2016 AWARDS OF EXCELLENCE
HEB offers a broader range of integrated construction services than almost anybody in our sector.

Collaborative contracting, engineering excellence and value for money lie at the heart of our service offering.
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<td>43</td>
<td>Finalists</td>
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Founded in 1979, Cook Costello is a multidisciplinary civil engineering firm with offices across New Zealand.

- Land Development
- Geotechnical
- Structural
- Civil Design
- Environmental
- Surveying

Find out more at www.coco.co.nz
In gathering here in Auckland to celebrate our members’ recent project achievements and individual contributions, and to recognise future leaders, we are reminded of the pressure that our communities and customers are facing through population and climate change with associated economic, environmental, and cultural impacts. Addressing such change is a common issue in most of the featured projects including those responding to catastrophic events such as the Christchurch Earthquakes.

Those who receive Innovate Awards can be proud of their significant contribution in delivery, innovation and excellence in their projects for their clients, customers and end users. These outstanding projects also recognise the effective multi-disciplinary team work and collaboration between project partners including clients and contractors.

Individual contributions are recognised with the ACENZ Awards including emerging young talent and for those who have provided extended service to ACENZ. This year we recognise new ACENZ Life Members from two groups with long standing service as Innovate Award Judges and Past Presidents. Both the Innovate and ACENZ awards are renowned for the quality of judging and their rigorous approach. Thanks again to our judges for this voluntary contribution.

Our congratulations to all award recipients whose meritorious achievements illustrates how our industry makes a difference for our communities and society.

ACENZ President
Keryn Kliskey

ABOUT ACENZ

The Association of Consulting Engineers New Zealand (ACENZ) represents business services and advocacy in the consulting industry for engineering and related professionals.

ACENZ continues to work with other professionals and the wider construction industry towards implementing reasonable conditions and robust practice in contracts & procurement and has achieved progress in developing relevant guidelines and documentation.

ACENZ is a member of the International Federation of Consulting Engineers (FIDIC) who represent the consulting engineering interests for over 80 countries. ACENZ is proud to contribute in tangible ways to FIDIC by sharing documentation and best practice guidelines with international colleagues, and providing representation for working parties and committees.

MEMBERSHIP

ACENZ members make up around 95 per cent of New Zealand’s consulting engineers and almost all of the infrastructure design industry. ACENZ membership has been steady with over 179 member firms that represent over 10,500 employees.

All member firms of ACENZ must be independent, and their principals are required to be people who are full members of a recognised professional body in order to ensure a consistently high standard of quality and service is maintained. All ACENZ members are subject to a code of conduct, and must have processes in place regarding quality management, must display focus upon ongoing development of business and technical education, and must hold professional indemnity insurance to a minimum level of $500,000.

Our members aspire to be trusted advisors to their clients, providing solutions that involve innovation, excellence and quality and pride themselves in being at the forefront of innovation in engineering consulting. The INNOVATE NZ Awards of Excellence celebrates these achievements.

The ACENZ website, www.acenz.org.nz offers information on the activities of the association, documents available for engaging a consultant, a directory of members and the services they offer and more.
HONORARY LIFE MEMBERSHIP

Honorary Life Membership is given to those Individuals who have, by decision of the ACENZ Board, provided exceptional service and personal commitment to both ACENZ and the wider industry.

Current Life Members

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>R M McLeay</td>
<td>Retired, Christchurch</td>
</tr>
<tr>
<td>1990</td>
<td>G S Beca</td>
<td>Deceased (2001)</td>
</tr>
<tr>
<td>1992</td>
<td>Steve Gentry</td>
<td>Retired, Wellington</td>
</tr>
<tr>
<td>2001</td>
<td>Alec McCulloch</td>
<td>Retired, Auckland</td>
</tr>
<tr>
<td>2012</td>
<td>Ken Shores</td>
<td>Retired, Auckland</td>
</tr>
<tr>
<td>2012</td>
<td>George Butcher</td>
<td>Retired, Masterton</td>
</tr>
<tr>
<td>2012</td>
<td>Ian Fraser</td>
<td>Retired, Wellington</td>
</tr>
<tr>
<td>2012</td>
<td>Murray Spicer</td>
<td>MacDonald Barnett, Auckland</td>
</tr>
<tr>
<td>2012</td>
<td>Adam Thornton</td>
<td>Dunning Thornton, Wellington</td>
</tr>
<tr>
<td>2012</td>
<td>Arthur Park</td>
<td>Clendon Burns &amp; Park, Wellington</td>
</tr>
<tr>
<td>2012</td>
<td>Don Houchen</td>
<td>Deceased (2013)</td>
</tr>
<tr>
<td>2012</td>
<td>Enrico Vink</td>
<td>FIDIC, Switzerland</td>
</tr>
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</table>

In honour of substantial commitment and investment to ACENZ and the INNOVATE NZ Awards of Excellence Judging process, welcome new members

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Allan Leahy</td>
<td>MWH, Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Andrew Charleson</td>
<td>Victoria University, Wellington</td>
</tr>
<tr>
<td>2016</td>
<td>David Bridges</td>
<td>Good Earth Matters, Palmerston North</td>
</tr>
<tr>
<td>2016</td>
<td>Peter Riley</td>
<td>Riley Consultants (Retired), Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Bob Nelligan</td>
<td>RJ Nelligan, Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Ernst Sansom</td>
<td>Melrose Property Consultancy, Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Gavin Still</td>
<td>GA Still (Retired), Auckland</td>
</tr>
</tbody>
</table>

In honour of substantial commitment and investment to ACENZ for long term Governance service, welcome new members

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Ray O’Callaghan</td>
<td>Cardno, Wellington</td>
</tr>
<tr>
<td>2016</td>
<td>Stephen Jenkins</td>
<td>Aurecon, Wellington</td>
</tr>
<tr>
<td>2016</td>
<td>Andrew Read</td>
<td>Pedersen Read, Christchurch</td>
</tr>
<tr>
<td>2016</td>
<td>Brent Meekan</td>
<td>Beca, Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Graham Chapman</td>
<td>AECOM, Auckland</td>
</tr>
<tr>
<td>2016</td>
<td>Lyall Green</td>
<td>Design Management Consultants, Hamilton</td>
</tr>
</tbody>
</table>
ACENZ AWARDS

The ACENZ Awards are informally known as our People Awards, recognising incredible personal achievement within and for the consulting and engineering industry.

The Awards of Excellence Gala Dinner celebrates two awards programmes in one night including the ACENZ Awards as well as the INNOVATE Awards. Both programmes celebrate peak professional achievement for individuals and companies.

The ACENZ Awards include:
- AECOM / ACENZ Best Practical Work Report Award (for students)
- Tonkin & Taylor / ACENZ Future Leader Award (for young professionals)
- President’s Award

About our Awards Gala Sponsor

The awards gala has been proudly sponsored by HEB Construction since 2014. HEB Construction is one of the leading civil construction companies in New Zealand, offering a broader range of integrated construction services than almost anybody else in our sector.

