP40611 Certificate IV in Property Services (Operations)	440	241
CPP50307 Diploma of Property Services (Agency Management)	4796	381
CPP50409 Diploma of Property Services (Business Broking)	N/A	N/A
CPP50511 Diploma of Property Services (Asset and Facility Management)	62	40
CPP60211 Advanced Diploma of Property Services (Asset and Facility Management)	N/A	N/A
CPP30416 Certificate III in Strata Community Management	N/A	N/A
CPP40516 Certificate IV in Strata Community Management	N/A	N/A
CPP50316 Diploma of Strata Community Management	N/A	N/A
Architectural Services		
CPP41110 Certificate IV in Home Sustainability Assessment	10	0
CPP41212 Certificate IV in NatHERS Assessment	618	257
CPP40115 Certificate IV in Building Design Drafting	119	0
CPP50911 Diploma of Building Design	3738	378
CPP51012 Diploma of Residential Building Energy Assessment	0	0
CPP80113 Graduate Certificate in Building Design	0	0
CPP80213 Graduate Diploma of Building Design	24	6
Engineering and Technical Services		
CPP20116 Certificate II in Surveying and Spatial Information	N/A	N/A
CPP30216 Certificate III in Surveying and Spatial Information Services	359	188
CPP40216 Certificate IV in Surveying	299	111
CPP40316 Certificate IV in Spatial Information Services	87	41
CPP50216 Diploma of Spatial Information Services	51	20
CPP50116 Diploma of Surveying	524	251
CPP60116 Advanced Diploma of Surveying	85	65

CPP40811 Certificate IV in Access Consulting	41	41
CPP50711 Diploma of Access Consulting	29	29
CPP80313 Graduate Diploma of Access Consulting	N/A	N/A
Waste Collection, Treatment, and Disposal Services		
CPP20411 Certificate II in Waste Management	19	19
CPP30711 Certificate III in Waste Management	150	16
CPP40911 Certificate IV in Waste Management	8	0
CPP50811 Diploma of Waste Management	0	0
Building Cleaning Services		
CPP20617 Certificate II in Cleaning	4158	497
CPP30316 Certificate III in Cleaning Operations	310	29
CPP40416 Certificate IV in Cleaning Management	77	30
Pest Control Services		
CPP30115 Certificate III in Urban Pest Management	513	29
Security Services		
CPP10107 Certificate I in Security Operations	265	173
CPP20212 Certificate II in Security Operations	18434	12964
CPP20307 Certificate III in Technical Security	154	47
CPP30411 Certificate III in Security Operations	12257	7547
CPP30507 Certificate III in Technical Security	55	44
CPP30607 Certificate III in Investigative Services	764	253
CPP40707 Certificate IV in Security and Risk Management	613	251
CPP50611 Diploma of Security and Risk Management	832	281
Fire Protection and Fire Safety Services		
CPP20511 Certificate II in Fire Protection Inspection and Testing	1112	334
CPP30811 Certificate III in Fire Protection Inspection and Testing	98	5
CPP20518 Certificate II in Fire Protection and Safety Measures*	N/A	N/A
CPP30818 Certificate III in Fire Protection and Safety Measures*	N/A	N/A
Swimming Pool and Spa Servicing		
CPP31212 Certificate III in Swimming Pool and Spa Service	202	82

CPP41312 Certificate IV in Swimming Pool and Spa Service	49	38
--	----	----

*currently at Case for Endorsement status, will supersede CPP20511 and CPP30811

Challenges and Opportunities

The Challenges

The Property Services industry is set to experience a number of major challenges in the future. These challenges will both disrupt and innovate the industry, changing the way some occupations and sub-sectors function, while also providing new opportunities.

Increased Urbanisation

The increasing urbanisation of major cities presents critical challenges for the property services sector, particularly in areas such as security,⁹⁹ infrastructure and building maintenance and the energy efficiency of buildings.¹⁰⁰ In Australia, this could result in infrastructure becoming strained and inefficient as populations expand,¹⁰¹ an increase in the need for at-home security systems, pest control and waste services and the need for buildings to be more eco-efficient.¹⁰² Meeting the challenge of urbanisation will also require the investment and innovation from the private sector as well as commitment and funding from governments.¹⁰³

Convergence of Industries

Tackling large, multifaceted issues such as climate change and rapid urbanisation requires partnership and collaboration from the technology, environmental sustainability and property industries sectors.¹⁰⁴ This cross-sector collaboration and convergence of industries therefore means that the property services industry is being disrupted by the introduction of new technology and the increase in environmental sustainability regulations and standards for buildings. This disruption is leading to a change in the skills profile needed among workers. The industry is increasingly needing T-shaped professionals, which is a person that has both depth and breadth in their knowledge and skillset, as opposed to an I-shaped professional, who has a narrow skill set in one particular area.¹⁰⁵ A Property services T-Shaped professional will have training in a specific area, but also have technological literacy and knowledge and comprehension of the environmental sustainability industry and the building codes and regulations it impacts.

⁹⁹ PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

¹⁰⁰ PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

¹⁰¹ PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

¹⁰² PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

¹⁰³ Ernst & Young, 2016, The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

¹⁰⁴ Ibid

¹⁰⁵ Foltynowicz, Zenon, 2013, T-shaped Professionals, accessed online on 27/03/2018 at: https://www.researchgate.net/publication/264419889_T-shaped_Professionals

Customer Demand

Today's consumer is empowered with more knowledge of the products they are consuming and how their consumption affects the world around them. Consumers are driving transparent and competitive pricing, energy-efficient, environmentally friendly products, and flexible, more personalised ways to interact with businesses.¹⁰⁶ For the property services industry, this means that consumers are helping drive the shift towards digital integrated delivery, the convergence of services within businesses as well as the increase in demand for smart and green buildings.¹⁰⁷

Digitalisation

The property services industry in Australia will experience a shift in the skills needed due to the effects of significant digital disruption. There are two major technological advances that will affect the CPP training package. The first is automation and research suggests that in the property service industry, real estate sales agents have an 85.2% probability of being automated.¹⁰⁸ Secondly, Building Information Modelling (BIM) will allow property services professionals to access 3D walk-through animations for marketing, track the building's sustainability rating and view and record sales, leasing and ownership information all in the one place.¹⁰⁹

Sustainability

With the need for action on climate change and sustainability becoming a focal point globally, so too comes an increased emphasis on the use of renewable energies and green buildings in the built environment. Green buildings significantly reduce the negative impact that buildings have on the environment by incorporating sustainable design, construction and operational elements.¹¹⁰ In addition, the waste treatment and disposal industry is heavily influenced by government compliance such as the National Waste Policy of 2009 that encourages recycling and raised landfill disposal costs.¹¹¹

Product Regulation

These drivers for change are not only going to impact jobs and business models, but are also going to challenge current regulations in fire safety and testing, waste disposal and treatment, and building sustainability. The 2017 Senate inquiry into *Non-conforming building products* identified substantial shortcomings in Australia's regulatory regimes covering the import, installation and use of non-conforming building products.¹¹² It will be challenging to find the right balance between innovation

¹⁰⁶ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

¹⁰⁷ Jadhav, NY, 2016, Green and Smart Buildings, Springer, Singapore

¹⁰⁸ PWC, 2015, *A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM)*, accessed online 19/01/2018 at <https://www.pwc.com.au/stem.html>

¹⁰⁹ Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28

¹¹⁰ Green Building Council of Australia, 2018, *What is Green Building?* <https://www.gbca.org.au/about/what-is-green-building/>

¹¹¹ IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

¹¹² Senate Economic References Committee (6 September 2017), *Non-conforming Building Products Inquiry: Interim Report – Aluminium composite cladding*, p.7, accessed 18/04/2018.

and regulation in order to create regulatory regimes for the future of the industry, which will allow for further innovation and change while making sure standards and policy are adhered to.¹¹³

The Opportunities

With challenges come opportunities to support the industry's trajectory to 'Industry 4.0 of the built environment', supporting streamlined, digitally integrated, data rich, environmentally sustainable systems and services. In the process of this transformation new technologies need to be adopted, and the workforce will need to be trained, re-trained and upskilled with a broader range of skills - T-shaped professional. The review and redevelopment of the property services training package presents the opportunity to do this. Of relevance to this review and development are four cross-sector projects in automation, big data, cyber security and environmental sustainability.

The Automation cross-sector project is being led by Skills Impact with the aim to review 241 existing units of competency across 32 training packages in areas where automation has the potential to rapidly transform work tasks or processes. 33 Property Services units have been identified for review. This review however, does not encompass all property occupations that will be affected by automation and therefore Artibus Innovation proposes to develop a research project that will examine how automation will affect occupations in the Property Services training package.

Building Information Modelling (BIM) has the potential to disrupt and challenge a major part of property services' current processes, tasks and occupations. As a result, Artibus Innovation also proposes to conduct a research project on BIM to determine how this disruption will occur, what occupations will be affected and what implications this has for the training package. The outcomes of these research projects will then lead to:

1. Updating any existing qualifications in the both training packages that will be affected by BIM and automation
2. Identifying gaps in both training packages where new qualifications for BIM and automation are needed and then developing those qualifications.

The Big Data cross-sector project, led by PwC's Skills for Australia has significant intersections with the adoption of BIM in the property services. The Property Services IRC therefore proposes to conduct a case for change to determine the impact of Big Data on the Property Service Training Package, including, what occupations will be affected and what implications this has for the training package.

The Cyber Security cross-sector project, led by PwC's Skills for Australia is currently a case for change that proposes to develop new units around cyber security awareness and to identify existing units that could be imported into other training packages as electives. There is currently one CPP unit of competency identified for review, however, with the increasing amount of property services being delivered and accessed online, cyber security is a key business consideration. The Property Services IRC therefore proposes that Artibus Innovation conduct a case for change to determine how cyber

¹¹³ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

security intersects with the changes occurring in the property services industry and what implications this has for the training package.

The Environmental Sustainability cross-sector project is being led by Skills Impact with a focus on environmentally sustainable production methods and energy management; natural resource management and waste handling; and consumer/market driven sustainability practices. There are seven Property Services units that have been identified for review. Environmental sustainability is critical to the property industry through the design and compliance services it provides. Environmental sustainability has the potential to affect many occupations in the property services industry and therefore Property Services IRC proposes that Artibus Innovation's involvement in this cross-sector project is critical to lead research and reviews on how multiple property services occupations will be affected.

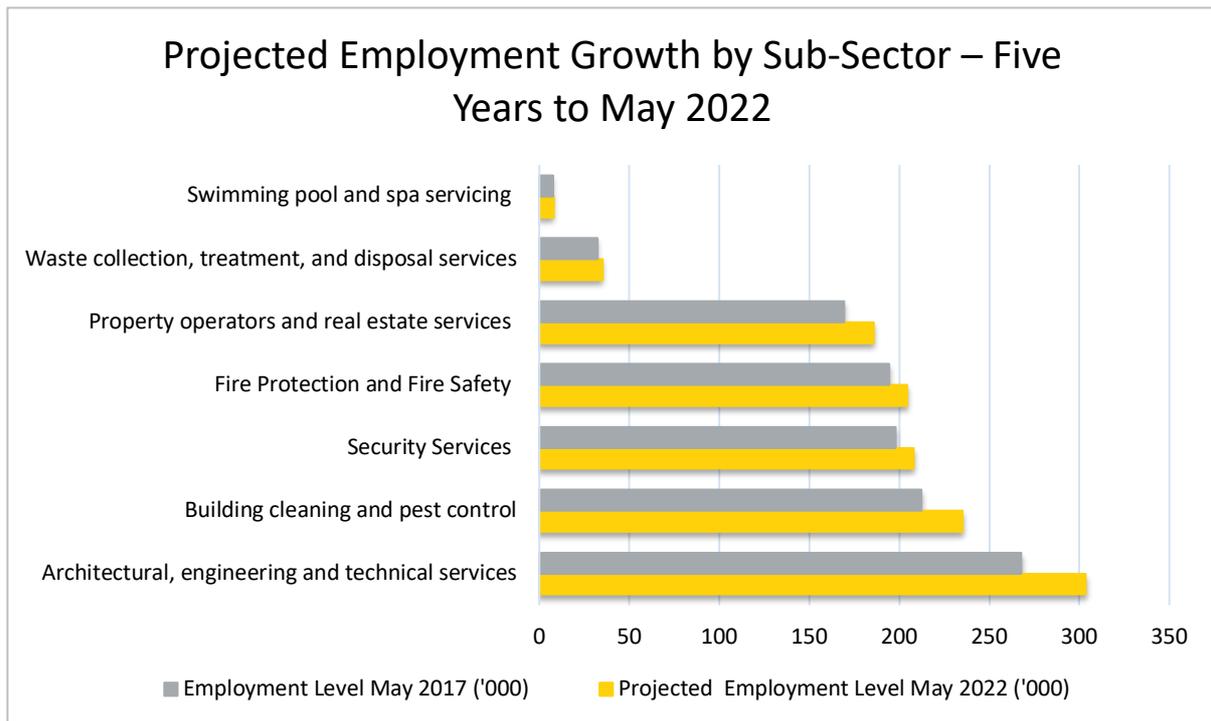
Employment and Skills Outlook

This section explores current and projected employment levels in the Property Services sector. Current skills shortages and emerging skills needed in the industry are also discussed.

Employment Outlook

All Property Services training package sectors are growing. The graphs below show the sub-sector and occupation employment projections for the next five years in the Property Services Sector.

