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## 新西兰基督城过渡性纸板大教堂

### Transitional Cardboard Cathedral in Christchurch, New Zealand

坂茂建筑设计事务所 / Shigeru Ban Architects

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1. 黄昏时分的纸板大教堂 © Eugene Coleman  
1. Cardboard Cathedral at twilight © Eugene Coleman

项目地址: 新西兰基督城  
建筑设计: 坂茂建筑设计事务所  
施工时间: 2012年7月~2013年8月  
建成时间: 2013年8月

Location: Christchurch, New Zealand  
Architecture: Shigeru Ban  
Construction Period: July, 2012 ~ August, 2013  
Completion Time: August, 2013

#### 摘要 ……

2011年2月, 新西兰基督城经历了一场灾难性的地震。设计师坂茂利用纸管与集装箱, 建造了一座可容纳700人的“纸板”教堂, 并于2013年8月开放。其作为基督城的第一个震后建成公共建筑, 在城市的复苏中扮演了极为重要的角色。

#### 关键词 ……

地震; 教堂; 过渡性; 心灵慰藉

#### Abstract …

In February, 2011, Christchurch experienced a devastating earthquake. The “Cardboard” Cathedral in Christchurch, New Zealand, is the transitional cathedral built post the earthquake, and opened in August 2013. Designed by architect Shigeru Ban, the cathedral was formed with paper tubes and containers, and can provide seats for 700 people. It is the first public building to be completed post earthquakes and greatly benefit the city in its recovery.