We provide our clients with a diverse multi-disciplined civil engineering infrastructure capability that helps to sustain the communities in which we work. This capability includes the construction of sub-divisions, roads and bridges (including pavements, surfacing and road maintenance), stormwater drainage, pumping stations, water and waste water treatment plants, as well as piling, wharf construction, precast concrete elements and landscaping.

From design to delivery, HEB has an enviable reputation of being easy to do business with. This is demonstrated by the many projects we undertake through collaborative procurement models, such as Design and Construct, Early Contractor Involvement and Alliances. As part of the international concessions and construction group VINCI, this highly collaborative culture is supported by access to the technical knowledge, expertise and financial strength of one of the world’s largest construction companies.

For further information, please contact Ian McNally, Business Development and Tenders Manager, via ian.mcnally@heb.co.nz

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“Serving one another”

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PRESIDENT’S AWARD

The ACENZ President’s Award is presented to an individual within the industry to recognise outstanding service and special efforts performed on behalf of the association and general industry.

2016 RECIPIENT

Andrew Read, Pedersen Read

Andrew is a chartered professional electrical engineer with a broad experience base, enthusiastic approach and an aptitude for realising the bigger picture. Andrew is a director of the company, Pedersen Read.

He frequently has a leading role on large and complex projects in which his positive attitude, communication skills, and engineering expertise has been widely recognised and valued by clients. Andrew has particular interest and expertise in areas such as strategic infrastructure planning, “intelligent building” and IT services, and security analysis.

Andrew enjoys the “people” aspect of engineering and is a prominent contributor in many professional forums and organisations, including being actively involved with ACENZ as a Past President, INNOVATE Judge (and Past Convenor), and FIDIC New Zealand representative. Andrew is also being inducted as a 2016 Life Member to ACENZ.

Andrew lives in Christchurch with his wife and two children. He is a keen fly fisherman and enjoys snow skiing, camping, cycling, and the outdoors in general. He is very family and community oriented, and has active involvement in the interests of his children through sports coaching, Scouts and Guides assistance, and as a PTA member.

WORLD WATER DAY 2017

“Can you last the day without turning on a tap?”

(That includes that coffee machine in the office that is plumbed! But don’t worry, you can still flush!!)

22nd March 2017

WE ARE SUPPORTING THE CHALLENGE. WILL YOU?

If you would like to get involved and support the day, please do so. We are looking for corporate partners or community organisations to help spread the word! If you would like more information or to get involved, please contact Holly Morchat at Hmorchat@acenz.org.nz
The local community will reap economic and environmental benefits from protection works, currently underway in Samoa.

Careful coastal assessment led to the creation of two offshore breakwaters that will minimise further erosion, protect from the effects of sea level rise and climate change, restore the foreshore and future proof Manase’s tourism industry.

Tonkin + Taylor’s Natural Hazard Resilience Specialists are proud to have designed this low-impact, cost effective solution for Manase.

Visit our website to see how we can protect your coastal community.

Exceptional thinking together
www.tonkintaylor.co.nz
FUTURE LEADER AWARD

About the award

Introduced by the association in 1998, the award was established to give recognition and acknowledgement to the future leaders of our industry. ACENZ aims to empower young engineers and equip them with the management tools and training through the experiences of this award. This award has been jointly sponsored by ACENZ and Tonkin & Taylor since 2015.

Prize

The winner receives an opportunity of a lifetime, including registration costs for the FIDIC Young Professionals Management Training Programme. This is run through webinars with young professionals from all over the world during the year with the final module to be completed at the FIDIC Annual Conference. The winner receives the prestige title “Future Leader Winner,” a framed certificate, $1,500 cash prize and a year on the ACENZ Board.

Runner-up finalists will receive a framed certificate and $1,000 towards an approved business management course.

WINNER

Jenson Varghese, MRCagney

Jenson Varghese is the New Zealand Regional Manager for transport and planning consultants MRCagney. In this role, Jenson is responsible for managing MRCagney’s New Zealand operations and business development, as well as leading a team of fifteen consultants who work across New Zealand, Australia and the Asia-Pacific region.

He is part of MRCagney’s management team and contributes to the management of the overall company operations. In addition to his management responsibilities, Jenson is a Principal Consultant with over ten years’ experience in a range of consulting roles with a particular focus on sustainable transport and urban outcomes.

Jenson has qualifications in engineering, transport planning and economics, all of which give him a broad range of skills to manage and deliver complex and diverse projects.

Jenson has worked on and led several high-profile and influential transport studies in New Zealand and Australia. Jenson is currently the chair of the IPENZ Transportation Group Auckland Branch and is a member of the IPENZ Transportation Group National Committee and South Pacific Professional Engineering Excellence. He is committed to promoting careers in science, engineering and particularly transport to students.
Andrea Jarvis, Holmes Consulting Group

Andrea leads the national Civil Engineering team at Holmes Consulting, working on civil projects all over New Zealand. Her team has built its reputation on the strength of their technical expertise, attention to detail, and ability to integrate intelligent civil design with structural systems.

Andrea is a Chartered Professional Engineer with over a decade of design, resource consent, contract and construction monitoring experience. Her previous experience as an infrastructure engineer means she has expert working knowledge of the coordination aspects of projects—including integration with other disciplines to streamline the design and construction phases. She is passionate about great engineering, always looking for ways to do things faster, better and more efficiently.

Andrea grew up in Feilding before moving north as a teenager, graduating from the University of Auckland with a Bachelor of Engineering in 2005. She is currently based in Holmes’ Christchurch office and is living the dream on a lifestyle block in Ohoka with her husband, Greg. Prior to the recent relocation north, Andrea was involved in the Queenstown community as the chairperson for her local residents’ association, in the orchestra for Showbiz productions and as a Scout leader, and is looking forward to opportunities in her new community. To relax, she enjoys snowboarding, wakeboarding and fishing.

“Andrea also works hard behind the scenes leading her team... It takes a confident, competent leader to get a team to work to such tight timeframes. Andrea motivates and drives her team to ensure that the right information is being delivered at the right time.” - Paul Horrell, GM Civil Construction Ltd

Matt Bishop, BVT Consulting

After completing a Mechanical Engineering degree at Canterbury, Matt worked as a Design and Consulting Engineer for various companies around the world. When he returned to New Zealand in 2009, he and his wife Abby had an opportunity to start their own consultancy, BVT Engineering Professional Services. Matt now serves as the Managing Director of BVT.