Graph 1: Projected Employment Growth by Sub-Sector – Five Years to May 2022¹¹⁴



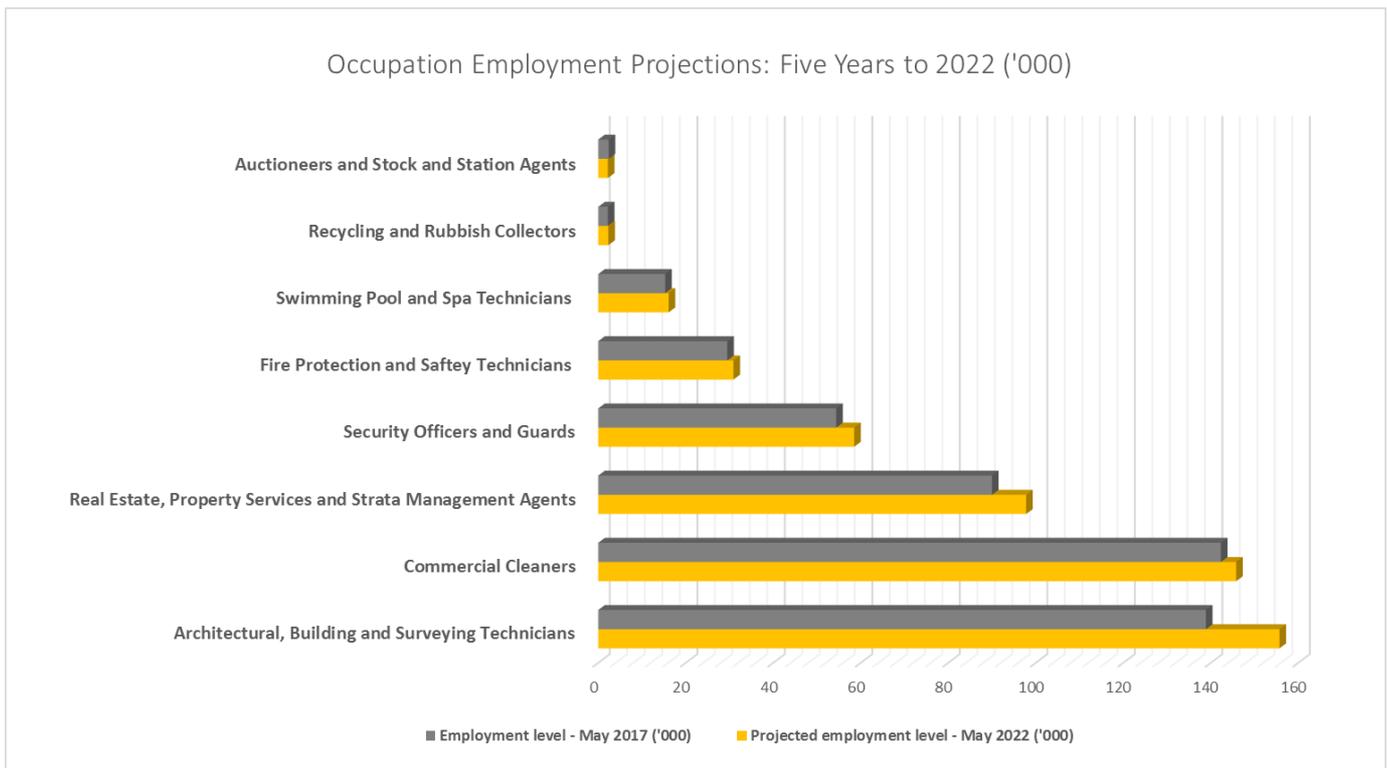
Graph 1 shows that all subsectors are growing. The waste collection, treatment and disposal services sub-sector is projected to grow by 8.2% in employment. The property operators and real estate services subsector is projected to grow by 9.6% in employment, while the building cleaning and pest control sectors and the architectural, engineering and technical services sectors are growing by 10.8% and 9.6% respectively.¹¹⁵ It should be noted that the Property Services training package does not cover all areas of the architectural, engineering and technical services sub-sector, rather it covers only home sustainability, building design, surveying and spatial services and access consulting, however, as noted in Graph 2, these occupations are projected to grow by 12.2% over the next five years.¹¹⁶

¹¹⁴ Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

¹¹⁵ Ibid

¹¹⁶ Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

Graph 2: Occupation Employment Projections: Five Years to 2022¹¹⁷



Key Skills Needed

As part of the *Artibus Innovation CPP Skills Forecast Survey 2018*, respondents were asked the question; ‘in the next 3-5 years, what will be the top skills required for work in your sector?’

There were over 350 answers to this question and the results show that the top five skills perceived as needed in the property services industry in the next 3-5 years are:

- Knowledge across variety of industry areas (including environmental sustainability, waste and resource management)
- IT literacy
- Written and Oral Communication
- Knowledge of policy and legislation
- Customer Service

These results are consistent with the emerging trends identified in the key drivers for change section. For example, IT literacy will be a required skill in the property services industry due to the increase in digitisation. In addition, 27% of responses to the survey mentioned the need for general knowledge within the property service industry and across industry sectors, suggesting that property services

¹¹⁷ Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at <http://lmp.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

professionals will need to expand their skills and knowledge beyond their specific area of expertise and become T-shaped professionals – having knowledge and skills in a variety of areas due to the convergence and collaboration of industries. For further detail, see the key drivers for change section.

Ranking of 13 Generic Workforce Skills

The Department of Education and Training has developed a list of 13 generic workforce skills. Each year, Artibus Innovation asks stakeholders to rank these skills in order of importance through the *Artibus Innovation CPP Skills Forecast Survey 2018*. This question received 129 responses, and the results are presented in table 2.

Table 2 13 Generic Workforce Skills in Order of Importance¹¹⁸

12 GENERIC WORKFORCE SKILLS				
2018		Skill	2017	2016
↑ 1	1	Managerial/Leadership	2	4
↑ 6	2	Environmental and Sustainability	8	10
↑ 3	3	Customer service/Marketing	6	7
↑ 5	4	Financial	9	1
↓ 1	5	Technology use and application	4	3
↓ 3	6	Design mindset/Thinking critically/System thinking/Solving problems	3	5
-	7	Communication/Virtual collaboration/Social intelligence	7	11
↑ 4	8	Science, Technology, Engineering & Maths (STEM)	12	8
↑ 3	9	Data analysis	11	9
↓ 5	10	Learning agility/Information literacy/Intellectual autonomy and self-management	5	12
↓ 10	11	Language, Literacy and Numeracy (LLN)	1	6
↓ 2	12	Entrepreneurial	10	2
N/A	13	Other (please specify)	N/A	N/A

The top responses to the category of ‘other’ included:

- Adaptability
- Communication and people skills
- Project management skills

¹¹⁸ Artibus Innovation CPP Skills Forecast Survey 2018.

- Comprehension of legal & regulatory requirements
- Good work ethic (attitude, reliability, desire to work hard)

Key Drivers for Change

This section further explores the challenges and opportunities for the property services sector through primary data collected through the *Artibus Innovation CPP Skills Forecast Survey and Submissions 2018* and secondary research.

The *Artibus Innovation CPP Skills Forecast Survey 2018* asked participants to ‘indicate what Social, Technological, Environment, Educational, Economic and Political (STEEEP) trends will have an impact on their industry in the next 3-5 years’ and the answer choices were derived using AISC’s *Future Skills and Training Resource*.¹¹⁹ The top 3 trends per category as identified by participants are in table 3.

¹¹⁹ Australian Industry and Skills Committee 2016, *Future Skills and Training: A practical resource to help identify future skills and training*, accessed online on 11/01/2018 at: <https://www.aisc.net.au/content/future-skills-and-training-resource>

Table 3 STEEP Trend Responses from Artibus Innovation CPP Skills Forecast Survey 2018¹²⁰

Trend	Rating per category	
Social Trends		
Changing work and career values	1	23%
Increased Urbanisation*	2	22%
Ageing population	3	22%
Technological Trends		
Digitisation*	1	31%
Artificial intelligence and machine learning	2	26%
Big Data	3	25%
Economic Trends		
Emerging Markets	1	21%
Changing workplace dynamics	2	19%
Empowered customers*	3	16%
Education Trends		
Knowledge-based economy	1	37%
Skills mismatch	2	34%
VET uptake and completion rates	3	29%
Environmental Trends		
Financial viability	1	32%
International sustainability action*	2	26%
Access to quality internet	3	21%
Political Trends		
Political appetite for reform	1	36%
Innovation ahead of regulation*	2	34%
Political instability & polarisation	3	30%

**Trend also identified by the IRC and discussed in the key drivers section*

The AISC's Future Skills and Training Resource was also used by the IRC to identify the following key drivers for change in the industry and on the CPP Property Services Training Package:

- Increasing urbanisation

¹²⁰ Artibus Innovation CPP Skills Forecast Survey 2018

- Convergence of industries leading to diverse skill needs
- Empowered customer demands
- Digitalisation
- Sustainability
- Regulation

These trends were validated in the Artibus Innovation CPP Skills Forecast Survey 2018.

Increasing Urbanisation

The increasing urbanisation of major cities presents critical challenges for the property services sector, particularly in areas such as security,¹²¹ infrastructure and building maintenance and the energy efficiency of buildings.¹²² The UN projects that by 2030; 4.9 billion people will live in urban centres.¹²³

The financial drivers of urbanisation have implications for the property services sector. As urban property ownership becomes chiefly an investment vehicle for on and off shore property owners, rather than owner-residents, it has resulted in two important trends: increased urbanisation without growth and urbanisation without housing.¹²⁴ In the former, luxury apartment buildings become empty investment 'ghost towers' to be managed, while in the latter, the urban non-property-owning population increases without related increases in housing, resulting in overcrowded conditions and strained private and public infrastructure. The stability of these trends is vulnerable to shifts in global financial trends and government regulatory interventions to address the housing crisis, both of which may cause capital to flee investment in housing.¹²⁵

In developed countries, such as Australia, increasing urbanisation could result in infrastructure becoming strained and inefficient as populations expand,¹²⁶ an increase in the need for at-home security systems, pest control measures and effective waste services with increased population densities, and the need for buildings to be more eco-efficient in order to combat the effects of carbon emissions.¹²⁷ In fact, by 2020, it's likely that all buildings in developed countries will need to have sustainability ratings.¹²⁸

¹²¹ PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

¹²² PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

¹²³ PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf> (p7)

¹²⁴ Florida, R. and Schneider, B. (2018), 'The Global Housing Crisis', *CityLab*, accessed online 23/04/2018 at <https://www.citylab.com/equity/2018/04/the-global-housing-crisis/557639/>

¹²⁵ Madden, D. and Marcuse, P. (2016), *In Defense of Housing: The Politics of Crisis*, Verso, London.

¹²⁶ PWC, 2016, Five Megatrends And Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

¹²⁷ PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

¹²⁸ Ibid

The rapid growth of urban populations may outpace governments' ability to provide the basic services needed, such as infrastructure upgrades and waste management¹²⁹ and therefore meeting the challenge of urbanisation will also require investment and innovation from the private sector.¹³⁰ This could include innovation and investment in retrofitting and upgrading existing infrastructure to not only cope with increased use, but also to help cities become more sustainable and more habitable into the future, with the addition of smart grids and better network load balancing¹³¹ as well as investment in recycling and waste services and innovation in the security sector.

Convergence of Industries Leading to Diverse Skill Needs

Tackling large, multifaceted issues such as climate change and rapid urbanisation requires partnership and collaboration from the technology, environmental sustainability and property sectors.¹³² This cross-sector collaboration and convergence of industries therefore means that the property services industry is being disrupted by the introduction of new technology (see digitisation section below) and the increase in environmental sustainability regulations and standards for buildings. This disruption is leading to a change in the skills profile needed among workers in the industry, as the industry is increasingly needing workers that have technological literacy and a knowledge and comprehension of the environmental sustainability industry and the building codes and regulations it impacts. A T-shaped professional in fire protection and fire safety, for instance, will not only have expert skills in inspecting, testing, verifying and reporting systems and equipment, but also an understanding of the broader legislative and regulatory requirements they operate within and general auditing and reporting skills.

This awareness of need for a broader range of skills and knowledge in the industry was validated in the *Artibus Innovation CPP Skills Forecast Survey 2018*. 27% of responses to the survey mentioned the need for general knowledge within the property service industry and across industry sectors. This suggests an awareness that professionals will need to expand their skills and knowledge beyond their specific area of expertise and become T-shaped professionals.

Empowered Consumer Demands

Today's consumer is increasingly empowered with greater knowledge of the products they are consuming and how their consumption affects the world around them. As a result, consumers are driving demand for transparent and competitive pricing, energy-efficient and environmentally friendly products, and more flexible, personalised ways to interact with businesses.¹³³

¹²⁹ PWC, 2016, Five Megatrends And Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

¹³⁰ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

¹³¹ Ibid

¹³² Ibid

¹³³ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

For the property services industry, this means that consumers are helping drive the shift towards the adoption of new technologies and the convergence of services within businesses. Businesses in security services for example, are no longer only providing security solutions for the home, but are also providing home energy management solutions and are developing and adopting security solutions from smart technologies which gives consumers control and oversight of their home security at the touch of a button.¹³⁴

In addition, as the world moves towards more sustainable practices and ways of living, consumer demand is helping drive the increase in smart and green buildings.¹³⁵ According to a study conducted by Dodge Data and Analytics in 2016, client demand and environmental regulations were the top two drivers for green buildings in 2015 globally. This trend can also be seen for Australia, as respondents' ranked environmental regulations, the desire for healthier neighbourhoods and client demands as the top three drivers in 2015.¹³⁶

Digitisation

The property services industry in Australia will experience a shift in skills in jobs needed because of significant digital disruption. The major technological advances that will affect the CPP training package are automation and Building Information Modelling (BIM).

