

# SESOC Newsletter September 2024

Welcome to the Spring 2024 edition of SESOC NEWS. For general information regarding the New Zealand Structural Engineering Society (SESOC) and for committee contact details refer [www.sesoc.org.nz](http://www.sesoc.org.nz)



**In this issue:**

## CONTENTS

<b>Nic Brooke: President's Message</b>	<b>2</b>
<b>Professional Practice</b>	<b>3</b>
Earthquake ratings and retrofit of existing buildings, following the release of TS 1170.5 .....	3
SESOC Interim Design Guidance .....	3
Seismic Risk Working Group Stage 2 .....	4
Earthquake-prone building and seismic risk management review .....	4
Public consultation on draft Concrete NZ Technical Specification 02: Post-installed rebar .....	4
ASSiSi inaugural Global Design and Innovation Awards program .....	5
NZ SPERWALL ADDENDUM: Public review and feedback .....	5
<b>Sustainability</b>	<b>5</b>
SESOC Sustainable Design Task Force – Update .....	5
<b>Diversity and Inclusion</b>	<b>7</b>
Do you know the difference between neurodiverse and neurodivergent? .....	7
AWEC White Paper – ‘A Collective Voice for Change’ .....	7
<b>Membership News</b>	<b>7</b>
Keen to join the Emerging Structural Engineers Committee? .....	7
SESOC Seminar Recordings .....	8
Future Seminar Topics .....	8
Members Tips and Tricks .....	8
<b>International Linkages</b>	<b>8</b>
Institution of Structural Engineers (IStructE) .....	8
Structural Engineers Association of California (SEAOC) .....	10
Collaborative Reporting for Safer Structures Australasia (CROSS-AUS) .....	10
<b>SESOC Software</b>	<b>11</b>
Cantilever Timber Pole Retaining Walls - Design Software .....	11
Software Licensing .....	11
<b>Upcoming Events</b>	<b>11</b>
Fib Symposium 2024 .....	11
SESOC Seminars .....	11

## Nic Brooke: President's Message



Kia Ora and welcome to another newsletter.

It goes without saying that personal knowledge and understanding is one of the pillars of being a good engineer. In particular, the application of scientific and mathematical knowledge to solve problems is often given as the definition of engineering.

There was thus significant concern when discussion at the recent SESOC Management Committee meeting turned to factors that have squeezed out structural engineering content from undergraduate engineering curricula, and that continue to exert pressure to further reduce technical content. The risk is that the reductions reach such a point that bachelor's degrees stop being fit for purpose and leave graduates ill prepared for the early stages of their careers.

The learning time absorbed by the reported requirement that the final undergraduate year include non-technical focused papers, is seen as a key driver for the reduced technical course content. SESOC are seeking to determine what is necessitating the quantity and content of these papers, but initial indications suggest it is a result of the 'Washington Accord' accreditation that facilitates New Zealand engineers to work internationally. However, it is not clear whether these are a strict requirement of the accord, or if the current requirements can be modified to provide better outcomes for new practising engineers.

If it proves impossible to retain sufficient technical content within the current 4-year Bachelor of Engineering degree, then serious thought will need to be given by the industry regarding how to address the deficit. This could include pushing for a longer degree or compulsory taught master's degree as a prerequisite to becoming a structural engineer. Alternatively, and requiring greater input from industry, the British Colombian [Certificates In Structural Engineering Program](#) could provide a model for ongoing early career learning.

Finally, and relatedly, hopefully SESOC members are becoming familiar with the fact that the University of Auckland now offer a specific major in structural engineering within their Bachelor of Engineering program ([Undergraduate study in Structural Engineering - The University of Auckland](#)). While not a complete solution for the issues I discussed above, practitioners need to be aware of the existence of this major, and the corresponding limited structural engineering content now contained within the BE Civil program.

Ngā Mihi

Nic Brooke

SESOC President

## Professional Practice

### Earthquake ratings and retrofit of existing buildings, following the release of TS 1170.5

During February 2024, Standards New Zealand released a public consultation draft of a new Technical Specification, TS 1170.5, for determining earthquake actions for new building design.

The Standards New Zealand Technical Specification Committee are currently reviewing the 800+ comments made through the consultation process and working through proposed changes. This is a considered process, and it is expected that Technical Specification 1170.5 will be published later in 2024.