Over the last seven years, BVT has experienced strong growth, and now employs 21 people. BVT’s services are varied, but predominantly they focus on smaller projects with fast turnarounds. They excel in crossdiscipline services (projects that involve a bit of civil, a bit of structural, a bit of mechanical), however their secret sauce is the way they communicate with clients and the team. Matt’s current focus is helping his clients with their newest headache, how to comply with the new Health and Safety at Work act. Matt’s team is working closely with his clients to help them clear the noise around H&S compliance, understand what their priorities should be and move to a Critical Risk based approach.

Matt currently serves on the Engineering Professionals Advisory Committee at Ara Institute of Canterbury. He also volunteers as Secretary at the New Zealand Society for Safety Engineering and was Vice Chair of the Canterbury Branch of IPENZ for 2013-2014.

“Matt leads by example, encouraging others to contribute to the enactment of BVT’s vision for the future of engineering professional services. His desire to elevate the public perception of engineers to the level of professional services is infectious, building an exceptional team of young engineers that deliver solutions fast surpassing client expectations.”

- Quentin Lawler, Process Delivery Manager
ONE TEAM DRIVEN BY ONE GOAL: MAKING BETTER POSSIBLE.

Proud sponsors of the AECOM and ACENZ Best Practical Work Report award.

At AECOM, we align knowledge, experience, people and passion to make lasting positive change in our cities and communities.

Find out more at aecom.com
BEST PRACTICAL WORK REPORT AWARD

The student award was introduced by ACENZ in 1996. This award highlights the importance of written communication skills that are essential for report writing in the business of consulting and engineering, and promotes career opportunities within the consulting engineering industry.

AECOM is pleased to sponsor this award jointly with ACENZ since 2015. Fourth year engineering students are invited to submit their practical work report as part of the Bachelor of Engineering Degree prescriptions. The entries are judged on report writing and the student’s ability to describe the work they carried out and their experience gained, rather than on the duties undertaken.

AECOM and ACENZ would like to thank all the tertiary institutes and their students who submitted their practical work report this year. The judges acknowledge that all reports received were of a high standard. Students wishing to enter this award in the future should see their Practical Work Advisor.

The 2016 Winners are:
- Natalie Oliver-Caldwell, University of Auckland (Civil & Environmental)
- Scott Cameron, University of Auckland (Civil, Hons)
- Theodore Carlos, University of Auckland (Civil & Environmental)

Congratulations to our well deserving 2016 winners!
Acknowledging the Consulting Industry’s Collaboration in the Rebuild of Christchurch’s Public Infrastructure

The devastation and destruction caused by the Christchurch Earthquakes was of an unprecedented scale in New Zealand in recent times. This award is to recognise the contribution of both ACENZ members and non-member firms to the collaborative working arrangement for the infrastructure rebuild, and for demonstrating that, by working together, we are stronger. These firms include: Beca, AECOM, Aurecon, Opus, GHD, Jacobs, MWH, Woods, Pattle Delamore Partners, E2 Environmental, Davie Lovell Smith, and WM Group.

Repairing and reinstating the public infrastructure required an innovative and collaborative approach. The award recognises this effort, which included early response and teamwork between firms to address, maintain and renew earthquake-damaged infrastructure.

Together, the firms facilitated the framework that enabled consultants to deliver critical engineering solutions. It was the leadership of ACENZ firms and others that led to these innovative and collaborative processes.

Christchurch and the people of New Zealand have benefitted from the unwavering commitment of ACENZ Members and other firms who offered their selfless service during this critical time.
MESSAGE FROM THE CONVENOR

Engineers have a pivotal, often unsung role to play in society through the work they undertake within the natural and built environment. The Innovate Awards are an opportunity for the profession to showcase its work to a wider audience.

This year is no different featuring projects as diverse as database management, building in resilience, national memorials, and art galleries. These projects are characterised by collaboration, client focus, innovation and plain, old fashioned commitment whilst working within time, cost and quality constraints. Please be excited by the projects showcased this year and acknowledge with pride the amazing profession that we are all part of.

I wish to acknowledge the contribution and commitment of my fellow judges and welcome our new members. It is an absolute privilege to part of the team. I also wish to thank the entrants for sharing their projects with us and congratulate the winners.

David Bridges
2016 INNOVATE Convenor of Judges
ABOUT INNOVATE

The INNOVATE NZ Awards of Excellence showcase and celebrate outstanding consulting service or innovative practice which raises the profile of the industry in the built and natural environment. All the winning projects have demonstrated excellence in either innovation or superior consulting service.

The INNOVATE Awards differ from others as the projects are evaluated individually on the merit of each project alone, so there may be more than one award in any of the given categories or none at all.

A project is not awarded a prize (being Gold, Silver, or Merit) for simply being a good project. The work, technology, service, and innovation must go above and beyond what is considered standard operating procedure for the industry. Often winning projects help to instate a new industry norm, which constantly challenges professionals to become better at consulting and engineering for client and the public good.

This in turn helps the profession grow, continually pushing the boundaries of what is accepted as standard practice or what is determined to be outstanding work in the consulting or engineering field.
ABOUT INNOVATE

JUDGING PROCESS

Each year a panel of 25 to 30 judges evaluate projects in teams, each team reading project submissions, conducting client interviews and tours on many of the project sites. This attention to detail accompanied by a thorough investigation by a panel of industry experts is what makes the INNOVATE NZ Awards of Excellence the pinnacle of industry achievement.

Judges consider the technical excellence of the design and execution by evaluating complexity, innovation, depth of technical knowledge, the elegance of the solution, social environmental impacts and the client relationship and satisfaction of each entry.

The judges volunteer their time and expertise to the process, and it is among the most respected in the consulting and engineering industry. The process is time intensive and thorough to ensure that outstanding consulting projects or innovative works are rewarded for their contribution to elevate the industry.

JUDGING PANEL

<table>
<thead>
<tr>
<th>David Bridges (Convenor)</th>
<th>Alistair Cattanach</th>
<th>Win Clark</th>
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<tbody>
<tr>
<td>Brett Harries</td>
<td>Allan Leahy</td>
<td>Alec McCulloch</td>
</tr>
<tr>
<td>BobNeilligan</td>
<td>Ray Patton</td>
<td>Murray Spicer</td>
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<tr>
<td>Gavin Still</td>
<td>Adam Thornton</td>
<td>Andrew Charleson</td>
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<tr>
<td>Herb Farrant</td>
<td>Trevor Matuschka</td>
<td>Brent Meekan</td>
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<tr>
<td>Mike Simpson</td>
<td>David Vass</td>
<td>Cam Wylie</td>
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<tr>
<td>Iain Rabbitts</td>
<td>Ashley Wilson</td>
<td>Simon Drew</td>
</tr>
<tr>
<td>Ben Holland</td>
<td>Nathanael Sterling</td>
<td>Rebecca Jackson</td>
</tr>
<tr>
<td>Andrew Read</td>
<td>Scott Vaughan</td>
<td>Matt Spooner</td>
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</table>
The Sumner Surf Life Saving Club is a historic part of the Sumner community. After the 2011 and subsequent earthquakes, the clubhouse was damaged beyond repair, losing close to sixty years of history and community service in the rubble. This facility served numerous members of the community and purposes including the volunteer lifeguards, Sumner beach patrons, surf sports and training.

