

Cathedral Working Group

Working Group to Investigate Options for the Reinstatement of the ChristChurch Cathedral

CATHEDRAL WORKING GROUP RECOMMENDATION REPORT

NOVEMBER 2016

Released by the Minister Supporting Greater Christchurch Regeneration

This document and its contents are confidential and shall not be distributed, published, copied or reproduced without the express written permission of the Minister Supporting Greater Christchurch Regeneration and the Church Property Trustees.

VERSION	ISSUE DATE	REASON FOR ISSUE	AUTHOR	APPROVED FOR ISSUE
1	28.10.16	Draft for Review	Bianca Hurrell, RCP	Marcus Read, RCP
2	31.10.16	Draft to include comments from Working Group Chair	Bianca Hurrell, RCP	Marcus Read, RCP
3	01.11.16	Edited and Proofed Final Draft to CWG	Anna Komink, Axiom / Bianca Hurrell, RCP	Marcus Read, RCP
4	07.11.16	Updates following CWG meeting	Bianca Hurrell, RCP / Anna Komink, Axiom	Marcus Read, RCP / Geoff Dangerfield, CWG
5	21.11.16	Updates as provided to CWG for review	Geoff Dangerfield, CWG / Marcus Read, RCP	Geoff Dangerfield, CWG / Marcus Read, RCP
6	24.11.16	Final Draft provided to CWG for review	Geoff Dangerfield, CWG / Marcus Read, RCP	Marcus Read, RCP / Geoff Dangerfield, CWG
7	25.11.16	Final Copy	Geoff Dangerfield, CWG / Marcus Read, RCP	Geoff Dangerfield, CWG / Marcus Read, RCP



CONTENTS

1.0	Executive Summary	1
2.0	Recommendations	7
3.0	Introduction	9
4.0	Background and Context	12
5.0	Values and Requirements of the ChristChurch Cathedral	13
6.0	Heritage and Archaeological Review	16
7.0	Structural Review	21
8.0	Regeneration of the Square	27
9.0	Delivery Framework and Implementation	29
10.0	Cost and Funding	36
11.0	Biographies of Cathedral Working Group Members	41

APPENDICES

APPENDIX 1:	Terms of Reference for the Independent Working Group to Investigate the Reinstatement of the ChristChurch Cathedral
APPENDIX 2:	Archaeological Assessment of Effects for the Proposed Repair of ChristChurch Cathedral, Origin Consultants
APPENDIX 3:	Heritage Assessment – ChristChurch Cathedral Proposed Reinstatement, Origin Consultants
APPENDIX 4:	Peer Review of Heritage Assessment, Salmond Reed Architects
APPENDIX 5:	The Stabilisation and Reinstatement of the Cathedral – Concept Review, Holmes Consulting Group
APPENDIX 6:	Peer Review of the Structural Concept, Heritage New Zealand Structural Engineer
APPENDIX 7:	Fundraising Report to the Cathedral Working Group, AskRIGHT Consultants
APPENDIX 8:	Indicative Delivery Programme, RCP
APPENDIX 9:	Concept Estimates, BBD

Released by the Minister supporting Greater Christchurch Regeneration

1.0 EXECUTIVE SUMMARY

This report outlines a plan for the reinstatement of the ChristChurch Cathedral based on the repair, rebuild and restoration of the existing building. We consider that provided sufficient funds can be raised from philanthropic and public donations, alongside the commitment of insurance proceeds from the Church Property Trustees and support from central and local government, the building can once again be an effective and welcoming Cathedral at the heart of the City.

Our Approach

The Cathedral Working Group (CWG) was tasked with investigating and recommending a viable way to reinstate the ChristChurch Cathedral (the Cathedral). The CWG comprised two members of the Church Property Trustees (CPT), two members appointed by the Government (including the Chair), and one person appointed after consultation with the Great Christchurch Buildings Trust (GCBT). We have worked together as a group to examine the issues and call for advice and technical reports on the key aspects of this challenge.

We looked at different scenarios for the future of the building, and the heritage, architectural, engineering and cost implications of those. We looked at the requirements of the church from the owners' and users' points of view, so the interior in particular can be adapted and modernised to function most effectively for its congregation and visitors for many years. We considered the role of the Cathedral in the civic life of the City and in the redevelopment of Cathedral Square. We also looked at the feasibility of implementation, including the regulatory environment and the consents required. Finally, we examined how a reinstatement project could be funded and the implementation managed.

We knew at the outset that the damaged Cathedral building could be fully reinstated and the broad parameters of doing so. That position is well covered in the report by Miriam Dean QC of November 2015 that recorded the outcome of facilitated discussions between engineering advisors for the CPT, as owners of the building, and advisors to the GCBT. In the report's summary of the engineer's conclusions, it states that "to repair only or restore only are not viable engineering options because they would not bring the Cathedral either in part or in whole up to 100 percent of the seismic requirements of the new building code. What would be required is a combination of repair, restoration and seismic strengthening, an approach defined for this report as reinstatement". The report also outlined the broad cost parameters of a reinstatement project.

We started from there. The CWG was established to examine and recommend viable ways to achieve some form of reinstatement. We have sought to draw together the key advisors for each of the technical reports to workshop the issues and gain alignment on an appropriate way forward, and then to get all the advisors to endorse the technical advice or plan. Through this process the technical structural issues, the basis of the cost estimates, and the assessment of heritage values has been aligned between the advisors and are not in dispute.

"The reinstatement of the Cathedral building is not therefore primarily a technical challenge, but one of bringing together the funding and commitment required to see a major project through to completion."

The reinstatement of the Cathedral building is not therefore primarily a technical challenge, but one of bringing together the funding and commitment required to see a major project through to completion.

Reinstatement can take a range of forms. There are different ways to rebuild, repair and restore the Cathedral. These can retain more or less of the different elements of the heritage fabric and have

different cost and implementation implications. We primarily examined two such scenarios.

We have focused most of our work on a reinstatement scenario that is based on retaining as much as possible of the heritage features and integrity of the original gothic design of the building, while making sure the building has the resilience and utility for the future, in terms of seismic strengthening, accessibility and interior functionality. Provided it can be funded, this would be a good outcome for the Anglican Church and wider community, as well as for the overall regeneration of Christchurch.

An alternative scenario is to essentially recreate a new building in an old skin – to deconstruct and then strengthen the existing walls and, to replace all the roof and the upper structure of the building with a lightweight timber structure in a similar but contemporary design. This approach has been outlined by highly respected Sir Miles Warren, although other similar design approaches may be possible. This “Scott-Warren” design would allow a substantially new interior to be constructed but at the cost of the removal and loss of significant heritage features. It would be significantly less costly to build than a retention scenario, and hence the demands on public and philanthropic funding would be less, although not necessarily easier to raise.

We also requested advice on the indicative costs of a new building and an understanding of the implementation issues such a project would face, so that we could have a point of comparison for the assessment of the recommended reinstatement plan outlined in this report. Replacement of the Cathedral with a totally new building is not within the definition of reinstatement and not within the CWG’s terms of reference (Appendix 1). That option is always available to the Church Property Trustees if there is not a viable path for reinstatement of the existing damaged building, or there are risks and issues that cannot be satisfactorily addressed. A totally new building does not require the efforts of this CWG to assess its engineering or architectural merits, or to consider its project implementation, because they would be matters for the Church Property Trustees as the building owners to determine in the context of seeking the appropriate regulatory consents and approvals.

Safety

The safety of those who will work on this building, and those who will use it, is of paramount importance. The engineering basis of the recommended plan is to ensure the building achieves the required level of seismic strengthening to meet the New Zealand Building Code (IL3). This is required given the occupancy levels of the building and is appropriate given its heritage status. It is also proposed the building will be base isolated, which may provide more protection than the building code strictly requires, but is important in achieving a more resilient building and a less intrusive restoration of some key elements.

All the engineering advisors reviewed the stabilisation approach for the building, with the objective of maintaining a level of safety for those working on it that is commensurate with activity on any construction site.

The Heritage Context and Values

ChristChurch Cathedral is one of New Zealand’s best known and most identifiable buildings. It is the widely recognised symbol of the City that bears its name, and a building of considerable heritage and architectural value. It is registered as a Category One site by Heritage New Zealand and as a Group One site by Christchurch City Council. These heritage listings are the highest available to either organisation.

The history of the Cathedral has been well documented by others and a summary can be seen in both the Archaeological and Heritage Reports in Appendix 2 and 3 respectively. Previous studies and documents have determined that the heritage significance of the Cathedral is high or exceptional.

Our heritage advice states that given the condition of the building after the earthquakes, it will be necessary to accept that some loss of heritage fabric will occur. We accept and endorse that while a pragmatic approach is required, where there is an unavoidable loss of some heritage fabric, it should be balanced with a net gain in the retention of most of the heritage fabric and the heritage significance of the building.

All the engineers involved in this assessment have proposed and agreed a methodology for strengthening the Cathedral based on guiding principles and an approach that minimises the impact on heritage values by using the least intrusive methodology of repair "in situ" most extensively, and by using demolition only where required.

In our recommended approach, it is proposed that the only features to be demolished and rebuilt will be the western wall and front porch, and the tower. The western wall was extensively damaged in the earthquakes and needs to be demolished to achieve stabilisation and access to the building for the repair and restoration. A big part of the tower collapsed in the February 2011 earthquake and most of the tower was subsequently demolished.

In our recommended approach, it is proposed that the existing roof be retained in situ. We also confirmed the need for base isolation of the new foundations of the building. This is critical for reducing the level of intervention required to strengthen the individual elements of the building and allows for more of the heritage fabric to be retained. Base isolation greatly reduces the loads of horizontal seismic action that can be the cause of considerable damage in an unreinforced masonry building. Base isolation will require replacement of the existing tile floor which has already been significantly damaged but it would also allow for improvements to be made, including a more uniform floor level throughout the building, improved functionality and the installation of a modern heating system.

By way of contrast, the "Scott-Warren" approach would involve the complete removal and replacement of the roof and the deconstruction of the exterior walls down to sill level. Our heritage advice is that this will involve the loss of a large percentage of the remaining heritage fabric and compromise the remaining heritage values to an unacceptable level.

Fit for Purpose – Making the Building Better Suited to User Requirements

The CWG wanted a reinstated building to be fit for purpose for the future as well as honouring the past. It makes little sense to undertake a major reinstatement project at significant cost to simply put things back exactly as they were if this does not lead to an appropriately functional building for future generations. The building was designed in 1850 and has been modified and adapted many times. As part of our deliberations, we also discussed with CPT and the Dean of the Cathedral what changes could be made to improve the functionality of the existing building.

"It makes little sense to undertake a major reinstatement project at significant cost to simply put things back exactly as they were if this does not lead to an appropriately functional building for future generations."

Our recommended approach is to improve the standard of utilities and services within the Cathedral building – including better heating, lighting, and the provision of suitable toilets so that it can be used by as wide a range of the community as possible.

There was considerable discussion about the size of the internal columns and the extent to which they divided the interior space and made it difficult for people seated at the side aisles of the nave to see what's going on in the altar area.

We would not recommend reducing the number or size of the columns because it detracts from the design and heritage values and is costly for modest gain. In addition, there are seating arrangements that can be used to create a more engaging space for most services held in the Cathedral (as studies undertaken by architectural advisors Warren and Mahoney have confirmed).

