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# Communities for Today and the Future

## Land Development Western Australia Capability Statement

Buildings | Australia & New Zealand





## A community of experts

**Stantec's global network of designers, engineers, scientists and project managers work together at the intersection of community, creativity and client relationships. Careful balancing of these priorities results in projects that advance the quality of life in communities across the globe.**

But wherever Stantec is located it is our local teams who have the skills, experience and knowledge to drive the projects in their own back yards. In Australia and New Zealand (ANZ), our local offices of award-winning multi-disciplinary engineers have been helping both private and government clients build communities for over 60 years.

Our people have long-standing client relationships and are inspired to advance the communities in which they live, delivering cost-effective, quality consultancy services.

Whether we're partnering with clients to design a hospital or mixed-use development, a research facility or industrial park, an education campus or airport, we design with community in mind because we believe in the **power of places to transform lives, to meet the needs of a community today, to help fulfil its potential tomorrow.**

Our global business

25K	400+	6
Employees	Locations	Continents

### #01

**From start to finish.** Our team leaders continue to manage the projects for which they tender, right through to completion. Change in team management causes delays and undermines a project's stability and design direction. Continuity is more conducive to achieving your goals within programme and budget.

### #02

**Value-adding innovation.** Stantec's Creativity & Innovation program encourages our global network of engineers to develop tools, processes and technology. These creative ideas might save time at the design stages of a project, reducing client costs. Others offer powerful marketing potential for stakeholder engagement. Celebrating our best ideas with investment means they are fully developed to benefit all our clients and communities, wherever they may be.

### #03

**The right experience.** From research stations in Antarctica to solar projects in rural Australia. From bespoke luxury residences to affordable high-rise apartments. From stadiums to play parks... and everything imaginable in between. We have the right skillsets to help you achieve your construction goals.

### #04

**Focus on buildability.** Engaging with engineers in the early stages can save time and money in the long-term. Pragmatic spatial considerations, site-appropriate construction methods, informed materials selection, compliance with legislation and consideration of the operational environment. Our advice gives reassurance to stakeholders, boards and financiers that all factors have been fully considered.

### #05

**We're at the right tables.** Our people are active proponents within Australia's property industry, seeking positive change on behalf of their communities. The influential tables at which we sit include the Urban Development Institute of Australia, the Property Council of Australia, Consult Australia and Green Building Council of Australia.



**We don't just say we deliver outstanding solutions and client service. We prove it.**

Stantec has been recognised numerous times at the independent Financial Review Client Choice Awards (Australia & New Zealand).