In anticipation of its release, NZSEE, in conjunction with MBIE, SESOC, NZGS and NHC (as members of the Joint Committee for Seismic Assessment and Retrofit), have developed further specific advice in the documents linked below regarding:

- The assessment of existing buildings following the final publication of TS 1170.5 (publication date to be determined).
- The design of seismic retrofit work in this context.

[nzsee.org.nz/wp-content/uploads/2024/08/EQ-Ratings-and-Retrofit-Following-Release-of-TS-1170-Advice-for-Engineers\\_August-2024.pdf](https://nzsee.org.nz/wp-content/uploads/2024/08/EQ-Ratings-and-Retrofit-Following-Release-of-TS-1170-Advice-for-Engineers_August-2024.pdf)

[nzsee.org.nz/wp-content/uploads/2024/08/EQ-Ratings-and-Retrofit-Following-Release-of-TS-1170-Advice-for-Owners\\_August-2024.pdf](https://nzsee.org.nz/wp-content/uploads/2024/08/EQ-Ratings-and-Retrofit-Following-Release-of-TS-1170-Advice-for-Owners_August-2024.pdf)

### SESOC Interim Design Guidance

SESOC are actively seeking feedback on the current SESOC Interim Design Guidance v11, as we plan to update it again following the release of the finalised TS 1170.5.

If you believe there are sections of the draft guideline that could be improved, or if there is a design issue you believe would benefit from additional industry guidance please include details of this in the forum linked below.

[sesoc.org.nz/forum/technical-issues/sesoc-interim-design-guidance-design-of-conventional-structural-systems-update](https://sesoc.org.nz/forum/technical-issues/sesoc-interim-design-guidance-design-of-conventional-structural-systems-update)

The current SESOC Interim Design Guidance can be found in the link below.

[sesoc.org.nz/design-resources/guidelines](https://sesoc.org.nz/design-resources/guidelines)

## Seismic Risk Working Group Stage 2

Following recent seminars on Stage 1 – to support the public consultation for Technical Specification TS 1170.5 – a webinar was hosted on Monday 15 April to provide an overview of the topics being tackled in Stage 2. Further information about Stage 2 and a recording of the webinar is available via the link below.

[engineeringnz.org/news-insights/seismic-design-webinar-resources/](https://engineeringnz.org/news-insights/seismic-design-webinar-resources/)

## Earthquake-prone building and seismic risk management review

The Government has announced an extensive review of the management of seismic risk in existing buildings. The purpose of the Review is to ensure seismic risk in existing buildings is being managed effectively and in a workable, proportionate way.

A Steering Group with an independent chair will provide oversight of the Review. MBIE will play a key role in carrying out the Review, but a number of key components will be delivered externally, including to ensure the right level of technical input and other expertise informs the Review. Further information can be found via the link below.

[mbie.govt.nz/building-and-energy/building/earthquake-prone-building-and-seismic-risk-management-review](https://mbie.govt.nz/building-and-energy/building/earthquake-prone-building-and-seismic-risk-management-review)

## Public consultation on draft Concrete NZ Technical Specification 02: Post-installed rebar

Concrete NZ has collaborated with an expert industry working group to develop a technical specification on post-installed rebar. The current provisions of the Concrete Structure Standard NZS 3101:2006 Amendment 3 do not address post-installed rebar applications; therefore, the purpose of this Technical Specification is to provide guidance for extending provisions of NZS 3101 for the stress development, detailing and splicing of reinforcement to post-installed rebar systems that are tested, assessed, and proven to perform in a similar manner to cast-in reinforcement. This Technical Specification provides design recommendations for post-installed rebar (PIR) connections loaded under static or cyclic (seismic) loads as well as providing guidance on the behaviour and design of post-installed rebar systems exposed to fire or elevated temperature.

The target audience of this Technical Specification includes structural engineers, building consent officials, and academics.

You can access the public consultation draft via the link below.

[cdn.ymaws.com/concretenz.org.nz/resource/resmgr/docs/consult/ts2-postinstallrebar-draft01.pdf](https://cdn.ymaws.com/concretenz.org.nz/resource/resmgr/docs/consult/ts2-postinstallrebar-draft01.pdf)

You can submit your feedback by e-mailing [admin@concretenz.org.nz](mailto:admin@concretenz.org.nz). The closing date for providing feedback is 25 October 2024.

## ASSISi inaugural Global Design and Innovation Awards program

ASSISi is undertaking their inaugural Global Design and Innovation Awards program. The announcement and call for submissions has just recently been released.