We also recommend the floor level be lowered in the sanctuary to create an even floor level within the entire nave. This can be accomplished during the proposed base isolation work.

The Cathedral in the Square

As outlined above, Cathedral Square is a highly important City landmark. A reinstated Cathedral is an opportunity to ensure the building is accessible and welcoming and makes it easy for the congregation and visitors to move easily between the public spaces in the Square and the Cathedral interior.

For that reason, the CWG recommends consideration be given to an improved entrance porch area that provides better transparency and connectivity between the Cathedral and pedestrian areas across the Square.

The Cathedral has been an important visitor attraction (and should be again), and can continue to host many civic events and functions.

Cathedrals have proved globally to be an important drawcard for visitors and city events, and they need appropriate space and facilities to cater for this. As well as reinstating the original building, our recommended plan includes the development of improved ancillary buildings that will enable the Cathedral to play its part in the City's regeneration, and help create a positive revenue stream that can contribute to the building's future maintenance and financial sustainability.

The broader civic role that the Cathedral plays in Christchurch is also critically important. It is often referred to as "our Cathedral" by many in the Christchurch community and there is a strong sense of informal ownership and belonging.

"Ultimately this sense of wider ownership by the community needs to be reflected in a willingness to contribute and pay for the reinstatement of the building..."

This has been at the heart of the debate about the future of the building during the past five years – a strong desire from these citizens and stakeholders to retain the building in its original form; yet the burden of legal ownership sits with the CPT.

Ultimately this sense of wider ownership by the community needs to be reflected in a willingness to contribute and pay for the reinstatement of the

building, otherwise it will not be possible to proceed.

Christchurch City Council has previously been a supporter of the civic value and use of the Cathedral, paying the Cathedral Chapter around \$240,000 a year before the earthquakes to reflect this, and contributing to some improvement and strengthening projects (the Council contributed \$1 million to the strengthening of the roof). We would like to see this relationship renewed and formalised into a "Cathedral Support Arrangement" that would recognise both the civic use and the role the building plays in the economic and tourist life of the City, in return for more certainty to the financial relationship. This is covered further in the funding discussion below.

Costs and Funding

Restoring heritage buildings comes with inherent risk and is relatively costly, and more so given the seismic strengthening required. The work must be done carefully and retain the design integrity of the original, yet use pragmatic approaches that enable the project to be achieved within a defined budget.

To ensure we could present a robust assessment of likely costs, the CWG requested three Quantity Surveying advisors to develop and peer review the costs of different scenarios and form a joint view on the level of escalation, fees and contingencies. We also engaged with the CEO of the Christchurch Arts Centre restoration project to learn from their experiences.

The cost of the recommended reinstatement plan is around \$100 million in "outturn dollars". This is the budget required for the project over a seven to eight-year period, and we recommend the total project cost be capped at this amount. It may be possible to reduce this amount by fast-tracking design and consenting issues. However, at the same time there are thresholds in the public fundraising component that may take time to achieve.

The recommended plan is costlier than a new build by around \$25-35 million. This is by comparison to either the Scott-Warren "new build in a heritage skin" design or the complete demolition of the Cathedral and its replacement with a new contemporary building. That is one measure of the value and significance of the ChristChurch Cathedral heritage and archaeological elements, although some would say its value is much more than this.

The insurance proceeds held by the Church Property Trustees will meet around 40 percent of the total cost. A capital contribution from the Government is possible, and local government may also contribute, bringing the funds to, say, 50 percent of the total required. Nevertheless, there is no doubt that this reinstatement plan relies heavily on being able to raise the remaining 50 percent from philanthropic donors and the public.

The CWG sought advice from international fundraising advisors on the feasibility of how a reinstatement project could be funded, including the scope and likely sources of a public fundraising campaign. They conducted interviews with potential donors and influencers in New Zealand and overseas. Their advice is that a \$55 million campaign to reinstate the Cathedral can be achieved in three to five years. Provided the campaign is run effectively, they have a high degree of confidence in achieving this target.

We acknowledge the work the Great Christchurch Buildings Trust (GCBT) has already done to begin to bring together a potential donor base for the reinstatement project and the indicative pledges they have recorded. There is a good initial base of work to build on and those already contacted will be important contributors to the total campaign.

The future of the project of the reinstated Cathedral therefore relies on the success of public fundraising. There is no way to be certain that funds will come forward in the way envisaged. Every public fundraising campaign faces this risk of uncertainty. We have worked to address and reduce this risk in several ways.

First, we consider it prudent to initiate the funding campaign as soon as the parties agree on the way forward. This allows the initial major donor pledges to be confirmed and sufficient confidence to be achieved that the full fundraising target can be met. In the meantime, we recommend the detailed design and procurement of the stabilisation works proceed and that implementation vehicles be developed.

Second, we recommend the project be implemented through a staged procurement model, so that each stage is procured within the available funds at the beginning of that stage. In addition, it is proposed the Government considers a limited cashflow credit management facility that will smooth out the flow of funds and enable the project to proceed and contracts to be agreed with certainty. This is important for the Government and CPT as Joint Venture parties, the City, consultants and contractors.

Third, we recommend the reinstatement project budget be capped at \$100 million (outturn cost). A reinstatement project needs to be subject to the same disciplines faced by other capital development projects – the need to make decisions and trade-offs within a fixed budget. This total for the Cathedral reinstatement is based on professional cost estimates and we consider the project estimates to have been thoroughly examined and tested by peer review.

Other reinstatement approaches for the building would also rely on public funding, but to a lesser degree. Even a complete new building is likely to cost considerably more than the Church Property Trust has in terms of insurance proceeds. But our fundraising advice is clear –that the donors contacted (including international donors) are much more disposed to a full reinstatement of the original building (as based on ICOMOS Principles) than to other possibilities that do not retain the heritage fabric. On the other hand, a lower target amount would be required by comparison.

Rebuilding the Cathedral in the Square

Reinstatement of the Cathedral is an ambitious project. It will require determination and dedication to direct and manage the project while raising the necessary funds.

We propose the implementation and management of the project be through a joint venture between CPT and the Government as equal partners. Government involvement is important given its wider interests in the regeneration of Christchurch and the confidence and support it can bring to the project. Because a project of this type is very much “investigate and design as you go”, it is critical that those responsible for the Cathedral and its future use are closely involved in the project. The directors of this joint venture must have the requisite skills to manage a project of this type, and their skill to achieve the project’s objectives within budget will have a significant bearing on the success of the fundraising environment.

It will also be critically important to establish an independent fundraising trust with highly regarded trustees. We propose that the trust be established by legislation to give it the gravitas and integrity that is required. The fundraising trust will seek to raise the required monies for the sole purpose of the reinstatement project, and will remain in place until the funding target is achieved.

To enable the proposed reinstatement project to proceed with confidence, we propose the Government work with other political parties to consider empowering legislation to establish the fundraising trust, and to address the regulatory environment and achieve any required consents. If adopted, the process of developing and considering such legislation would allow the public to be engaged in what is proposed through a Select Committee process.

Acknowledgements

The CWG acknowledges and thanks the many people who have contributed to this work and the preparation of the recommended reinstatement plan. We are grateful to you for sharing your expertise and insights.

2.0 RECOMMENDATIONS

The Cathedral Working Group recommends the Church Property Trustees and the Minister supporting Greater Christchurch Regeneration:

1. Agree to adopt a reinstatement plan for the ChristChurch Cathedral that retains the integrity of the design and fully repairs, rebuilds and restores this nationally significant heritage building, and enhances its interior functionality.
2. Agree the final scope of the reinstatement project be within a cost envelope of \$100 million (outturn dollars), including all interior enhancements and improved visitor centre and ancillary buildings, as well as the replacement of the tower.
3. Agree to establish an independent Cathedral Fundraising Trust, with the sole task of raising public donations for the reinstatement project including the establishment of a future insurance and maintenance fund, in the order of \$40 to 50 million over the next three to five years, with the trustees appointed for their community standing and relevant fundraising experience.
4. Note the Church Property Trustees contribute all of the existing insurance proceeds from the material damage global settlement claim that relate to the Cathedral, including interest received, for rebuilding, reinstating, and repairing the damaged building.
5. Request the Government and Christchurch City Council each consider a capital contribution to the project, on the basis that a fully reinstated Cathedral is critical to the regeneration of the centre of the City and the Cathedral Square.
6. Request the Government consider a limited credit support facility to enable smooth cash flows over the life of the project.
7. Agree the Government and CPT enter a joint venture agreement as equal partners and share responsibilities to manage and deliver the recommended reinstatement plan.
8. Agree the Government and CPT work together to appoint directors for the joint venture board based on their skills and experience for a project of this size and complexity.
9. Agree an immediate start be made on the detailed design and procurement of the stabilisation works, and that these be funded within a Government contribution as outlined in recommendation 5 above.
10. Agree the project be procured in a sequenced manner to match as much as possible the flow of funds from the Government and CPT, and the public fundraising, starting with stabilisation works, main building reinstatement and interior refurbishment, ancillary buildings and, lastly, the replacement of the tower.
11. Agree to approach Christchurch City Council to develop a Cathedral Support Arrangement to recognise the important role of the Cathedral in the civic life of the City and tourism, and to seek a capital contribution and an annual financial contribution within a long-term funding support arrangement for ongoing Cathedral running and maintenance.
12. Request the Government work with other parties to introduce legislation to support this report's reinstatement plan, including the establishment of the Fundraising Trust and enabling any required consents and approvals that would enable the project to begin without further delay.

13. Agree to recommend to the future Fundraising Trust and Joint Venture Board that they consider the support that can be provided by the existing Earthquake Recovery Programme Management Office and fund management capabilities of the Church Property Trustees to minimise inefficiencies and duplication of resources, and note that such services would be provided at cost.
14. Agree the Fundraising Trust will also raise monies to provide for the future costs of annual full replacement insurance and ongoing maintenance of the reinstated ChristChurch Cathedral, such funds to be passed to CPT at the completion of the project.

The above recommendations have been agreed and endorsed by members of the Cathedral Working Group:

Geoff Dangerfield QSO (Chair)



Steve Wakefield (Deputy Chair)



Roger Bridge



Alasdair Cassels



Sue McKenzie



Released by the Minister supporting Greater Christchurch Regeneration

3.0 INTRODUCTION

This report has been prepared by, and on behalf of, the ChristChurch Cathedral Independent Working Group (The Cathedral Working Group or CWG) to advise on a viable pathway for reinstatement of the ChristChurch Cathedral. It brings together views of technical experts to provide an aligned technical solution and delivery framework to successfully and safely deliver the reinstatement of the Cathedral.

The primary technical assessments are provided as appendices and inform this report, and should be read in their entirety for detailed advice. These assessments have been peer reviewed throughout their compilation and, therefore, the final versions as appended incorporate the recommendations from the respective peer reviewers.