Automation

In the Australian labour market, about 40% of current jobs are deemed to be at high risk of automation over the next 10-15 years, yet we are still training people for these jobs. The Foundation for Young Australians suggest that this is particularly critical for young people, as more than half of young Australians are be trained for jobs that will no longer exist in the same capacity in the future.¹³⁷ In the property service industry, PwC projections show that real estate sales agents have an 85.2% probability of being automated.¹³⁸

Building Information Modelling (BIM)

BIM is the digital version of a building, which includes all information on the building through its whole lifecycle – from design, to build, to operations and even demolition and allows property services professionals to access sales and operation information about a building.¹³⁹

BIM has shown to have major benefits for the property services industry, such as 3D walk-through animations for marketing, tracking the building's sustainability rating, records of sales and ownership and building safety planning.¹⁴⁰ BIM is projected to completely replace current Computer-Aided Design (CAD) systems in the global industry. Governments in Australia have been slow to mandate

¹³⁴ Ibid

¹³⁵ Jadhav, NY, 2016, *Green and Smart Buildings*, Springer, Singapore

¹³⁶ Dodge Data & Analytics, 2016, *World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth*, accessed online 19/01/2018 at <http://www.worldgbc.org/news-media/world-green-building-trends-2016>

¹³⁷ Foundation for Young Australians, 2015, *The New Work Order: Ensuring young Australians have skills and experience for the jobs of the future, not the past*, accessed online 06/02/2018 at: <https://www.fya.org.au/report/new-work-order/>

¹³⁸ PwC, 2015, *A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM)*, accessed online 19/01/2018 at <https://www.pwc.com.au/stem.html>

¹³⁹ Construction and Property Services Industry Skills Council, 2014, *Environmental Scan 2014-15*

¹⁴⁰ Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, 12 (4) 15-28

BIM for public works, but Tier One companies are already well advanced in this area and are starting to require sub-contractors to be able to connect with this technology.

Sustainability

With the need for action on climate change and sustainability becoming a focal point globally, so too comes an increased emphasis on the use of renewable energies and green and smart buildings in the built environment. As the world's population is projected to reach 9.7 billion by 2050, natural resource constraints will significantly challenge the established use of non-renewable energies.¹⁴¹ This is already happening, as renewable energy is the fastest growing energy source, aided by falling costs and increased consumer awareness.¹⁴²

In addition, green buildings significantly reduce the negative impact buildings have on the environment by incorporating sustainable design, construction and operational elements. This also translates to healthier buildings for occupants¹⁴³ Similarly; smart buildings are those that incorporate technology and materials that capture data on how the building is performing. This allows for a greater level of control over energy usage, monitoring tenant usage and maintenance and repair needs while also improving safety features.¹⁴⁴ Often, buildings that incorporate green elements also incorporate smart elements and vice versa.

Regulation

The drivers for change in the property services industry mentioned above are not only going to impact jobs and business models but are also going to challenge current regulations in fire safety and testing, waste disposal and treatment, and building sustainability. It will be the challenge of government to find the right balance between innovation and regulation in order to create regulatory regimes for the future of the industry, which will allow for further innovation and change while making sure standards and policy are adhered to.¹⁴⁵

Impact of Trends on Sub-Sectors and Occupations

Urbanisation, Digitisation and Empowered Customers impact on Property Operators and Real Estate Services and Strata and Facility Management

Increasing urbanisation is bringing about a greater number of high-density residential properties, which is likely to increase property sale activity and other real estate services.¹⁴⁶ However, consumers are increasingly demanding integrated services that allow them to circumvent the real estate

¹⁴¹ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

¹⁴² Ibid

¹⁴³ Green Building Council of Australia, 2018, *What is Green Building?* <https://www.gbca.org.au/about/what-is-green-building/>

¹⁴⁴ StartupAUS, 2017, *Digital Foundations: How technology is transforming Australia's construction sector*, accessed online 01/02/2018 at <https://startupaus.org/document/constructiontech/>

¹⁴⁵ Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

¹⁴⁶ IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

professionals in favour of online channels where information about property history and sales is presented more conveniently. This is projected to be the most significant threat to the industry over the next five years, particularly to the real estate sales and management occupations.¹⁴⁷ According to PWC modelling, real estate agents have an 85.2% probability of being automated in the next 20 years, this would affect 70,673 workers in this occupation.¹⁴⁸

Furthermore, real estate management is an area of the property services sector that traditionally uses a relatively small amount of technology.¹⁴⁹ A PWC study in 2014 reports that only 40% of asset managers are actively involved in social media, other than hosting a website, and by 2020 technology will become critical to the job as it will assist with client engagement and data collection and improving operation efficiency.¹⁵⁰ Certain BIM applications such as 3D walk-through animations, information on a building's sustainability rating and records of sales and ownership data will greatly assist with this.¹⁵¹ The downside of this shift towards technology for the industry is that it is contributing to the automation of real estate professionals.

Industry Convergence, Empowered Consumers, Sustainability and Digitisation impacts on Architectural, Engineering and Technical Services, including Access Consulting

Customers are increasingly requiring businesses to offer integrated services, such as architecture, engineering consulting and construction services. This is driving industry convergence, as businesses move towards providing this full suite of services for projects at a lower price.¹⁵²

In addition, the increase in the environmental concerns of consumers is drawing focus towards more sustainable, green buildings and therefore the demand for higher priced sustainable building designs is likely to increase.¹⁵³ As a result, businesses have incorporated sustainable building principles into their designs which not only provides consumers with their demanded products, but also secures companies business models into the future.¹⁵⁴

Finally, technology advances will make eco-efficient green building more practical. Often, buildings that incorporate green elements also incorporate smart elements in order to provide an integrated system that captures data on how the building is operating. These technologies are continually

¹⁴⁷ Ibid

¹⁴⁸ PWC, 2015, A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM), accessed online 08/02/18 at <https://www.pwc.com.au/pdf/a-smart-move-pwc-stem-report-april-2015.pdf>

¹⁴⁹ IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

¹⁵⁰ PWC, 2014, Real Estate 2020: Building the future, accessed online 08/02/2018 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

¹⁵¹ Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28

¹⁵² IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550>

¹⁵³ Ibid

¹⁵⁴ Ibid

becoming more advanced and affordable, which is increasing their implementation.¹⁵⁵ Other emerging technologies such as BIM will span across many occupations such as architects, engineers and access consultants. BIM will bring about new and more efficient ways of working, as it enables architects, engineers and access consultants to collaborate and work together more efficiently and therefore will require these professionals to learn how to use and incorporate BIM into their practice.¹⁵⁶

Urbanisation, Empowered Consumers and Digitisation Impacts on Public Order and Safety

Population growth, leading to increasing urbanisation and larger numbers of people in urban areas has increased the need for security measures, particularly around government buildings and public areas.¹⁵⁷ Growing public and consumer fear of terrorism and cybercrime is also increasing the demand for security and investigative services.¹⁵⁸ In addition, technology is increasingly playing a key role in crime prevention, with closed-circuit television (CCTV) and online security platforms becoming more commonplace.¹⁵⁹

Increasing Urbanisation, Regulation and Digitisation Impacts on Fire Protection and Fire Safety

With increasing urbanisation comes a long-term shift in construction trends towards high-density multi-storey apartment and office developments, which results in increased demand for the fire protection and safety industry as these buildings require the installation of sophisticated fire safety systems.¹⁶⁰ These systems also need regular and ongoing maintenance and repair services to ensure they comply with industry regulations and laws.¹⁶¹ This demand can be seen in the employment projections for fire protection and safety services in Graph 1.

Furthermore, the 2017 Senate inquiry into *non-conforming building products* was established in response to serious uncontained multi-storey fires in high-rise residential buildings – in Melbourne Dockland’s Lacrosse Tower and London’s Grenfell Tower. The interim report of this inquiry identified substantial shortcomings in Australia’s regulatory regimes covering the import, installation and use of

¹⁵⁵ PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf>

¹⁵⁶ Bryne, C., 2014, *Building Information Modelling in Australia: Lesson from the UK*, ISS Institute Inc, accessed online 01/02/2018 at: <http://www.issinstitute.org.au/fellowships/fellowship-reports/building-and-construction/>

¹⁵⁷ IBISWorld, January 2017, IBISWorld Industry Report O7712: Investigation and Security Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572>

¹⁵⁸ Ibid

¹⁵⁹ Ibid

¹⁶⁰ IBISWorld, May 2017, IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327>

¹⁶¹ Ibid

non-conforming building products, particularly the inappropriate use of highly flammable Aluminium Composite Cladding containing PE core on multi-storey dwellings.¹⁶²

The Australian Building Ministers' Forum (BMF) have commissioned a further report by independent experts, Professor Peter Shergold AC and Ms Bronwyn Weir, on *Assessment of the Effectiveness of Compliance and Enforcement Systems for Building and Construction Industry across Australia*. The outcome of this report is likely to have a far-reaching effect on the regulatory framework for building compliance and construction materials and the fire protection and safety services industry.

In addition, a fit for purpose fire protection and safety regulatory regime is likely to increasingly rely on electronic service performance records and building information. Automated monitoring, testing, verification and reporting technology is already in use in new and refurbished buildings. Use of this technology is unlikely to displace staff in this sector, but rather enhance and extend the regulatory requirements placed on them. This has implications for training as the current training package does not recognise the emerging and diverse regulatory requirements of clients responsible for high and complex buildings, and the varied training and competency requirements of staff using electronic regulation to meet the fire management needs of buildings with different risk profiles.

Furthermore, the current training does not account for the variations in risk assessment issues, which is a barrier to industry body recognition and accreditation of training. However, there is emerging demand for an 'annual assessor' role that will be responsible for ensuring fire protection and fire safety compliance. This also has implications for training packages as it will require high-level competencies and experience working in high-rise and complex buildings, in addition to formal accreditation.

Urbanisation, Regulation and Sustainability Impacts on Waste Collection, Treatment, and Disposal Services

Increasing urbanisation and population growth have driven the expansion of the waste collection, treatment and disposal industry, as more people and higher density suburbs create larger volumes of waste.¹⁶³ As urban centres grow outward and new housing estates and developments are established, waste collection services are also increased in demand.¹⁶⁴ However, with more concentrated population comes more efficient waste collection routes and increased pickups per vehicle, so the industry may be experiencing an increase in demand, but that may not directly translate to an increase in jobs as the industry innovates and becomes more efficient.¹⁶⁵

¹⁶² Senate Economic References Committee (6 September 2017), *Non-conforming Building Products Inquiry: Interim Report – Aluminium composite cladding*, p.7, accessed 18/04/2018.

¹⁶³ IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

¹⁶⁴ IBISWorld, October 2017, IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023>

¹⁶⁵ Ibid

In addition, government regulations that encourage recycling and raise landfill disposal costs have constrained the demand for the waste industry's services.¹⁶⁶ In 2009, the Federal Government brought in the National Waste Policy, which aims to address concerns about the disposal of hazardous waste and increase recycling and recovery rates. This policy has led to increases in regulation at both the state and local level and most states and territories have introduced landfill levies and recycling targets as a result.¹⁶⁷

Regulation, Empowered Consumers and Urbanisation Impacts on Pest Control Services

There are strict environmental and health and safety regulations in the pest control industry, which control how the industry can store, handle and use chemicals.¹⁶⁸ Consumers are also influencing how the industry operates, with increased demand for more environmentally friendly and less toxic chemicals and processes.¹⁶⁹ This is resulting in more effective processes and chemicals that improve pest control outcomes, which in turn, means that the industry is using fewer chemicals less frequently.¹⁷⁰

In addition, due to increasing urbanisation the growing number of households and office buildings is leading to a greater demand for the pest control industry's services, as a higher density population brings about more pests and insects and an increased demand for eradication.¹⁷¹

Sustainability, Urbanisation and Empowered Consumers Impacts on Swimming Pool and Spa Servicing

Over the last decade, water conservation has become a major focus for Australian consumers, with drought and extreme weather patterns occurring in many states. This is bringing about an increase in the demand for the swimming pool and spa industry's water-efficient products.¹⁷² In addition, the increase in urban dwellings due to rapid urbanisation also increases the demand for swimming pool and spa equipment, installation and maintenance.¹⁷³

¹⁶⁶ IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

¹⁶⁷ Ibid

¹⁶⁸ IBISWorld, September 2017, IBISWorld Industry Report N7312: Building Pest Control Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573>

¹⁶⁹ Ibid

¹⁷⁰ Ibid

¹⁷¹ Ibid

¹⁷² IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

¹⁷³ IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

Proposed Responses and Risks of Not Proceeding

Proposed Responses

Finalising the transition of the CPP training package to the 2012 standards

Artibus Innovation's priority is to finalise all current and proposed transitions of the Property Services Training Package to the 2012 standards for training packages as set out by the National Skills Standards Council. This will ensure that the CPP training package keeps in line with the standards of other national training packages, allowing for the easy alignment of imported units relevant to specific qualifications, as well as collaboration on projects across sectors and training packages. It will also ensure that the CPP training package remains of a high quality and meets the workforce development needs of the property services industry.