The Awards will recognise excellence in design and research for seismic isolation and energy dissipation technologies around the world. Submissions are sought that demonstrate innovative and creative uses of seismic isolation and energy dissipation technologies, and particularly that respect and enhance regional and vernacular construction methods and materials. Submissions may be new or retrofit construction, and may be a building, non-building structure or component, or a bridge. Entries close on 15 October 2024 and winners will be announced November - December 2024.

[assisociety.org/awards-program/](https://assisociety.org/awards-program/)

## NZ SPERWALL ADDENDUM: Public review and feedback

The Panel of Experts for the above project respectfully invites members of SESOC, NZGS, NZCC and all other appropriately qualified and experienced designers, constructors and/or industry stakeholders, to review and provide feedback on the "Rev A – Final Draft" version of the NZ SPERWall Addendum document. The NZ Addendum is for the ICE Specification for Piling and Embedded Retaining Walls, Third Edition.

The Feedback submission deadline is **Wednesday 30<sup>th</sup> October 2024**. Further information and documentation can be found via the link below.

[nzgs.org/nz-sperwall-addendum-public-feedback-request/](https://nzgs.org/nz-sperwall-addendum-public-feedback-request/)

## Sustainability

### SESOC Sustainable Design Task Force – Update

Following the successful launch of the SESOC Top Tips for Low Carbon Design and the Low Carbon Design interactive resource map in July, the sustainable design task force met in person for the first time in our >3yr history for a strategic planning day. We brainstormed ideas for future initiatives and how we can collaborate with others across the construction industry to build on the existing momentum for more sustainable structural design in Aotearoa New Zealand.



In August we collaborated with Te Ao Rangahau Engineering New Zealand, Te Kāhui Whaihangā New Zealand Institute of Architects, Engineers for Social Responsibility and others to put together and share a comprehensive response to the Government's consultation on the second emissions reduction plan. The discussion document published for consultation outlined proposed actions the Government intends to take to reduce our emissions profile during the second emissions budget period (2026-2030). The SESOC response highlighted the lack of policy proposals to address emissions from the building and construction sector and outlined a number of opportunities for the Government to consider in this space. You can read the full response on the SESOC website via the link below, searching for the document titled Emissions Reduction Plan 2 2024.

[sesoc.org.nz/library/other-publications](https://sesoc.org.nz/library/other-publications)

Task force members have supported education initiatives of other groups that promote sustainability in structural design, including providing input to webinars and events run by Engineers for Social Responsibility (ESR), Steel Construction NZ and HERA.

Planned future work of the task force includes developing guidance on specifying low carbon materials and promoting cross-discipline discussions on understanding the cost implications of sustainable design. We'd also like to share examples from the membership of best practice in sustainable structural design, so if you have a great sustainable story to tell about a project you've worked on, please get in touch with one of the task force members, or email [exec@sesoc.org.nz](mailto:exec@sesoc.org.nz).

In the meantime, if you haven't already, please check out the Low Carbon [Top Tips guide](#) and [resource map](#): developed specifically for practicing structural engineers in Aotearoa New Zealand.

## Diversity and Inclusion

### Do you know the difference between neurodiverse and neurodivergent?

The Diversity Agenda recently published their Big Interview with Declan Schubert, Graduate Environmental Engineer at Morphem Environmental. Declan shares his journey of finding a workplace where he can bring his full self to work and offers valuable insights on how employers can create more inclusive and welcoming workplaces for everyone.

[diversityagenda.org/big-interview-declan-schubert/](https://diversityagenda.org/big-interview-declan-schubert/)

Declan's experiences and insights shed some much needed light on the level of society and industry understanding neurotypes, the role of inclusive hiring practices, and what a truly inclusive workplace really looks like.

Approximately 20% of the world's population identifies as neurodivergent. Creating an inclusive environment is not just a policy statement, but a strategic necessity. Ross Buchanan stated it perfectly: "By fostering understanding, promoting empathy and valuing the individual strengths in our neurodivergent colleagues, we unlock their full potential. This leads to better results, stronger engagement and more innovation."

You could share your perspective on strategies for fostering an inclusive workplace culture and offer practical advice based on your experiences in our industry.