**2019 Financial Review Client Choice Awards Winner:**

- Most Client Focused Consulting Engineer

**2017 Financial Review Client Choice Awards Winner:**

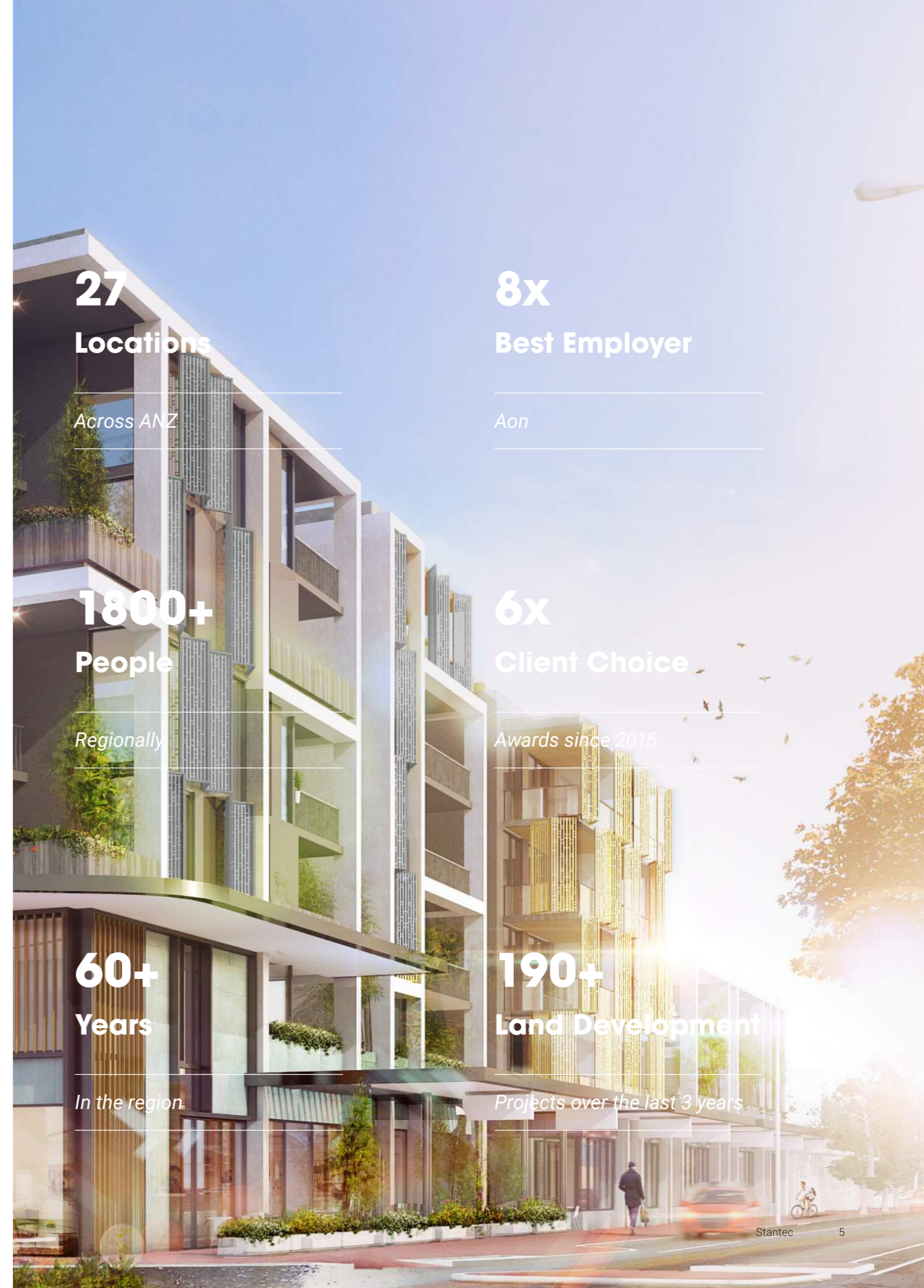
- Best Consulting Engineering Firm (revenue \$50m-\$200m)

**2016 Financial Review Client Choice Awards Winner:**

- Best Provider to Property Sector

**2015 Financial Review Client Choice Awards Winner:**

- Best Consulting Engineering Firm (revenue \$50m-200m)
- Best WA Firm
- Most Client Focused Consulting Engineer



**27**  
Locations

*Across ANZ*

**8x**  
Best Employer

*Aon*

**1800+**  
People

*Regionally*

**6x**  
Client Choice

*Awards since 2015*

**60+**  
Years

*In the region*

**190+**  
Land Development

*Projects over the last 3 years*

# Civil land development

Stantec has played a key role in many of Western Australia's largest and most complex land development projects. We are leaders in land development in Western Australia from Albany up to the Pilbara including the South West, Perth and Peel areas.

We have an exceptional reputation for providing highly commercial designs for greenfield sites. Our capability lies across the spectrum of land development services including:

- Feasibility and due diligence
- Strategic planning
- Detailed design
- Superintendence

Our in-house lighting and NBN capability combined with our strong working relationships with Western Power, Horizon Power and NBN sets us apart and ensures we can deliver seamless land development services to clients.

## AT THE FOREFRONT OF THE AUSTRALIAN PROPERTY INDUSTRY

Stantec are proud to have long standing associations with many of the leading industry bodies, providing us with a conduit for us to listen to our clients and feed issues and initiatives back into the industry.

## EXCEEDING THE VALUE OF OUR FEE

Our experience, high performing staff and exceptional service combine to assist us in providing cost savings to your project. As demonstrated by the examples below, these savings often exceed the value of our fee.

