

Liddell
CONTRACTING

Part of the Isaac Group

**WDC HOKITIKA
CENOTAPH
STRENGTHENING**

Contents

- Deconstruction
- Designing the Solution
- Constructing the New Base
- Repair the Cenotaph Components
- Re-erecting the Cenotaph

Deconstruction

Deconstruction Started in April 2021.

While cleaning the Cenotaph, it was determined that it was unstable. The decision was made to deconstruct the Cenotaph to prevent it from collapsing.

All the marble was removed and taken to the Liddell yard for storage.

We then had to break out and remove the concrete base and prep the site for the new concrete base.

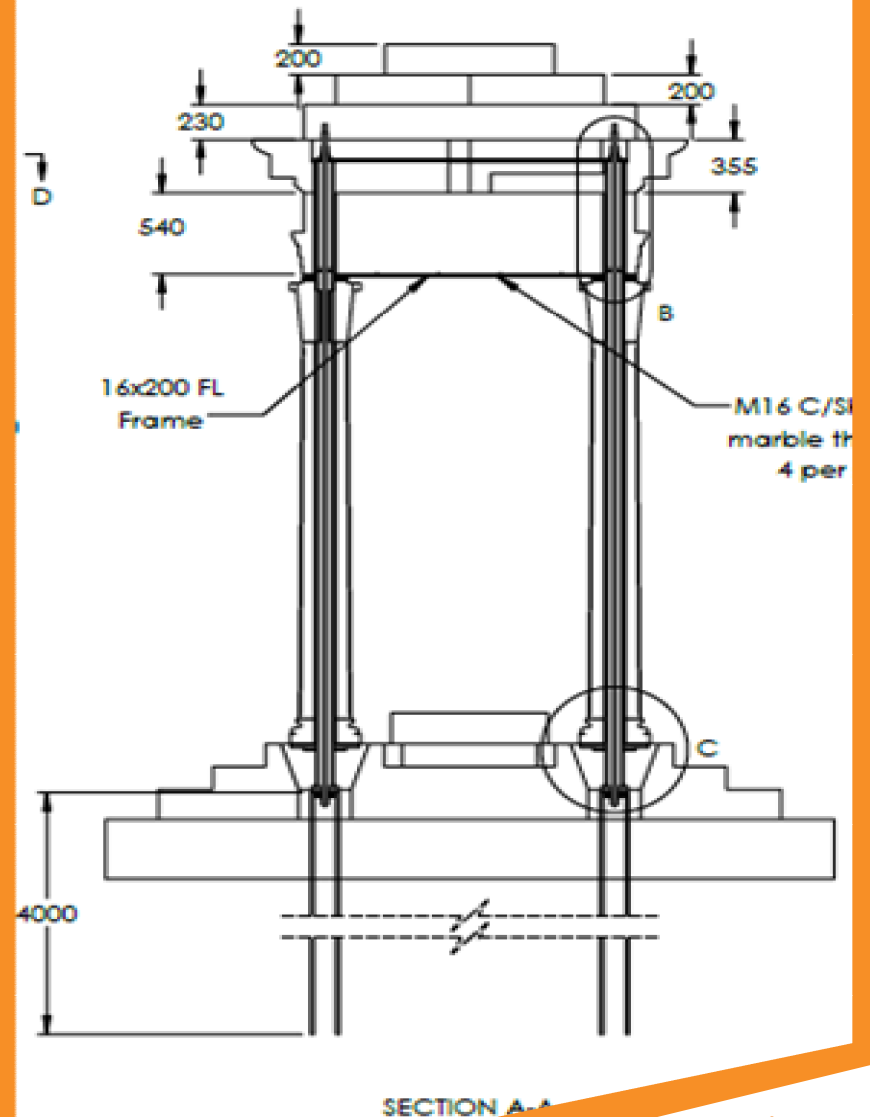




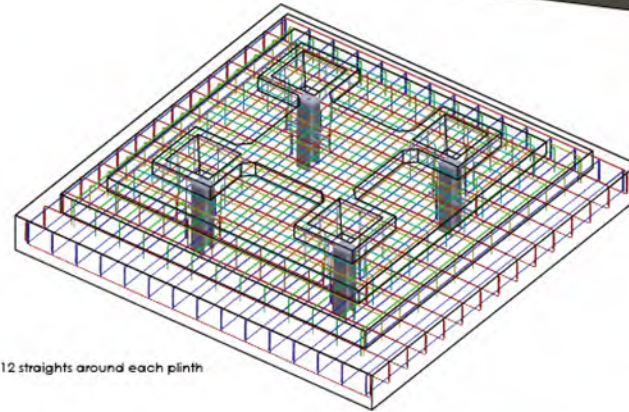
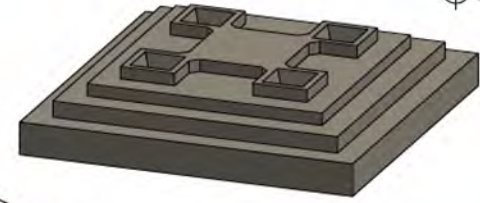
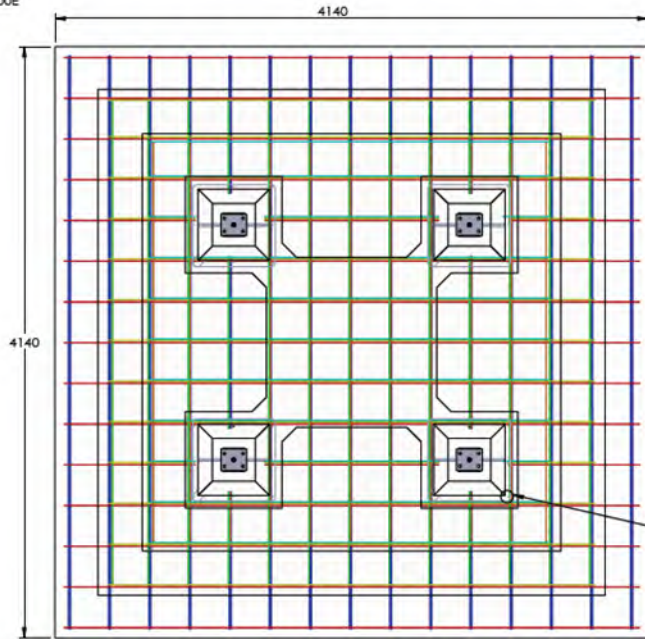
Designing the Solution

Because of the complexity of the structure and to help with a repair solution, we engaged John Mackenzie form Elmac Consulting to do the design work.

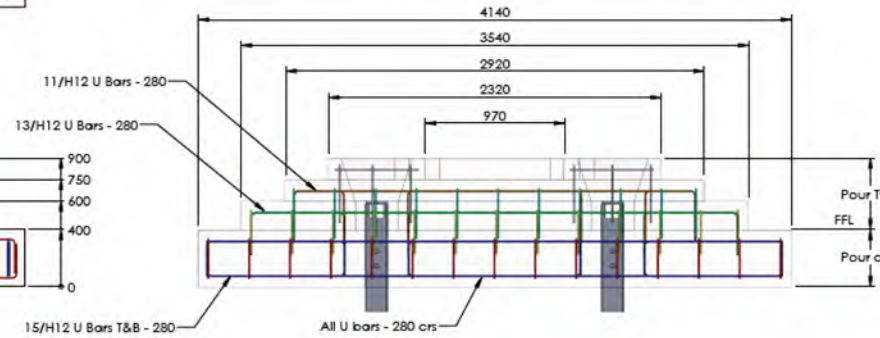
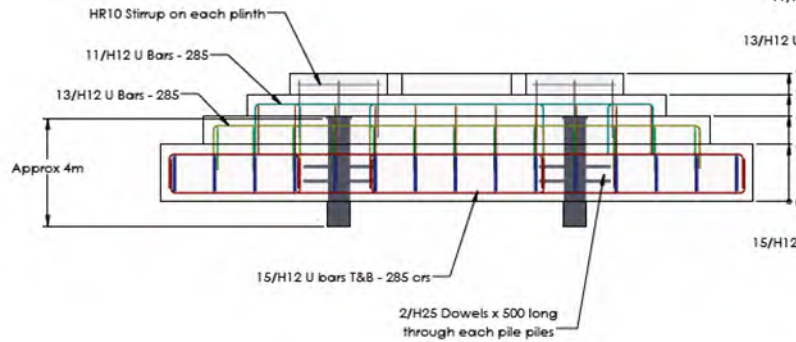
The PS1 for the new design was issued in March 2023.