Continuing to update the current training package to respond to new skill needs

Artibus Innovation will also continue to update the CPP training package to ensure current and emerging skills needs are met. New technologies and consumers with more knowledge, power and control means that the skill and knowledge profile of the workers in the property services sector will need to shift and become more diverse as businesses adapt their models in alignment with the convergence and collaboration of industries. These T-shaped professionals in the property services industry will have expert knowledge and skills in one particular area (for example, property management), but will also have general knowledge and skills in IT literacy and environmental sustainability practices in order to use new technologies in their role and apply environmental regulations and policies. Continually updating the CPP training package to account for these skill needs is vital to the prosperity of the industry.

Having an eye on the future

The future of the property services industry is more streamlined, environmentally friendly and cost effective as a result of digitisation, increased consumer demand for sustainable practices and integrated businesses services, leading to a convergence of industry and a shift in skills needs. The workforce will need to be trained, re-trained and upskilled with the skills and knowledge to use new technologies such as BIM and with knowledge across a variety of industries and sub-sectors. It is therefore important that the skills and knowledge needed for the future are embedded in the CPP training package.

Artibus Innovation aims to continue researching these drivers for change to determine their impact on the Property Service Training Package, including what occupations will be affected and what implications this has for the training package.

Risks of not proceeding

The risks of not proceeding are a loss of currency and erosion of the knowledge and skills in the training package, and therefore in the property services industry. Emerging technologies and the convergence of industries will have a major impact across the industry, leading to new skill needs and new jobs. However, in order for these impacts to become opportunities, it is vital that the workforce be trained, re-trained and upskilled. If this does not occur the CPP training package risks becoming outdated with

obsolete skills and knowledge, which could lead to a shortage of skills, knowledge and experience among the industry's workforce.

Proposed Schedule of Work

Proposed Schedule of Work	
2018 - 19	<p>Proposed Cases for Endorsement</p> <p>Project 1 – Access Consulting Continuation of consultation with the Access Consulting sector to further develop the business case for the review process.</p> <ul style="list-style-type: none"> • CPP40811 Certificate IV in Access Consulting • CPP50711 Diploma of Access Consulting • CPP80313 Graduate Diploma of Access Consulting <p>Project 2 – Building Design Review and restructure the existing framework of the Building Design qualifications and transition to <i>standards for training packages 2012</i>.</p> <ul style="list-style-type: none"> • CPP40115 Certificate IV in Building Design Drafting • CPP50911 Diploma of Building Design • CPP6XXXX Advanced Diploma in Building Design • CPP80213 Graduate Diploma of Building Design <p>Project 3 – Security Review the suite of security qualifications and update to <i>standards for training packages 2012</i>.</p> <ul style="list-style-type: none"> • CPP20307 Certificate II in Technical Security • CPP30507 Certificate III in Technical Security • CPP40707 Certificate IV in Security and Risk Management • CPP50611 Diploma of Security and Risk Management <p>Project 4 – Swimming Pool and Spa Service Review and update the Certificate IV Swimming Pool and Spa Service in relation to a number of priorities.</p> <ul style="list-style-type: none"> • CPP41312 Certificate IV Swimming Pool and Spa Service <p>Project 5 – Urban Pest Management Review and update the CPP30115 Certificate III in Urban Pest Management as per drivers for change.</p> <ul style="list-style-type: none"> • CPP30115 Certificate III in Urban Pest Management <p>Proposed Case for Change</p> <p>Project 6 – Fire Protection and Safety Measures Case for Change Review and update the Fire Protection and Safety measures qualifications per drivers for change.</p> <ul style="list-style-type: none"> • CPP20518 Certificate II in Fire Protection and Safety Measures (Routine Service) • CPP30818 Certificate III in Fire Protection and Safety Measures (Routine Service)

	<p>Proposed Research Projects</p> <p>Projects 7 and 8 – Research Projects Artibus Innovation is proposing two research projects that will examine how BIM and automation will affect occupations in the Property Services training package.</p> <ul style="list-style-type: none"> • Building Information Modelling (BIM) • Automation in the built environment
2019 – 20	<p>Proposed Cases for Change</p> <ul style="list-style-type: none"> • Update the suite of strata management qualifications* • Update the suite of spatial qualifications • Update the suite of cleaning qualifications <p>Proposed Research Projects</p> <ul style="list-style-type: none"> • Cyber Security in the built environment • Environmental sustainability <p>*Please note: Strata Management qualifications were updated in 2016, however, they need to be structurally adjusted to provide a more appropriate tool for regulation consistency as it varies greatly around the country. The units require minimal updating and the activity will likely be consultation on the structure, streams and packaging of the qualification.</p>
2020 – 21	<p>Proposed Cases for Change</p> <ul style="list-style-type: none"> • Review and update the suite of surveying qualifications • Big Data in the built environment
2021 – 22	<p>Qualification Maintenance</p> <p>A general review, update and maintenance of a suite of qualifications will be undertaken.</p>

2018-19 Project Details

PROJECT 1 – Access Consulting

Description

A Case for Change was submitted in March 2018. The Case for Change did not progress because AISC requires further consultation with the access consulting, aged care, and disability sectors to confirm vocational outcomes, reason for low enrolments and alignment and interactions with related sectors.

Artibus will continue to consult with the Access Consulting sector to further develop the business case for the review process.

Qualifications and Units of Competency

Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment
CPP40811 Certificate IV in Access Consulting	Building Inspector (Access Consultant)	63	82	41
CPP50711 Diploma of Access Consulting	Building Inspector (Access Consultant)	0	0	29
CPP80313 Graduate Diploma of Access Consulting	Building Inspector (Access Consultant)	N/A*	N/A*	N/A*

*no data found

Units of competency

- 53 CPPACC units of competency

Rationale

For following drivers for change were examined in the case for change submitted in March 2018.

Enrolment Numbers and Occupational Analysis

Uptake of the qualifications is low, despite Access Consulting being a niche specialist service for which there is increasing demand (see Employment Outlook section). Only two RTOs offer the Certificate IV and Diploma of Access Consulting units or qualifications. No RTO has, or has had, the Graduate Diploma on scope.

Deficiencies with current qualifications and units of competency

There is significant overlap between the Certificate IV and Diploma. Of the 12 core units in the Certificate IV – six are also core in the Diploma and four are electives. Seven electives are common to both qualifications.

Depending on the selection of units in the Certificate IV, a candidate could claim credit transfer for up to 17 out of the required 25 units in the Diploma. There is potentially a 70% overlap, which calls into question the structure of the qualifications and the value of retaining both.

PROJECT 1 – Access Consulting

	<p>The Certificate IV requires eight electives out of a bank of 35; the Diploma requires 10 electives out of a bank of 43. The choice is very broad and it would be possible to achieve the qualifications without a strong access focus.</p> <p>Neither the Certificate IV nor Diploma includes a description of vocational outcomes; the distinction in purpose and application of these qualifications is not clear. Concern was raised during consultation of graduates with a Certificate IV in Access Consulting promoting themselves as a ‘qualified’ Access Consultant.</p> <p>Regulation</p> <p>Access Consulting is not regulated. There is no state or territory-licensing scheme. The sector is indirectly regulated through the primary professions involved. Information provided by the leading RTO shows that people undertaking the Certificate IV or Diploma of Access Consulting are generally practicing as Access Consultants or practitioners in another field (including building surveying, architecture/building design, local council, public transport, disability non-government organisations, facilities management/engineering and occupational therapy). Access consulting qualifications are generally obtained to enhance and complement primary professional work and are used as professional development.</p> <p>Artibus Innovation Action</p> <p>These drivers will be further examined as part of the development of a new business case for this review, through further consultation with the Access Consulting sector.</p>
<p>Minister’s priorities addressed</p>	<p>The Minister’s priorities will be addressed as the business case develops through further consultation.</p>
<p>Consultation plan</p>	<p>The key engagement methods will be as follows:</p> <ul style="list-style-type: none"> • Technical Advisory Groups (TAGs) will be established in accordance with internal policy and procedures to guide the subject matter expertise components of the work • direct correspondence with regulators • direct correspondence with State Training Authorities • direct correspondence with IRC and key stakeholders • Industry associations and other stakeholders will be invited to capital city forums in all state/territories. A copy of forums material will be published on the web and an online forum will also be facilitated • RTOs will be engaged through online survey and trainer networks • public web project page updated fortnightly • newsletter survey distribution to 4,200 stakeholders, including all RTOs, regulators, industry associations. Minimum of three newsletter profiles • industry survey on early and late draft material • distribution of survey through TAG networks and Artibus digital channels • social media – twitter and linkedin.

PROJECT 1 – Access Consulting

Project timeline	Details	Date
	Proposed work approved by AISC	June 2018
	Project kick-off	June 2018
	Research and industry consultation to support and further articulate the case for change and direction of project	June – August 2018
	Findings of research and consultation inform Case for change development and submission to Department of Education and Training	August 2018
	Further project timelines to be determined pending case for change outcomes	

PROJECT 2 – BUILDING DESIGN

Description	Review and restructure the existing framework of the Building Design qualifications: <ul style="list-style-type: none"> • retention of a Certificate IV, Diploma and Graduate Diploma • introduction of a new Advanced Diploma • deletion of the Graduate Certificate. 																													
Qualifications and Units of Competency	<table border="1"> <thead> <tr> <th data-bbox="328 443 695 562">Qualification</th> <th data-bbox="695 443 940 562">Occupational Outcome</th> <th data-bbox="940 443 1099 562">2014 enrolment</th> <th data-bbox="1099 443 1267 562">2015 enrolment</th> <th data-bbox="1267 443 1453 562">2016 enrolment</th> </tr> </thead> <tbody> <tr> <td data-bbox="328 562 695 636">CPP40115 Certificate IV in Building Design Drafting</td> <td data-bbox="695 562 940 636">Architectural Draftsperson</td> <td data-bbox="940 562 1099 636">0</td> <td data-bbox="1099 562 1267 636">0</td> <td data-bbox="1267 562 1453 636">119</td> </tr> <tr> <td data-bbox="328 636 695 710">CPP50911 Diploma of Building Design</td> <td data-bbox="695 636 940 710">Architectural Draftsperson</td> <td data-bbox="940 636 1099 710">3,077</td> <td data-bbox="1099 636 1267 710">3,479</td> <td data-bbox="1267 636 1453 710">3738</td> </tr> <tr> <td data-bbox="328 710 695 815">CPP80113 Graduate Certificate in Building Design</td> <td data-bbox="695 710 940 815">Architectural Draftsperson</td> <td data-bbox="940 710 1099 815">0</td> <td data-bbox="1099 710 1267 815">0</td> <td data-bbox="1267 710 1453 815">0</td> </tr> <tr> <td data-bbox="328 815 695 891">CPP80213 Graduate Diploma of Building Design</td> <td data-bbox="695 815 940 891">Architectural Draftsperson</td> <td data-bbox="940 815 1099 891">0</td> <td data-bbox="1099 815 1267 891">15</td> <td data-bbox="1267 815 1453 891">24</td> </tr> </tbody> </table>					Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment	CPP40115 Certificate IV in Building Design Drafting	Architectural Draftsperson	0	0	119	CPP50911 Diploma of Building Design	Architectural Draftsperson	3,077	3,479	3738	CPP80113 Graduate Certificate in Building Design	Architectural Draftsperson	0	0	0	CPP80213 Graduate Diploma of Building Design	Architectural Draftsperson	0	15	24
	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment																									
CPP40115 Certificate IV in Building Design Drafting	Architectural Draftsperson	0	0	119																										
CPP50911 Diploma of Building Design	Architectural Draftsperson	3,077	3,479	3738																										
CPP80113 Graduate Certificate in Building Design	Architectural Draftsperson	0	0	0																										
CPP80213 Graduate Diploma of Building Design	Architectural Draftsperson	0	15	24																										
<p>Units of competency</p> <ul style="list-style-type: none"> • Update 37 units of competency. <ul style="list-style-type: none"> • 13 to be reviewed and updated • 17 for review, update and transition to the <i>Standards for Training Packages 2012</i> • 7 for potential integration • 18 new units to be developed for the Advanced Diploma. • Total = 55 units of competency. <p>Skill sets</p> <ul style="list-style-type: none"> • To be determined (TBD) 																														
Rationale	<p>The qualifications in this project need to be updated to keep in line with current and future industry best practice as a result of the key drivers for change and policy guidelines.</p> <p>Enrolment Numbers and Occupational Analysis</p> <p>As noted in Graph 2 in the Employment Outlook section, architectural services are projected to grow over the next 5 years. In response to this, Artibus Innovation is proposing to update and retain the Certificate IV, Diploma and Graduate Diploma, but delete the Graduate Certificate due to zero enrolments since 2014.</p> <p>Key Drivers for Change</p> <p>Regulation</p>																													

PROJECT 2 – BUILDING DESIGN

The current qualifications need to be updated to provide vocational outcomes that correspond more logically to ‘Type of Construction’ classifications under the National Construction Code (NCC).

Sustainability and Empowered Customers

As evidenced in the Key Drivers for Change section, the increase in the environmental concerns of consumers is drawing focus towards more sustainable, green buildings. As a result, businesses have incorporated sustainable building principles into their designs and therefore, workers will need the appropriate skills and knowledge. Artibus Innovation is proposing to review the suite of Building Design qualifications to meet this need.

Digitisation

As evidenced in the Key Drivers for Change section, BIM will span across many occupations in the property services industry and will bring about new occupations as well as more efficient ways of working. Therefore, Artibus Innovation will review and update the suite of Building Design qualifications to support pathways in emerging BIM specific occupations (e.g. BIM Technician) as well as to incorporate skills and knowledge needed to use BIM in their practice.