Cost Saving: \$11,000 per lot for areas in a 1,000+ lot subdivision.

Achieved by preparing an earthworks

design for an entire masterplanned subdivision prior to construction of the initial stages to more efficiently balance cut-to-fill across the estate.

Cost Saving: \$2,000 per lot for a 300+ lot subdivision.

In consultation with a hydrologist and geotechnical engineer, we developed an earthworks methodology that satisfied site classification and hydrological requirements while utilising lower grade fill materials available on site, reducing the required volume of imported sand fill.

Cost Saving: \$7,000 per lot for a 100+ lot subdivision.

Achieved in consultation with a hydrologist by negotiating with the local authority to influence approval conditions on the Urban Water Management Plan regarding the use of non-standard outlet conditions to reduce the required volume of fill.

## MAJOR PROJECTS

A selection of major land development projects we've worked on include:

- Elizabeth Quay \$2.6 billion
- Dalyellup Beach Estate \$360 million
- Vasse Dawson Estate, Busselton \$300 million
- Provence Residential Estate \$170 million
- Meadow Springs \$100 million
- Port Hedland Industrial \$100 million
- Forest Edge, Dalyellup \$82 million
- Rapids Landing, Margaret River \$45 million



Southwest projects can have unique challenges and we have found that having local consultancy that understands these issues, and how to effectively manage them has proven invaluable.

As part of our business improvement, we required some in-depth analysis in a short time-frame. Stantec rose to the challenge and delivered a first class assessment that allowed us to effectively plan the development and improve performance.

Craig Stewart  
Satterley Property Group



↓  
Waterbank  
Development,  
Perth WA



# Land development is much more than design.

## DEDICATED TO ENSURING COMMERCIAL OUTCOMES

We add value and keep costs to a minimum without impacting project quality in a number of ways:

- Commercially sensitive engineering advice across every project stage based on our expertise in feasibility and 'whole of life' land development costs.
- Advice on alternative earthworks solutions which are still able to achieve the desired site classification or commercial outcome.
- Alternative stormwater drainage solutions which can result in improved land area lot yield whilst still achieving water sensitive urban design.

## EFFICIENT METHODS TO GET TO MARKET FASTER

- **We know the correct way to expedite design approvals.** We know local standards inside and out, and our relationships with local government and approval authorities ensure a quick and efficient process with minimal required design changes.
- **We understand what it takes to stay commercial.** Changes in the property market can require design adjustments literally overnight, and with over 50 years experience we understand property trends and how to facilitate adjustments quickly and correctly.
- **We cultivate collaboration to accelerate results.** Crucially, we treat the wider consultant team with respect and approach challenges with a positive attitude.

## INNOVATION COMBINED WITH PRACTICALITY

Although engineering typically follows proven design and construction methods, the standard approach doesn't necessarily suit all land development projects. Our innovative engineers can challenge every aspect of design and construction, whilst still being pragmatic to ensure the development is fit for purpose.



Stantec can be relied upon to provide excellent service on the engineering requirements, meeting the challenging issues that confront today's developments.

Alex Meares  
Project Manager of Vasse Newton Development  
Director at ON-Q Projects



## Vasse Dawson Estate, Busselton

**Vasse Dawson Estate is a UDIA award winning development located centrally between Busselton and Dunsborough.**

The estate is the gateway to the south west region of Western Australia and is set to become home to over 5,000 residents and generate over 1,000 local jobs.

Specialised engineering services have been required to create a community that will contain residential, light industrial, commercial and educational precincts that interact with public open space linkages and walk trails. Sewer pump stations, landscape extraction bores and best-practice urban water management is also at the forefront of development features within this project.

Vasse Dawson Estate is proving to be one of the fastest growing and most successful projects in the south west of Western Australia.

Stantec provided civil, structural, electrical and sustainability services predominantly from our local Busselton office.