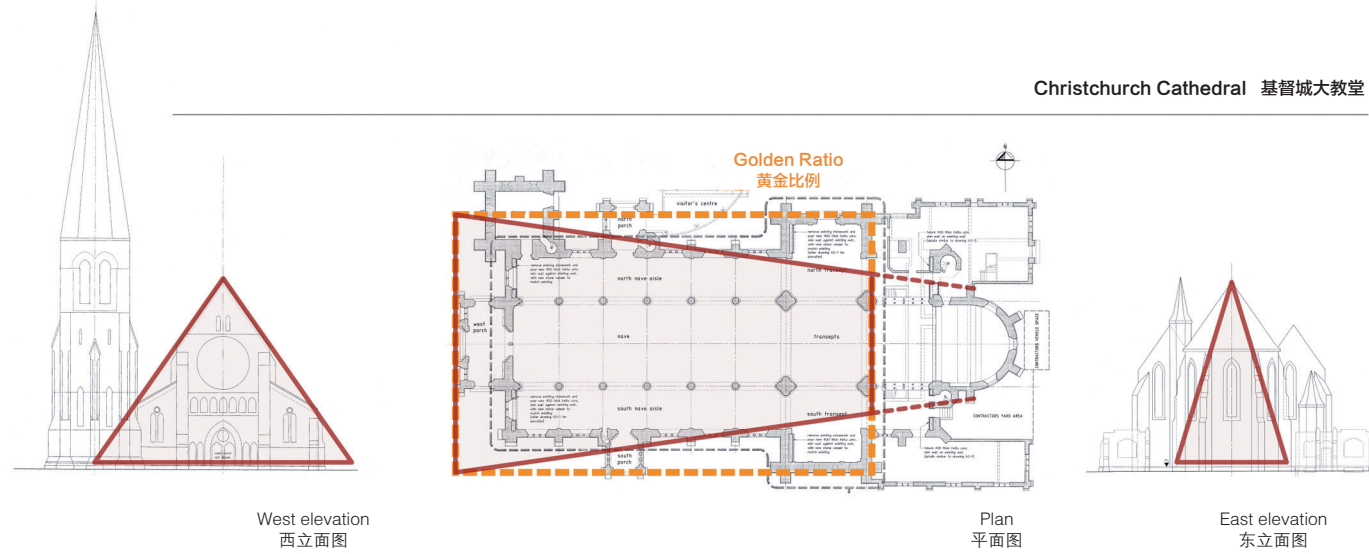
#### Key words …

Earthquake; Cathedral; Transitional; Spiritual Consolation

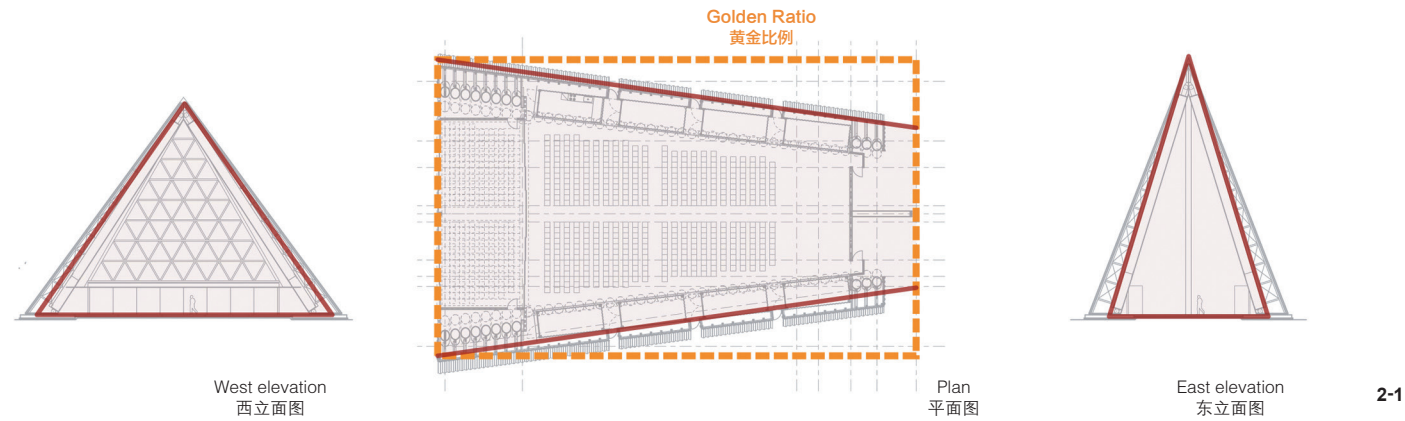
#### 背景

2011年2月22日, 新西兰基督城经历了一场灾难性的地震(里氏6.3级), 夺去了185人的生命, 位于城市中心的建筑物超过80%被摧毁, 或遭受到无法修复的损坏。基督城标志性的“广场大教堂”塔尖倒塌, 该建筑的其余部分也遭到严重破坏。

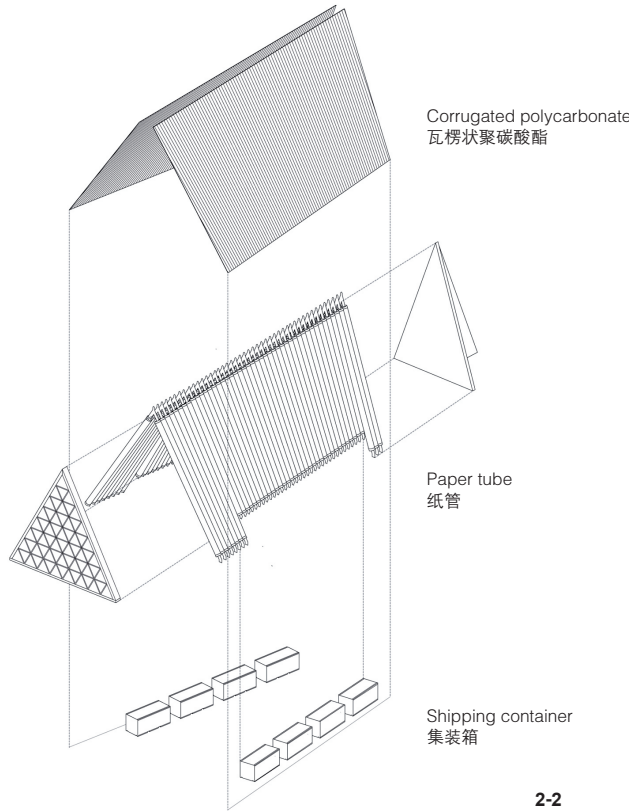
2011年5月, 一项建设一座过渡性大教堂的计划开始筹划, “纸板”大教堂项目也因此应运而生。这座完工于2013年的教堂为基督城带来了纪念性空间, 也成为了一个多功能场地, 可供开展音乐、展览、社区活动和文娱活动。



Christchurch Cathedral 基督城大教堂



Cardboard Cathedral 纸板大教堂



Corrugated polycarbonate 瓦楞状聚碳酸酯

Paper tube 纸管

Shipping container 集装箱

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### 坂茂的“纸板”大教堂

针对场地情况，坂茂建筑设计事务所对新的临时性教堂进行了设计。过渡性“纸板”大教堂的概念是由建筑师坂茂提出的——坂茂致力于为世界各地遭受自然灾害影响的人们设计临时性公共建筑和住宅。坂茂为这个项目提供了无偿设计，他在震后平均每6周就会前往基督城查看项目进展。

