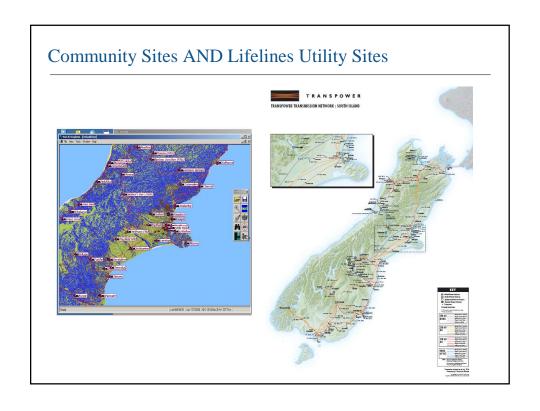


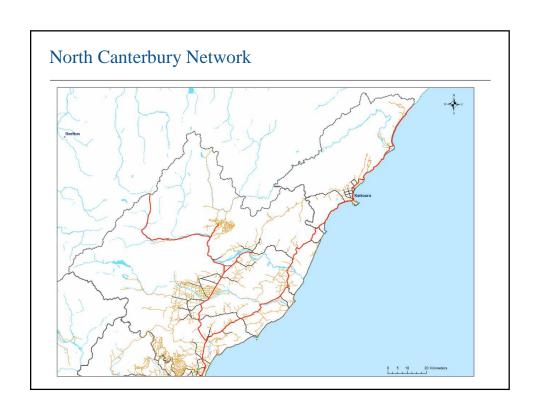
Canterbury Engineering Lifelines Group

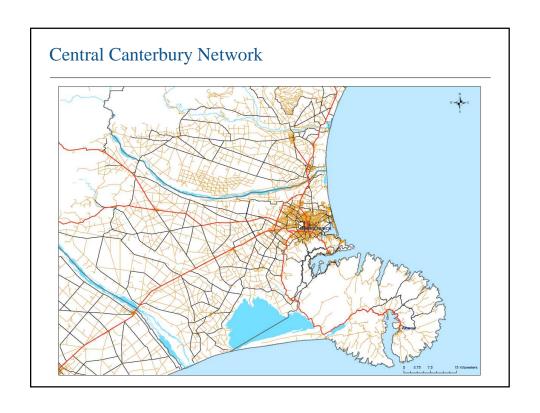
Priority Routes Project Update October 2007

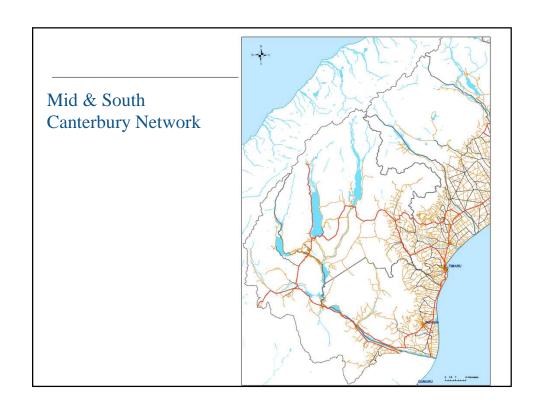
Background

- AELG work has been completed provides a template to build on
- CDEM Group Engineering Lifelines work-plan for 2006/07
 - Year 1 of a 3 year project
 - Purpose to determine a Canterbury wide priority route network for access to important sites in the event of a disaster
- Funded by CDEMG (06/07 to 08/09) and MCDEM (06/07)
- Also builds on earlier Risks and Realities work
- Linkage to Interdependencies
- · Approach covers:
 - Priority community sites
 - Critical lifelines sites
 - Priority Routes







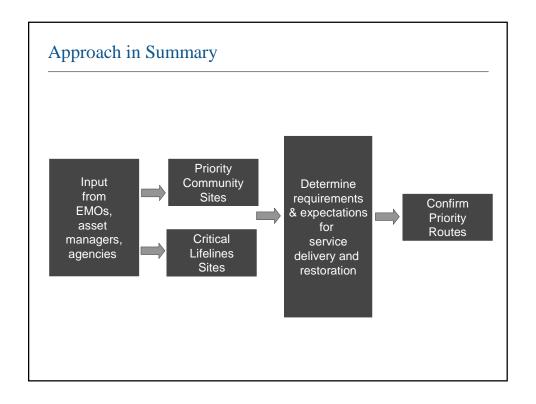


Project Outline (1/2)

Timing	Task Description	Target Status 30 June 2007	KPIs			
2006/07	Meet with CAE and Engineering Lifelines representatives to discuss the two related projects, identify areas of overlap, what each project will do, and agree how the interface will be managed over the term of this project.	Completed	na			
2006/07	Community Priority Sites Review community priorities from AELG-5 and adapt for Canterbury, confirm with CDEMG Agree on the definition, and then update and expand to region-wide the list of community priority sites that is in Risks and Realities – with input from each District EMO Establish the reliance of these sites on lifeline utilities Map all sites on GIS	a.Complete. b.Complete. c.Complete. d.Substantially complete	2006/07 •Agreed list of Community Sites. •Spreadsheet completed showing the requirements of each Community Site on Lifelines utilities (similar AELG). «GIS database and maps completed with Priority Sites shown by type. •Document in Draft Stage 1 report.			
2006/07 to 2007/08	Critical Lifelines Utility Sites Each sector to confirm their own key sites based on criteria similar to AELG-5, using questionnaire Each sector establishes the reliance on other lifeline utilities Map all sites on GIS	a.Underway. b.Underway c.Substantially complete.	2006/07 *Questionnaire distributed to Lifeline Utilities. *List of Critical Sites distributed to Lifelines Utilities for identification of reliance on other utilities. *GIS database and maps completed with Critical Sites shown by type. *Document in Draft Stage 1 report.			