3.1 Process

Following a report released in November 2015 by the Government-appointed Miriam Dean QC¹ which identified the Cathedral could be reinstated, the Minister supporting Greater Christchurch Regeneration and the Church Property Trustees (CPT) appointed the CWG in May 2016 with the following members (see Section 11.0 for credentials):

- Geoff Dangerfield (Chair)
- Steve Wakefield (Deputy Chair)
- Roger Bridge
- Alasdair Cassels
- Sue McKenzie

This CWG has been tasked with undertaking a thorough consideration of options for the Cathedral's reinstatement, including an assessment of delivery methodologies and associated costs. The full terms of reference for the CWG are provided as Appendix 1. Under the Terms of Reference, the CWG was tasked with:

1. Identifying feasible, achievable and fully costed options to progress the reinstatement of the ChristChurch Cathedral; and
2. Providing advice to the Minister supporting Greater Christchurch Regeneration (the Minister) and CPT on the best structural, financial, and governance arrangements to achieve the successful delivery of any Cathedral reinstatement outcome; this is to provide methods, timelines and costs for a preferred option.

3.2 Approach

In order to recommend an appropriate pathway for the reinstatement of the Cathedral, the CWG has, with advice from key technical and expert advisors, examined the constraints, risks and opportunities associated with options and scenarios for reinstatement. In particular, it has considered how the respective engineering and design solutions would impact on the safety of workers and future occupants; the heritage, archaeological and architectural values of the Cathedral; and, its role and functionality as a place of worship and within the civic life of the City. As such, the recommendations of this report have been informed based on the assessments undertaken by those consultants listed in Table 1.

¹ Report on Facilitated Discussions with Engineers for Church Property Trustees and the Greater Christchurch Buildings Trust on Engineering Options for Repair, Restoration or Replacement of the Christchurch Cathedral

As part of this approach, the CWG has welcomed the input, time, presentations and feedback from a wide range of key stakeholders, including the following organisations and individuals (in no particular order):

- Bishop Victoria Matthews
- Dean Lawrence Kimberley
- Heritage New Zealand – Sheila Watson (Southern GM)
- Her Worship the Mayor, Hon. Lianne Dalziel
- Christchurch City Council – Brendan Smyth, John Lonink, Peter Vause
- Te Ngāi Tūāhuriri Rūnanga / Matapopore Charitable Trust – Aroha Reriti-Crofts
- Keith Beale – Catholic Diocese Property Manager
- Arts Centre Trust – André Lovatt (CEO)
- Sir Miles Warren, Alex Bruce, Grant Wilkinson
- Church Property Trustees (staff)
- Great Christchurch Buildings Trust – Hon. Jim Anderton, Hon. Philip Burdon, Deborah Smith
- Restore Cathedral Group – Mark Belton, Andy Buchanan,
- Jenny May – Architectural Historian

It is clear that in the context of the work undertaken, the challenge to recreate the Cathedral is not a technical one but rather one of creating a positive and enabling legislative and funding environment.

We believe such challenges are not insurmountable and, with the implementation of the recommendations contained within this report together with active and aligned leadership, are realistic and achievable.

“...such challenges are not insurmountable and, with the implementation of the recommendations contained within this report together with active and aligned leadership, are realistic and achievable”.

TABLE 1: CONSULTANT TEAM

DISCIPLINE	CONSULTANT	SERVICE PROVIDED
Project Management	RCP Limited	Project Management
Structural	Holmes Consulting Group	Primary Assessment
	Dunning Thornton	Peer Review
	Ruamoko Limited	Peer Review
Heritage / Archaeology	Origin Consultants	Primary Assessment
	Salmond Reed Architects	Heritage Peer Review
Architecture	Warren and Mahoney	Primary Assessment
Quantity Surveying	BBD Limited	Primary Assessment
	Rawlinsons	Peer Review
	Rhodes and Associates	Peer Review
Fundraising	AskRIGHT Consultants	Primary Assessment
Legal	Lane Neave	Primary Assessment

Released by the Minister supporting Greater Christchurch Regeneration

4.0 BACKGROUND AND CONTEXT

The ChristChurch Cathedral is owned and administered by the Church Property Trustees on trust and in a cooperative relationship with the Cathedral Chapter, who are responsible for the day-to-day and long-term care of the building.

The Cathedral suffered extensive damage following a series of earthquakes in the Christchurch/Canterbury region. The first earthquake was the 7.1 magnitude Darfield earthquake of 4 September 2010. On 22 February 2011, a 6.3 magnitude earthquake caused further substantial destruction, with additional damage caused by the earthquakes of 13 June 2011 and 23 December 2011. Since then it is estimated that the region has experienced over 15,000 aftershocks.

The scale and nature of the damage was due to the proximity and shallow nature of the earthquake epicentres. While many buildings in the City have been deconstructed and/or redeveloped, a decision on the Cathedral has been subject to lengthy delay, despite several options and assessments having been undertaken. Consequently, there has been increasing concern and frustration from the public, community groups and developers about the lack of clarity on the Cathedral's future, and its role as a catalyst for the regeneration of Cathedral Square. Cathedral Square has been identified as an Anchor Project within the Blueprint Recovery Plan because of its role and function as a civic space and urban heart of the City.

Ongoing discussions about the status of the building, including schemes such as a new contemporary rebuild option, resulted in the preparation of a report produced by Government-appointed Miriam Dean QC released in November 2015. This report concluded that "to repair only, or restore only would not be viable engineering options because they would not bring the Cathedral either in part or in whole up to 100 percent of the seismic requirements of the new building code", and that what would be required is a combination of repair, restoration and seismic strengthening².

The progression of a practically achievable reinstatement solution (time, cost, quality, buildability, health and safety) has been the primary focus of the CWG established in May 2016 by Hon. Gerry Brownlee and Bishop Victoria Matthews, and is the subject of this report.

² Report on Facilitated Discussions with Engineers for Church Property Trustees and the Great Christchurch Buildings Trust on Engineering Options for Repair, Restoration or Replacement of the Christchurch Cathedral, November 2015, p. 5

5.0 VALUES AND REQUIREMENTS OF THE CHRISTCHURCH CATHEDRAL

The CWG first set out to understand the role, function and importance of a cathedral for the Anglican Diocese of Christchurch and the City. This has been achieved through consultation and stakeholder engagement as well as undertaking a review of work completed previously by Warren and Mahoney and CPT, including the outcomes of an earlier study tour. These documents can be viewed at www.cathedralconversations.co.nz.

A city built around a cathedral was envisaged by the Canterbury Association (founded in London in 1848) and pursued by the newly formed Diocese of Christchurch in the 1850s. The Christchurch Anglican Cathedral has, since the laying of the foundation stone in 1864, provided the heart of Christchurch as a place of worship and welcoming.

“We envision Christchurch Cathedral as the vital heart of a city reborn; a symbol of new life, a place for all, a working cathedral that leads the way forward. The building will be open and inviting, secure, and its success will be about the life of the community of Christchurch that it supports...”

Warren and Mahoney Functional Briefing, 2012

As noted in the Warren and Mahoney functional briefing documents (prepared in conjunction with CPT and the Cathedral Chapter), the ability to reinstate the Cathedral brings with it an opportunity to re-establish the heart of the City, a symbol of a city reborn as well as a working cathedral that respects the past while representing the positive evolution of the Church. We also acknowledge that the reinstatement must provide for a cathedral that

looks to the future and provides for continued growth and sustainability, in economic terms and of the Cathedral's mission.

An ongoing dialogue has been undertaken about the form and function of a reinstated Cathedral and how this can deliver on the strategic objectives of the Diocese (Christ-Centred Mission; Faithful Stewardship; and Young Leaders) and the key themes of sustainability; ambition and relevance³.

The primary mission of a Cathedral is “to reflect, through its beauty, the mystery of the presence of God”⁴. As such, we acknowledge that the reinstated Cathedral will not simply be a building, but a place of Anglican worship. In addition to the Cathedral providing a house of worship, mission and prayer and a spiritual space, a reinstated Cathedral must also provide for a range of other uses including work, teaching and education, hospitality, and civic and tourism functions/events.

These requirements are inter-related. Each is important in its own right but also needs to be considered in relation to the functional and spatial requirements of the others, to provide for a functional and sustainable Cathedral that is a “truly beautiful and inspiring place for worship”.⁵

5.1 Worship

³ Draft Christchurch Cathedral Functional Briefing Document, Warren and Mahoney, April 2012

⁴ Cathedral Conversations, Tour Insights, Warren and Mahoney, 2012, p.27

⁵ Cathedral Conversations, Tour Insights, Warren and Mahoney, 2012, p.3

The CWG notes the following key considerations with respect to the requirements for a place of worship as outlined in Warren and Mahoney's functional briefing documentation:

- The ability to reconfigure the sacred space and create a more compact intimate layout. This can be achieved through a flexible seating arrangement for up to 1,200 that in contrast to a linear configuration, enables closer views of the altar and clear sightlines for increased interactions, whilst still providing for processional routes.
- Consideration of vertical proportions and high spaces, noting that a structure ascending towards the heavens is a key element of gothic church architecture.
- The approach to natural light to shape an interior experience that also provides for an awareness and visual connectivity to the external surroundings.
- Engagement and relationships –between the interior and exterior, as noted above and including Cathedral Square, as well as between the Cathedral itself and the community. This is a particularly important consideration for the design because the Cathedral needs to create a strong sense of place and external presence whilst not being shut off from its surroundings, being a welcoming place that can draw people in. This could be achieved through:
 - Provision of transparency and activation (including the activation of Cathedral Square) to draw people in.
 - Provision of a threshold / landing area, perhaps through a new porch area, as a transitional space between the sacred and public realms.
 - Internal transitional spaces.
- Cultural resonance and diversity – In 1992 the Church reformed its constitution into a partnership of three tikanga or cultural pathways including Maori and Polynesian with the Cathedral containing strong symbols of these tikanga partners.
- Environmental sustainability including the use of local natural materials, indigenous plants, water, energy efficiency, reuse of recycled materials and natural daylighting.
- Exceptional acoustics for organ, spoken voice and the choir.
- Improved comfort, including good quality AV technology, heating, lighting, accessibility and toilet facilities.
- Smaller chapel and contemplative spaces.

***“The mission of a Cathedral is to reflect, through its beauty, the mystery of the presence of God. While the building will not remain the same, the constancy of its witness is uninterrupted. We intend to build a beautiful Cathedral which will be a centre of Anglican worship that respects the past and looks to the future. It will be a welcoming place for visitors, citizens, worshippers and pilgrims; a safe sanctuary; a refuge; a space for contemplation and the worship of God.*”**

The Cathedral Project Group, Cathedral Conversations Tour Insights, 2012

5.2 Events and Hospitality

The CWG considers one of the key roles for a reinstated Cathedral is the ability to connect with the community and the City. In recent decades, the Cathedral had developed a reputation for holding events and programmes celebrating the arts and civic commemorations. Indeed, this continues to be provided through the Transitional Cathedral.

Provision of increased flexibility within the design and associated amenities (such as kitchen and toilet provision) will provide the ability for the reinstated Cathedral to host a wider range of events and to express the hospitality aspects of the Church, for example dinners, concerts and lectures. A key consideration will be the division of sacred and non-sacred spaces, respecting tikanga Māori values relating to food preparation and consumption, where such activities should not occur in sacred spaces. The ability and flexibility for the Cathedral to host events also makes it possible to enter into a support arrangement with Christchurch City Council, recognising not only the Cathedral's role as place of worship but also its civic value.

5.3 Tourism

The Cathedral has always been an iconic and landmark attraction for visitors to Christchurch. As such, the CWG considers design outcomes should not only provide for a high-profile building that is engaging and welcoming, but also, for tourism and income-generating functions. These may include, for example, ancillary buildings such as an improved visitor centre and café, and a unique and engaging tower experience to draw people in, and to provide operational and maintenance revenue streams for the Cathedral.

