The Science of Steel

The Science Centre wasn’t just another project for Fletcher Construction – the company had to demolish its own work to create a site for the new building. The Science Tower is one of the first buildings in New Zealand to be designed using buckling restrained braces (BRBs). To retain the Science Centre’s open plan functionality, the BRBs were mounted on the perimeter of the building. The significance of BRBs is that they behave consistently in both compression and tension. They are manufactured with two main components that perform distinct functions; the load-resisting element is a steel core that is connected to the building skeleton, while the energy dissipating system is attached to the perimeter of the building. As a result, the new Science Tower is a steel-braced frame structure featuring buckling restrained braces (BRBs). To retain the Science Centre’s open plan functionality, the BRBs were mounted on the perimeter of the building.

From a fabrication perspective, the project offered plenty of complexity, including the use of bracing elements to strengthen the existing frame. The team had to ensure that the new structure was compatible with the existing one, which required careful planning and execution.

The team worked closely with the fabricator Grayson Engineering to ensure that the shop drawings were accurate and that the steel was fabricated to the highest standards. The team also used specialist software to check the shop drawings and ensure that the design was feasible.

Steel fabricator Grayson Engineering was first introduced to the project when the company was invited to consult on the use of BRBs in the tower’s construction. The team worked closely with the fabricator to ensure that the steel was fabricated to the highest standards and that the design was feasible.

The team worked diligently to ensure that the steel was delivered to the site on time and that the installation process was completed efficiently.

The Science Tower is one of the first buildings in New Zealand to be designed using steel, and it is a testament to the skill and expertise of the team involved in its construction. The project is a great example of how steel can be used to create beautiful and functional buildings.