Concrete 40 MPa
Min 50mm cover
All reinforcing grade 500E



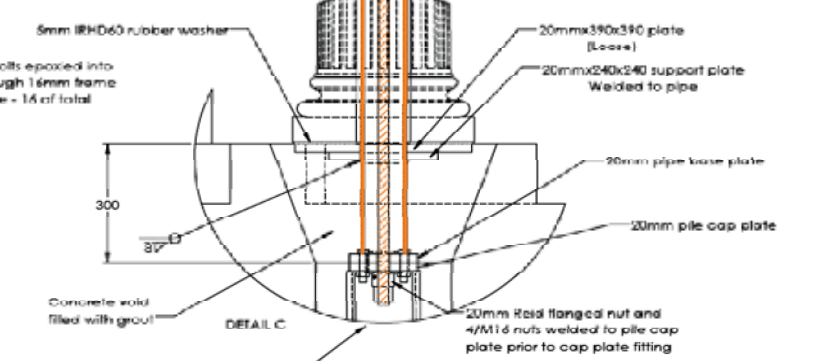
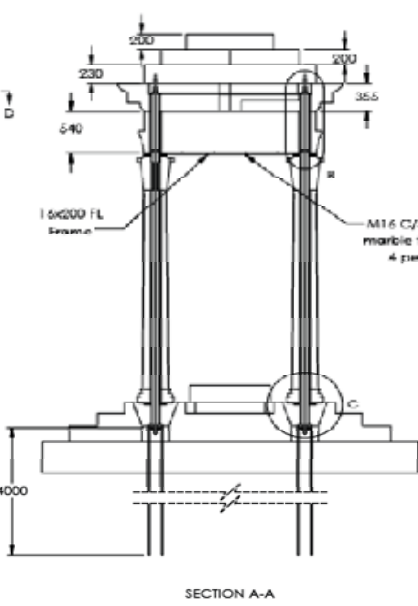
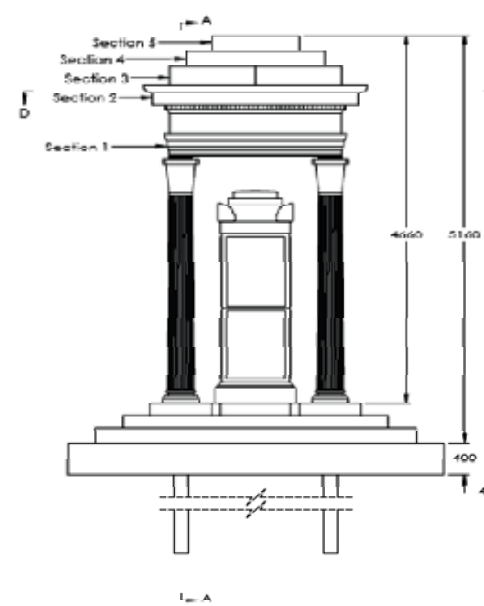