### AWEC White Paper – 'A Collective Voice for Change'

The Advancing Women in Engineering and Construction (AWEC) Symposium brought together almost 200 women to share their experiences, challenges and vision for a more inclusive future engineering. The white paper "A Collective Voice for Change" was launched at the Diversity Agenda Summit at Parliament and is now available on the SESOC website. The paper addresses the problems, the consequences and the envisioned future that we need so that the pathways to success are equitable. If you are in any kind of management role, this should be on your reading list.

[sesoc.org.nz/membership/special-committees/women-in-structural-engineering](https://sesoc.org.nz/membership/special-committees/women-in-structural-engineering)

## Membership News

### Keen to join the Emerging Structural Engineers Committee?

The SESOC Emerging Structural Engineers (ESE) Network are looking for some motivated and passionate engineers to join their regional representatives committee, particularly from Hamilton, Tauranga, Wellington and Dunedin. The purpose of the ESE Network is to provide technical support to

the transition between university and proficient professional engineer by providing further learning and support specific to structural design. The committee works together to organise seminars, site visits, networking and social events for the wider ESE network. If you are interested in growing your professional network and supporting SESOC, please get in touch with Henry Rowden:

[Henry.Rowden@beca.com](mailto:Henry.Rowden@beca.com)

## SESOC Seminar Recordings

SESOC has developed the following website, in association with AV People, to hold recordings of SESOC conferences and learning seminars:

[sesoc.livenz.tv](http://sesoc.livenz.tv)

For access to the recordings, the site requires you to register by creating a login which is separate from your SESOC login.

Recordings may be previewed. Some are available free. Others are available to be purchased.

## Future Seminar Topics

Further to the recent national series of SESOC Seminars, members are requested to provide feedback on what topics they believe would be of value as future SESOC seminars. Suggestions for future topics should be sent to [executiveofficer@sesoc.org.nz](mailto:executiveofficer@sesoc.org.nz)

## Members Tips and Tricks

SESOC are seeking members' Tips and Tricks for inclusion in the SESOC Journal. If you have any invaluable tips, tricks or 'traps for young players' that you've encountered over the years and would like to share these with members, please email them to Journal Editor, Stewart Hobbs, at [journal@sesoc.org.nz](mailto:journal@sesoc.org.nz)

## International Linkages

### Institution of Structural Engineers (IStructE)

#### 2025 President Visit

Planning is underway for a visit by the 2025 president Mohamad Al-Dah and CEO Yasmin Becker. This will include the 2025 SESOC conference, with details to be confirmed.

#### IStructE awards and events

Shortlist has now been released, with 4 of the 30 projects being in NZ:

- 66 Oxford Terrace

- The Arts Centre Te Matatiki Toi Ora

- Te Whare Whakaterere Ashburton Civic Centre and Library
- St James Theatre seismic retrofit

Winners are announced 8th November at the awards event. NZ based Katie Symons (principal advisor at MBIE + SESOC sustainable task force member) is part of the judging panel.

[istructe.org/structural-awards/](https://istructe.org/structural-awards/)

### Gold Medal Address

Gold medallist Werner Sobek will be reflecting on his illustrious career and sharing his views on the challenges facing the building industry and what engineers can do to overcome them. This takes place on the evening of 23<sup>rd</sup> September BST, morning of 24<sup>th</sup> September in NZ, with video uploaded to the IStructE website soon after.

[istructe.org/events/hq/2024/gold-medal-address/](https://istructe.org/events/hq/2024/gold-medal-address/)

### Affiliate Scheme

As part of SESOC's ongoing relationship with IStructE, individual SESOC members can sign up to the IStructE affiliate scheme at discounted rates. This will grant access to additional resources available to IStructE members, including:

- The current issue of [The Structural Engineer](#) online
- Member rates on publications and courses, circa 30% discount
- Access to livestreamed lectures
- Monthly Institution enews
- Get free access to the [Embodied carbon basics](#) on-demand course

### Recommended Resources

We highlight the Embodied Carbon Basics on-demand course in particular. This is a very popular online training module, split over four sub-modules, and a great introduction for structural engineers wanting to improve their understanding of how to assess and reduce embodied carbon. Normally this course costs £215, but it is available to SESOC members for free via the affiliate scheme (which has a one-off annual membership fee).

If you are interested, you can sign up to the affiliate scheme here:

[istructe.org/membership/affiliate-scheme/](https://istructe.org/membership/affiliate-scheme/)

To receive the SESOC discount, scroll to the bottom where there is a link to the Group Affiliate Scheme application form. You will need to show proof of SESOC membership.