**Project value:** \$300 million

**Completion:** Under construction 2015

**Awards:** EnviroDevelopment certification for Vasse Dawson Estate's impressive Community and Ecosystems initiatives



## Dalyellup Beach Estate

**Project value:** \$360 million

**Stantec is the lead Engineering Consultant on this beachside estate which will house over 2,500 residential homes.**

The Estate is located between Bunbury and Busselton and incorporates residential and commercial properties.

With over 25km of cycle ways and walk trails, and 50 ha of parks and gardens this beachside development is aimed at the outdoor healthy lifestyle.

Stantec's Busselton office provides all the Civil, Structural, Infrastructure and Electrical engineering services for this development.



### Provence Residential Estate, Busselton

Stantec were engaged to the structure plan review and development of the Provence residential development potentially consisting of over 2,000 lots.

Specific engineering challenges included high groundwater, soils disturbed by mining operations, acid sulphate soils, sensitive downstream waterways and Kangaroo and Possum management.

Provence also overcame many environmental challenges and was a leader in best practice for stormwater management.

**Project value:** \$170 million  
**Completion:** Under construction 2015



### Oyster Harbour Residential Estate, WA

Oyster Harbour is the largest single residential land construction in WA's Great Southern region. The development was a joint venture between developers Heath Development Company and the Department of Housing. Stantec provided significant civil and underground power services predominantly from our Albany office.

In addition to the usual amenities, residents of Oyster Harbour will enjoy a cutting edge urban design principles

and the latest communication technology.

Adding to the community feel of Oyster Harbour, the development has a purpose built primary school and recreational facilities, 35 hectares of dedicated public open space including landscaped parklands, playgrounds, boardwalks, foreshore reserve and conservation wetlands.

**Project value:** \$150 million  
**Completion:** 2014



### Brookfield Estate Margaret River

Residential subdivision with over 700 lots including shopping areas and a school site located in a region with highly reactive clay soils and sloping terrain.

High level engineering expertise has been required to manage acid sulphate soils and dewatering through areas of diverse soil conditions.

Bulk earthworks with retaining walls and flat lots are a feature of this development.

**Project value:** \$55 million



### Rapids Landing Estate Margaret River

Design, documentation and supervision of 600 plus lot subdivision with innovative water re-use features.

The site is typically clay and required high level of engineering expertise to ensure efficient and cost effective earthworks designs were adopted.

Being located adjacent to

sensitive waterways was a key feature of this development in managing sediment control and runoff during construction.

**Project value:** \$45 million



### The Tuarts Dalyellup

Design, superintendence and contract administration of this Dalyellup subdivision within the Shire of Capel.

Works included overall earthworks, drainage, sewer, roadworks and water strategies.

Approximately 1,130 residential lots will be developed within this estate.

**Project value:** \$81 million



### Old Broadwater Farm

Located minutes from Busselton's CBD this estate adjoins a conservation area and par 3 golf course.

Stantec have been involved since project commencement and have completed design, documentation and superintendence of earthworks, drainage, water reticulation and roadworks.

The site typically consists of sand, limestone and clay at depth, with groundwater at

varying levels and perching on limestone plates.

**Project value:** \$35 million



*Building services are often the most interesting projects. They're always different and require the ability to think outside the box to find an effective engineering solution that will suit all the involved parties. In order to get the best outcome for clients, we're all about teamwork. We utilise our experienced in-house Stantec experts across all the disciplines and have great relationships with authorities to maximise the project's success*

Travis Demeza  
Senior Civil Project  
Engineer,  
Australian Discipline  
Leader, Associate.

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## Civil building services

Our civil building services team create safe and efficient infrastructure to support and service existing buildings and brownfield sites.

Due to the complex nature of sites with existing buildings and infrastructure, we specialise in building services projects requiring complicated and highly tailored solutions.

Stantec provides engineering design, documentation and construction phase services for non-land development projects across sectors such as education, health, local government, commercial, residential, aged care and industrial. These services include:

- Roadworks
- Car parks
- Stormwater drainage
- Wastewater and water reticulation
- Wastewater pumping stations
- Earthworks and retaining walls

We know what it takes to deliver a project with multiple complex interfaces and we understand the importance of clear team communication and delivery foresight.