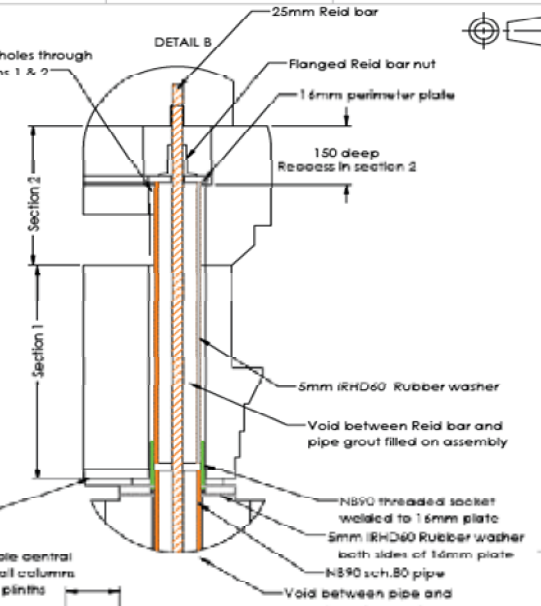
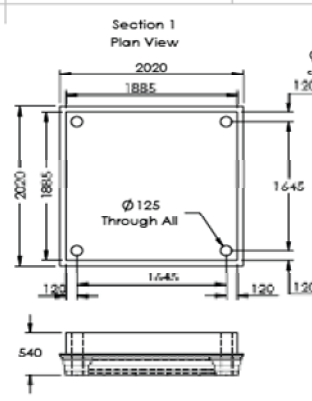
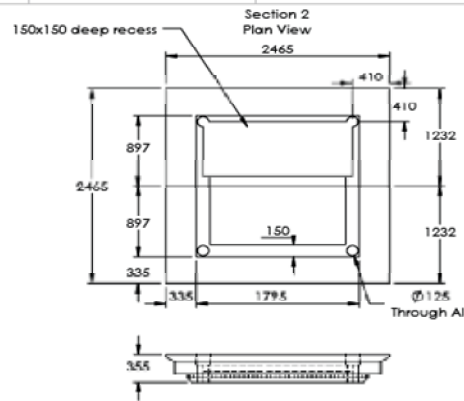
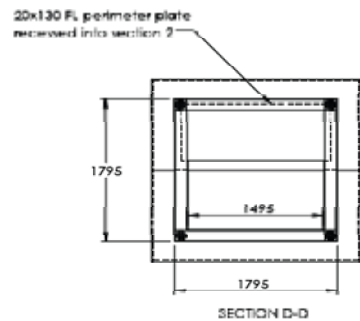
8/H12 straights around each plinth