The link below provides a map of the wide range of papers and tools available from IStructE:

[istructe.org/IStructE/media/Public/Resources/IstructE-Sustainability-Resource-Map.pdf](https://istructe.org/IStructE/media/Public/Resources/IstructE-Sustainability-Resource-Map.pdf)

## Structural Engineers Association of California (SEAOC)

The 2024 SEAOC Convention was recently held in Portland, Oregon, USA. The conference featured 3 SESOC speakers: Paul Campbell, speaking on a panel comparing licensure practices and status in the US and NZ; Michelle Grant, speaking in collaboration with SEAOC member Kelly Cobeen comparing requirements for non-engineered structures in the US and NZ; and Laura Whitehurst, speaking about trends in steel construction in NZ after the Christchurch earthquakes. The convention was used as a means of furthering the ongoing collaboration between SESOC and SEAOC, and included fruitful discussions and introductions between the SESOC representatives and numerous SEAOC members. Additionally, the upcoming SESOC conference was promoted informally, and SEAOC members encouraged to consider attending.

Other ongoing work includes supporting pairs of authors comparing NZ and US practice, preparation for SEAOC attendance at the SESOC conference, including a younger member scholarship, and circulation of draft documents out for comment between the two societies.

The latest SEAOC Newsletter, SEAOC Talk, was released in August 2024 and should be available from their website soon, located here:

[seaoc.org/content.aspx?page\\_id=22&club\\_id=32108&module\\_id=564536](https://seaoc.org/content.aspx?page_id=22&club_id=32108&module_id=564536)

## Collaborative Reporting for Safer Structures Australasia (CROSS-AUS)

CROSS-AUS was established in Australia in 2018 to operate in the same way as CROSS in the UK, which was formed in 2005, and is sponsored by IStructE, ICE and HSE. Some information about CROSS in the UK can be found here:

[istructe.org/get-involved/supported-organisations/cross/](https://istructe.org/get-involved/supported-organisations/cross/)

Gordon Hughes, Steve Kemp and Eamonn Doherty are SESOC's representatives on the CROSS-AUS Panel of Experts. Their responsibilities include reviews of reports and alerts and attendance at online meetings.

CROSS-AUS continue their encouragement for SESOC members to subscribe to Newsletters via the Email Updates box on the website.

[cross-safety.org/aus](https://cross-safety.org/aus)

On the CROSS-AUS website are copies of newsletters including reports and alerts on matters of structural safety. A copy of the latest CROSS-AUS newsletter can be found here:

[cross-safety.org/aus/news-and-events/cross-aus-newsletter-11](https://cross-safety.org/aus/news-and-events/cross-aus-newsletter-11)

In this newsletter were the following reports which may be of interest to SESOC members;

[unsafe-alternative-designs-retaining-wall-1245](#)

[structural-integrity-reinforcement-post-tensioned-1277](#)

[load-path-and-detailing-issues-residential-1280](#)

[issues-structural-design-house-highly-1289](#)

## SESOC Software

Software can be found on the SESOC Webpage: [sesoc.org.nz/software/](https://sesoc.org.nz/software/).

### Cantilever Timber Pole Retaining Walls - Design Software

The methodology and software verification are now substantially complete. We are working on rounding out some remaining issues, with a launch of the software expected later this year.

### Software Licensing

Users are reminded that the SESOC software is for members use only. This is managed via the “Software Registration Key” (SRK) which is unique to each member. We have allocated two ‘seats’ to each member, in order to allow for activation both in the office and at home. The SRK is registered individually on each PC, and so users are encouraged to uninstall the SESOC software before upgrading to a new PC in order to release the activation on the old PC and allow immediate activation on the new.

The Software Registration Key (SRK) is on the SESOC website, under the Software page linked below.

[sesoc.org.nz/software/licensing-support/](https://sesoc.org.nz/software/licensing-support/)

## Upcoming Events

### Fib Symposium 2024

The title of the Symposium is ReConStruct - Resilient Concrete Structures and will be hosted by Concrete New Zealand – Learned Society. The *fib* 2024 Symposium will be hosted in New Zealand for the first time. Further information can be found in the link below.

[confer.co.nz/fib2024/](https://confer.co.nz/fib2024/)

### SESOC Seminars

There are no SESOC seminars booked in for the remainder of 2024. However, planning is in progress for a new series in early-mid 2025.