5.4 Children, Youth, Work, Teaching and Education

The Cathedral is also a place of work, teaching and education. Therefore, any design needs to provide appropriate spaces in terms of size and functionality for the sacristy, vestry, offices and meeting rooms together with associated staff amenities and utilities. Further key requirements relate to the choir rehearsal and library spaces, and dedicated children's and youth ministry spaces to enhance teaching and learning.

5.5 Ongoing Operational Costs and Sustainability

The CWG acknowledges the ongoing maintenance, operation and insurance of the Cathedral is an expensive undertaking, estimated to be about \$1 million a year.

The Cathedral Chapter is significantly reliant on grants and distributions from special purpose funds and receives very little in external funding other than from visitor donations. Consequently, a reinstated Cathedral that can provide for the ongoing needs of the Congregation, Chapter and Diocese, as well as function as a long-term commercially sustainable asset, would be best achieved based on the following initiatives:

- Designing the tower with the necessary functionality to provide for a unique and engaging tower climb experience generating between \$160,000 - \$200,000 a year.
- Construction of new, well-located and designed ancillary buildings, such as a café and improved visitor centre, to generate in the order of \$100,000 net a year rental income.
- Improved functionality of the Cathedral's interior to enable the generation of \$200,000 net a year through events and function revenue.
- A Cathedral Support Arrangement with Christchurch City Council, subject to further discussion and agreement with the Council and Mayor, in the order of \$500,000 a year.

6.0 HERITAGE AND ARCHAEOLOGY REVIEW

During the CWG's review and deliberation, the importance of the ChristChurch Cathedral's heritage and archaeological value became increasingly apparent as a determining factor for the most appropriate approach to reinstatement.

The CWG commissioned a review of these values by Origin Consultants based on the concept put forward by a Holmes Consulting Group report (attached as Appendix 5 and described in Section 7.0).

6.1 Archaeological Review

The Cathedral is a Category One Historic Place under the Heritage New Zealand Pouhere Taonga Act 2014, with its mid to late 19th Century foundations and structure also an archaeological site under this Act. Further, it is a Group One Historic Site under the Operative Christchurch District Plan.

Therefore, an assessment of effects on archaeological values associated with the proposal to reinstate the Cathedral was deemed necessary. The assessment undertaken by Origin Consultants is attached as Appendix 2 and, in its final form, will support any future Archaeological Authority⁶ and/or resource consent application required to reinstate the Cathedral.

The Cathedral's historic and archaeological significance is based on:

- The cultural and historical significance of the site, which before European settlement was used by Māori for food gathering and may have been used to rebury human remains.
- Its importance as one of only three Anglican Cathedrals in New Zealand constructed before 1900 and its importance as a symbol of the European settlers' vision for Christchurch.
- The foundation level of the Cathedral is an exemplar of 19th Century construction practices.
- Its design is representative of Victorian Gothic architecture.
- It is the centre of faith and worship for the Anglican Church and provides a high level of amenity value for the community.

The Holmes Consulting Group concept includes a recommendation for a full geotechnical investigation to determine the ground condition of the site. A greater understanding of the foundation soils is also endorsed by Mr Win Clark on behalf of Heritage New Zealand⁷.

However, this undertaking, together with the significant strengthening works required at the foundation level of the building, is considered to have high potential to cause adverse effects on the archaeology of the site. This is because there is the potential to destroy and/or modify the historic deposits associated with the construction and foundation of the building to a significant

⁶ Authority obtained from Heritage New Zealand under the *Heritage New Zealand Pouhere Taonga Act 2014* to make lawful any person to modify or destroy, or cause to be modified or destroyed, the whole or any part of an Archaeological site.

⁷ ChristChurch Cathedral - Stabilisation and Reinstatement Concept Review: Win Clark Overview, 31 October 2016, p.10

extent and depth. These works also have the potential to disturb any culturally sensitive burial sites related to Māori occupation of the area.

Despite the potential high impact on the historic and archaeological values of the site, Origin Consultants conclude the Cathedral is already seriously jeopardised because of the 2010-2011 earthquakes. The works proposed are therefore necessary to safeguard and maintain the Cathedral's future.

Consequently, the ability to repair, strengthen and reinstate the Cathedral by employing a methodology that retains extensive portions of the building's historic fabric and structure is important because it secures the future use of the building and safeguards the Cathedral's historical and cultural significance. Any adverse effects will also be mitigated by obtaining a general archaeological authority from Heritage New Zealand, undertaking appropriate monitoring and recording, and through the adoption of an Accidental Discovery Protocol⁸.

"The proposed repair, strengthening and reinstatement methodologies for ChristChurch Cathedral will retain extensive portions of the building's historic fabric and structure. They will facilitate the renewed safe use of the building and safeguard its outstanding historic and archaeological significance into the foreseeable future."

Origin Consultants, October 2016

6.2 Heritage

In considering reinstatement, the CWG took particular advice on the cultural heritage context as part of its deliberations.

As a nation, New Zealand has recognised the importance of preserving cultural heritage and has a number of mechanisms for ensuring this happens. The Resource Management Act (1991) and Heritage New Zealand Pouhere Taonga Act (2014) provide strong legislative support for the protection of culture and heritage within New Zealand, while we are also signatories to international conventions designed to protect and preserve cultural heritage, such as the UNESCO Constitution 1946.

"A bald statement that all fabric and features have high or exceptional significance does not help when presented with the catastrophic extent of damage resulting from the earthquakes."

A more pragmatic approach is necessary which accepts the unavoidable loss of some heritage fabric if it is balanced against a nett gain in the retention of the heritage significance of the Christchurch Cathedral as a whole."

Origin Consultants, November 2016

Origin Consultants' heritage report (attached as Appendix 3) concludes that, as the exceptional heritage values of the Cathedral must now be considered in the context of the damage and deterioration it has sustained, some loss of heritage fabric is both inevitable and acceptable, particularly when this is considered alongside the ability to retain the building. Origin Consultants also considers the approach to the stabilisation, strengthening and reinstatement of the Cathedral represents sound heritage practice with minimal overall loss of heritage value.

This conclusion has been confirmed by Jeremy Salmond of Salmond Reed Architects, specialists in the conservation of heritage buildings, with this endorsement attached as Appendix 4.

⁸ Protocols to be endorsed by Council and Mana Whenua to be followed in the event that archaeological remains, taonga or koiwi are unexpectedly exposed during development works.

Apart from the demolition of the west porch, the western façade and the remains of the tower, and the removal and replacement of the floor – all of which are accepted as being necessary – the preference is to prioritise the protection and retention of heritage. This provides for the least possible intervention and impact to the building’s heritage fabric.

This proposed “sympathetic and sound approach”⁹ is also considered to appropriately balance intervention and overall heritage value, resulting in the positive retention of heritage values.

The principal aspects of the heritage review of the proposed structural solution are described as follows:

6.2.1 STABILISATION

Previous methodologies to “make safe and stabilise” the Cathedral sought to deconstruct the building to “sill height”. This approach would have had significant adverse effects on the heritage fabric and values of the building.

By contrast, the progressive and staged programme of stabilisation works proposed to the CWG by Holmes Consulting Group (to occur before strengthening and reinstatement work begins) relies on the extensive propping and bracing of the structure and features with minimal deconstruction.

The CWG supports this methodology because of the minimal impacts on heritage values.

6.2.2 REINSTATEMENT

The general approach advocated by Holmes Consulting Group is a “reinstatement hierarchy” where the exterior takes precedence over the interior and this in turn takes precedence over added ornamentation.¹⁰

This approach is supported by Origin Consultants because this, together with proposed reconstruction techniques for destroyed features, will provide for the retention of architectural and aesthetic significance and the architectural, contextual, cultural and symbolic values associated with the Cathedral.

Cathedral Roof

From a heritage perspective, one of the most notable elements of the reinstatement is the retention of the roof and its repair in situ.

The Cathedral roof is a significant internal wooden-framed structure. It is the single largest feature of the building and therefore contributes considerably to the Cathedral’s overall heritage fabric.

The ability to retain the roof in situ is considered a significant positive factor for the Cathedral’s overall heritage value and a positive aspect of the solution proposed by Holmes Consulting Group to the CWG. This contrasts with previous proposals that involved the deconstruction of the roof to enable the stabilisation of the lower walls.

⁹ Origin Consultants, Christchurch Cathedral Proposed Reinstatement, November 2016, p. 20

¹⁰ Holmes Consulting Group, The Stabilisation and Reinstatement of the Cathedral – Concept Review, November 2016, p. 10

Cathedral Floor

Protection of the Cathedral building through base isolation of new foundations will reduce the need for, and extent of, intrusive intervention and/or modifications to structures. It will also help maximise the retention of heritage values and heritage fabric while minimising risk to them in the future.

However, the introduction of base isolation will require the removal and replacement of the entire ground floor. Although the design and tiling of the floor is of heritage value, it is only one feature among many in the interior and it has been extensively damaged by the earthquakes and subsequent long-term exposure to the elements.

The loss of the floor because of the base isolation solution is therefore considered acceptable, particularly when considered in the context of the overall benefits that the base isolation will achieve.

Western Façade

Before the earthquakes, the western façade was the primary architectural frontage and entry point to the Cathedral. It is considered the most important of all its elevations, making significant contribution to the architectural, aesthetic, cultural and spiritual values of the building. It also represents that part of the building that has suffered the most extensive damage and is almost completely lost, including the rose window.

Given the nature and scale of damage to the western façade, Origin Consultants agrees with the proposal to remove the remnant facade elements and its renewal in modern materials. Origin deems this an appropriate response despite the consequent loss of technological¹¹ and architectural values.

Design for the future replacement of the rose window is yet to be fully resolved. However, it is noted that the carved limestone surround will likely be replaced in moulded precast concrete for structural reasons and to provide for future resilience. Origin Consultants has recommended that in line with good heritage practice, a design that is a "contemporary version of the original"¹² is preferred to avoid an approximate replication. Notwithstanding the final design option, the quality, level of care and attention to detail of the pre-cast concrete, and quality of design, will be important determining factors in how the replacement rose window enhances or detracts from heritage values.

New Tower

The proposed reinstatement involves the construction of a replacement and structurally detached tower to replace the tower lost in the earthquake and immediate response phase.

The design of the tower is yet to be fully resolved. Similar to the rose window as discussed above, Origin Consultants notes approximate replications are not favoured in heritage practice. It therefore recommends the form of the new structure be designed and built in sympathy with the Cathedral and "honestly express its source"¹³ rather than function as an approximate replication of the lost tower.

The reconstruction of the tower as a contemporary design that could have particular value as a commemorative feature of the reinstated Cathedral is a concept also endorsed by Jeremy Salmond in his peer review.

¹¹ The cathedral is noted for the high quality of its materials and craftsmanship

¹² Origin Consultants, Christchurch Cathedral Proposed Reinstatement, November 2016, p. 17

¹³ Origin Consultants, Christchurch Cathedral Proposed Reinstatement, November 2016, p. 18

Walls

Strengthening of the walls, including the upper clerestory walls above the nave, is necessary and is proposed to occur by way of a new reinforced concrete core. While this technique requires the loss of the internal inner stone linings and some of the rubble core representative of original masonry construction, it allows the architectural form of the exterior to be maintained so the overall heritage impact is low. However, where grouting and centre coring is possible, Origin Consultants consider this method would be preferable because it will have considerably less impact on interior architectural and aesthetic values. We note this approach has been used successfully on the Christchurch Arts Centre Restoration Project.