Approved by:
Date

FOR APPROVAL

Liddell CONTRACTING		TITLE: Cenotaph Base Reinforcing	
REVISION	DATE	PROJECT:	Hokitika Cenotaph EQS
DESIGNED	DRAWN	MATERIAL:	DWS NO. 01- 694-2
JOB No. 694	MS	FINISH:	A3
CHECKED	ALL DIMENSIONS IN MILLIMETRES	WEIGHT: Kg	DO NOT SCALE DRAWING
CLIENT	WDC	TELEPHONE: 03 748 6990	EMAIL: martin@liddell.co.nz



Liddell CONTRACTING		TITLE: Connection Concept	
REVISION	DATE	PROJECT:	Cass Square Cenotaph
DESIGNED	27/03/2023	MATERIAL:	01- 694-3
JOB No. 604	DRAWN MS	WBSH: kg	A3
CHECKED	APPROVED & ISSUED	DO NOT SCALE DRAWING	
DATE	PRIC	TR: 899081: 03 240 080	EMAIL: mark@liddellcontracting.co.uk

Approved by: [Signature]

FOR APPROVAL

Constructing the New Base

After the design was finalised, we started with the construction of the base.

4 steel piles were driven into the ground. They were designed to take the full weight of the Cenotaph.

The piles were installed in April 2023.





Apr 17, 2023 08:23:12 am

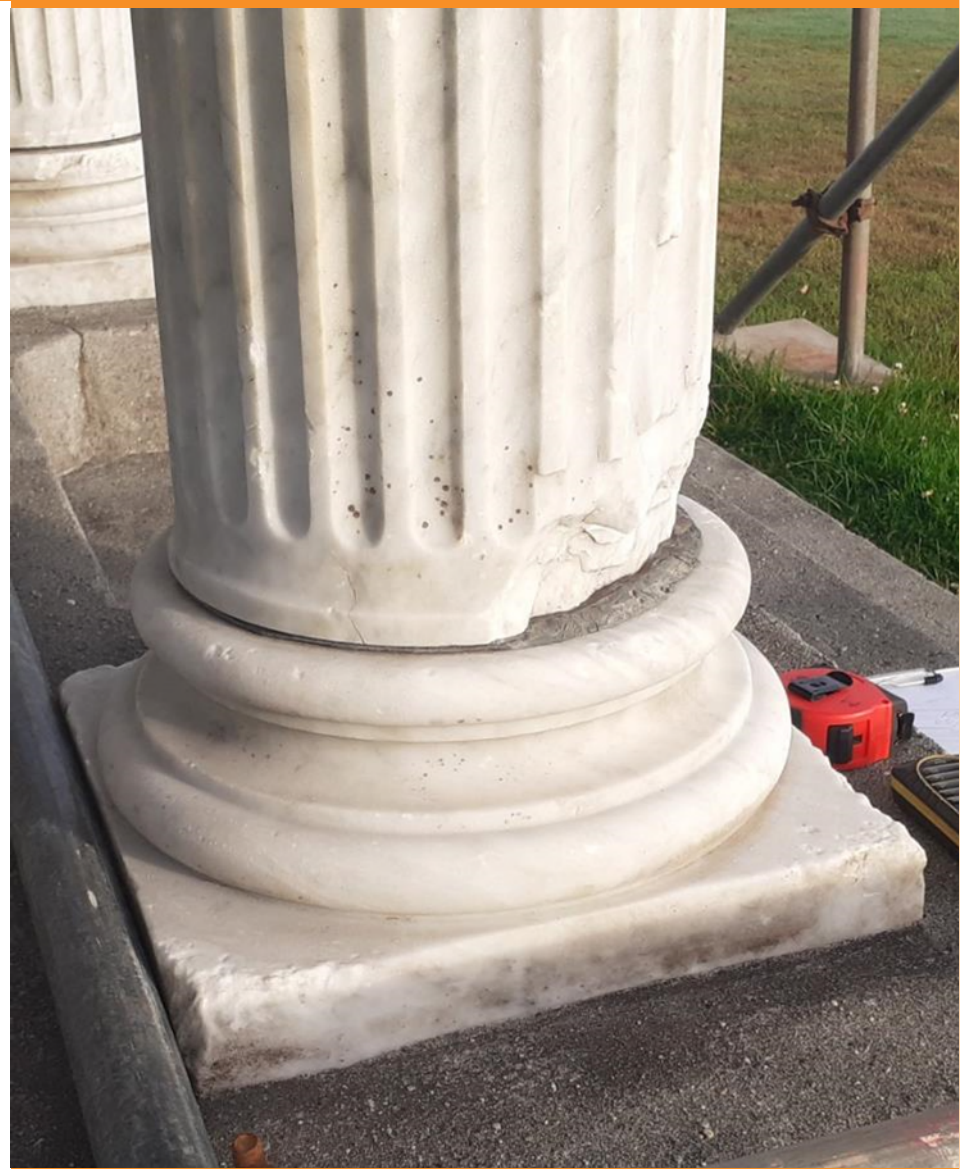


Repair the Cenotaph Components and Reduce the Weight

There was quite a bit of damage to the different parts of the Cenotaph that had to be repaired.

