

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

## Collectively we are stronger: Engineers generating collaborative solutions to strengthen community resilience post-disaster – presentation

- **Story:** The 10th Brunel International Lecture Series: Collectively we are Stronger
- Theme: The SCIRT Model

A PowerPoint presentation used by Duncan Gibb when presenting his Brunel lecture.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz









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## **Collectively** we are stronger

Engineers generating collaborative solutions to strengthen community resilience post-disaste

### The Institution of Civil Engineers 10th Brunel International Lecture Series

Presented by Duncan Gibb BEng (Civil) FICE FIPENZ Executive General Manager, SCIRT





## **Collectively we are stronger**

Engineers generating collaborative solutions to strengthen community resilience post-disaster

Presented by

Duncan Gibb BE FICE FIPENZ Executive General Manager, SCIRT



## **Engineers delivering outcomes for people**







# edge

**Future** 

## Present

Knowledge Gap

seat of experience

Comfortable





# **Collectively we are stronger**

- Context
- Thinking behind the solution
- Case study
- Baseline for comparison
- Learnings
- Wider application









## Context































































































































































## Thinking behind the solution
















































### Collaboration Commercial agreement Planned transition

Structure

## Programme management

Intentional development

Recovery







### **Case study**



#### **Sequence of events**







#### SCIRT STRUCTURE



































	Replace/ Repair	Unit
Water Reticulation	69	km
Sewers	659	km
<b>Sewer Pump Stations</b>	136	no.
Storm water	26	km
<b>Roading – residential</b>	1,021	km
Bridges	224	no.
Retaining Walls	141	no.























### **SCIRT Vision**

### Creating resilient infrastructure that gives people security and confidence in the future of Christchurch

















# **Baseline for comparison** city! are





# Disasters increasingly impacting society globally

- 2005 World Conference on Disaster Reduction, Hyogo, Japan
- 2005 2015 Respond to Framework for Action : 'Building the resilience of Nations and Communities to Disasters'





#### **Disaster Management Cycle**





## Early Recovery will stabilise a situation and shorten the humanitarian phase

2008 United Nations Development Programme - Policy on Early Recovery





# Resilience of communities (people) not just Infrastructure

"greater emphasis needs to be placed on the effectiveness of humanitarian response through better leadership, accountability, innovation and partnerships" Jo da Silva





### Partnerships can aid recovery

2010 World Economic Forum – Engineering and Construction Disaster Resource Partnership





### **Summary of findings**

- The impact of disasters globally is increasing
- International agreement of need to act
- Focus on early Recovery phase
- Action required across all phases
- Private-Public partnerships add value
- Resources limited not coordinated



Learnings

































# **Wider application** city 4 are




## **Disaster Recovery Framework** for Action

Packaged solution for *application* before the event, and *implementation* across all phases of recovery





# Model documentation

#### Implementation plan



## Systems and procedures

### Culture

### Leadership

Governance

Recove





### **Collectively we are stronger!**

Engineers generating collaborative solutions strengthen community resilience post-disaster

