After operating for four years from temporary containers, it was time to rebuild. Throughout the four years of displacement, the club maintained membership levels and rescue services to the public which speak volumes of the strong community environment and commitment to the area.

The project brought together club members of the Sumner Surf Life Saving Club with professional service skills to begin the process of rebuilding their community home. A rebuild committee of both club and community members was formed and worked with Aurecon to complete the project. The community, the committee and the club members generously contributed their time, energy and feedback into each stage of the project.

Through an informal partnership approach, collaboration between Christchurch City Council, consultant, contractor, club and community ensured the project was completed and remained on the original site amid numerous challenges. The ACENZ judges see the project as a worthy recipient of the rarely awarded Community Award. This award is given to Aurecon NZ, Sumner Surf Life Saving Club, and Christchurch City Council.
GOLD AWARDS

The premier award is the Gold Award of Excellence. This award acknowledges a superior project for innovative achievement undertaken by an ACENZ member or a group of Members acting as either Principal Advisor or as Secondary Advisor. It also is awarded for outstanding consultancy service to the client which goes above and beyond standard service delivery.

- Isaac Theatre Royal
- Tuvalu Borrow Pits
- Canterbury Geotechnical Database
- Project ATOM
World leaders in fire engineering
ISAAC THEATRE ROYAL

Holmes Fire for Isaac Theatre Royal

This iconic heritage building, built in 1908, sustained extensive damage during the earthquakes of 2011 and in subsequent aftershocks. Holmes Fire, working with the client and within the specific NZ Building code requirements, tailored a building specific solution which incorporated the building’s heritage status and significant artistic elements. The consultants worked within the confined spaces to produce a solution which had to be flexible enough for multi-purpose functions that the Isaac Theatre Royal required.

This project was determined to be Gold worthy for the customised strategy which was developed for the client which incorporated many site challenges to produce the best solution for the client.

Not only is the Isaac Theatre Royal a good example of what excellent consulting services look like, they worked with the artistic and site restrictions of the project and produced an excellent solution for the client. This project has helped raise the bar for consultancy services in fire engineering.
Not only is the Isaac Theatre Royal a good example of what excellent consulting services look like, they worked with the artistic and site restrictions of the project and produced an excellent solution for the client.
Tuvalu had many “borrow pits” that were excavated during WWII to build an airfield. Over time, these pits filled with rubbish and effluent which led to substantial environmental and health issues for the small island nation.

This project was determined to be Gold worthy for outstanding consulting service amid numerous and critical challenges.

Some of the challenges included multiple private ownership of land, Tuvalu’s isolated location, the tight construction timeframes outside Tuvalu’s cyclone season, and understanding Tuvalu’s cultural needs and legislative requirements.

The product of Calibre’s outstanding consultancy work has had a huge impact on the health and wellbeing of the Tuvalu community, as well as setting a benchmark for cost-effective climate change response in the Pacific.
The product of Calibre’s outstanding consultancy work has had a huge impact on the health and wellbeing of the Tuvalu community, as well as setting a benchmark for cost-effective climate change response in the Pacific.
The Canterbury Geotechnical Database is an online database developed initially to assist in the rebuild following the 2010-2011 Canterbury Earthquake Sequence. Through its evolution, the team at Tonkin & Taylor shaped its functionality and capabilities to be progressive and adaptive in order to handle the growing use within New Zealand and worldwide. Prior to this database, information was scattered and limited.

This project was determined to be Gold worthy for the innovative method of data collection and reporting, creating an IT platform that encourages collaboration, for both day to day consulting as well as world leading research.

The interactive nature of the platform has changed how consultants share information for the betterment of the industry and the public good. The results have been so successful; this system is being modelled in the US, and will become a permanent national system within New Zealand.
PROJECT ATOM

Beca and New Zealand Steel for New Zealand Steel

Project ATOM was an upgrade to New Zealand Steel’s existing Glenbrook site allowing flexible production and expanded capabilities for the plant. The project had to be completed in a tight timeframe in the middle of an existing and fully operational steel plant, with a completely boutique solution.

This project was determined to be Gold worthy for the outstanding consulting performance working under time, capability and physical constraints to produce a custom solution for the client.

The Beca team fully integrated themselves into New Zealand Steel and is a prime example of what a great collaborative working agreement looks like, raising the profile and value of the consulting engineering industry.
The Beca team fully integrated themselves into New Zealand Steel as a prime example of a great collaborative working agreement looks like, raising the profile and value of the consulting engineering industry.
BEFORE YOU LOSE YOUR HEAD

GIVE IT TO US.

04 232 1000 | info@rainbowcreative.co.nz
SILVER AWARDS

The secondary award is the Silver Award of Excellence. This award acknowledges projects that clearly demonstrate an outstanding achievement and service to the client. It also is awarded for smart and innovative technology or project solutions.

- Nelson Street Cycleway (Te Ara I Whiti)
- Wairau Road 220 kV GXP Substation
- 15 Stout Street Development
- Timaru’s District Wide Wastewater Strategy
- Southern Response Archaeological Investigations
- Ferrymead Bridge
- Christchurch Art Gallery Te Puna O Waiwhetu Base Isolation Retrofit
NELSON STREET CYCLEWAY - TE ARA I WHITI

GHD, Novare Design, Monk Mackenzie, and NZ Transport Agency for NZ Transport Agency

The Nelson Street Cycleway and Canada Street Cycle Bridge is 1km of cycle and walkway public space which makes use of a previously redundant off-ramp and a new linked-in steel bridge structure passing over the busiest portion of New Zealand motorway in the heart of Auckland.

The team worked together using 3D modelling which resulted in both time and cost savings as the project was substantially extended. This extension late in the project process was included in the addition of interactive bespoke lighting elements to the off-ramp to form an attractive and a more useful public space that has now become an iconic feature of Auckland’s transport infrastructure.

Through this same collaboration and evolutionary inclusion, the team were able to design a complex geometric portion for the new bridge section using simple cost saving elements that are beautiful in form but safe and effective.

This project was determined to be Silver worthy for the collaborative efforts of GHD, Novare Design, architect Monk Mackenzie and other project suppliers which produced a truly exquisite public feature of the city.
WAIRAU ROAD
220 kV GXP SUBSTATION

AECOM for Transpower New Zealand

The Wairau Road Substation is a key part of Transpower’s Auckland and Northland Grid Upgrade Project and provides an important supply point to the region’s power network. The substation upgrade provided many challenges including space and access constraints, complex geological and climate prone conditions, critical timeframes, and health and safety matters working on a high voltage project.