This work was carried out by the stone mason.

We also had to reduce the weight. This was achieved by removing the centers from the top pieces. This work was also carried out by the stone mason.











Re-erecting the Cenotaph

Once the Stone Mason has completed the work he had to do, we could start the re-erection of the Cenotaph.

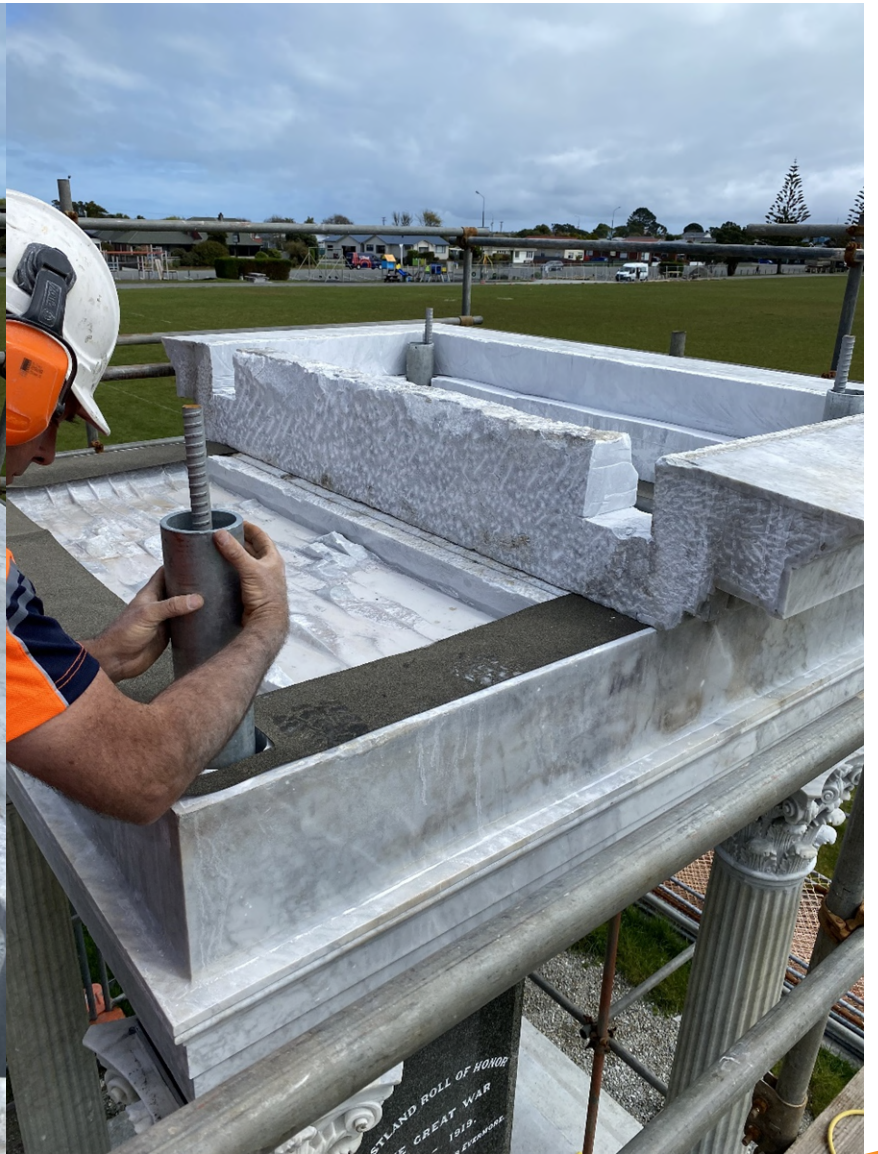
This was most probably the easiest part of the rebuild because everything was designed and constructed to fit perfectly.

















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QUESTIONS