# Civil infrastructure

Behind every exceptional city and town there's an exceptional engineering team that build the infrastructure to service it.

The infrastructure team at Stantec are behind many of the country's biggest and most challenging projects including:

- Perth's Elizabeth Quay
- Busselton Foreshore Redevelopment
- Karratha City
- Albany Waterfront

Our infrastructure team is well-rounded and multi-disciplined with many years of experience under their belt. This means we can manage various engineering aspects of your project in-house and deliver on the project efficiently and effectively.

No project is too big or too small for our proactive team.

## IN-HOUSE UNDERGROUND POWER AND NBN EXPERTISE

Stantec have a dedicated underground power/lighting and NBN design section that are in constant contact with Western Power, Horizon Power and NBN to keep abreast of the latest changes to their criteria for design and construction as well as their servicing proposals. We make the process seamless and efficient for clients.

## WE KNOW THE APPROVAL PROCESS INSIDE AND OUT

Stantec has a proven track record of successfully negotiating favourable infrastructure solutions for our clients through our rapport with local authorities including the Water Corporation and Main Roads. Our intimate knowledge of authority approval processes allows us to achieve tight deadlines and ensure all funding, land provision and design parameters are considered.

## FOCUS ON UNIQUE AND COMPLICATED PROJECTS

Our building services engineers genuinely enjoy the challenge of providing bespoke solutions for unusual projects. We can expedite unique design approval processes and ensure proposed solutions are practical and buildable due to our great relationships with local authorities including the Water Corporation.

## NICHE TEAM = ECONOMICAL SOLUTIONS

Clients are able to avoid inflated fees on smaller brownfield-site projects as our niche building services team can economically provide engineering services for individual, complicated projects.

We're able to be very flexible on providing tailored solutions, usually acting as a sub-consultant and working within your existing time frames.

## EFFICIENT AND COORDINATED DELIVERY

Building related jobs often require a high level of coordination due to their complex nature, tight time frames and integration with existing infrastructure and buildings.

Stantec are able to manage this process better due to our national multi-disciplinary firm and broad experience working as the coordinator and superintendent for major land development projects.

## SOLVING THE TOP THREE CHALLENGES IN BUILDING SERVICES

The main challenges we specialise in assisting clients with fall into three main areas:

1. Space constraints
2. Existing services
3. Time constraints



Due to our unique company structure, we can respond really quickly to your questions and needs.

The Project Engineer that wins the job is on the job for the life of the project, and this really sets us apart and allows us to provide clients with seamless service and accountability for project outcomes.

Richard Martin  
Busselton Office Manager, Principal





## Waterbank

**Waterbank is an integral part of the 'new story of Perth' and will provide the city with a relaxed urban waterside experience with public access, new residential and office accommodation, retail amenity and community facilities.**

As part of the 'Riverside Precinct' the 6Ha area is set to become an exciting sports, recreation and entertainment precinct, with Gloucester Park and the WACA already in place and the Crown Casino, Belmont Racecourse and the new Perth Stadium just across the water.

The project seeks to adopt superior sustainable design, construction and management principles requiring innovative planning and engineering solutions.

Stantec have been engaged to provide civil and electrical engineering consultancy services incorporating the conceptual and detailed engineering design of earthworks, roadworks and drainage, service relocations, water reticulation, wastewater reticulation and underground power.

Waterbank is a 6Ha site which will feature a new inlet, urban beach, landscaped boardwalks, public art, walkways, cycle paths, a river playground, local shops and more.

**Project value:** \$1 billion approximately  
**Completion:** 2019



## RAC Arena (formally known as Perth Arena)

**The RAC Arena (formally known as Perth Arena) is a world class facility that hosts a range of musical, cultural and sporting events and provides a minimum of 12,000 seats for sporting events and 14,000 for concerts.**

Stantec provided civil engineering services including an \$8m forward works remediation and services diversions package at the RAC Arena.