Transept Crossings

Holmes Consulting Group have identified a procedure to repair and strengthen the walls above the transept crossings which involves replacing the masonry with a steel frame, clad on both sides by new limestone ashlar¹⁴ facings. The impact on heritage values from this methodology is negligible because this feature is not considered to contribute significantly to the Cathedral's heritage values, albeit being reflective of 19th Century masonry.

6.2.3 NON-STRUCTURAL REPAIRS

The report prepared for the CWG provides a detailed consideration of heritage effects resulting from the proposed structural works and concludes there will be minimal loss of overall heritage values.

Origin Consultants also recommend an assessment of the non-structural heritage fabric that may be affected, such as applied decorations fixed to interior surfaces and standalone features. The assessment would consider the most appropriate method for safe removal and reinstatement of these features.

6.3 Conclusion of the Cathedral Working Group

As outlined above, the heritage and archaeological values of the Cathedral are of national significance and only a reinstatement scheme retains and enhances these values.

This contrasts with the significant adverse effects on heritage and archaeological values that would result from different approaches which create a new building in an old skin as per the "Scott-Warren" design, or a new building altogether.

The CWG has therefore concluded that a full reinstatement scheme be prioritised above other options and scenarios¹⁵ should the funds be available.

"...the heritage and archaeological values of the Cathedral are of national significance and only a reinstatement scheme retains and enhances these values."

¹⁴ Defined as finely worked, squared stones

¹⁵ A contemporary new build option is not included within the Cathedrals Working Group terms of reference

7.0 STRUCTURAL REVIEW

Holmes Consulting Group were engaged to undertake a structural engineering assessment of the methodology for the reinstatement of the Cathedral. The commissioning of this report has served to align existing engineering reinstatement methodologies as well as prioritising health and safety, and proving the need for base isolation.

At the request of the CWG, a key outcome has also been to incorporate the stabilisation works as part of the strengthening and reinstatement approach. This allows for cost and time efficiencies because the strengthening and reinstatement can occur in parallel with the stabilisation.

The report prepared by Holmes Consulting Group, including the methodology in pictorial form, is provided as Appendix 5 and has been undertaken in consultation with peer reviewers Dunning Thornton and Ruamoko Limited, who both endorse the findings. It has been prepared based on the expert technical skill and understanding of these specialist organisations, together with their project experience, and key learnings transferred to the benefit of this review.

The consensus, subject to further design development and a recommended full geotechnical investigation, is that there is a workable design solution and implementation method to reinstate the Cathedral. The solution recommends base isolation for the Cathedral, which achieves:

- An Importance Level 3 Design¹⁶ in accordance with New Zealand Standard for Structural Design;
- 100 percent of the current building code for seismic performance;
- Improved life safety¹⁷ and contents protection;
- Minimal damage to remaining heritage features/fabric;
- Minimal visual impact and intrusion; and
- Improved usability.

To develop the design in detail will require further investigation onsite with collaboration between the design team and contractor to provide for the integration of design outcomes with construction methodologies. In summary, the solution as outlined below involves a combined consideration of stabilisation measures together with strengthening work:

1. Progressive stabilisation works starting at the west end of the building.
2. Reinstatement/repair involving a combination of conventional strengthening techniques together with base isolation undertaken in accordance with the ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value 2010.
3. Construction of a replacement, seismically separated tower, located adjacent to the Cathedral from a combination of reinforced concrete walls at the lower level and a braced steel structure above.

¹⁶ The building code defines the significance of a building by its importance level which is related to the consequences of failure. An importance level 3 relates to structures that may contain crowds or have contents of high value to the community or pose a risk to large numbers of people in close proximity. The required level of seismic performance increases with levels of importance.

¹⁷ New Zealand Building Code building performance measure.

Structural Engineer Mr Win Clarke has undertaken a peer review of the stabilisation and reinstatement concept of Holmes Consulting Group (endorsed by Origin Consultants and Salmond Reed Architects) on behalf of Heritage New Zealand. This review is provided as Appendix 6.

The stabilisation and reinstatement concept developed by Holmes Group, and supported by Origin Consultants, provides a sound basis for moving forward to the next stage of developing the required works to retain Christchurch Cathedral.

Base isolation of the Cathedral makes sound technical and economic sense for such a building.

The base isolation solution will provide a high level of certainty with respect to achieving an acceptable earthquake performance."

Mr Win Clark, Heritage NZ Structural Advisor, October 2016

Overall, it is concluded that the concept "provides a sound basis for moving forward"¹⁸ and in particular, it is noted that the high level of certainty gained through a base isolation system makes both technical and economic sense. As part of further design development, Mr Clark suggests the following considerations are also provided for:

- Understanding the rigidity of the proposed temporary support structures
- Understanding the rigidity of the new structural elements to be fitted into the stone rubble masonry and undertaking an assessment of the dynamic response capability of the new and old elements at their interface.
- The use of newly developed stone masonry strengthening techniques to be used in conjunction with base isolation that could provide further ability to retain additional heritage fabric.
- Using overseas experience with stone rubble masonry buildings, notably from Italy.
- Obtaining a greater understanding of the foundation soils.

7.1 Stabilisation Works

The stabilisation works proposed have been designed to restore the building's seismic resistance and to facilitate the reinstatement of the Cathedral while preventing further damage and prioritising health and safety.

¹⁸ ChristChurch Cathedral - Stabilisation and Reinstatement Concept Review: Win Clark Overview
31 October 2016, p. 1

STABILISATION OBJECTIVES

1. To prevent further damage to the Cathedral while it is being reinstated.
2. To provide an adequate level of protection for workers during the reinstatement.
3. To enable access to the parts of the Cathedral in such a way that the reinstatement can be efficiently implemented.

GUIDING PRINCIPLES FOR STABILISATION

1. Where possible, the temporary stabilisation measures must be considered in the context of the strengthening. It is therefore important to advance the design of both in parallel.
2. Preference will be given to (in order of priority):
 - a. Incorporation where possible into the finished reinstatement. For example, the steel truss work over the western entry.
 - b. Use of shoring and bracing elements that may be progressively relocated and used elsewhere on the site as work proceeds.
 - c. Elements that may be reclaimed and/or physically altered and adapted for alternative uses.
3. Where the stabilisation works abut and/or support heritage fabric, suitable protection should be given to the heritage fabric to minimise further damage.
4. The stabilisation works are to be designed on the basis that work may be suspended indefinitely and so must be suitably durable for a medium term.
5. The degree of protection provided by the stabilisation should be such that no worker is exposed to harm to a greater degree than might be expected on a conventional building site.

It is proposed that stabilisation should be undertaken in phases starting at the western end. These phases are described in detail within Section 5.3 of the Holmes Consulting Group Structural Report:

- Phase 1 – External stabilisation works to address global stability issues.
- Phase 2 – Internal stabilisation works associated with the nave occurring progressively from west to east.
- Phase 3 – Progressive internal stabilisation works (west to east) associated with the transept and apse.

7.2 Reinstatement Works

Reinstatement of the Cathedral is premised on retaining or restoring both the exterior and interior to its original appearance as far as is reasonably practicable. The reinstatement works are to occur through a combination of conventional strengthening and base isolation.

7.2.1 STRENGTHENING

Although the proposal requires the introduction of new materials and structure into the existing building fabric, such as the insertion of reinforced concrete skin walls, reinforced concrete buttresses and foundations beams, steel reinforcing and new steel bracings, these have been designed to provide for the least intrusive outcomes.

The preliminary scope of works as outlined below¹⁹ have been designed to take place progressively across the building with the strengthened portions of the Cathedral providing additional support for those adjacent, non-strengthened areas while also allowing for the removal and re-use of the temporary steel bracing and ongoing maintenance of onsite health and safety.

- Grouting and pinning the stone rubble fill in all stone walls that are to be retained.
- Underpinning of shallow foundations.
- Replacement steel bracing with augmented connections in the roof plane over the side aisles to upgrade or replace the strengthening inserted in 1999.
- Reinforced concrete infill walls to the transept, apse and side aisle walls, extending down to the existing foundation level and tied into the new foundations.
- Reinforced concrete buttresses, clad with original masonry, to replace the existing buttresses, tied through to the new reinforced concrete walls including new upper foundations to buttresses.
- New reinforced concrete foundation beams cut into and sandwiching the existing foundations, in two layers to permit installation of the base isolation.
- New reinforced concrete or fibre reinforced panel overlays to the upper-level clerestory walls along the nave. Centre-coring will be investigated in the design phase as a less intrusive solution.
- Repair and protection of the stone columns to the nave (possibly including measures to increase sightlines). It may be better to deconstruct and reconstruct these columns to allow the construction of new foundations.

REINSTATEMENT OBJECTIVES

1. To provide a high level of protection to occupants and passers-by against injury and death.
2. To preserve and protect the heritage fabric of the Cathedral to the extent practicable.
3. To improve the seismic resilience of the Cathedral.
4. To provide a space that reflects modern worship needs, to the extent practicable.

GUIDING PRINCIPLES FOR REINSTATEMENT

1. The ICOMOS New Zealand Charter is to be followed to the extent practicable.
2. The exterior of the Cathedral is to be retained or restored to its original appearance, except for any elements noted in the assumptions contained within the Holmes Consulting Report.
 - a. Where elements such as gables need to be rebuilt, lightweight steel structure may be considered, with exterior and interior veneers of the original stone material. This will generally be limited to stonework above the main roof eaves level.
 - b. Where the existing walls may be retained in situ, the exterior should be retained in place, with strengthening being implemented from the interior face.
 - c. Where walls are to be reconstructed, the original exterior materials should be used to the extent practicable.
3. The interior is to be retained or restored to its original appearance, except for any elements noted in the assumptions contained within the Holmes Consulting Report. Where applicable (and necessary) the interior shall have lower priority than the exterior.
 - a. Where major elements of structure are being repaired or strengthened, the interior ashlar linings may need to be removed and may be replaced using modern techniques and materials. The original material will be reused to the extent practicable.
 - b. Preference will be given to methods which may retain significant features in place where practicable and where the cost impact of doing so is moderate.
 - c. Where the replacement of interior ashlar linings is not immediately practicable, sufficient allowance will be made to restore the interior at a future date. (Note the ashlar will get badly damaged during deconstruction so new limestone ashlar will be required (based on 1999 strengthening works experience).
4. Ornamentation and appendages (for example crosses on gables, finials etc.) will be reinstated to the extent practicable within the budget, or otherwise allowance will be made to reinstate them later.

¹⁹ Holmes Consulting Group, The Stabilisation and Reinstatement of the Cathedral – Concept Review, 18 October 2016, p. 21

- The addition of ties between existing and new elements to complete load paths to provide support to all parts of the building. (Examples include gable ends and the tops of walls that must be tied back to the supporting roofs, possibly with additional steel supporting members where spans are too great).
- Pinning and securing of vulnerable exterior and interior ornamentation, such as parapet capping stones, finials, window mullions and stone panels.
- Installing a base isolation system to the entire building. Together with two levels of foundations, foundation tie beams and ground floor "transfer" slab.
- Centre core and reinforce the "minaret" towers.
- New 200mm reinforced concrete skin walls to the nave arches (to the side aisles) and integration to the strengthening works on the nave columns.
- New white precast concrete rose window frame, post tensioned to act as a single circular window frame.
- New 100mm tidy slab as a "floor" to the base isolation sub-basement.