This project was determined to be Silver worthy for excellent consulting solutions working through specific site challenges to deliver an elegant solution for the client.

Many projects have challenges that must be overcome, but AECOM delivered a clever and effective solution when presented with an extensive list of conditions that some would have walked away from. Working within a specific site location, they were able to navigate the tricky conditions and develop a great solution for both client and other stakeholders.
The Stout Street Development involved transforming a category 2 Historic Building into a modern 5 Green Star office space. The project included the addition of 3,000 square metres of brand new space creating an 8 level open atrium.

This project was determined to be Silver worthy for creating a bespoke solution for the client who had specific goals for the fit out along with challenges posed by a Heritage Building which Holmes Fire took in stride.

The Consultant displayed a very high level of technical competence to demonstrate occupant tenability from within a highly complex open plan office/atrium space including a heritage open stairway. This included modelling occupant movement in conjunction with CFD modelling of visibility throughout the required evacuation time. Being a proactive member of the design group, Holmes collaborated with mechanical engineers to utilise the as designed HVAC system for smoke control.

Holmes involvement went beyond the ‘normal’ service expected in the fire engineering industry and is a shining example of excellent consultancy work.
TIMARU’S DISTRICT WIDE WASTEWATER STRATEGY

CH2M Beca for Timaru District Council

This project is a 17-year long wastewater strategy developed collaboratively by Beca and Timaru District Council.

This project was determined to be Silver worthy as a shining example for the impact good consultancy can have on a project.

By engaging in wide stakeholder engagement with the four communities this project reached; Timaru, Geraldine, Pleasant Point, and Temuka, they were able to create a cost effective solution. The consultant adapted as the project evolved over the years, listening to client, council, and community to respond with a series of simple but effective solutions.

Without the trust of the client/consultant relationship, Beca could not have provided some of the environmental improvements and effective solutions that resulted in cost savings for the community. Beca provided good engineering solutions with outstanding client and community satisfaction.
SOUTHERN RESPONSE ARCHAEOLOGICAL INVESTIGATIONS

Opus International Consultants for Southern Response Earthquake Services and Arrow International

This project was based around the need for a quick response after the Canterbury Earthquake Sequence which addressed a risk management plan, process and procedure for the statutory archaeological considerations required for the rebuild to proceed. The project encompassed more than 7,700 over cap house claims which needed investigation and response per the Canterbury Earthquake Response and Recovery Act 2011.

This project was determined to be Silver worthy for the comprehensive consultancy solution which resolved complex project aspects and limitations of resources so as to thoroughly investigate potential finds without substantial delay of demolition or construction works. With only 12 archaeologists in Christchurch, qualified resources were scarce. As part of the plan developed, immediate response was provided for potential discoveries within a 48-hour response timeframe.

This project has been a game changer within New Zealand archaeology. Opus provided the client and New Zealand with an effective protocol and system with a management process which has raised the bar of archaeological work in New Zealand, setting a new best practice for the industry all while delivering a high level of excellence in consulting practice and client support.
CHRISTCHURCH ART GALLERY BASE ISOLATION RETROFIT

Ruamoko Solutions and Aurecon NZ for Fulton Hogan and Christchurch City Council

The Christchurch Art Gallery is an important staple to the central business district and its re-opening after the earthquakes of 2010 and 2011 were a valuable step forward in the redevelopment of Christchurch. After the earthquakes, the art gallery’s reputation suffered immensely as it relies on being able to secure art on loan from around the world to complement its own extensive collection, valued around 86 million dollars. With the seismic conditions being elevated and unknown, the gallery needed a solution to regain the reputation as a safe facility for works of art.

This project was determined to be Silver worthy for excellent consulting work provided by Aurecon and Ruamoko Solutions to deliver the project on time and under budget.

Aurecon’s upfront engagement with both client and community assisted in developing the plan to base isolate the structure. Ruamoko Solutions collaborated with Aurecon, the gallery and Fulton Hogan to deliver highly detailed work in such a unique facility, all while the gallery continued to operate and house valuable works of art.
FERRYMEAD BRIDGE REPLACEMENT

Opus International Consultants for Christchurch City Council

The Ferrymead Bridge has a long history of providing critical access for the Lyttelton Port and surrounding communities, with the first bridge built on this site in 1864. As a result of the February 2011 earthquake, the bridge structure was substantially damaged and it was determined it should be demolished.

Construction of a replacement bridge was complex and challenging due to difficult sub-terrain conditions making seismic design tricky, the need to still provide for close to 30,000 vehicles per day and pressure to complete construction in a short time frame in a city seriously impacted by the effects of the 2011 earthquakes.

This project was determined to be Silver worthy for innovative consulting.

Opus embraced existing industry practices but used them in an innovative manner with a focus on resilience, demonstrating that engineering doesn’t have to fight against the elements. Their design accounted for the difficult site-specific conditions to produce a project that is functional, adaptive and resilient. The resulting design is elegant and has equipped the council with a solution to cost effectively and easily replace damaged pieces rather than needing to replace an entire bridge. Opus used creative application of existing knowledge in a new way under difficult circumstances to provide the client with an elegant engineering solution.
An additional award, called the Award of Merit, recognises projects or achievements that demonstrate a standard above that normally expected to be provided. These winners also excel in either innovative project works or great consulting services.

- Pedestrian Facility Selection Tool
- Pukeahu National War Memorial Park and Underpass (Arras Tunnel)
- Hamilton Southern Links
- Auckland Harbour Bridge Adaptive Asset Management Framework
- University of Canterbury Angus Tait Building
- Cathedral Grammar Junior School
- Sapper
- Sumner Surf Life Saving Club Clubhouse Rebuild
PEDESTRIAN FACILITY SELECTION TOOL

Abley Transportation Consultants for Austroads

The Pedestrian Facility Selection Tool is a collaborative project between the Australian and New Zealand Technical Governance Group, known as Austroads. Selecting the most appropriate type of pedestrian crossing for a given road is a complex process with consideration going to different operating environments, provider expectations, user expectations, and cost or delay factors.

Considering the number of pedestrian crossings in New Zealand alone, this project’s impact had a huge potential across both countries. In addition to the physical environment there was also the challenge of working with varying governing contexts of territorial authorities in the two countries.

This project was determined to be Merit worthy for the great solution that Abley Transportation provided given the enormous scale and complexity of the project.