The inner city project incorporated a number of challenging engineering factors including drainage treatment, connections to Water Corporation Main Drains, remediation, bulk earthworks and services diversions. Furthermore, our engineering design was tailored to innovative and unique landscaping treatments.

**Project value:** \$150 million  
**Completion:** 2012



### St John Bosco College

The new St John Bosco College in Forrestdale required civil design services including bulk earthworks for building pads, external road extensions to the site, vehicle parking areas, site stormwater treatment, flood routing and a Water Corporation deep sewer extension to the site.

The high groundwater at site necessitated fill and clever stormwater design. The deep sewer extension (5.5m+) encountered challenging

trenching conditions.

**Project value:** \$23.5 million (Stage 1 & 2)

**Completion:** Stage 1 – 2014, Stage 2 – 2015



### Mundaring Christian College

Stantec was engaged on this new school site in the Parkerville hills, providing civil design services including bulk earthworks for the building pad, access roads to site, vehicle parking areas and site stormwater.

The project posed some interesting challenges as the site is comprised of hard laterite rock and significant crossfalls, both of which required specific design consideration.

**Project value:** \$8.2 million

**Completion:** 2015



### Albany Boat Harbour & Waterfront

Albany's Princess Royal Harbour, a stunning natural harbour, is set to become one of the most significant development projects in the city's long history.

Stantec worked closely with LandCorp on the world-class waterfront development, providing superintendence, civil, underground power, electrical and structural services.

The Waterfront at Albany showcases a hotel, short-stay accommodation, cafes, restaurants, shops, a marina and a purpose-built entertainment centre.

**Project value:** \$45 million

**Completion:** 2010



### Traffic & Pedestrian Bridge 5362 Vasse Newtown

Stantec arranged design and construction of a traffic bridge including coordination of specialist consultants, design coordination, tendering, contract administration and superintendence of bridge and associated civil works.

This bridge forms part of the main road for the village centre

of the Vasse Newtown development.

**Project value:** \$2.1 million  
**Completion:** 2014



### Dalyellup Duel Type 90 Waste Water Pump Station

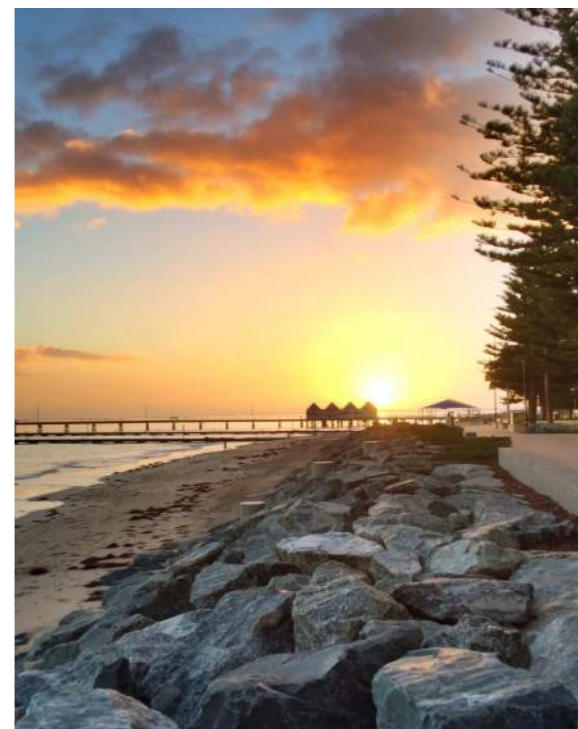
Dalyellup pump station and 3km long pressure main were investigated by the Water Corporation and Stantec to assess the potential for reducing construction costs by utilising two type 90 WWPS's with the second wet well being constructed if and when needed as opposed to construction of a type 180 WWPS.

The objectives of the various investigations centred on the need for infrastructure to better suit the dependent population growth rate and thus, reduce client cost of constructing large

infrastructure that would not be fully utilised for a significant number of years.

As a consequence of these engineering investigations and design works, the potential construction costs were reduced by approximately 15%, which equated to roughly \$1m.