Policy

Update the qualifications to align with the:

- Standards for Training Packages 2012
- COAG Industry and Skill Council directives
- National Construction Code (NCC)
- Australian Qualifications Framework (AQF)

Industry best-practices

There is currently an unintended outcome with the current Graduate Certificate and Graduate Diploma, which is that graduates are able to practice in industry without sufficient depth in knowledge and experience. Artibus Innovation proposes to amend this by deleting the graduate certificate.

It is also proposed to add a new Advanced Diploma to the existing framework of Building Design qualifications. The proposed Advanced Diploma will add to skills and knowledge required for the Type B and C Types of Construction as per the NCC. It will also include competencies relevant to Type A construction.

Minister's priorities addressed	Reform	Action to address reform
	Remove obsolete and superfluous qualifications from the system	The Graduate Certificate will be deleted based on NCVET data showing zero enrolments and no uptake of the qualification.
	Make more information about industry's expectations of training delivery available	The training package components will be written to reflect industry expectations and the Companion Volume Implementation Guide will be updated with

PROJECT 2 – BUILDING DESIGN

		additional information targeted at training providers and consumers.																				
	Ensure the training system better supports individuals to move easily from one related occupation to another	Adjust the design of qualifications to strengthen pathways to related sectors including access consulting and home sustainability and adaptability.																				
	Improve the efficiency of the training system at a unit level	Where appropriate import relevant cross industry and cross sector units to minimise the duplication of units in the system.																				
	Foster greater recognition of skill sets	Consider the development of new skill sets to reflect evolving construction methods and techniques, contemporary design criteria, licencing requirements and continuous professional development needs of the workforce.																				
Consultation plan	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Building Design Project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>																					
Project timeline	<table border="1"> <thead> <tr> <th>Details</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td> <td>June 2018</td> </tr> <tr> <td>Project kick-off</td> <td>June 2018</td> </tr> <tr> <td>Establish Technical Advisory Group (TAG)</td> <td>July – August 2018</td> </tr> <tr> <td>Training package components put forward for consultation</td> <td>September 2018</td> </tr> <tr> <td>Review feedback and update Draft Pack 1</td> <td>November 2018</td> </tr> <tr> <td>Training package components put forward for validation</td> <td>January 2019</td> </tr> <tr> <td>Finalisation and Quality Assurance</td> <td>March 2019</td> </tr> <tr> <td>Training package components sent to STAs for sign-off</td> <td>March 2019</td> </tr> <tr> <td>Submitted for endorsement training package components to Commonwealth Department of Education and Training</td> <td>April 2019</td> </tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	June 2018	Project kick-off	June 2018	Establish Technical Advisory Group (TAG)	July – August 2018	Training package components put forward for consultation	September 2018	Review feedback and update Draft Pack 1	November 2018	Training package components put forward for validation	January 2019	Finalisation and Quality Assurance	March 2019	Training package components sent to STAs for sign-off	March 2019	Submitted for endorsement training package components to Commonwealth Department of Education and Training	April 2019	
Details	Date																					
Proposed work approved by AISC	June 2018																					
Project kick-off	June 2018																					
Establish Technical Advisory Group (TAG)	July – August 2018																					
Training package components put forward for consultation	September 2018																					
Review feedback and update Draft Pack 1	November 2018																					
Training package components put forward for validation	January 2019																					
Finalisation and Quality Assurance	March 2019																					
Training package components sent to STAs for sign-off	March 2019																					
Submitted for endorsement training package components to Commonwealth Department of Education and Training	April 2019																					

PROJECT 3 – SECURITY

Description	Review and update the suite of security qualifications.																													
Qualifications and Units of Competency	<table border="1"> <thead> <tr> <th data-bbox="316 360 695 488">Qualification</th> <th data-bbox="695 360 940 488">Occupational Outcome</th> <th data-bbox="940 360 1099 488">2014 enrolment</th> <th data-bbox="1099 360 1267 488">2015 enrolment</th> <th data-bbox="1267 360 1469 488">2016 enrolment</th> </tr> </thead> <tbody> <tr> <td data-bbox="316 488 695 571">CPP20307 Certificate II in Technical Security</td> <td data-bbox="695 488 940 571">Electrical Trades Assistant</td> <td data-bbox="940 488 1099 571">134</td> <td data-bbox="1099 488 1267 571">80</td> <td data-bbox="1267 488 1469 571">154</td> </tr> <tr> <td data-bbox="316 571 695 654">CPP30507 Certificate III in Technical Security</td> <td data-bbox="695 571 940 654">Electrical Trades Assistant</td> <td data-bbox="940 571 1099 654">171</td> <td data-bbox="1099 571 1267 654">93</td> <td data-bbox="1267 571 1469 654">55</td> </tr> <tr> <td data-bbox="316 654 695 786">CPP40707 Certificate IV in Security and Risk Management</td> <td data-bbox="695 654 940 786">Security Consultant</td> <td data-bbox="940 654 1099 786">543</td> <td data-bbox="1099 654 1267 786">996</td> <td data-bbox="1267 654 1469 786">613</td> </tr> <tr> <td data-bbox="316 786 695 918">CPP50611 Diploma of Security and Risk Management</td> <td data-bbox="695 786 940 918">Security Consultant</td> <td data-bbox="940 786 1099 918">505</td> <td data-bbox="1099 786 1267 918">1344</td> <td data-bbox="1267 786 1469 918">832</td> </tr> </tbody> </table>	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment	CPP20307 Certificate II in Technical Security	Electrical Trades Assistant	134	80	154	CPP30507 Certificate III in Technical Security	Electrical Trades Assistant	171	93	55	CPP40707 Certificate IV in Security and Risk Management	Security Consultant	543	996	613	CPP50611 Diploma of Security and Risk Management	Security Consultant	505	1344	832				
	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment																									
	CPP20307 Certificate II in Technical Security	Electrical Trades Assistant	134	80	154																									
	CPP30507 Certificate III in Technical Security	Electrical Trades Assistant	171	93	55																									
	CPP40707 Certificate IV in Security and Risk Management	Security Consultant	543	996	613																									
	CPP50611 Diploma of Security and Risk Management	Security Consultant	505	1344	832																									
<p>Units of competency</p> <ul style="list-style-type: none"> Update 31 CPPSEC units of competency – please see Appendix A for details. Through review and update, consideration will be given to the development of new units of competency. Number is not known at this stage. <p>Skill sets</p> <p>Through review and update, the development of skill sets will be considered. Number not known at this stage.</p>																														
Rationale	<p>The qualifications in this project need to be updated to keep in line with current and future industry best practice as a result of the key drivers for change and policy guidelines.</p> <p>Enrolment Numbers and Occupational Analysis</p> <p>As noted in Graph 1 in the Employment Outlook section, the security services industry is projected to grow over the next 5 years. In response to this, Artibus Innovation is proposing to review and update the security qualifications listed. The Certificate III in Technical Security has declining levels of enrolment since 2014, which will be considered in regard to deletion or retention of this qualification.</p> <p>Key Drivers for Change</p> <p>Digitisation</p> <p>As discussed in the Key Drivers for Change section, technology is increasingly playing a key role in crime prevention, as closed-circuit television (CCTV) and online security platforms become more commonplace. Due to this, qualifications listed will need to be reviewed</p>																													

PROJECT 3 – SECURITY

against the skills and knowledge needed to operate, install and maintain these technologies. Artibus Innovation is proposing to review and update the qualifications listed to meet this need.

Policy

Transition and update the qualifications to align with the:

- 2012 *Standards for Training Packages*
- COAG Industry and Skill Council directives.

	Reform	Action to address reform
Minister's priorities addressed	Remove obsolete and superfluous qualifications from the system	<p>We will consult with stakeholders to determine the reason for declining enrolments in the Certificate III and confirm if low relevance is a contributing factor that could be addressed by updating the qualification. This will also help determine if the qualification has become obsolete and can be deleted.</p> <p>It is over a decade since three of the four technical security qualifications were reviewed. We will need to determine that there are no newer qualifications, such as those in the ICT or UEE training packages that address the current industry need for technical security.</p>
	Make more information about industry's expectations of training delivery available	The units, assessment requirements and qualifications will be written to reflect industry expectations and the Companion Volume Implementation Guide will be updated with additional information targeted at training providers and consumers.
	Ensure the training system better supports individuals to move easily from one related occupation to another	Adjust the design of the qualifications to incorporate training for digital skills and knowledge for emerging technologies within the industry and related sectors such as electronic security.
	Improve the efficiency of the training system at a unit level	Analyse the CPP units for duplication and identify and confirm potential units for deletion. Also, import relevant units from cross industry and cross sector to minimise duplication in the system.

PROJECT 3 – SECURITY

	Foster greater recognition of skill sets	Consider the development of skill sets for the continuing professional development of the existing workforce.
Consultation plan	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Security project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>	
Project timeline	Details	Date
	Proposed work approved by AISC	June 2018
	Project kick-off	June 2018
	Establish Technical Advisory Group (TAG)	July – August 2018
	Training package components put forward for consultation	September 2018
	Review feedback and update Draft Pack 1	November 2018
	Training package components put forward for validation	January 2019
	Finalisation and Quality Assurance	March 2019
	Training package components sent to STAs for sign-off	April 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	May 2019

PROJECT 4 – SWIMMING POOL AND SPA SERVICE

<p>Description</p>	<p>Review and update the CPP41312 Certificate IV Swimming Pool and Spa Service in relation to:</p> <ul style="list-style-type: none"> • duplication of content across units • packaging rules • superseded units • imported unit choice • number of units available to select • cross sector convergence • emerging skill demand • the integrity of the qualification being compromised due to the inadequate internal logic and inconsistency expressed in the units of competency 										
<p>Qualification and Units of Competency</p>	<table border="1" data-bbox="341 768 1469 1016"> <thead> <tr> <th>Qualification</th> <th>Occupational Outcome</th> <th>2014 enrolment</th> <th>2015 enrolment</th> <th>2016 enrolment</th> </tr> </thead> <tbody> <tr> <td>CPP41312 Certificate IV in Swimming Pool and Spa Service</td> <td>Swimming Pool and Spa Technician</td> <td>205</td> <td>147</td> <td>49</td> </tr> </tbody> </table> <p>Units of competency</p> <ul style="list-style-type: none"> • Update 17 CPPSPS units of competency – please see Appendix A for details • Through review and update, consideration will be given to the development of new units of competency. Number is not known at this stage. <p>Skill sets</p> <p>Through review and update, the development of skill sets will be considered. Number not known at this stage.</p>	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment	CPP41312 Certificate IV in Swimming Pool and Spa Service	Swimming Pool and Spa Technician	205	147	49
Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment							
CPP41312 Certificate IV in Swimming Pool and Spa Service	Swimming Pool and Spa Technician	205	147	49							
<p>Rationale</p>	<p>The qualification in this project needs to be updated to keep in line with current and future industry best practice as a result of the key drivers for change and policy guidelines.</p> <p>Enrolment Numbers and Occupational Analysis</p> <p>Enrolment numbers reflect that swimming pool and spa servicing is a niche sector in the property services industry and as noted in Graph 2 in the Employment Outlook section, swimming pool and spa technicians have a minor projection in growth over the next 5 years. In response to this, Artibus Innovation is proposing to review and update the Certificate IV Swimming Pool and Spa Service.</p> <p>Key Drivers for Change</p> <p><i>Digitisation</i></p>										

PROJECT 4 – SWIMMING POOL AND SPA SERVICE

Technological disruption has affected the sector significantly. The current qualification does not address technological advances such as:

- efficient pool heating processes
- new filtration mechanisms
- circulation products in mineral pools
- new finishing, lighting and surfacing products
- pivot pools
- solar heating systems

Sustainability and empowered consumers

As stated in the Key Drivers for Change section, water conservation has become a major focus for Australian consumers, which is bringing about an increase in the demand for more water-efficient products in the swimming pool and spa industry. Artibus Innovation proposes to examine the skills and knowledge that workers will need to be able to use these products and incorporate into the qualification as needed.

Policy

Transition and update the qualification to align with the:

- 2012 Standards for Training Packages
- COAG Industry and Skill Council directives as stated in the minister’s priorities addressed section below

Regulation

The qualification will be updated to more adequately enable understanding of relevant legislation.

- industry input suggests that there are legislative gaps in the qualification as it does not clearly specify licensing requirements
- recent legislation relating to pool fencing is not reflected in the qualification.

	Reform	Action to address reform
Minister’s priorities addressed	Remove obsolete and superfluous qualifications from the system	Swimming Pool and Spa is a niche area for which there is strong industry support for a qualification.
	Make more information about industry’s expectations of training delivery available	The industry, through a national association has indicated that it will be actively involved in providing information on their expectations of training. The units and assessment requirements will reflect this. The Companion Volume Implementation Guide will be update with additional information useful for training providers and consumers.