96根相等长度的纸管（每根直径0.61m）与6m高的集装箱共同构成了一个三角形。这些纸管被防水聚碳酸酯材料所覆盖，并涂以阻燃剂；每根纸管间间隔5cm，以便采光。教堂原始的平面和立面决定了其几何外观，因此每一根（构成桁架的）纸管都形成了一种逐渐变化的角

度。屋顶距圣坛21m。教堂采用三角形的有色玻璃来取代原有的圆花窗。这座可容纳700人的大教堂可作为活动与音乐会空间。

### 团队

在该项目中，坂茂得到了极具才华、热忱敬业的当地顾问、供应商和承包商的鼎力支持。他们在资金、服务和供应方面贡献颇多，总额超过130万新西兰元。

### 怀念之地

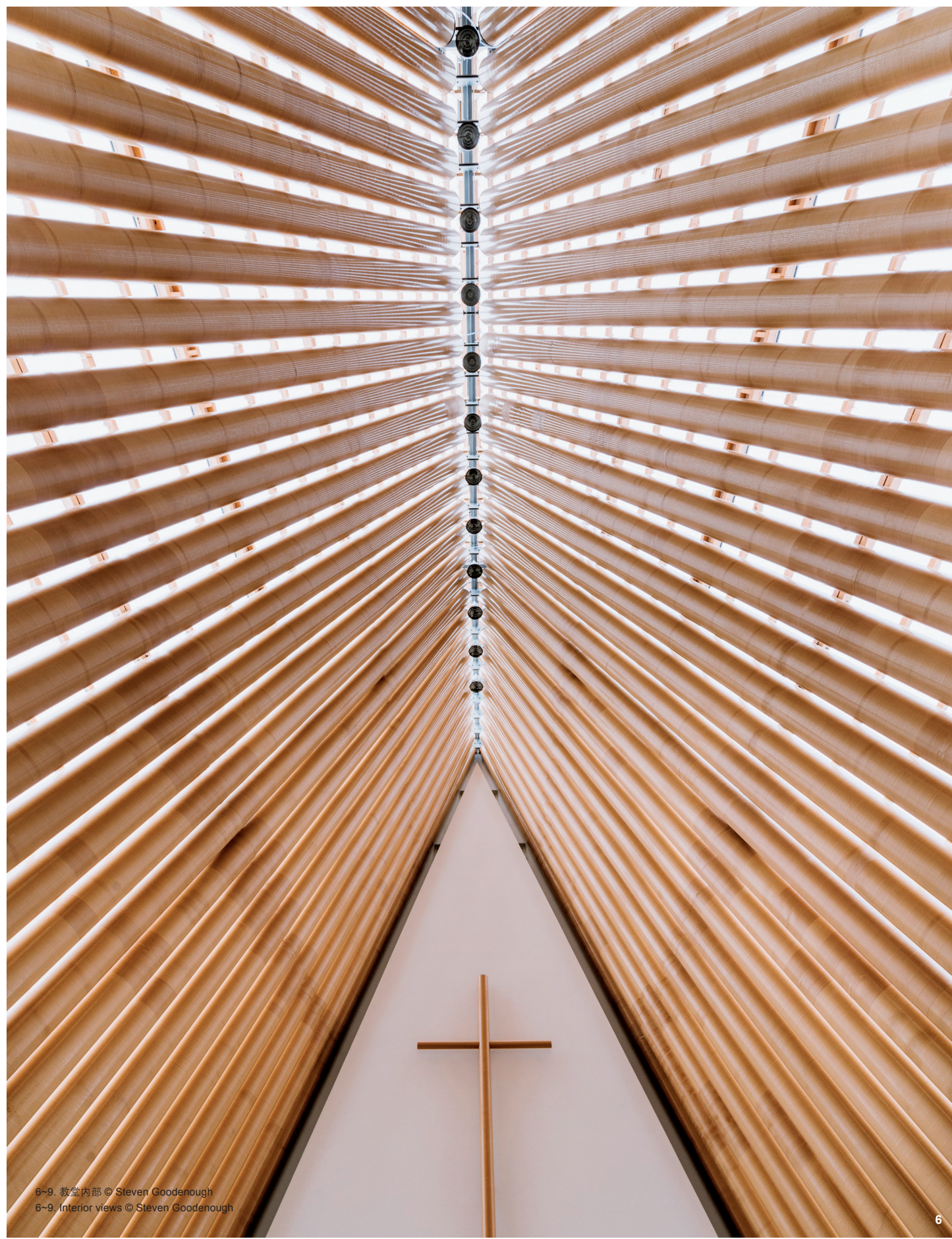
该过渡性“纸板”大教堂毗邻坎特伯雷电视台——在2011年2月22日发生的那次灾难中，115人葬身于此，其中包括13名来自日本富山市当时正在该大楼中就读语言课程的学生。另有两名日本学生严重受伤。一个纪念性雕塑将被设于该教堂的大