**Project value:** \$7 million  
**Completion:** 2014



### Busselton Foreshore Development - Utility Services

This project required design, approvals and construction of critical infrastructure for redevelopment of the Busselton Foreshore at the northern end of Queen Street and Milne Street.

Stantec detailed design and approvals for:

- Potable water reticulation
- Firefighting water hydrants
- Private sewer system
- Gas reticulation

- NBN communications pit and pipe system
- Telstra pit and pipe system

**Project value:** \$500,000  
**Completion:** 2017



# Elizabeth Quay

**With just over 100 months of work on the project and over 45 staff involved since 2007, Stantec provided civil, structural, underground power, hydraulics, electrical and mechanical engineering services for the feasibility, design and construction phases. Stantec is proud to be part of Perth's continued transformation, reconnecting Perth city with the Swan River.**

**Project value:**  
\$2.6 billion

Stantec's involvement included:

- Relocation of twin 2.25m diameter main drain pipes
- 800mm and 400mm diameter water mains, adjustments to sewer mains and utility services
- New underground Western Power high voltage city supply access chamber and conduit system
- Extensions and adjustments of major roads, Riverside Drive and William Street, with connections to the freeway including traffic and street light relocation
- Promenade slabs and retaining wall structures
- Structural foundations for public art



Stantec's structure allows our teams to be responsive and sensitive to your specific needs with the security of having the support of industry experts with decades of experience.

We thrive on forging long term, respectful relationships that equally value the significant value we bring to your projects. It's more than just turning dirt to us, it's what we were born to do and we love getting our hands dirty.

Darren Pesich  
Civil Section Manager, Principal

**FORWARD WORKS  
INFRASTRUCTURE AT  
ELIZABETH QUAY**

In addition to the land development services required to construct the Elizabeth Quay project, Stantec was also required to design the significant infrastructure associated with the project including:

- Roads
- Modifications to Mitchell Freeway
- Signalised intersections
- Water mains, sewer mains

**UNIQUE ENGINEERING  
CHALLENGES**

With the Elizabeth Quay project located within busy Perth streets, numerous site constraints and challenges were presented to the team, including:

- Extensive services and land use restrictions due to the CBD location
- Western Power hauling pits (first time used in WA)
- Twin DN1950 branch drain diversions
- DN900 water main
- Sewer main diversions
- Redesign to maintain the construction progress and avoid “unknown” infrastructure discovered during excavation
- Protecting the existing underground Esplanade Train Station
- Stantec and the construction contractor, Georgiou Group, worked proactively together to resolve construction issues and complete the forward works infrastructure.

**PROJECT COORDINATION  
AND STANTEC’S ROLE**

Stantec assembled a quality team of consultants for this project including marine consultants MP Rogers and Associates, hydrologist Syrinx Environmental and licensed surveyors McMullen Nolan. The works involve coordination of a number of engineering disciplines, in conjunction with the project architect ARM and consultant team.

The project includes detailed design, documentation, feasibilities, costs estimates and business case reports. Detailed design includes remediation, earthworks, servicing relocations, sewer reticulation, water supply, drainage, roadworks and underground power. Stantec have also played a key role in the interface between civil subdivisional and public realm landscaping works.

**DID YOU KNOW**

- There are 14 Western Power pits to assist with future cable haulage that are 6m x 3m x 3m deep and are the first of their kind in WA.
- Twin 1950mm diameter stormwater pipes have been diverted under William Street to redirect stormwater from as far as Lake Monger.
- 518m of 800mm diameter steel water main has been installed under Barrack Street and The Esplanade.





## Project delivery and offering

### Buildings ANZ project coordination

No matter what the project, no matter what your needs are, we have the team to help make it happen.

A Stantec Project Engineer will be:

- Responsible for ensuring cohesive team delivery
- The first point of contact for the client

#### What does this mean for our clients?

Not only will you receive the very best from all Stantec consultants, you will receive seamless design integration across all Stantec disciplines. This will result in identifying and minimising scope-gap, cost or programme risks.



#### PROJECT DISCIPLINES



# Working together

Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.



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