



310 Maintaining Collaboration and Creating Value in NZS 3910 Contracts

Chris Olsen, Dave Nicolls & Erik Barnes, ICWNZ, Whanganui Alliance

Longer term contracts mean value often needs to be created within contracts and not just updated when re-tendered. NZS 3910 tends not to encourage value creation, as collaboration usually drifts away as the pressure comes on. Evidence shows that using a Structured Collaborative Framework in conjunction with NZS 3910 overcomes this.

The move to longer term maintenance contracts has created the need to achieve value within contracts. Waiting for contracts to expire so they can be re-tendered with the most updated best practice loses too much opportunity and value for both the client and contractor.

The NZS 3910 General Conditions of Contract series are the most commonly used in New Zealand, but they are not structured for creating value, instead, they are structured for transactional relationships where generally there is certainty around the schedule of works and specifications.

This paper looks at international best practice around working collaboratively to create value and suggests using a structured collaborative framework in conjunction with NZS 3910 series contracts. This structured framework comprises the 12 internationally recognised best practice principles researched and developed over the past 30 years for working collaboratively, simplified and tailored for New Zealand conditions. Applying and using these Principles is then discussed.

311 Steeling Ourselves for a Sustainable Future

Raed El Sarraf, Jamie Lester, Kwan Chin & Kaveh Andisheh, WSP, HERA

Structural steel is a key component to meeting our 2050 net zero goal. The question of why and how to meet our carbon reduction obligations, and why sequestering carbon isn't the silver bullet that we are hoping for, will be presented.

From the Eiffel Tower to the Auckland Harbour Bridge, structural steel is the backbone of our civilisation and the material of choice for the majority of our structures. With the urgent focus on meeting New Zealand's net zero 2050 target, what is structural steel's role in that future?

Funded through HERA's Steel Sustainability Fund, WSP undertook an independent review of the current challenges relating to the use of structural steel in construction, based on the current and upcoming legislative carbon reduction aspirations.

This presentation will provide an overview of the development of zero carbon steel, and the findings of a high-level life cycle carbon analysis between conventional steel/concrete composite, concrete, timber and hybrid steel/timber configurations, for both buildings and bridges. A discussion on the limitations of biogenic carbon sequestering is also given, and why it isn't the silver bullet that we are hoping for.

Digital & Design

Concurrent Sessions

The presentation concludes with the identified opportunities and proposed solutions, with a focus from a design and delivery point of view; to making structural steel our future's low-carbon choice.

312A Driving Innovative Pavement Solutions through Investigation and Design Collaboration

Jaime Clark, Fulton Hogan

Fulton Hogan has developed and implemented a Design and Testing Protocol that focusses on a collaborative approach to achieve the best client outcomes. This process is intended to be used on local authority maintenance contracts to ensure money is well spent and client priorities are the focus of the outcome.

Fulton Hogan developed a client-focused Design and Testing Protocol for Local Authority Networks based on extensive design and construction experience throughout New Zealand with the aim of offering a more targeted practical approach to designing rehabilitations. The Protocol allows a more cost-effective solution, while still satisfying the Client's performance expectations. This enables our clients to ensure their maintenance programme delivers more value for money while also introducing scope for sustainable options to be explored through risk-based discussions.

This process has been applied to multiple local authority road maintenance contracts across the country, as various different adaptations of the original protocol. By being able to adapt the protocol to different client requirements, we have learnt that not all regions and contracts are equal and an agile approach needs to be considered not only for pavement investigation and design, but for any collaborative undertaking.

312B Project Pure WWTP Upgrade – Designing for Constructability

Rae Stewart, Trent Beckman-Cross, John Crawford & Annalise Duffy, Beca Ltd, Queenstown Lakes District Council

Undertaking a significant upgrade project on an existing operational site is a common challenge faced by many infrastructure owners. QLDC and Beca utilised a 3D model to help coordinate interfaces with the existing equipment and illustrate how the site would change throughout construction. This model and an Indicative Construction Sequencing and Methodology report were used to inform the construction methodology. This paper will summarise the key constructability considerations for the Project Pure WWTP upgrade, the tools used and how this shaped the design approach.

Undertaking a significant upgrade project on an existing operational site is a common challenge faced by many infrastructure owners. Queenstown Lakes District Council (QLDC) is implementing an upgrade to the Wanaka wastewater treatment plant (WWTP) called Project Pure. Project Pure is located adjacent to the Wanaka airport and has no redundant process units so can only be shut down for very limited periods. Beca worked with QLDC and the site operator Veolia to produce an upgrade design that focused on constructability and interfacing of the plant to transition operations, as well as achieving the project objectives.

The design team utilised a 3D model to help visualise and confirm interfaces with the existing equipment and how ground levels would change throughout construction. This model and an Indicative Construction Sequencing and Methodology report were provided to prospective tenderers to inform the construction methodology. The report was an important tool to make sure that the constructability thinking of the design team was transferred to both the tendering and construction phases. The paper will summarise the key constructability considerations for the Project Pure WWTP upgrade, the tools used and how this shaped the design approach.