This IT platform was developed to consider the varying conditions of sites, economic factors, service expectations for provider and user, and safety implications all while forming a unity of design across New Zealand and Australia. Despite the technical and stakeholder complexity, the project team still delivered the project successfully showcasing the expertise of consultancy work on behalf of New Zealand.
PUKEAHU NATIONAL WAR MEMORIAL PARK AND UNDERPASS

Memorial Park Alliance (NZ Transport Agency, Downer, HEB Construction, Tonkin & Taylor, and AECOM) for NZ Transport Agency and Ministry for Culture and Heritage

The Pukeahu National War Memorial Park and Underpass is a Wellington based, multipurpose project driven into full swing by the impending centenary of the Gallipoli Landings. The project’s primary goals were the creation of an underpass tunnel for traffic of State Highway 1 as well as design of a national war memorial park.

This project was determined to be Merit worthy for the collaboration between all parties amid an extensive list of complicating factors for the project.

The complexities included: heritage buildings and infrastructure, site size and site condition constraints, traffic considerations, and a looming time deadline. The Memorial Park Alliance serves as one of the best examples of what a great working alliance looks like, whose collaborative attitude delivered the project ahead of schedule and under budget. Client, consultant, and contractors working together to raise the profile and capabilities of professionals in the built and natural environment.
HAMILTON SOUTHERN LINKS

AECOM and Opus International Consultants for NZ Transport Agency and Hamilton City Council

The Hamilton Southern Links is a complex transportation project to secure designations and bridge envelope consents for 32 kilometres of future state highway and local roads around Hamilton. The project involved many different stakeholder groups including three council bodies, two clients, local iwi, land owners and 14,000 residents. It required AECOM to work with these varying parties in securing approvals for a long term future network.

This project was determined to be Merit worthy for excellent consulting and collaboration among a long list of stakeholders.

In particular, AECOM assisted its clients NZ Transport Agency and Hamilton City Council to secure consents with a 20 year life instead of the normal five years. This provides both clients with certainty of approvals and the ability to stage development to suit growth. The engagement of over 14,000 residents and numerous stakeholders allowed the consultant to fully invest themselves, resulting in a widely accepted and embraced solution for the future infrastructure planning of the Hamilton and Waikato area.
The Auckland Harbour Bridge Outcomes Based Asset Management project is a resource consent project that transformed the process for maintaining the bridge. Historic lack of consent flexibility constrained innovation and the ability to use more environmentally sensitive maintenance processes. The project resulted in a framework that provides flexibility in the way the bridge is maintained to achieve optimal outcomes, rather than fitting with a prescribed maintenance method.

This project was determined to be Merit worthy for the adaptive consent process developed by the alliance team, which has set a new best practice for bridge maintenance by the NZ Transport Agency.

Through the alliance’s collaborative thinking the Auckland Harbour area will see a dramatic reduction in discharged contaminants to land, air, and coast as well as saving the client a considerable amount of future cost.
UNIVERSITY OF CANTERBURY
ANGUS TAIT BUILDING

GHD for University of Canterbury

The University of Canterbury Angus Tait Building was a refurbishment of the original 1960s communication centre and second floor office space. This project was critical to the University of Canterbury as the central IT data centre is housed in the building and was required to remain fully operational during the entire project.

This project was determined to be Merit worthy for the outstanding consulting and project management evident throughout the process, which produced a great client experience and outcome.

Existing IT assets had to be protected, ensuring no disruption to the university was felt, as well as protection of heritage elements around the site. The smallest details had to be monitored including excess vibration or dust which could have been devastating to the communications centre.

The project management team at GHD worked daily to ensure that client, contractor and other contributors were involved, organising workshops with key stakeholders and developing a training handbook for post project completion to ensure the knowledge wasn’t lost for the future. This is a great example of the commitment and seamless outcome that outstanding consulting work provides.
CATHEDRAL GRAMMAR JUNIOR SCHOOL

Ruamoko Solutions for the Cathedral Grammar School

The Cathedral Grammar Junior School project is a showcase for prefabricated timber design and construction on a large scale. The three classroom block was newly built around a central courtyard area for the school, with the primary goal being use of elegantly designed, prefabricated timber elements that could handle the seismic conditions that are now normal for Christchurch.

This project was determined to be Merit worthy for outstanding collaboration and innovative use of prefabricated timber materials.

From the start, consultant Ruamoko Solutions worked with the architects Tezuka Architects and Dr Andrew Barrie, as well as the timber manufacturer to produce a showpiece for the Cathedral Grammar Junior School. Using complex layers of fully pre cut interlocking LVL* timber, several design options had to be worked through as a team to ensure the design could meet both form and function.

All team members were involved at every design stage to make sure the project was completed in the short 16 month window and within budget, for the 2016 school term to begin. Through close collaboration and innovative use of prefabricated timber, this project serves as a great example of using non traditional building materials in an elegant and innovative way.
SAPPER

Cook Costello for IAG New Zealand

Sapper is an online application, purpose built with a database and simple but fast tools for selecting and costing suitable foundation solutions for residential buildings and retaining walls that were damaged as a result of the Canterbury Earthquake Sequence. The application has two tools; the Foundation Costing Tool and the Retaining Wall Assessment Tool. The system utilises MBIE solutions for repair and rebuild of house foundations, information from the Canterbury Geotechnical Database and construction cost data. It also allows site-specific information to be uploaded. The application allows management and access in a dynamic and user friendly way.

This project was determined to be Merit worthy for great consultancy work, providing a custom build solution to a client’s complex and evolving needs.

The Sapper tool brings information together in a way that is both easy to use and easy to contribute to. Cook Costello provided the client with a unique solution to a complex problem, delivering an effective and useful tool that client and partners can use and adapt as their needs change.
SUMNER SURF LIFE SAVING CLUB CLUBHOUSE REBUILD

Aurecon NZ for Sumner Surf Life Saving Club

The Sumner Surf Life Saving Club had been badly damaged in the 2011 Christchurch earthquakes. The facility serves as a hub for not only club members but also providing critical roles to the community as a post for the volunteer lifeguards during summer, and a community home to other groups throughout the year.

When Aurecon was approached, the project became more than just ‘business as usual’ but a true partnership was formed.

This project was determined to be Merit worthy for excellent consulting, providing a deeply collaborative project for both client and community.

Aurecon played a critical role to the success of the project and club, advocating to the council to maintain location on the original site as well as securing the required crown lease for the land.

Working on a pro bono contract, Aurecon has demonstrated a deep connection to the community and provided an outstanding consultant service to the client.
**FINALISTS**

The Finalists are other submitted projects into the INNOVATE Awards. These projects are quality work produced by our Member Firms and highlight the consulting and engineering industry well.