PROJECT 4 – SWIMMING POOL AND SPA SERVICE

	Ensure the training system better supports individuals to move easily from one related occupation to another	Adjust the design of the qualification to enable pathways to related sectors such as sales in a pool and spa shop or with chemical suppliers.																				
	Improve the efficiency of the training system at a unit level	Where appropriate import relevant cross industry and cross sector units to minimise the duplication of units in the system.																				
	Foster greater recognition of skill sets	The development of skill sets will be considered, such as evolving materials and technologies and licensing requirements, to provide for the continuing professional development needs of the workforce.																				
Consultation plan	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Swimming Pool and Spa Service project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>																					
Project timeline	<table border="1"> <thead> <tr> <th data-bbox="343 1057 1123 1122">Details</th> <th data-bbox="1123 1057 1406 1122">Date</th> </tr> </thead> <tbody> <tr> <td data-bbox="343 1122 1123 1164">Proposed work approved by AISC</td> <td data-bbox="1123 1122 1406 1164">June 2018</td> </tr> <tr> <td data-bbox="343 1164 1123 1207">Project kick-off</td> <td data-bbox="1123 1164 1406 1207">June 2018</td> </tr> <tr> <td data-bbox="343 1207 1123 1249">Establish Technical Advisory Group (TAG)</td> <td data-bbox="1123 1207 1406 1249">July – August 2018</td> </tr> <tr> <td data-bbox="343 1249 1123 1292">Training package components put forward for consultation</td> <td data-bbox="1123 1249 1406 1292">September 2018</td> </tr> <tr> <td data-bbox="343 1292 1123 1335">Review feedback and update Draft Pack 1</td> <td data-bbox="1123 1292 1406 1335">November 2018</td> </tr> <tr> <td data-bbox="343 1335 1123 1377">Training package components put forward for validation</td> <td data-bbox="1123 1335 1406 1377">January 2019</td> </tr> <tr> <td data-bbox="343 1377 1123 1420">Finalisation and Quality Assurance</td> <td data-bbox="1123 1377 1406 1420">March 2019</td> </tr> <tr> <td data-bbox="343 1420 1123 1462">Training package components sent to STAs for sign-off</td> <td data-bbox="1123 1420 1406 1462">April 2019</td> </tr> <tr> <td data-bbox="343 1462 1123 1543">Submitted for endorsement training package components to Commonwealth Department of Education and Training</td> <td data-bbox="1123 1462 1406 1543">May 2019</td> </tr> </tbody> </table>		Details	Date	Proposed work approved by AISC	June 2018	Project kick-off	June 2018	Establish Technical Advisory Group (TAG)	July – August 2018	Training package components put forward for consultation	September 2018	Review feedback and update Draft Pack 1	November 2018	Training package components put forward for validation	January 2019	Finalisation and Quality Assurance	March 2019	Training package components sent to STAs for sign-off	April 2019	Submitted for endorsement training package components to Commonwealth Department of Education and Training	May 2019
Details	Date																					
Proposed work approved by AISC	June 2018																					
Project kick-off	June 2018																					
Establish Technical Advisory Group (TAG)	July – August 2018																					
Training package components put forward for consultation	September 2018																					
Review feedback and update Draft Pack 1	November 2018																					
Training package components put forward for validation	January 2019																					
Finalisation and Quality Assurance	March 2019																					
Training package components sent to STAs for sign-off	April 2019																					
Submitted for endorsement training package components to Commonwealth Department of Education and Training	May 2019																					

PROJECT 5 – URBAN PEST MANAGEMENT

Description	Review and update the CPP30115 Certificate III in Urban Pest Management as per driver discussed in rationale.														
Qualification and Units of Competency	<table border="1"> <thead> <tr> <th data-bbox="304 349 687 470">Qualification</th> <th data-bbox="687 349 932 470">Occupational Outcome</th> <th data-bbox="932 349 1091 470">2014 enrolment</th> <th data-bbox="1091 349 1259 470">2015 enrolment</th> <th data-bbox="1259 349 1468 470">2016 enrolment</th> </tr> </thead> <tbody> <tr> <td data-bbox="304 470 687 555">CPP30115 Certificate III in Urban Pest Management</td> <td data-bbox="687 470 932 555">Pest Controller</td> <td data-bbox="932 470 1091 555">0</td> <td data-bbox="1091 470 1259 555">14</td> <td data-bbox="1259 470 1468 555">513</td> </tr> </tbody> </table>	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment	CPP30115 Certificate III in Urban Pest Management	Pest Controller	0	14	513				
	Qualification	Occupational Outcome	2014 enrolment	2015 enrolment	2016 enrolment										
CPP30115 Certificate III in Urban Pest Management	Pest Controller	0	14	513											
<p data-bbox="304 555 687 593">Units of competency</p> <ul data-bbox="304 593 687 862" style="list-style-type: none"> • Update 15 CPPPMT units of competency – please see Appendix A for unit details. • Through review and update, consideration will be given to vocational alignment and AQF level of the units and qualification • The introduction of a Certificate IV will be considered to meet industry need for high level pest advice and team leadership <p data-bbox="304 862 687 900">Vocational streams and skill sets</p> <p data-bbox="304 900 687 1086">Through review and update, the development of streams within the qualifications and skill sets will be considered to better align the qualification with vocational outcomes and provide opportunity career development.</p>															

Rationale	<p data-bbox="304 1086 1468 1164">The qualifications in this project need to be updated to keep in line with current and future industry best practice as a result of the key drivers for change.</p> <p data-bbox="304 1164 1468 1202">Enrolment Numbers and Occupation Analysis</p> <p data-bbox="304 1202 1468 1411">There has been a significant increase in the enrolments in the Certificate III in Urban Pest Management since 2014 and as the building cleaning and pest services industry is projected to grow in the next 5 years (see graph 1 in the employment outlook section), Artibus Innovation proposes to review and update the Certificate III in Urban Pest Management.</p> <p data-bbox="304 1411 1468 1449">Industry Concerns</p> <p data-bbox="304 1449 1468 1724">The current qualification provides a generalist pathway that does not reflect the emerging specialisation within the pest control function and does not describe the skills required to provide advice on pest strategies, particularly in high risk, commercial and health settings. The package lacks a higher-level qualification to provide the skills for the provision of pest strategy advice in complex and high-risk areas and in leadership of pest control teams.</p> <p data-bbox="304 1724 1468 1986">Industry has ongoing concerns with graduate quality and duration of training and is supportive of a review of performance evidence to strengthen graduate employability. Artibus Innovation proposes to examine content and structure of the Certificate III to better align packaging with vocational outcomes in line with industry expectations. Consideration will be given to the introduction of a Certificate IV to align with the functions of a pest manager who lead pest teams and provide complex advice on pest management strategies.</p>
------------------	--

PROJECT 5 – URBAN PEST MANAGEMENT

	<p>The content of existing units will be reviewed to ensure appropriate alignment with job functions and AQF level.</p> <p>Key Drivers for Change</p> <p><i>Empowered consumers and environmental sustainability</i></p> <p>As discussed in the Key Drivers for change section, consumers are influencing how the pest control industry operates, with increased demand for more environmentally friendly and less toxic chemicals and processes. This is resulting in more effective processes being developed and different chemicals being used that improve pest control outcomes. Training requirements will be examined throughout the review and update.</p>	
<p>Minister's priorities addressed</p>	<p>Reform</p>	<p>Action to address reform</p>
	<p>Remove obsolete and superfluous qualifications from the system</p>	<p>Where appropriate, import existing units from other packages to support training package streamlining</p>
	<p>Make more information about industry's expectations of training delivery available</p>	<p>Inclusion of streams and skill sets to articulate vocational outcomes and specialisations</p>
	<p>Ensure the training system better supports individuals to move easily from one related occupation to another</p>	<p>Utilise streams and skill sets to allow for additional skills acquisition in a modular approach</p>
	<p>Improve the efficiency of the training system at a unit level</p>	<p>Better align training package with vocational outcomes such as;</p> <ul style="list-style-type: none"> • Residential • Commercial • High risk • Advice provision, and • Team leadership
	<p>Foster greater recognition of skill sets</p>	<p>Steaming of the operative qualification will provide a career progression framework allowing workers to build on existing skills to further develop in specialist areas. Importing units from other packages will support transferability and flexibility.</p>
<p>Consultation plan</p>	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Urban Pest Management project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>	
<p>Project timeline</p>	<p>Details</p>	<p>Date</p>
	<p>Proposed work approved by AISC</p>	<p>June 2018</p>

PROJECT 5 – URBAN PEST MANAGEMENT

	Project kick-off	June 2018
	Establish Technical Advisory Group (TAG)	July – August 2018
	Training package components put forward for consultation	September 2018
	Review feedback and update Draft Pack 1	November 2018
	Training package components put forward for validation	January 2019
	Finalisation and Quality Assurance	March 2019
	Training package components sent to STAs for sign-off	April 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	May 2019

PROJECT 6 – FIRE PROTECTION AND SAFETY MEASURES CASE FOR CHANGE

<p>Description</p>	<p>The IRC is proposing a case for change to review the suite of Fire Protection and Safety Measures qualifications. These qualifications are currently being updated and are nearing endorsement, however, the IRC has identified gaps in the qualifications not covered in the activity order in relation to training, skills and regulation.</p> <p>These gaps include:</p> <ul style="list-style-type: none"> • the current qualifications do not address the need for an ‘Annual Assessor’ role • the need to examine gaps in the current qualifications regarding emerging fire technologies • the need to examine gaps in training packages relating to bushfire planning and management, and to streamline training accordingly <p>The case for change will aim to examine the need to develop a qualification and/or skill sets for the current qualifications to address these gaps.</p>						
<p>Qualification and Units of Competency</p>	<table border="1" data-bbox="383 875 1369 1126"> <thead> <tr> <th>Qualification</th> <th>Occupational Outcome</th> </tr> </thead> <tbody> <tr> <td>CPP20518 Certificate II in Fire Protection and Safety Measures (Routine Service)</td> <td>Electronic Instrument Trades Worker (inspection and testing)</td> </tr> <tr> <td>CPP30818 Certificate III in Fire Protection and Safety Measures (Routine Service)</td> <td>Electronic Instrument Trades Worker (inspection and testing)</td> </tr> </tbody> </table> <p>Units of competency and skill sets</p> <ul style="list-style-type: none"> • Current qualifications include 57 CPPFPSM units of competency – please see Appendix A for unit details. • Current qualifications include 18 skill sets • Through the proposed case for change, consideration will be given to the development of a new qualification and/or new skill sets 	Qualification	Occupational Outcome	CPP20518 Certificate II in Fire Protection and Safety Measures (Routine Service)	Electronic Instrument Trades Worker (inspection and testing)	CPP30818 Certificate III in Fire Protection and Safety Measures (Routine Service)	Electronic Instrument Trades Worker (inspection and testing)
Qualification	Occupational Outcome						
CPP20518 Certificate II in Fire Protection and Safety Measures (Routine Service)	Electronic Instrument Trades Worker (inspection and testing)						
CPP30818 Certificate III in Fire Protection and Safety Measures (Routine Service)	Electronic Instrument Trades Worker (inspection and testing)						
<p>Rationale</p>	<p>IRC Recommendations</p> <p>The Property Services IRC has identified that the current fire protection qualifications lead to an occupational outcome that does not include skills or knowledge in annual assessment, emerging fire technologies and bushfire planning and management. This has been identified as a training gap in the current qualifications, and therefore the IRC is proposing a case for change to examine the need to address this gap through the development of a new qualification and/or skill sets for the current qualifications.</p> <p>Key Drivers for Change</p> <p><i>Digitisation</i></p>						

PROJECT 6 – FIRE PROTECTION AND SAFETY MEASURES CASE FOR CHANGE

<p>Rationale</p>	<p>As discussed in the Key Drivers for Change section, technology and regulations are projected to change the fire protection and safety industry. For example, automated monitoring, testing, verification and reporting technology is already in use in new and refurbished buildings but the current training package does not recognise and provide efficient training for workers using these electronic regulations to meet the fire management needs of buildings with different risk profiles. Use of this technology is unlikely to displace workers in this sector, but rather enhance and extend the regulatory requirements placed on them, and therefore it is important workers are equipped with the appropriate skills and knowledge.</p> <p>Regulation</p> <p>The existing qualifications in the training package do not support training for the variations in risk assessment issues; which is a barrier to industry body recognition and accreditation of training. However, there is emerging demand for an ‘annual assessor’ role that will be responsible for ensuring fire protection and fire safety compliance. This also has implications for future training packages as it will require high level competencies and experience working in high-rise and complex buildings.</p> <p>Furthermore, reports in relation to key building fires (Grenfell in London, Lacrosse in Melbourne) have identified substantial gaps in the existing regulatory systems for fire protection and fire safety, as well as new challenges posed by building dwellings in locations at risk of climate change-induced bushfire (see Key Drivers for Change section). While good practice currently exists, it is undermined by a regulatory system that does not clearly allocate primary responsibility for ensuring fire protection and fire safety systems are fit for purpose and designed, equipped and maintained by appropriately qualified and experienced staff. The IRC is proposing this case for change to examine the gaps in training packages relating to bushfire planning and management, and to streamline training accordingly.</p>								
<p>Minister’s priorities addressed</p>	<p>The minister’s priorities will be addressed in the case for change.</p>								
<p>Consultation plan</p>	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Fire Protection and Safety Measures project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>								
<p>Project timeline</p>	<table border="1"> <thead> <tr> <th data-bbox="378 1807 1139 1877">Details</th> <th data-bbox="1145 1807 1406 1877">Date</th> </tr> </thead> <tbody> <tr> <td data-bbox="378 1877 1139 1917">Proposed work approved by AISC</td> <td data-bbox="1145 1877 1406 1917">June 2018</td> </tr> <tr> <td data-bbox="378 1917 1139 1957">Project kick-off</td> <td data-bbox="1145 1917 1406 1957">June 2018</td> </tr> <tr> <td data-bbox="378 1957 1139 2000">Establish Technical Advisory Group (TAG)</td> <td data-bbox="1145 1957 1406 2000">July – August 2018</td> </tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	June 2018	Project kick-off	June 2018	Establish Technical Advisory Group (TAG)	July – August 2018
Details	Date								
Proposed work approved by AISC	June 2018								
Project kick-off	June 2018								
Establish Technical Advisory Group (TAG)	July – August 2018								