7.2.2 STONE MASONRY

Repairs to the stone masonry elements of the Cathedral will vary according to the extent of damage sustained. Those less damaged areas can be repaired in place with temporary support, while areas that are more extensively damaged will require deconstruction of the stonework to allow the stone to be reconstructed incorporating reinforced concrete infill.

7.2.3 BASE ISOLATION

Base isolation serves to insulate a building from a significant portion of the severe lateral ground movement associated with large earthquake events. Therefore, the installation of a base isolation system for the entire Cathedral is a key feature of the reinstatement proposal put forward to the CWG by Holmes Consulting Group. This system provides further benefit through the provision of greater levels of protection and life safety while minimising new strengthening structure requirements and their associated aesthetic and heritage value impacts.

Providing a base isolation system for the Cathedral will be undertaken by installing a combination of special isolation lead rubber and sliding bearings under the stone walls and columns, at the level of the foundations.

It will also be necessary to create a horizontal separation space around the base isolated structures, in the order of 500mm, that can move freely in an earthquake. This will require the creation of suitable separation to the visitor centre and the replacement tower and "the creation of a 'rattle space' around the building which will be covered by special sliding or hinged plates that allow for traffic and movement"²⁰. A base isolation solution will also require the replacement of the entire ground floor. However, it is considered that making the ground floor the same level over its entire area will enhance usability of the interior space.

²⁰ Holmes Consulting Group, The Stabilisation and Reinstatement of the Cathedral – Concept Review, 18 October 2016, p. 20

Strengthening to 100 percent of building code for seismic performance will be achieved at the end of the base isolation works, which will likely follow the completion of all, or most, of the structural strengthening and restoration elements to avoid damage during excavation.

7.2.4 KEY CONSTRUCTION OPERATIONS

As part of their assessment, Holmes Consulting Group have also considered key construction operations associated with the significant shoring²¹ and bracing²² required as part of the overall solution. In particular, they note²³:

1. The nave column repairs and base isolator installation will require temporary column removal to be undertaken one at a time in a progressive operation, as the foundation system is installed.
2. Progressive works on the side aisle exterior walls to be undertaken one bay at a time from west – east.
3. Removal of the lining and demolition of the inner stonework back to the line of the supporting structure of the arches above the transept crossings.

“The stabilisation of the Cathedral has been reviewed, with the objective of maintain a level of safety broadly commensurate with an equivalent new building site.”

Holmes Consulting Group, October 2016

7.3 Replacement Tower

It is proposed a replacement tower would need to be positioned approximately 1m north of its previous location so that it is structurally separated and independent from the main Cathedral building. This would provide for the required base isolation rattle space described above.

The replacement tower, built in sympathy with the reinstated main Cathedral building, could include a combination of reinforced concrete walls at the lower levels together with a lighter steel structure above. Stone cladding could be supported over this structure using modern stonework techniques.

²¹ Shoring is the temporary support of a building with props where there is risk of collapse.

²² Bracing is a structural element designed to resist lateral forces, for example wind and earthquakes.

²³ Holmes Consulting Group, The Stabilisation and Reinstatement of the Cathedral – Concept Review, 18 October 2016, p. 24-25.

8.0 REGENERATION OF THE SQUARE

The Cathedral has been at the centre of Christchurch from the City's earliest days.

It is difficult to imagine how the City can progress fully with the regeneration and rebuilding of the central business district while the future of the damaged Cathedral remains unresolved.

Indeed, the Square is an identified Anchor Project within the Christchurch Central Recovery Plan (the Blueprint). It is described as providing the potential for high quality civic and urban space, with the Cathedral providing the Square's focal point and built presence.

In the post-earthquake environment, there is substantial investment planned for new buildings that border and surround Cathedral Square.

Work is underway on the new city library and knowledge centre on a site directly to the north of the Cathedral. A new convention centre is planned to the north-west of the Square. New investment is planned in hotels and other buildings. Although the Square is identified as an Anchor Project, there has been little progress on it to date. In many respects the reinstatement of the Cathedral is a cornerstone regeneration project that needs to be successfully delivered to ensure the value is realised from the investment in the surrounding projects.

The CWG considers the reinstated Cathedral offers wonderful opportunities to enhance its functionality and relationship with the Cathedral Square precinct that will reinforce its role in the civic life of the City as well as its core role as a place of welcome and worship.

However, to fully achieve this there are several issues to be addressed:

- Design and development of a Cathedral Square regeneration plan. When Christchurch City Council representatives met with the CWG, it was clear this work was still in its very early stages. There is an opportunity to enhance the outdoor spaces and pedestrian flow within the Square, and to encourage more active use beyond office hours.
- Development of new and improved ancillary buildings associated with the Cathedral. We considered the role of a redesigned, better located and successfully functioning visitor centre on the northern side of the site, with the possibility of below-ground facilities that can link into the main Cathedral building. We have included a provisional sum for the development of new enhanced and additional facilities.
- A Cathedral Support Arrangement between Christchurch City Council and CPT to reflect the importance of the reinstated Cathedral to the community, the civic use opportunities it will afford and its function as a catalyst for the development of Cathedral Square. It is noted the Council may also be able to provide access to Heritage Restoration Grant funds to contribute to the capital fundraising campaign.
- The possibility of relocating the Citizens' War Memorial. This has been raised by and is desired by the RSA, and would enable better use of the northern side of the Cathedral for an "active edge" to the building and engagement with the broader urban spaces for Cathedral-based events. The Citizens' War Memorial could be relocated within Cathedral Square, and this is largely an issue for the Council and RSA to determine. We understand the CPT position is to support those parties in reaching a mutually beneficial solution.
- An improved main entrance to the Cathedral. The western façade and western porch will need to be demolished and rebuilt, and there is an opportunity to replace the small

1910 entry porch with a more open and visually connecting structure in sympathy with the original design.

- A replacement tower that has ready access from the Cathedral building itself, and perhaps with a lift to enable more people to access the viewing platforms. Given that the tower was severely damaged and then largely demolished after the earthquake, it will need to be moved slightly and redeveloped. There are also opportunities to explore approaches that make the most of this key asset for the Cathedral and its place in the Square.
- The CWG has had approaches to consider a “People’s Steeple” – whereby the community is engaged in helping to erect the steeple on top of the tower by means of a rope pulling mechanism. This is an intriguing concept, but given that it was not crucial to our consideration of the reinstatement plan we put it to one side for the time being. But it does raise an important point about the opportunity for community engagement on a project like this. We have had several approaches from businesses and associations that want to contribute in-kind support for the reinstatement of the Cathedral. While conventional wisdom is to not count these in the overall funding package, in this case they could turn out to be of significant value. What’s more, they represent an opportunity to lift the profile of the project and to respond to the community’s sense that it is “our cathedral” too.

Released by the Minister supporting Greater Christchurch Regeneration

9.0 DELIVERY FRAMEWORK AND IMPLEMENTATION

The CWG acknowledges that the full reinstatement of the Cathedral is an ambitious project. It needs to take its place alongside other regeneration projects across the City because it will make the single most important contribution to the regeneration of Cathedral Square and heart of the CBD.

In considering appropriate vehicles to fund and undertake the works, legal firm Lane Neave were engaged **Legal Professional Privilege**

[Redacted]

- [Redacted]
- [Redacted]
- [Redacted]

9.1 Establishment of a Joint Venture

The recommended JV between the Government and Church Property Trustees will be for the sole purpose of delivering the ChristChurch Cathedral Reinstatement Project as well as the ongoing maintenance provisions for a period of up to five years following the project's completion.

It is recommended that the JV be governed by a Board of up to five members including an independent chair, with the board being selected based on their experience and skill in complex construction projects or the reinstatement of heritage buildings.

The Church Property Trustees would retain ownership of the land and buildings associated with the Cathedral at all times, and would grant a licence to the JV for access to the land and buildings for the duration of the project to undertake the works.

JOINT VENTURE

- Equal joint venture
- Sole purpose for the Cathedral Project (and subsequent maintenance)
- Led by a Joint Venture Board, ideally comprising an independent chairperson and four other members
- Joint Venture Board appointees must have experience in reinstatement of complex construction projects or heritage buildings
- Makes decisions on a best for Cathedral Project basis
- Open book method
- Government Indemnity

FIGURE 1: CATHEDRAL PROJECT ENTITY AND CONTRACTING ARRANGEMENTS

Legal Professional Privilege



Released by the Minister supporting Greater Christchurch Regeneration

9.2 Charitable Fundraising Trust - Cathedral Reinstatement Fundraising Trust

CHARITABLE FUNDRAISING TRUST

- Established by legislation
- Trust to raise in the order of \$40 – 50 million
- Trust is wound up only when fundraising target is fully met
- Funding Agreement with the JV, whereby funds must be passed on evidence of work completed

Both the fundraising advisors (AskRIGHT Consultants report provided as Appendix 7) and the legal advice we have received **Legal Professional Privilege**

. This is because the skills required for these governance functions are quite distinct, and because feedback clearly showed there is a need to establish the fundraising trust in a way that distances it from the existing Cathedral ownership and management.

While the establishment of a Charitable Trust by legislation is not strictly necessary – it could be done by agreement – it would lift the status and gravitas of the Fundraising Trust in the eyes of many potential donors and help with the fundraising success. Given the critical nature of that task we request the Government considers this route.

The Fundraising Trust would have the sole purpose of undertaking all fundraising activities associated with the Cathedral reinstatement project to generate the required \$40 - 50 million, and to hold and disburse funds raised for the project based on a funding agreement between the Trust and the JV. The CWG considers it essential that Trust Board members are selected on a skills and best-for-project basis.

On this basis, it is anticipated the Great Christchurch Building Trust and other possible funders would direct all fundraising efforts to the newly established Charitable Fundraising Trust. The GCBT has already sounded out some potential donors and their financial commitment to a full reinstatement project, so building on this important groundwork would enable the funding trust to get underway rapidly.

The CWG is conscious of the need for the Cathedral to be an economically sustainable development that is insured with a full replacement policy in the future. In recognition of the CPT contributing all the insurance proceeds it has received, CWG recommends the Fundraising Trust activities encompass the establishment of a long-term insurance and maintenance fund for the rebuilt Cathedral and that the JV be responsible for undertaking maintenance for an initial period following completion.

The Fundraising Trust would continue until the funding target is reached, including allowance for an ongoing full replacement insurance and maintenance fund. On completion of the project, all remaining funds held by the Fundraising Trust would be distributed to CPT to fund the future replacement insurance and ongoing maintenance of the Cathedral and then to enable repayment of the credit facility if required.

9.3 Consenting

As part of their overall consideration of the delivery framework, we have also assessed the potential planning options available to enable the reinstatement works to the Cathedral.

The four statutory planning pathways to consent the reinstatement works are:

1. The resource consent process under the District Plan and the Heritage Provisions contained in Decision 45 of the Hearings Panel in relation to the Cathedral.
2. Preparation of a Regeneration Plan under the Greater Christchurch Regeneration Act 2016 to enact changes to statutory planning documents.