- 180-184 Durham Street South
- SH6 Diana Falls Slip Remediation
- Te Pataka Korero o Te Hau Kapua - Devonport Library
- Waitaki River Bridges Replacement
- Tauranga Eastern Link
- Foodstuffs SI Hornby Distribution Centre
- Fonterra Pahiatua Dryer 3
- Greymouth Wastewater Treatment Plant
- Waikato Expressway Cambridge Section - Horotiu Paa (Karapiro Gully) Bridge
- Design Guidance for Bridges in New Zealand for Liquefaction and Lateral Spreading Effects
- Clive Bridge Cycleway

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**180-184 DURHAM STREET SOUTH**

*Engineering Design Consultants for The Westall Trust*

At a time when more than 90% of the Unreinforced Masonry Buildings (URM) in the Christchurch Central Business District were being demolished, an inspired owner and a motivated project team consisting of EDC, Intrados Architecture and Bushnell Builders went against the grain and decided to repair, strengthen and convert the industrial warehouse at 180-184 Durham Street into a modern office and retail space.

The building had a low seismic strength before the earthquakes, leading to damage. The client’s brief to the project team was to create a building which was safe for its occupants, modern in its function, while retaining the character, charm and heritage of the original structure. New and old elements of the building integrate seamlessly, while the historic elements of the building, namely the sawtooth roof and brick masonry walls, have been exposed and presented as features. The result is a beautiful structure which gives the people of Christchurch a snapshot of the preearthquake CBD.

While the vast majority of URM buildings in central Christchurch have been demolished, this building stands out as a beacon of what can be achieved when a commitment is made to restoring one of the city’s heritage buildings.
SH6 DIANA FALLS SLIP REMEDIATION

Opus International Consultants and McNulty Engineering Management for NZ Transport Agency

The SH6 Diana Falls Slip Remediation project was managed by Opus and McNulty Engineering Management Ltd (MEM), between September 2013 and December 2014 on behalf of the NZ Transport Agency. The project cost just over $9 million and employed the collaborative skill sets of two ACENZ member firm consultancies, four specialist contracting firms, various Transport Agency representatives and local stakeholder groups.

The unique and challenging geological and environmental setting had many unknowns. Stakeholder and programme pressure required innovation at every stage, from incident response to worker protection and the public using the road to communication to design and construction. SH6 in the Haast Pass is a primary feeder route for tourism, agriculture and business economies of the south, thus maintaining traffic flow was crucial. The key aim of the project was to restore 24 hour, two lane access as soon as possible, in the most economical way.

A key innovative feature of this project was not only in the use of three high energy rockfall attenuators in a highly challenging construction environment but in their use together as a complete rock debris control system – unique in the Southern Hemisphere. Another key focus area was on communicating the status of the road clearly to the public. This resulted in the Transport Agency achieving a 100% positive/balanced media feedback in a particularly trying three month construction period – a nationally unprecedented result for the Transport Agency.

DEVONPORT LIBRARY - TE PATAKA KORERO O TE HAU KAPUA

AECOM for Auckland Council

The new Devonport Library – Te Pataka Korero o Te Hau Kapua – is a model for 21st century libraries, catering for a range of community needs and embracing sustainability principles to ensure the library is environmentally friendly and fits in with its natural surroundings and surrounding buildings. Since opening in May 2015 the building has become a much-loved focal point in the Windsor Reserve landscape. The $7.8 million project was designed by Athfield Architects with engineering consultants AECOM, and successfully project managed by The Building Intelligence Group.

The building is multifunctional with several entrance points, meeting and study rooms, innovative collection shelving and configuration of wooden and metal shelves. The new Library has proved good value for (public) money - the numbers speak for themselves. Over 35,000 people visited in the first month, and new memberships have increased tenfold. The value of a community building can be only measured by community use. This new library is a huge success, delivering on its design premise to align the needs of the community.
WAITAKI RIVER BRIDGES REPLACEMENT

AECOM for NZ Transport Agency and McConnell Dowell

The $20.1 million Waitaki Bridges Replacement project provides a vital link between communities, while exemplifying excellence in design and construction, innovation and superb community engagement. Safeguarding the connection between the Kurow and Hakataramea townships in Canterbury’s Waitaki Valley, the design and construction of the two new bridges provides an important tourist and freight route from the coast to the McKenzie Basin. The new twin double-lane bridges, one 206m and the other 92m in length, built on State Highway 82, replaced two existing 133-year-old single-lane timber bridge structures that had reached the end of their functional lives.

Delivered through an Early Contractor Involvement (ECI) model, the innovative and economically designed bridges structures are constructed of weathering steel and concrete, giving them a 100 year life span. With two lanes of traffic and a barrier separated walkway for pedestrians and cyclists, they significantly improve public safety, whilst also offering increased capacity for over-sized machinery and freight vehicles.

Community engagement was a primary focus from the start of the project. Due to their archaeological and historical significance, Heritage New Zealand and many locals were keen that a legacy remained. To respect the past and inspire the future, two sections of the old bridge were erected on Kurow Island to preserve tangible evidence for generations to come.

TAURANGA EASTERN LINK

AECOM for Fulton Hogan & HEB Construction Alliance

The Tauranga Eastern Link (TEL) is the Bay of Plenty’s largest roading project and a vital strategic transport corridor for the region. One of the seven Roads of National Significance (RoNS), it is a key project for moving freight to the Port of Tauranga from Rotorua and the Eastern Bay of Plenty. The $455 million project is integral to NZ Transport Agency’s overall goals of improving journey reliability, route safety, reducing travel time, and enabling a heavy transport route for logging and kiwifruit exports.

Open to the public in August 2015 (five months ahead of programme and under budget), TEL comprises a 23km four-lane dual carriageway, 17km of new road, upgrades to 6km of existing road, major interchanges, local road bridges and connections, noise mitigation, work adjacent to existing railway, and significant earthworks and stormwater challenges. The new road improves safety, reducing death and serious injury crash rates in the region. Over 8000 vehicles use the TEL daily, with only 6000 predicted.

The project was procured by NZTA as a competitive Design and Construct contract with a construction alliance of Fulton Hogan and HEB (FHHCA). AECOM lead and coordinated a design team that included Opus International Consultants, Gaia Engineers and Bartleys. A co-location of designers and constructors during tender and design led to a highly collaborative environment with AECOM personnel leading the geometrics, civil, stormwater and environmental design teams.
Cosgroves Ltd were the fire protection and fire services engineers for the $45 million Foodstuffs (South Island) Hornby Distribution Centre expansion project. Innovation was needed to optimise the storage capabilities of the facilities while maintaining compliance with the NZ Building Code and relevant standards. New sprinkler technology was introduced to enable an increase to the maximum storage heights, beyond the NZS4541 allowance. The resulting outcome for the client was an increase in their storage capacity by 20%.

Protection of ‘dangerous goods’ posed a challenge in achieving a practical design solution within the constraint of NZS 4541:2007. Consultation between the sprinkler designers, rack manufacturers, installers and the client achieved a practical outcome including designated hazardous goods storage areas, specific caged protection for racked aerosol goods, and retention of a roof based (suppression mode) sprinkler system.