PROJECT 6 – FIRE PROTECTION AND SAFETY MEASURES CASE FOR CHANGE

	Training package components put forward for consultation	September 2018
	Review feedback and update Case for Change	November 2018
	Training package components sent to STAs for sign-off	December 2018
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	January 2019

PROJECTS 7 and 8 – PROPOSED RESEARCH PROJECTS

Description	<p>Artibus Innovation is proposing two research projects – one on Building Information modelling and one on Automation in the Built Environment – that will examine how these technologies will affect occupations in the Property Services training package. The outcomes of these research projects will then lead to:</p> <ol style="list-style-type: none"> 1. Updating any existing qualifications in the CPP training package identified that will be affected by BIM and automation 2. Identifying gaps in the training package where new qualifications for BIM and automation are needed and developing those qualifications. 															
Rationale	<p>As discussed in the Key Drivers for Change section, BIM and automation have the potential to disrupt and challenge a major part of the property services industry’s current processes, tasks and occupations.</p> <p>BIM will bring about new and more efficient ways of working in the property industry, so workers will need to be upskilled and retrained with the knowledge and skills to use BIM effectively. Additionally, in the Australian labour market, about 40% of current jobs are deemed to be at high risk of automation over the next 10-15 years, yet we are still training people for these jobs.</p> <p>In response, the IRC proposes to two research projects – one on BIM and the other on automation in the built environment that aim to determine how this disruption will occur, what occupations will be affected and what qualifications this will impact in the CPP training package.</p>															
Minister’s priorities addressed	<p>Not applicable to research projects. Minister’s priorities will be addressed as qualification amendments become evident through research outcomes.</p>															
Consultation plan	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted throughout these research projects.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>															
Project timeline	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Details</th> <th style="text-align: left;">Date</th> </tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td> <td>June 2018</td> </tr> <tr> <td>Project kick-off</td> <td>June 2018</td> </tr> <tr> <td>Develop research scope and design</td> <td>June 2018</td> </tr> <tr> <td>Research undertaken including industry consultation</td> <td>July – December 2018</td> </tr> <tr> <td>Analyse findings and report outcomes</td> <td>February 2019</td> </tr> <tr> <td>IRC consider implications for Skills Forecast 2019</td> <td>March 2019</td> </tr> </tbody> </table>		Details	Date	Proposed work approved by AISC	June 2018	Project kick-off	June 2018	Develop research scope and design	June 2018	Research undertaken including industry consultation	July – December 2018	Analyse findings and report outcomes	February 2019	IRC consider implications for Skills Forecast 2019	March 2019
Details	Date															
Proposed work approved by AISC	June 2018															
Project kick-off	June 2018															
Develop research scope and design	June 2018															
Research undertaken including industry consultation	July – December 2018															
Analyse findings and report outcomes	February 2019															
IRC consider implications for Skills Forecast 2019	March 2019															



Noel Hamey, IRC Chair 02/05/2018

References

- Australian Industry and Skills Committee 2016, *Future Skills and Training: A practical resource to help identify future skills and training*, accessed online on 11/01/2018 at: <https://www.aisc.net.au/content/future-skills-and-training-resource>
- Association of Consultants in Access Australia, 2017, *Accessibility in the Built Environment*, accessed online 07/02/18 at <http://www.access.asn.au/index.php/accessibility-in-the-built-environment>
- Artibus Innovation CPP Skills Forecast Survey 2018
- Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28
- Construction and Property Services Industry Skills Council, 2014, *Environmental Scan 2014-15*
- Dodge Data & Analytics, 2016, *World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth*, accessed online 19/01/2018 at <http://www.worldgbc.org/news-media/world-green-building-trends-2016>
- Ernst & Young (2016) *The upside of disruption: Megatrends shaping 2016 and beyond*, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)
- Foundation for Young Australians, 2015, *The New Work Order: Ensuring young Australians have skills and experience for the jobs of the future, not the past*, accessed online 06/02/2018 at: <https://www.fya.org.au/report/new-work-order/>
- Foltynowicz, Zenon, 2013, *T-shaped Professionals*, accessed online on 27/03/2018 at: https://www.researchgate.net/publication/264419889_T-shaped_Professionals
- Green Building Council of Australia, 2018, *What is Green Building?* <https://www.gbca.org.au/about/what-is-green-building/>
- IBISWorld, September 2017, *IBISWorld Industry Report N7312: Building Pest Control Services in Australia*, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573>
- IBISWorld, October 2017, *IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia*, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023>
- IBISWorld, May 2017, *IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia*, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327>

IBISWorld, January 2017, IBISWorld Industry Report O7712: Investigation and Security Services in Australia, accessed online 01/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572>

IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550>

IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

IBISWorld, February 2017, IBISWorld Industry Report M6922: Surveying and Mapping Services, accessed online 07/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=551>

IBISWorld, September 2017, IBISWorld Industry Report N7311: Commercial Cleaning Services in Australia, accessed online 07/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=574>

IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 13/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 09/02/18 at

<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

Jadhav, NY, 2016, Green and Smart Buildings, Springer, Singapore

Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at

<http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at

<https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

PWC, 2015, A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM), accessed online 08/02/18 at

<https://www.pwc.com.au/pdf/a-smart-move-pwc-stem-report-april-2015.pdf>

PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at

<https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf>

Senate Economic References Committee (6 September 2017), Non-conforming Building Products Inquiry: Interim Report – Aluminium composite cladding, p.7, accessed 18/04/2018

StartupAUS, 2017, *Digital Foundations: How technology is transforming Australia's construction sector*, accessed online 01/02/2018 at <https://startupaus.org/document/constructiontech/>

Training.gov.au, Qualification details: CPP31212 - Certificate III in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/ CPP31212>

Training.gov.au, Qualification details: CPP41312 - Certificate IV in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/ CPP41312>

UK Crown (December 2017), Building a Safer Future, Independent Review of Building Regulations and Fire Safety: Interim Report, pp.9-10, accessed 23/04/2018.

Appendix A – Units of Competency for Proposed Projects

Project 1 Access Consulting – 53 units

Project 2 Building Design – 37 units

Project 3 Security – 31 units

Project 4 Swimming Pool and Spa Servicing – 17 units

Project 5 Urban Pest Management – 15 units

Project 6 Fire Protection and Safety Measures – 57 units

Project	Code	Title
Project 1 - Access Consulting	CPPACC4001A	Apply disability awareness to assessing access situations
Project 1 - Access Consulting	CPPACC4002A	Apply building control legislation to assess small-scale buildings for access
Project 1 - Access Consulting	CPPACC4003A	Assess construction plans
Project 1 - Access Consulting	CPPACC4004A	Communicate effectively as an access consultant
Project 1 - Access Consulting	CPPACC4005A	Conduct a building access audit
Project 1 - Access Consulting	CPPACC4006A	Conduct a playground access audit
Project 1 - Access Consulting	CPPACC4007A	Conduct a streetscape access audit
Project 1 - Access Consulting	CPPACC4008A	Conduct a transport conveyance and boarding device access audit
Project 1 - Access Consulting	CPPACC4009A	Conduct a transport premises access audit
Project 1 - Access Consulting	CPPACC4010A	Conduct an aged care facility access audit

Project	Code	Title
Project 1 - Access Consulting	CPPACC4011A	Conduct an educational facility access audit
Project 1 - Access Consulting	CPPACC4012A	Conduct an outdoor recreation area access audit
Project 1 - Access Consulting	CPPACC4013A	Contribute effectively to building development teams
Project 1 - Access Consulting	CPPACC4014A	Facilitate the development of Disability Discrimination Act Action Plans
Project 1 - Access Consulting	CPPACC4015A	Follow site occupational health and safety requirements
Project 1 - Access Consulting	CPPACC4016A	Manage risk
Project 1 - Access Consulting	CPPACC4017A	Prepare access reports
Project 1 - Access Consulting	CPPACC4018A	Prepare, deliver and evaluate public education sessions on access
Project 1 - Access Consulting	CPPACC4019A	Provide access advice on building fitout
Project 1 - Access Consulting	CPPACC4020A	Provide access advice on building renovations
Project 1 - Access Consulting	CPPACC4021A	Provide access advice on the provision of services
Project 1 - Access Consulting	CPPACC4022A	Work effectively as an access consultant
Project 1 - Access Consulting	CPPACC5001A	Assess documentation of building work for access compliance
Project 1 - Access Consulting	CPPACC5002A	Inspect access compliance during the building process

Project	Code	Title
Project 1 - Access Consulting	CPPACC5003A	Apply anthropometric principles to accessible building design and fitout
Project 1 - Access Consulting	CPPACC5004A	Apply building codes and standards to accessible large-scale buildings
Project 1 - Access Consulting	CPPACC5005A	Interpret and apply building control legislation when assessing large-scale buildings for access
Project 1 - Access Consulting	CPPACC5006A	Apply ergonomic principles to accessible building design and fitout
Project 1 - Access Consulting	CPPACC5007A	Apply mechanics of human body functions to accessible building design and fitout
Project 1 - Access Consulting	CPPACC5008A	Assess the construction of existing buildings and new building work required to be accessible
Project 1 - Access Consulting	CPPACC5009A	Evaluate materials for the construction of buildings for access
Project 1 - Access Consulting	CPPACC5010A	Provide access advice on the design of the built environment
Project 1 - Access Consulting	CPPACC5011A	Prepare a concept design for accessible building work
Project 1 - Access Consulting	CPPACC5012A	Prepare a design brief for accessible building work
Project 1 - Access Consulting	CPPACC5013A	Prepare and administer tender documentation for accessible building work
Project 1 - Access Consulting	CPPACC5014A	Prepare contract documentation for accessible building work
Project 1 - Access Consulting	CPPACC5015A	Prepare specification documentation for accessible building work
Project 1 - Access Consulting	CPPACC5016A	Provide expert access advice on renovations to private dwellings

Project	Code	Title
Project 1 - Access Consulting	CPPACC5017A	Provide expert access advice on building renovations
Project 1 - Access Consulting	CPPACC5018A	Provide expert access advice to a complainant or respondent
Project 1 - Access Consulting	CPPACC5019A	Coordinate the development and implementation of Disability Discrimination Act Action Plans
Project 1 - Access Consulting	CPPACC5020A	Undertake research on access issues
Project 1 - Access Consulting	CPPACC6001A	Participate as an access expert on an Access Panel
Project 1 - Access Consulting	CPPACC6002A	Apply performance-based codes and risk management principles to assessing buildings for access
Project 1 - Access Consulting	CPPACC6003A	Apply unjustifiable hardship principles to Alternative Building Solutions for access
Project 1 - Access Consulting	CPPACC8001A	Research and analyse access and use requirements for people with diverse disabilities
Project 1 - Access Consulting	CPPACC8002A	Research and analyse access solutions for the built environment
Project 1 - Access Consulting	CPPACC8003A	Provide advice on solutions to access and use issues
Project 1 - Access Consulting	CPPACC8004A	Develop policies and briefs relating to access to and use of the built environment
Project 1 - Access Consulting	CPPACC8005A	Develop and advise on policies and procedures to enable access for people with disabilities
Project 1 - Access Consulting	CPPACC8006A	Give evidence relating to access and use
Project 1 - Access Consulting	CPPACC8007A	Audit built environment and infrastructure for accessibility compliance and propose solutions

Project	Code	Title
Project 1 - Access Consulting	CPPACC8008A	Contribute to design of accessible built environment and infrastructure
Project 2 - Building Design	CPPBDN4001	Research and evaluate construction materials and methods for building design projects
Project 2 - Building Design	CPPBDN4002	Research and apply compliance requirements to technical construction documentation
Project 2 - Building Design	CPPBDN4003	Collect, apply and store building design project information
Project 2 - Building Design	CPPBDN4004	Set up BIM-capable software and files for building design drafting projects
Project 2 - Building Design	CPPBDN4005	Review and report structural integrity of building designs
Project 2 - Building Design	CPPBDN4006	Import and transpose information from external sources into digital building design drawings
Project 2 - Building Design	CPPBDN4007	Store and retrieve building design documentation
Project 2 - Building Design	CPPBDN4008	Produce digital building design concept drawings
Project 2 - Building Design	CPPBDN4009	Analyse building design drawings and review findings
Project 2 - Building Design	CPPBDN4010	Prepare documentation for planning approval
Project 2 - Building Design	CPPBDN4011	Prepare documentation for building approval
Project 2 - Building Design	CPPBDN4012	Provide support to project building designers
Project 2 - Building Design	CPPBDN4013	Produce construction detail drawings

Project	Code	Title
Project 2 - Building Design	CPPBDN5001A	Research construction materials and methods for small-scale residential building design projects
Project 2 - Building Design	CPPBDN5002A	Research construction materials and methods for small-scale non-residential building design projects
Project 2 - Building Design	CPPBDN5003A	Research compliance requirements for small-scale residential building design projects
Project 2 - Building Design	CPPBDN5004A	Research compliance requirements for small-scale non-residential building design projects
Project 2 - Building Design	CPPBDN5005A	Recommend sustainability solutions for small-scale building design projects
Project 2 - Building Design	CPPBDN5006A	Consult with clients to produce approved small-scale building project design briefs
Project 2 - Building Design	CPPBDN5007A	Inspect and analyse sites and produce measured drawings for small-scale building design projects
Project 2 - Building Design	CPPBDN5008A	Develop concepts for small-scale building design projects and finalise solutions with clients
Project 2 - Building Design	CPPBDN5009A	Produce compliant client-approved designs for small-scale building design projects
Project 2 - Building Design	CPPBDN5010A	Negotiate and finalise planning approval for small-scale building design projects
Project 2 - Building Design	CPPBDN5011A	Produce compliant client-approved working drawings for small-scale residential buildings
Project 2 - Building Design	CPPBDN5012A	Produce and present 3-D models of small-scale building designs
Project 2 - Building Design	CPPBDN5013A	Develop and collaborate on building information models for small-scale building design projects