Project Outline (2/2)

Timing	Tas	k Description	Target Status 30 June 2007	<u>KPIs</u>			
2006/07 to 2007/08	4. a. b. c. d.	Priority Routes Discuss and agree with the Engineering Lifelines Group the role of the consultant team vs individual local authorities in undertaking the tasks required. In general, a similar approach to that used for the AELG-5 project is proposed, and a consultative process adopted with local authorities, CDEMG and the CELG where the consultant team is responsible for completing tasks. Routes will be mapped in the GIS. Agreement will need to be reached with the CDEMG on the extent to which hazards are mapped in the GIS, used in the analysis, and any risk assessment and mapping of structures undertaken.	a.Substantially Complete. b.Questionnaire developed. c.Initiated. d.Agreement on hazards.	2006/07 •Base plan of regional road network produced on GIS. •Questionnaire drafted. 2007/08 •Priority Routes map produced on GIS. •Hazard overlays and (qualitative) assessment •Draft Stage 2 Report			
Later	5. Interdependencies a. A similar approach can be adopted as for AELG-5, however this aspect will be best determined in association with the Lifelines Interdependencies project. b. For AELG-5, this involved the collation of dependency information – with lifelines sectors reviewing the priority sites and their own dependency on these sites for recovery. c. This review is then followed by a review of the order of their own critical sites based on the assessment of them made by others. d. Finally, determination of overall regional priorities.		a.Agreement in relation to role of this project as an input to the CAE project	2006/07 •5a confirmed. 2007/08 & 2008/09 •To be finalised once 5a confirmed.			

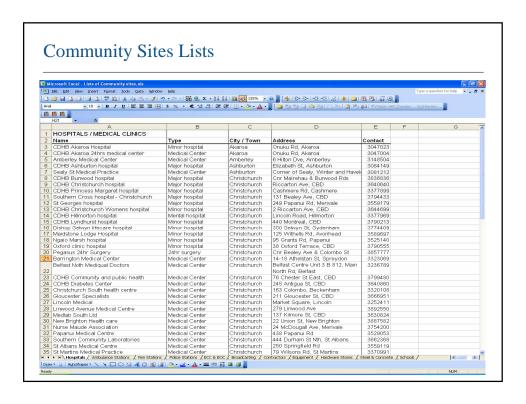


Community Priorities

- 1. Restoration of services providing an immediate threat to public health and safety (eg Hospitals, Ambulance).
- 2. Restoration of supply to emergency services sites (Police, Fire Service, Emergency Operations Centres).
- Restoration of supply to key infrastructure sites requiring service for their own recovery (Lifeline Utilities including Energy, Telecommunications, Water, Wastewater, Transport)
- 4. Restoration of services to key organisations which are members of the Canterbury CDEM Welfare Advisory Group.
- Restoration of supply to major construction resources to which access would be needed in the response and recovery phase (including Contractors, Materials, Plant).
- 6. Restoration of services to schools.

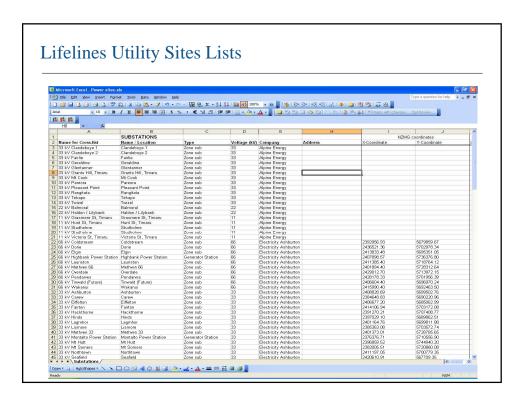
Community Sites

- Hospitals
- Ambulance stations
- Fire stations
- Police stations
- EOC's
- Broadcasting
- Contractors
- Equipment
- Major hardware
- Steel and concrete
- Schools



Critical Utility Sites Criteria

- · The network as it is today.
- A "ground zero" approach, which says that given all services/sites are down, which would be recovered first? It is not a scenario approach looking at damage from specific events.
- Whether the area of outage would be significant if the site failed. If the facility outage and its consequences could be easily managed locally, then it would be considered a lower order priority.
- Whether there is redundancy available, and whether it could reasonably be assumed that an alternative supply point will be operating. If there is, then the site is a lower priority.
- Priority locations are defined as sites (places) or links (eg rings).