The roof based system removes the restriction of in-rack sprinkler protection, and allows flexibility for the warehouse layout. The fire engineering design was presented as an alternative solution due to the high combustible loading, large travel distances, and size of mezzanine floors. Consultation with the NZ Fire Service (NZFS) helped inform an innovative in-ground fire hydrant system that provides fire hydrant outlets around the transport dispatched area, through the NZFS changing to a closed network at a fire hydrant inlet system located at the sprinkler valve house.

The new milk spray dryer powder plant for the Fonterra facility at Pahiatua has been constructed and has been in production since August 2015. The dryer tower is a 53 x 21, 43 m high building constructed in predominantly reinforced concrete, with structural steel for some floor platforms and the roof. The plant is a repeat of the Fonterra Darfield Dryer 1 building constructed in 2011 – 2012.

The Pahiatua sites high Hazard factor Z = 0.42 and proximity to a local fault means that a significant increase in seismic demand is imposed on the building compared to Darfield. After consideration of strengthening the building structure and foundations using conventional means, seismic isolation of the building was chosen as the best and most economical solution.

A concrete raft foundation and seismic isolator bearings are used to support the dryer building superstructure. Consideration was given to lead rubber elastomeric bearings, however friction pendulum bearings were chosen due to their ability to support high axial load capacities at high displacements.
GREYMOUTH WASTEWATER TREATMENT PLANT
MWH New Zealand for Grey District Council

Greymouth is the largest town on the west coast of New Zealand’s South Island and the most significant of the areas subject to the governance of the Grey District Council (GDC). Greymouth’s population of 10,000 sits either side of the mouth of the Grey River and the town had been discharging untreated sewage into the Grey River for over 100 years. With the advent of the Resource Management Act in 1991, it was apparent that things had to change. A two staged approach (for affordability) for improvements to the Grey Sewerage Scheme was developed by the GDC approximately 20 years ago.

The centralisation of Grey District Council’s two existing wastewater treatment plants to a new single plant was the culmination of the 20 year scheme for a wastewater collection, treatment and disposal system to improve the quality of discharge to the Grey River. Centralising the wastewater treatment to a single site has created greater efficiency, effectiveness, control and consistency.

Additionally, the treatment solution itself underwent a major change with the implementation of an innovative biological trickling filter (BTF). It is the ability of a BTF to transform human waste into bacterial biomass with no solids handling that provides a massive advantage over the more traditional process. It eliminates the need for clarifiers, solids handling system and wetlands.

WAIKATO EXPRESSWAY CAMBRIDGE SECTION BRIDGE
AECOM for HEB Construction

The Horotiu Paa Bridge is the longest bridge constructed as part of the 16km long Cambridge section of the $2.1 billion Waikato Expressway. With a total length of 200m, consisting of four 50m long equal spans, it rises an impressive 45m above the Karapiro stream, with a road level just a few metres lower than the Auckland Harbour Bridge. Horotiu Paa Bridge is one of eight bridges constructed by HEB Construction Limited (HEB) as part of the NZ Transport Agency’s Waikato Expressway: Cambridge Section, a Road of National Significance. The structural design of the bridge was undertaken by AECOM as HEB’s Designer, with the AECOM team working closely with Gaia Engineers who provided a significant contribution in relation to geotechnical expertise.

As lead structural engineer, AECOM developed a state-of-the-art pier moment connection between the steel superstructure and the reinforced concrete substructure, which dramatically improved the robustness of the bridge, reduced the size of the supporting substructure elements, and significantly reduced the cost of the bridge.
DESIGN GUIDANCE FOR BRIDGES

Opus for NZ Transport Agency

The "Design Guide for New Zealand Bridges: Liquefaction and Lateral Spreading Effects" specifies the first-ever bridge design procedures for New Zealand conditions. The Guide’s methodology covers a wide range of design issues important to New Zealand’s geological environment. These include: geotechnical investigations; liquefaction and lateral spreading assessments; ground improvement methods; design procedures; geotechnical and structural measures for mitigating liquefaction and lateral spreading effects.

Until its publication, there were no instructions available anywhere providing a complete design manual for designing bridges on sites prone to liquefaction and lateral spreading. The Guide therefore offers a major advance in foundation design development for specific geotechnical conditions. In addition, its methodology satisfies the Resource Management Act’s requirements for addressing natural hazards like earthquake-shaking, liquefaction and ground deformation.

Key contributors were: Prof Misko Cubrinovsky and staff from the Department Civil and Natural Resources Engineering, University of Canterbury, and Prof Rolando Orense and Staff from the Department of Civil and Environmental Engineering, The University of Auckland. Dr Alexei Murashev of Opus led and coordinated the project. His role included leading the development team and working with academics and senior engineers to create a practical solution to a serious problem.

CLIVE BRIDGE CYCLEWAY

MWH for Hastings District Council

In 2010 Hastings District Council was awarded $4.0m to support a 2-year programme of ‘active modes’ construction and promotion, including a new network of walking and cycling routes. By mid-2012 over 108km of new walking and cycling pathways had been constructed, including 4 key ‘arterial’ routes that link the communities of Flaxmere, Hastings, Havelock North and Clive. In June 2012, with evidence of a reverse in the historic declining rates of walking and cycling, New Zealand Transport Agency invested a further $11M to extend the model communities initiative. This extended programme included targeting a number of areas where the cycle network was severed by the State Highway network.

Clive Bridge is located midway between Napier and Hastings on SH2 and spans 150m across the Clive River. The bridge is an integral part of the wider cycle network but also provides a key link for the community between Clive township to the south and the local parks and swimming pools to the north. The existing cycle provision was deemed unsafe and unsuitable. The design solution included the provision of a 3m wide shared path separated from traffic by a cycle safe rail. The rails adopted are of a high urban design standard and include integral LED lighting creating a unique ambience along the path. The path itself is a lightweight plastic paver solution which is manufactured using recycled plastic materials thus creating a sustainable construction solution which then contributes to the delivery of a sustainable transport solution.
PHOTO CREDIT

Project photos included have been submitted to ACENZ by the consultant firm for use in ACENZ promotion through the INNOVATE Awards process. If a specific photographer’s name has been provided to us, it will be noted below. Official conference and awards gala photos have been provided by various paid photographers for ACENZ promotional use. Other photos have been taken by ACENZ staff.

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Modifications: custom blending, layering, and paint application was made to all files to produce the final image on the cover.

PAGES 19-20: Photos by Peter Ollivier and Tom Henderson for Calibre Consulting for Tuvalu Borrow Pits Remediation Project.

PAGES 23-24: Photos by Dean Carruthers for Beca of Project ATOM.


PAGE 32: Photos by John Collie of Christchurch Art Gallery.


PAGE 38: Photos by Kat McDonald, Chris Parker, and NZTA for the Auckland Harbour Bridge Project.

PAGE 40: Photos by Patrick Reynolds for the Cathedral Grammar Junior School Project.

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