Project	Code	Title
Project 2 - Building Design	CPPBDN5014A	Contribute to construction and building design project finalisation processes
Project 2 - Building Design	CPPBDN5015A	Produce compliant client-approved working drawings for non-residential buildings
Project 2 - Building Design	CPPBDN5016A	Produce and present rendered animations of 3-D models of small-scale building designs
Project 2 - Building Design	CPPBDN5017A	Produce 2-D drawings for building design projects using CAD software
Project 2 - Building Design	CPPBDN8001A	Research and evaluate construction materials and methods for complex building design projects
Project 2 - Building Design	CPPBDN8002A	Research compliance requirements for complex building design projects
Project 2 - Building Design	CPPBDN8003A	Scope and initiate large and complex building design projects
Project 2 - Building Design	CPPBDN8004A	Lead the building design team
Project 2 - Building Design	CPPBDN8005A	Manage the tendering and construction process for a client
Project 2 - Building Design	CPPBDN8006A	Identify and manage new building design technologies
Project 2 - Building Design	CPPBDN8007A	Manage the design of Type A constructions
Project 3 - Security	CPPSEC2001A	Communicate effectively in the security industry
Project 3 - Security	CPPSEC2002A	Follow workplace safety procedures in the security industry
Project 3 - Security	CPPSEC2003B	Work effectively in the security industry

Project	Code	Title
Project 3 - Security	CPPSEC2020A	Provide technical security services to clients
Project 3 - Security	CPPSEC2021A	Install security equipment and systems
Project 3 - Security	CPPSEC2022A	Install mechanical lock and locking system
Project 3 - Security	CPPSEC2023A	Install CCTV equipment and system
Project 3 - Security	CPPSEC2024A	Implement electronic monitoring procedures
Project 3 - Security	CPPSEC2025A	Sell security products and service
Project 3 - Security	CPPSEC2026A	Perform routine maintenance on security equipment and system
Project 3 - Security	CPPSEC3001A	Maintain workplace safety in the security industry
Project 3 - Security	CPPSEC3004A	Lead small teams in the security industry
Project 3 - Security	CPPSEC3005A	Prepare and present security documentation and reports
Project 3 - Security	CPPSEC3006A	Coordinate a quality security service to customers
Project 3 - Security	CPPSEC3024A	Install biometrics equipment and systems
Project 3 - Security	CPPSEC3025A	Identify and diagnose biometric system fault
Project 3 - Security	CPPSEC3035A	Identify technical security requirements

Project	Code	Title
Project 3 - Security	CPPSEC3036A	Program security equipment and system
Project 3 - Security	CPPSEC3037A	Test installed security equipment and system
Project 3 - Security	CPPSEC3038A	Commission and decommission security equipment and system
Project 3 - Security	CPPSEC3039A	Identify and diagnose electronic security equipment and system fault
Project 3 - Security	CPPSEC3040A	Plan and coordinate installation of security equipment and system
Project 3 - Security	CPPSEC3041A	Maintain and service security equipment and system
Project 3 - Security	CPPSEC3042A	Identify and diagnose CCTV equipment and system fault
Project 3 - Security	CPPSEC3043A	Establish and set up electronic monitoring parameters
Project 3 - Security	CPPSEC3044A	Maintain and repair mechanical lock and locking system
Project 3 - Security	CPPSEC3045A	Determine security equipment and system modifications
Project 3 - Security	CPPSEC3046A	Configure a security system
Project 3 - Security	CPPSEC3047A	Provide estimate and quote on security system
Project 3 - Security	CPPSEC3048A	Maintain effective relationships with security clients
Project 3 - Security	CPPSEC3049A	Modify and repair security equipment and system

Project	Code	Title
Project 4 - Swimming Pool and Spa	CPPSPS4001A	Assess and treat water problems in swimming pools and spas
Project 4 - Swimming Pool and Spa	CPPSPS4002A	Install, service and repair swimming pool and spa circulation and filtration systems
Project 4 - Swimming Pool and Spa	CPPSPS4003A	Install, service and repair swimming pool and spa dosing systems
Project 4 - Swimming Pool and Spa	CPPSPS4004A	Install, service and repair swimming pool and spa cleaning and vacuuming systems
Project 4 - Swimming Pool and Spa	CPPSPS4005A	Install, service and repair swimming pool and spa heating systems
Project 4 - Swimming Pool and Spa	CPPSPS4006A	Install, service and repair low voltage swimming pool and spa lighting systems
Project 4 - Swimming Pool and Spa	CPPSPS4007A	Inspect, service and repair aquatic facility plant and equipment
Project 4 - Swimming Pool and Spa	CPPSPS4008A	Install, service and repair spas
Project 4 - Swimming Pool and Spa	CPPSPS4009A	Estimate cost of swimming pool and spa products and services
Project 4 - Swimming Pool and Spa	CPPSPS4010A	Manage own role as a swimming pool and spa technician
Project 4 - Swimming Pool and Spa	CPPSPS4011A	Comply with regulatory requirements for swimming pool and spa servicing
Project 4 - Swimming Pool and Spa	CPPSPS4012A	Design, install and service automated systems for swimming pools and spas
Project 4 - Swimming Pool and Spa	CPPSPS4013A	Establish maintenance plans for swimming pools and spas
Project 4 - Swimming Pool and Spa	CPPSPS4014A	Drain and acid wash swimming pools and spas

Project	Code	Title
Project 4 - Swimming Pool and Spa	CPPSPS4015A	Maintain spa water quality
Project 4 - Swimming Pool and Spa	CPPSPS4016A	Advise on swimming pool and spa products and services
Project 4 - Swimming Pool and Spa	CPPSPS4017A	Detect leaks in swimming pools and spas
Project 5 - Urban Pest Management	CPPPMT3002	Assess pest management options
Project 5 - Urban Pest Management	CPPPMT3005	Modify environment to manage pests
Project 5 - Urban Pest Management	CPPPMT3006	Apply pesticides to manage pests
Project 5 - Urban Pest Management	CPPPMT3007	Implement pest management plans
Project 5 - Urban Pest Management	CPPPMT3008	Inspect for and report on timber pests
Project 5 - Urban Pest Management	CPPPMT3009	Advise clients on pest management options
Project 5 - Urban Pest Management	CPPPMT3010	Control timber pests
Project 5 - Urban Pest Management	CPPPMT3011	Manage organisms by applying fumigants to commodities and environments
Project 5 - Urban Pest Management	CPPPMT3017	Repair and maintain service equipment
Project 5 - Urban Pest Management	CPPPMT3018	Maintain equipment and chemical storage areas
Project 5 - Urban Pest Management	CPPPMT3019	Organise and monitor pest management operations

Project	Code	Title
Project 5 - Urban Pest Management	CPPPMT3026	Select and obtain pest management vehicles, equipment and materials
Project 5 - Urban Pest Management	CPPPMT3043	Prepare and present pest management proposals
Project 5 - Urban Pest Management	CPPPMT3029	Plan and schedule pest management operations
Project 5 - Urban Pest Management	CPPPMT3042	Install physical termite barriers
Project 6 - Fire Protection and Safety Measures	CPPFPSM2101	Identify types of installed fire safety equipment and systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM2102	Apply administrative and record-keeping requirements to planned routine service activities
Project 6 - Fire Protection and Safety Measures	CPPFPSM2110	Conduct routine service of fire hose reels
Project 6 - Fire Protection and Safety Measures	CPPFPSM2111	Replace and repair fire hose reel assemblies downstream of stop valve
Project 6 - Fire Protection and Safety Measures	CPPFPSM2112	Conduct routine service of portable foam-generating equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM2113	Conduct routine service of fire hose reel pumpsets
Project 6 - Fire Protection and Safety Measures	CPPFPSM2116	Conduct routine service of delivery lay flat fire hoses
Project 6 - Fire Protection and Safety Measures	CPPFPSM2120	Conduct routine service of fire extinguishers and fire blankets
Project 6 - Fire Protection and Safety Measures	CPPFPSM2121	Conduct recharging and hydrostatic testing of fire extinguishers
Project 6 - Fire Protection and Safety Measures	CPPFPSM2122	Install portable fire extinguishers, fire cabinets and fire blankets

Project	Code	Title
Project 6 - Fire Protection and Safety Measures	CPPFPSM2123	Select and use first attack firefighting equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM2127	Conduct routine service of fixed installed non-gaseous pre-engineered fire-suppression systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM2128	Conduct routine service of vehicular pre-engineered fire-suppression systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM2140	Safely handle, store and transport dangerous goods used in the fire protection industry
Project 6 - Fire Protection and Safety Measures	CPPFPSM2141	Conduct routine service of gaseous fire-suppression systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM2143	Apply regulations to prevent ozone depleting substance and synthetic greenhouse gas emissions
Project 6 - Fire Protection and Safety Measures	CPPFPSM2147	Monitor storage operations for scheduled gaseous fire-extinguishing agents
Project 6 - Fire Protection and Safety Measures	CPPFPSM2148	Receive and dispatch scheduled gaseous fire-extinguishing agents
Project 6 - Fire Protection and Safety Measures	CPPFPSM2149	Conduct recovery, reclaim and fill operations for scheduled gaseous fire-extinguishing agents
Project 6 - Fire Protection and Safety Measures	CPPFPSM3103	Apply work health and safety requirements to identify and control routine service hazards and risks
Project 6 - Fire Protection and Safety Measures	CPPFPSM3104	Source, extract and interpret baseline data for fire protection systems and equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM3106	Interpret and communicate regulatory and administrative requirements for routine service activities
Project 6 - Fire Protection and Safety Measures	CPPFPSM3110	Inspect and verify fire hazard properties of building linings, materials, assemblies and finishes

Project	Code	Title
Project 6 - Fire Protection and Safety Measures	CPPFPSM3111	Inspect and verify means of egress from buildings
Project 6 - Fire Protection and Safety Measures	CPPFPSM3112	Inspect and verify measures that support fire brigade operations
Project 6 - Fire Protection and Safety Measures	CPPFPSM3113	Inspect, test and verify critical emergency evacuation system elements
Project 6 - Fire Protection and Safety Measures	CPPFPSM3120	Conduct limited routine service of fire hydrant systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3121	Conduct survey of fire hydrant systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3123	Conduct limited annual routine service of fire sprinkler systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3124	Conduct survey of fire sprinkler systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3125	Conduct water flow testing of fire suppression systems using fixed flow measuring devices
Project 6 - Fire Protection and Safety Measures	CPPFPSM3126	Conduct water flow testing from fire hydrants using portable flow measuring devices
Project 6 - Fire Protection and Safety Measures	CPPFPSM3127	Conduct water flow testing using externally mounted ultrasonic flow meters
Project 6 - Fire Protection and Safety Measures	CPPFPSM3128	Conduct routine service of fixed fire protection atmospheric water supply tanks
Project 6 - Fire Protection and Safety Measures	CPPFPSM3129	Conduct routine service of fixed foam-generating equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM3130	Conduct routine service of portable fire monitors
Project 6 - Fire Protection and Safety Measures	CPPFPSM3135	Conduct routine service of single point emergency escape lighting and exit signs

Project	Code	Title
Project 6 - Fire Protection and Safety Measures	CPPFPSM3136	Conduct routine service of central emergency evacuation lighting systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3140	Inspect and test control and indicating equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM3141	Conduct routine service of fire detection and alarm systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3142	Conduct routine service and installation of smoke and heat alarms
Project 6 - Fire Protection and Safety Measures	CPPFPSM3143	Conduct five-yearly routine service of fire detection and alarm, and emergency warning systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3144	Conduct battery testing for fire detection, alarm, intercommunication and warning systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3145	Conduct annual routine service of emergency warning and intercommunication systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3150	Identify, inspect and test doors installed to contain fire and smoke
Project 6 - Fire Protection and Safety Measures	CPPFPSM3151	Identify and inspect fire and smoke stopping products and systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3152	Identify and inspect fire proofing materials and systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3153	Identify, inspect and test fire shutters and curtains
Project 6 - Fire Protection and Safety Measures	CPPFPSM3154	Identify and inspect fire windows
Project 6 - Fire Protection and Safety Measures	CPPFPSM3155	Install and certify fire and smoke stopping products and systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3160	Adapt, install and commission vehicular pre-engineered fire-suppression systems

Project	Code	Title
Project 6 - Fire Protection and Safety Measures	CPPFPSM3161	Adapt, install and commission pre-engineered fire-suppression systems for cooking equipment
Project 6 - Fire Protection and Safety Measures	CPPFPSM3162	Conduct enclosure integrity testing
Project 6 - Fire Protection and Safety Measures	CPPFPSM3163	Interpret installation requirements for gaseous fire-suppression systems
Project 6 - Fire Protection and Safety Measures	CPPFPSM3164	Receive and install gaseous agent containers and actuators
Project 6 - Fire Protection and Safety Measures	CPPFPSM3165	Decommission installed gaseous agent containers and actuators
Project 6 - Fire Protection and Safety Measures	CPPFPSM4109	Coordinate annual fire protection systems interface tests