Approach

- Questionnaires circulated to EMOs and LL utilities
- Workshops completed (Rangiora, Christchurch, Ashburton, Timaru)
 - Council asset managers, emergency management staff, other lifelines agencies (power, telecommunications, fuel, broadcasting)
 - Assist in completing questionnaires
- Follow up contact with Community site owners initiating
 - What are their priorities?
- Round-up of Lifelines agencies completed questionnaire for each

Site-based Response Questionnaire (All Sites)

PRIORITY SITE NAME	Question 3a		Question 3b		Question 3c			Comments
	Required during an emergency (Y/N) Priority Rank each Service*		Alternative/ Emergency Arrangements	Back up Facilities Provide (x)% of Function	Desired Service Restoration (when do you need service restoration from your normal provider?)			
Service/Utility					Time (hrs)	Quantity	Quality (%)	
Example: Water Supply	Y	2	Tank water supply	100% for 4 hours	4 hours	1000m³/day	100	
Example: Transportation (road access)	Y	1	Access off minor side road	20% access (people only, no deliveries)	48 hours	Delivery truck access	100	
Transportation (road)								
Transportation (rail)								
Telecommunications								
Broadcast/Media								
Gas supply								
Electricity supply								
Petroleum supply								
Water supply								
Wastewater disposal								
Stormwater disposal								
Airports								
Ports								

- riority Rankings based on:

 1. No functionality or service delivery can be maintained without this supply.

 2. Some functionality or service delivery can be maintained without this supply.

 3. Functionality or service delivery can generally be maintained without this supply.

Site-based Response Questionnaire (Orion Example)

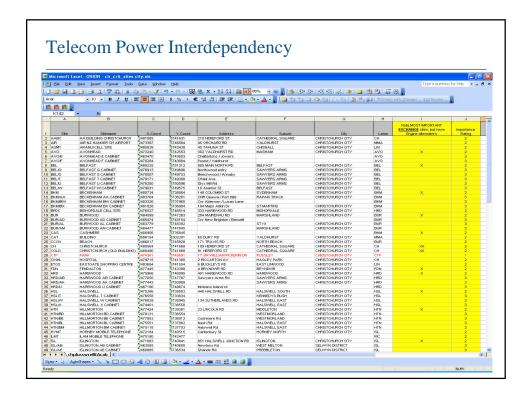
CRITICAL SITE NAME	Question 3a		Ques	Question 3b		Question 3c		Comments
Orion Head Office 218 Manchester St Orion Control Centre	during an Rar	Priority Rank each Service*	Alternative/ Emergency Arrangements	Emergency Provide (x)% of Function	Desired Service Restoration (when do you need service restoration from your normal provider?)			
Service/Utility					Time (hrs)	Quantity	Quality (%)	
Transportation (road)	Υ	1	Access off two streets		4 hours	1 entrance	50%	Provider: CCC
Transportation (rail)	Υ	3						Provider: Tranz Rail
Telecommunications	Y	1	CDEM 2 direct lines CDEM & field staff radio telephony	50%	ASAP	All customer contact	100%	Information feedback from customers essential Provider: Telecom
Broadcast/Media	Υ	1	Call Centre					Provider: Various
Gas supply	Υ	2	Electric heating	100%	1 month			Provider: Rockgas NZ Ltd
Electricity supply	Y	2	Generators	Generator can carry Control Centre emergency load	ASAP	12 hrs fuel	100%	Provider: Orion NZ Ltd 5 days fuel includes portable trailer 800lts
Petroleum supply	Y	2	Portable trailer can be used to replenish generator supply	800lts or 4days supply	ASAP	Refill after 4 days	100%	Provider: local garage
Water supply	Υ	1	Larger capacity tanks fitted	50% nth building only	1 week	11,000lt	100	Provider: CCC
Wastewater disposal	Υ	1	Tank capacity 1 day		1 day		100%	Provider: CCC
Storm water disposal	Υ	1	Close to Avon		ASAP		100%	Provider: CCC
Airports	Υ	2						Provider: Airport Control Authority
Ports	Υ	2						Provider: Lyttelton Port Co

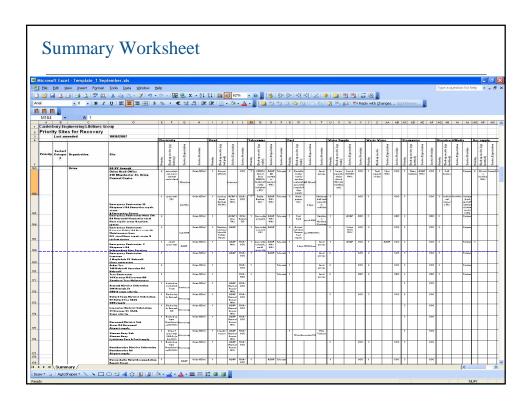
- Rankings based on:

 No functionality or service delivery can be maintained without this supply.

 Some functionality or service delivery can be maintained without this supply.

 Functionality or service delivery can generally be maintained without this supply





Outputs

- GIS maps of priority community sites
- GIS maps of critical lifelines utility sites
- Priority route maps including categorisation of bridge vulnerability