3. Special legislation.
4. A combination of the above.

The application of the Heritage Provisions within Decision 45 on the District Plan is uncertain because this relates to both activity status and notification, as is the timing of the operative status of these provisions.

This, together with the likely lengthy timeframe associated with preparing and having a Regeneration Plan approved, has led the CWG to recommend that the most efficient pathway would be to seek the Government's consideration of special legislation. Further consideration of advancing any special legislation would need to factor in the time required to enact such legislation.

If this could be achieved expeditiously, it could remove significant time and cost from the programme, resulting in cost savings and improving the feasibility of meeting the fundraising requirements.

9.4 Procurement

The CWG considered Lane Neave's advice on Legal Professional Privilege

The CWG also consulted with the Arts Centre Restoration Project to understand key learnings around procurement and contract structure from their experience over the last five years. Valuable insights included those as noted below:

- Successful procurement is premised on clear parameters and prioritisation of design elements within the budget, together with the staging of packages of work.
- The use of a variety of procurement approaches to suit different packages of works draws the most value.
- The sharing of risk between project and contractor will depend on the specific nature of each part of the procurement, and a blanket transferring all risk to the contractor is cost prohibitive on a project of this nature, which involves an investigate and design-as-you-go approach.

Our terms of reference asked us to consider an Alliance Model for project delivery. However, a project of this type is not readily suited to that model of contracting or financial incentives around risk sharing. This is because the project is best based on a "design as you go" strategy. However, many of the Alliance principles around a "best for project" approach and the building of a cooperative cross-discipline team apply here as much as other complex projects. Accordingly, the project should be procured as follows.

9.4.1 STABILISATION CONTRACTOR PROCUREMENT

The Cathedral stabilisation works are a critical initial work stream. As such, the appointment of an experienced, qualified and skilled contractor to undertake this scope of work will need to be undertaken early and through a fast-track process to enable their contribution to a final stabilisation methodology.

The JV will assess the market capacity and contractor competency to undertake these works, and gain advice about the best contracting method at the time.

9.4.2 MAIN CONTRACTOR PROCUREMENT

This issue will need to be considered by the JV Board once established, and it is not a matter that the parties need to agree beforehand. However, we note here that the CWG recommend the JV implement an Early Contractor Involvement (ECI) process for the appointment of the main contractor, with a pre-construction services agreement. Subsequent award of the construction contract would occur once the project is sufficiently advanced and may be awarded to the ECI contractor or put to tender.

This two-stage ECI contract process provides for the early appointment of a suitable main contractor which adds value to the procurement process in providing for:

- Tendered preliminary and general costs/fixed site overheads and a schedule of rates where applicable.
- Identification and resolution of design and buildability issues before tender, open-book pricing, efficiencies in construction duration programming, efficiencies in construction staging and methodology, and consideration of separable portions before awarding the construction contract. It is recommended the contract is separated into two separable portions, being the main build/reinstatement works and replacement tower and ancillary buildings.
- The ability to terminate the agreement without award of the construction contract if the matters stated are not agreed or if funding is not available.

9.5 Programme and Sequencing

For the sake of clarity, the CWG have separated the Cathedral Reinstatement Project into the following broad work streams:

- Establishment of project management office
- Stabilisation and Investigation Works
- Reinstatement Works
- Visitors Centre and Ancillary Building Works
- Tower Works

An indicative project delivery programme is provided as Appendix 8. However, the CWG notes there may be opportunities to alter this sequence once the project is confirmed and underway.

We note there is considerable interest in the re-establishment of the tower, with interest groups and potential donors offering services that may include the early reinstatement of the tower. This should not be precluded, but will depend on how it fits with the main reinstatement works and the fundraising strategy. An earlier start to the tower could be contemplated if it enhances the overall funding strategy and does not detract or encumber the reinstatement of the main Cathedral building.

9.5.1 ESTABLISHMENT

The first 12 months following acceptance of this report's recommendation are critical to the successful establishment of the ChristChurch Cathedral Reinstatement Project. The key actions and outcomes during this period will include:

- Establishment of the JV, including Director appointments supporting PMO and consultant engagements.
- Creation of the ChristChurch Cathedral Fundraising Trust and the raising of \$20m within the first 12 months.
- Developing detailed design documentation (including geotechnical assessment) for the stabilisation works, along with achieving any necessary consents/approvals.
- Reconfirmation of the project budget.
- Procurement of the stabilisation contractor.

9.5.2 STABILISATION & INVESTIGATION WORKS

In parallel with the above, the implementation of the stabilisation works onsite as well as further investigations necessary to support the detailed design of the reinstatement works. The key actions and outcomes during this period will include:

- Undertaking the stabilisation works onsite.
- Detailed investigations, including in relation to geotechnical, water table and ground conditions, to enable the development of detailed design documentation for the reinstatement works, along with achieving any necessary consents/approvals.
- Procurement of the reinstatement contractor.

9.5.3 REINSTATEMENT WORKS

The following 24 months involve the delivery of the reinstatement works onsite, as well as further detailed investigations to support the detailed design of the visitors centre and ancillary buildings. The key actions and outcomes during this period will include:

- Fundraising a further \$10 - 15m.
- Undertaking the completion of the stabilisation work and the reinstatement works onsite.
- Developing detailed design documentation for the visitors centre and ancillary buildings work, along with achieving any necessary consents/pricing and approvals.

9.5.4 VISITOR CENTRE AND ANCILLARY BUILDINGS WORK

The next nine months involve the delivery of the reinstatement, visitor centre and ancillary building works onsite, as well as further detailed investigations to support the detailed design of the replacement tower. The key actions and outcomes during this period will include:

- Fundraising a further \$5 - 7.5m.
- Undertaking the reinstatement and ancillary buildings work onsite.

- Developing detailed design documentation for the tower replacement work, along with achieving any necessary consents/pricing and approvals.

9.5.5 TOWER WORKS

The last 24 months involve the delivery and completion of the reinstatement, ancillary building and tower works onsite. The key actions and outcomes during this period will include:

- Fundraising the final \$5 - 7.5m.
- Completing and commissioning the reinstatement and ancillary buildings work onsite, including fitout and installation of furniture.
- Commencing, commissioning and completing the replacement tower works onsite, including fitout and installation of the restored bells.
- Leases arranged for café and visitor centre (as necessary) and fitout of these areas completed.

Released by the Minister supporting Greater Christchurch Regeneration

10.0 COST AND FUNDING

Reinstatement projects such as the Cathedral that involve a mix of approaches to repair, rebuild and restore are challenging because they involve uncovering the conditions of the building as the project is implemented. The CWG has focussed on understanding the risks of such a project and ensuring they are adequately addressed in the project's cost estimates and implementation.

At the same time, we have been acutely aware of the tensions around the likely sources of funds for a reinstatement project. Unfortunately, the Cathedral was well under-insured for "replacement" and therefore, insurance funds available to the CPT as the building's owners will only meet around 40 percent of a full reinstatement project. In an ideal world, the insurance proceeds would have fully met a "like for like" replacement.

Funds from central and local government and/or from individuals through a public fundraising campaign would be required irrespective of the approach adopted to rebuilding the Cathedral. Albeit, the demands for funds from other parties are greatest for our recommended approach of a full reinstatement. This is because the heritage values our approach embodies are costly, but give back value in terms of respect and acknowledgement of the Cathedral's past and its role in the life of the City.

To determine the extent of a reinstatement project's cost risk and potential mitigations, the CWG engaged quantity surveying experts Barnes Beagley Doherr, Rawlinsons, and Rhodes and

Associates to review the basis of the costings and the assumptions that underpin them. These three quantity surveying firms have wide experience across New Zealand in heritage and general construction projects.

"A campaign for \$55 million to reinstate ChristChurch Cathedral as the heart and soul of Canterbury and as a significant tourist site can be achieved in three to five years."

AskRIGHT Consultants, October 2016

We also engaged fundraising consultants AskRIGHT to provide advice on the nature of the public fundraising environment for a project of this type, and whether a reinstatement project would attract philanthropic donors and public funding support. This section deals with those issues.

10.1 Cost Estimates

The cost estimates presented and attached as Appendix 9 for the reinstatement scenarios have been thoroughly peer reviewed and endorsed based on the experience of the respective quantity surveying firms on similar projects nationally and locally. This includes the recent understanding of the costs of the Christchurch Arts Centre project.

Taking costs from today, a full reinstatement project as recommended is estimated to be approximately \$100 million in outturn dollars. This is the representative cash budget required for the project and assumes completion by 2024. The CWG anticipate an accelerated project (with completion achieved before this date) would generate cost savings, so any steps that enable early stabilisation and a start to the main works would reduce this cost.

By way of contrast to other schemes, we have compared the reinstatement costs on the same basis with a rebuild along the lines of the "Scott-Warren" design at \$65 million and a new contemporary build scheme at \$75 million. Although the reinstatement scheme is significantly more expensive, the difference can be taken as a measure of the Cathedral's heritage values and significance.

10.2 Funding

The insurance proceeds held by the CPT will meet approximately 40 percent of this investment. As of 31 August 2016, the CPT have \$42.4 million in insurance proceeds to be applied to the rebuilding, reinstatement, repair and replacement of the damaged Cathedral building. This amount will continue to grow as it currently earns interest, so the actual amount available will increase over time until drawn down for the project.

We note the chattels, furniture and loose fittings were insured separately, and the Cathedral Chapter holds insurance proceeds for these items. We have not seen the terms of the insurance settlement nor what it covers. Our approach has been to exclude contents items from the cost estimates for the building's reinstatement and hence from the requirements for funding of the project because these will be funded by the Cathedral Chapter from the contents insurance proceeds held.

Capital contributions from central and local government are also anticipated, and for working purposes we have assumed this to be at least an additional \$10 million. These need to be confirmed with the Government and Christchurch City Council. This means around half of the expected cost of the reinstatement plan is going to need to be generated from philanthropists and local, national and international public donations.

10.3 Public Fundraising

AskRIGHT fundraising consultants and researchers were engaged to provide an understanding of the fundraising opportunities available to enable the reinstatement of the Cathedral. AskRIGHT are New Zealand and Australian fundraising advisors, with previous involvement in cathedral and church-based campaigns.

The philanthropic effort required to achieve \$40 - 50 million through fundraising and public donations is the focus of the AskRIGHT assessment (contained in Appendix 7) which concludes that such a target is achievable in the current fundraising environment within three to five years.

10.3.1 THE CASE FOR PUBLIC GIFTING SUPPORT

For the Cathedral fundraising campaign to be successful it will need to be founded on a well-organised programme and a unified message that appeals to a variety of forms of philanthropy, including domestic and international business and philanthropic interests. Alignment with the ICOMOS²⁴ principals in relation to the conservation and protection of historic sites will also be important to secure international donations.

The case for support, being the basis on which people make giving decisions, will need to focus not only on the reinstatement itself, but also on the form and method of reinstatement. Given the future of the Cathedral has been much debated over the last five years it is of particular note that "there will be more funds offered for a gothic revival style"²⁵ by contrast to a modernist or historic-modern amalgamation. So while the proposed full reinstatement will cost more, it will also likely attract more philanthropic funding.