厅中，以纪念罹难的日本学生。在建筑主体中将会设立一间“附属纪念教堂”，以供人们聚集起来，怀念那些在灾难中丧失的生命与那些继续蒙受痛苦的人们。

该过渡性“纸板”大教堂已于2013年8月6日向公众开放，建筑的建筑声学和多功能性获得了访客的高度赞扬。其作为基督城的第一个震后建成公共建筑，在城市的复苏中扮演了极为重要的角色。LAF

- 2-1. 重建前后建筑比例示意图
- 2-2. 纸板大教堂结构示意图
- 3, 4. 纸板大教堂建造过程 © Bridgit Anderson
- 5. 纸管构成的屋顶上覆以防水聚碳酸酯材料。 © Steven Goodenough





6-9. 教堂内部 © Steven Goodenough  
6-9. Interior views © Steven Goodenough



**Background**

On February 22nd, 2011, Christchurch experienced a devastating earthquake (magnitude 6.3). 185 people lost their lives. More than 80% of buildings in the central city were either destroyed or damaged beyond repair. The spire of Christchurch's iconic "Cathedral in the Square" collapsed. The remainder of the building was severely damaged.





In May of 2011, plans began toward building a transitional cathedral. The “Cardboard” Cathedral Project was born. Completed in 2013, this building gives to the city a memorial space, and a versatile venue for music, exhibitions, community activities and civic events.

96 paper tubes (2 feet-diameter each) of the equal length and 20 feet containers form a triangular shape. The paper tubes are coated with waterproof polycarbonate and flame retardants with two-inch gaps between them so that light can filter inside. Since geometry

is decided by plan and elevations of the original cathedral, there is a gradual change in each angle of paper tubes. It rises 70 feet above the altar. Instead of a replacement rose window, the building has triangular pieces of stained glass. This cathedral, which has



### Shigeru Ban’s “Cardboard” Cathedral

In response to the site situation, Shigeru Ban Architects were asked to design new temporary cathedral. The transitional “Cardboard” Cathedral concept was created by architect Shigeru Ban, who specializes in designing temporary public buildings and homes for people anywhere in the world who are affected by natural disasters. Shigeru has given his pro-bono work to this project, visiting Christchurch post earthquake, on average, every six weeks.

- 10-12. 为教堂所特别设计的室内家具 © Steven Goodenough
- 13. 附属纪念教堂 © Steven Goodenough
- 14. 现已对外开放的教堂抚慰着灾难留给人们的创伤。© Bridgit Anderson
- 15. 纸板大教堂作为基督城的第一个震后建成公共建筑，在城市的复苏中扮演了极为重要的角色。© Bridgit Anderson
- 10-12. Customized furniture for the cathedral © Steven Goodenough
- 13. The Chapel of Memories © Steven Goodenough
- 14. The cathedral opens to the public, and provides a place of soothing the grief brought by the devastating disaster. © Bridgit Anderson
- 15. Cardboard Cathedral is the first public building to be completed post earthquakes and greatly benefits the city in the recovery. © Bridgit Anderson

a capacity of 700 people, can be used as an event space and a concert space.

### The Team

Shigeru was ably supported on the Transitional “Cardboard” Cathedral project by a talented and dedicated team of local consultants, suppliers and contractors. They had contributed in money, services and supplies, over 1.3 million NZD.

### A Place to Remember

The Transitional “Cardboard” Cathedral is situated next to the Canterbury Television site where 115 people died on February 22, 2011. Of these, 13 students were from the City of Toyama, attending a language school in the building. Two more Japanese students were severely injured. A memorial sculpture in memory of the Japanese who



died will soon be situated in the foyer of the Transitional “Cardboard” Cathedral. A Chapel of Memories in the main body of the building will provide a place for people to gather and remember those whose lives were lost and those who continue to suffer.

The Transitional “Cardboard” Cathedral opened to the public on August 6, 2013. Visitors are glowing in their praise of the building’s architecture acoustics and versatility. It is the first public building to be completed post earthquakes and greatly benefits the city in its recovery. LAF