"The best campaign will be one that raises the funds required while at the same time building feelings of pride, participation, accomplishment and responsibility in as many people as possible."

AskRIGHT Consultants, October 2016

²⁴ International Council on Monuments and Sites

²⁵ AskRIGHT Consultants, Fundraising Report to the Cathedral Working Group, October 2016, p.11

AskRIGHT advise there are potential multi-million dollar supporters at both ends of the architectural scale when it comes to the proposed replacement tower. Some supporters of a full reinstatement appear to be more flexible about a contemporary design for the replacement tower rather than a replica of the original. We think there are considerable opportunities to develop a replacement tower design that is sympathetic to the original yet enhances access to viewing areas and is integrated with Cathedral Square's pedestrian environment. This presents an opportunity to build something new and attractive because the ability to ascend the tower is a key element of tourist interest and can provide an additional revenue stream to contribute to ongoing operating costs.

It is of note that there is an existing level of support for a fundraising campaign within the Christchurch community with the Great Christchurch Building Trust having indicated readily available potential donations of at least \$13,750,000 and potentially much more²⁶. Although a significant amount of time has passed since such expressions of support were made, we acknowledge and thank GCBT for the groundwork undertaken and recommend the GCBT fundraising efforts be fully integrated into the new Trust Fund. All previous donors should be acknowledged and provided with full information relating to the project to ascertain whether they are still willing to contribute.

In addition to the capital campaign, consideration should also be given to the acceptance of in-kind support, such as the donation of construction materials. During our deliberations, the CWG has been approached by several firms and associations offering support for the project, including materials and labour at no cost. The conventional wisdom is to treat such offers in the revenue side at no value given their uncertainty. However, the nature and likely value of the unsolicited offers to date tells us that this component could be of considerable value. We have adopted a conservative approach to such in-kind giving in our assessment of the costs and funding of this project. Should such offers eventuate, then management of the quality of the materials together with quality of supply will be important.

10.3.2 THE CAMPAIGN STRUCTURE

The success of the campaign will depend on developing a compelling case for support and having an effective campaign structure, including appointing a campaign chair and committee who have public support.

AskRIGHT have also suggested, in addition to the above, that an effective and cost-efficient model for a campaign structure would involve:

- A fundraising consultant for overall strategy, monitoring, research and training.
- A full-time and experienced fundraiser.
- A full-time fundraising assistant.
- A campaign assistant and volunteers to provision and disseminate information and associated reporting.
- A fundraising appointment in the UK.

Following the appointment of the campaign committee, it is recommended the campaign be designed around all pledges being payable within three years of the expected date of project completion to enable longer pledges to be offered early in the campaign. In addition, appropriate policies in relation to gift acceptance, pledge verification and donor recognition should also be agreed early. In particular, a donor recognition plan is considered an important

²⁶ AskRIGHT Consultants, Fundraising Report to the Cathedral Working Group, October 2016, p.22

part of the fundraising strategy, including recognition of past benefactors to the ChristChurch Cathedral. The campaign will also need to consider the costs of fundraising, which is anticipated to be slightly higher than 7.5 percent of funds raised²⁷. The Fundraising Trust will have charitable status to enable donors to achieve tax rebates for their charitable gifts.

The Anglican Church has an important role to play in any campaign but it is clear from best practice and the research undertaken by AskRIGHT that this role should be within the governance of the Trust and in supporting the Trust's activities where appropriate. It was clear from the AskRIGHT report that the most successful mechanism for raising funds will be a vehicle that is seen as separate from the Church, such as a charitable trust.

On this basis, AskRIGHT have recommended the best results will be achieved founded on clear and transparent information flows and the separation of essential functions as follows. This mirrors the advice from other quarters.

1. A JV arrangement between the Government and the CPT to progress the construction, which would be responsible for the management of the quality and supply of any in-kind donations (such as materials and labour).
2. Establish a new independent fundraising trust, to receive, invest and disburse donated funds to the JV above. This fundraising trust should also coordinate with existing tax effective charitable entities in the United Kingdom/England.

10.3.3 PROGRAMME AND RISKS

The success of the full reinstatement programme recommended by the CWG in this report depends on getting several critical elements right, including public fundraising. Insurance proceeds and potential central and local government funding are likely to make up around 50 percent of the total costs of the project, leaving around \$40 - 50 million to be raised from other sources.

The fundraising advice we have received is positive that this can be realistically achieved.

The Cathedral is among New Zealand's best known buildings, and research has revealed good support from initial testing in a broader international community. Fundraising in this case will not be reliant on the local community alone, and although "competing" for dollars with other local restoration projects, the Cathedral has a profile that cannot be matched by those projects.

Other reinstatement approaches for the building would also rely on public funding, but to a lesser degree. Even an entirely new building is likely to cost considerably more than the Church Property Trust has in terms of insurance proceeds. But our fundraising advice is clear that the donors they contacted are much more disposed to a full reinstatement of the original building than to other options that do not retain the heritage fabric.

Yet public funding can never be guaranteed at the outset. There have been many requests for public funds in the wake of the Christchurch earthquake and the delay in reaching this point will make any public campaign potentially more difficult.

To seek all the required public funding before starting a project of this scale would result in failure because major donors need to see a demonstrated commitment to proceed and evidence of progress. Success builds on success. The funding risk cannot be realistically reduced to zero and therefore the CWG recommends that the following steps be taken:

²⁷ AskRIGHT Consultants, Fundraising Report to the Cathedral Working Group, October 2016, P. 15

1. First, we consider it prudent to initiate the funding campaign as soon as practicable once the parties agree on the way forward, and encourage the Fundraising Trust to reach verifiable pledges for \$20 million in the first 12 months in parallel with the stabilisation, further detailed design, and initial onsite works. This allows the initial major donor pledges to be confirmed and confidence to be achieved that the full fundraising target can be met. Fundraising has already started informally through the work of the Great Christchurch Buildings Trust and there is groundwork that can be used to achieve this initial target.
2. Second, we recommend the project be managed prudently and implemented through a staged procurement model, so each stage is procured within the available forward funds at the beginning of that stage. In addition, it is proposed the Government considers a limited cashflow credit management facility that will smooth out the flow of funds should that be required, and enable the project to proceed and contracts to be entered into with certainty. This is important for the parties, consultants and contractors alike.
3. Third, we recommend the total project budget be capped at \$100 million (outturn cost). A reinstatement project needs to be subject to the same incentives and disciplines as other capital development projects – the need to make decisions and trade-offs within a fixed budget. We consider the project estimates to have been thoroughly examined and tested by peer review.

The above is represented diagrammatically in Figure 2 below:

FIGURE 2: DRAFT SPEND AND FUNDING PROFILE

CATHEDRAL WORKING GROUP - Indicative Spend and Funding Profile									
	2017	2018	2019	2020	2021	2022	2023	TOTALS	
Indicative Spend Profile									
Design / Tender		Stabilisation Works Onsite \$10m						\$10m	
		Investigations, Design, Documentation & Tender	Reinstatement Works Onsite \$70m						\$70m
				Ancillary Bldg Design & Pricing	Visitors & Ancillary Buildings Works Onsite \$10m			\$10m	
					Tower Design & Pricing	Tower Works Onsite \$10m		\$10m	
Est Annual Spend	\$1m	\$12m	\$18m	\$22m	\$22m	\$14m	\$10m	\$100m	
Est Cumulative Spend	\$1m	\$13m	\$31m	\$54m	\$76m	\$90m	\$100m		
Indicative Funding Profile									
Cumulative Total of anticipated Fundraising	\$20m	\$30m		\$45m		\$50m		\$40-50m	
CPT Insurance Funds (including interest)		\$45m						\$45m	
Indicative Local and Central Government Funds	\$10-20m							\$10-20m	
Interest on funds			\$1m	\$1m	\$1m	\$1m	\$1m	\$5m	
Approximate Cumulative Total of Available Funds	\$30m	\$85m			\$95m		\$100m	\$100m	

11.0 BIOGRAPHIES OF CATHEDRAL WORKING GROUP MEMBERS



GEOFF DANGERFIELD
(Chair)

Geoff Dangerfield has worked in Chief Executive roles across the public sector for the last 15 years. He was CEO of the NZ Transport Agency and the Ministry of Economic Development, and Deputy Secretary to the Treasury. Since the beginning of 2016 he has been working as director and consultant to a range of private and public sector organisations.

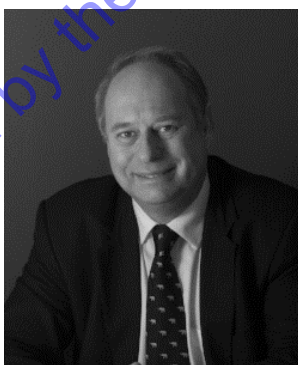
Geoff went to school and university in Christchurch. He holds an MSc in Resource Management, is a Fellow of the Chartered Institute of Logistics and Transport, a Chartered Member of the Institute of Directors, and a Companion of the Institution of Professional Engineers of New Zealand.



STEVE WAKEFIELD
(Deputy Chair)

Steve Wakefield is a Chartered Accountant and experienced director on several Boards and other governing bodies. He has been a partner in Deloitte, one of the largest global accounting and management consulting firms, for 24 years.

He is a trustee of the Church Property Trustees, Deputy Chair of the Canterbury District Health Board, a Fellow of the Chartered Accountants Australia and NZ, and a Chartered Member of the Institute of Directors.



ROGER BRIDGE

Roger Bridge is a Christchurch businessman and company director with a background primarily in property investment and management, and the formation and development of new business ventures. He is Chair of the Rata Foundation and a Trustee of the Church Property Trustees.

Roger is Managing Director of Oxbridge Ltd, Deputy Chairman of Quotable Value and Director of NZ Venture Capital Ltd. He has vast community involvement and his commitment to making things happen in Christchurch post-earthquake is evidenced in his Trustee roles with the Christchurch Arts Festival and the Re:Start The Heart Foundation which administers the Re:Start container mall in Cashel Mall.



ALASDAIR CASSELS

Alasdair Cassels is a Christchurch-based businessman who owns the Tannery and Cassels & Sons Brewery. With a background in engineering, he owned several maintenance, sandblasting and engineering companies before getting into the property business.

In 2009 he started the Cassels and Sons Brewing Company with his son and son-in-law, and subsequently opened The Brewery in Woolston and the Madras Street bar and restaurant, CBD. In 2013 Alasdair opened the Tannery, a Victorian arcade style complex that houses more than 60 businesses including bars, restaurants, a cinema, fashion stores, a spa and an art gallery.

He is involved in a number of initiatives to revitalise and protect the lower Heathcote river, working with Environment Canterbury, the City Council, iwi and the local community.



SUE MCKENZIE

Sue McKenzie is an experienced Director and business consultant who lives and works in Canterbury. Until 2011 she lectured as a senior academic at tertiary level, with her subject areas including business planning, operations, management and marketing. She also ran a private business consultancy advising corporates and small business clients and has worked in a voluntary capacity with business and community groups at a local and national level.

Since the Christchurch earthquakes she has relocated to the country and now works fulltime on her Board positions. Her current positions and responsibilities include: Member of the Canterbury/Aoraki Conservation Board, Chair of the Greater Canterbury Response Forum, Trustee of the Rata Foundation, member of The Medical Radiation Technologists Board and member of the Advisory Committee for Assisted Reproductive Technology.