



# CIMS Incident Management Organiser: (RF200)

Situation Report	
<b>Incident Name:</b> Makara Fire – Chatham's <b>Location:</b> Southern Side of Chatham Island <b>Incident Number:</b> <b>Incident Type:</b> Vegetation Fire <b>Grid Reference:</b>	<b>Shift:</b> 0800 – 1800 4 <sup>th</sup> Feb
<b>Assessment:</b> Current Situation Vegetation in scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire on the night of the 2 <sup>nd</sup> burning a total of around 3000ha. No further rain or fire spread was experienced during the day on Saturday	
<b>Action Taken: (Consider Progress)</b> Doc Crews have been marking and mapping access Local Machinery has mulched fuel breaks in Sector Sierra, for protection of structures Incident Management Team arrived and received briefing 3 <sup>rd</sup> Feb. And completed familiarisation flight.	
<b>Factors: (Weather and other factors or limitation should be noted including resource status)</b> Moisture from the rain of Friday night will dry out and FFMC will rise to about 86 by Wednesday and Access to some parts of the fireground will be time consuming. Obtaining resources that are not available on the island will take 1-2 days to arrive.	
<b>Predicted Incident Development: (Note how this situation is expected to evolve)</b> Perimeter growth on Sunday is unlikely with mild fire weather and aircraft available. In dryer windier conditions Monday-Thursday crews and aircraft may have difficulty containing flare-ups if several occur at the same time.	

## Incident Action Plan

**Incident Objective / Aim:** (Analyse and consider all options before setting plan to achieve desired outcome)

Ensure safety of all responders

Protect life

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

**Incident specific objectives:** Contain the fire within current extent. Identify contingency plan should the fire not be able to be contained within the current extent.

**Shift Specific objectives:** Priority to be given to securing the perimeter in:

- Sierra Sector
- Alpha sector (starting at the intersection with Sierra).

**Strategy / Strategies:** (Plan of Action to meet Incident Objective/ Aim)

Direct attack (contingencies which have yet to be developed may involve indirect attack.

**Tactics:** (Specific actions to achieve incident strategy/s)

Secure the edges with a perimeter blacked out (cold) to a width of 10m, using ground crews with either hand tools or water. and backed up with aircraft.

**Date:** 3<sup>rd</sup> February

**Period:** 4<sup>th</sup> February

**Prepared by:** Rory Renwick

**Position:** Planning

**Approved by:** Ian Reade IC

**Signature:**

**Hints for Successful Incident Management:**

- Keep records
- Plan ahead
- Set up a Command and Control structure
- Delegate functions
- Develop and update Incident Action Plans
- Brief Personnel
- Sectorise the incident
- Give regular Situation Reports
- Plan Changeovers
- Have effective Communications

**Safety First, Every Job, Every time (L.A.C.E.S.)**

**Situation Report:**

**Prepared & Communicated: Time:**

**On Arrival**

+ 1 hr

+ 2 hrs

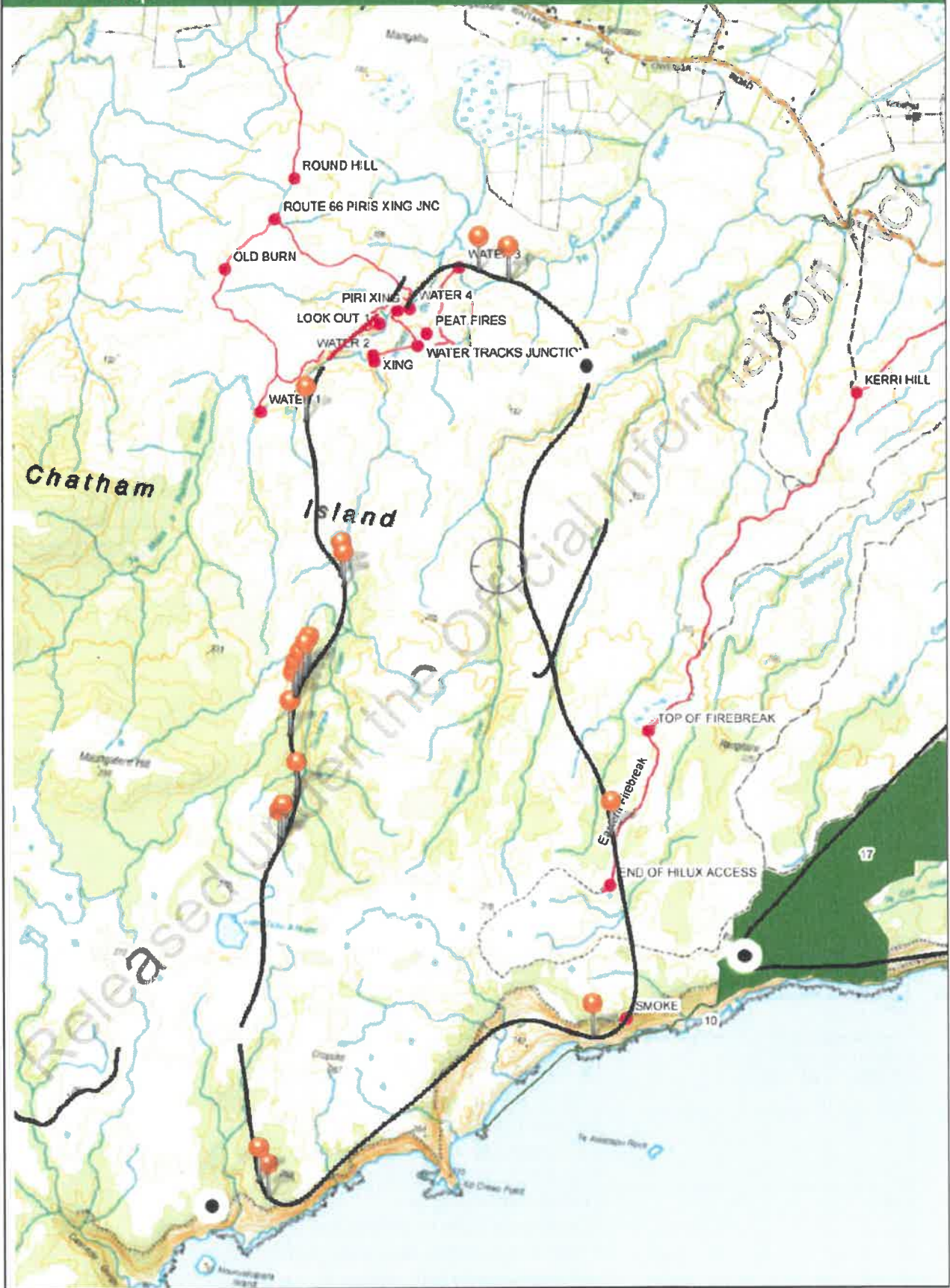
+ 3 hrs

+ 4 hrs

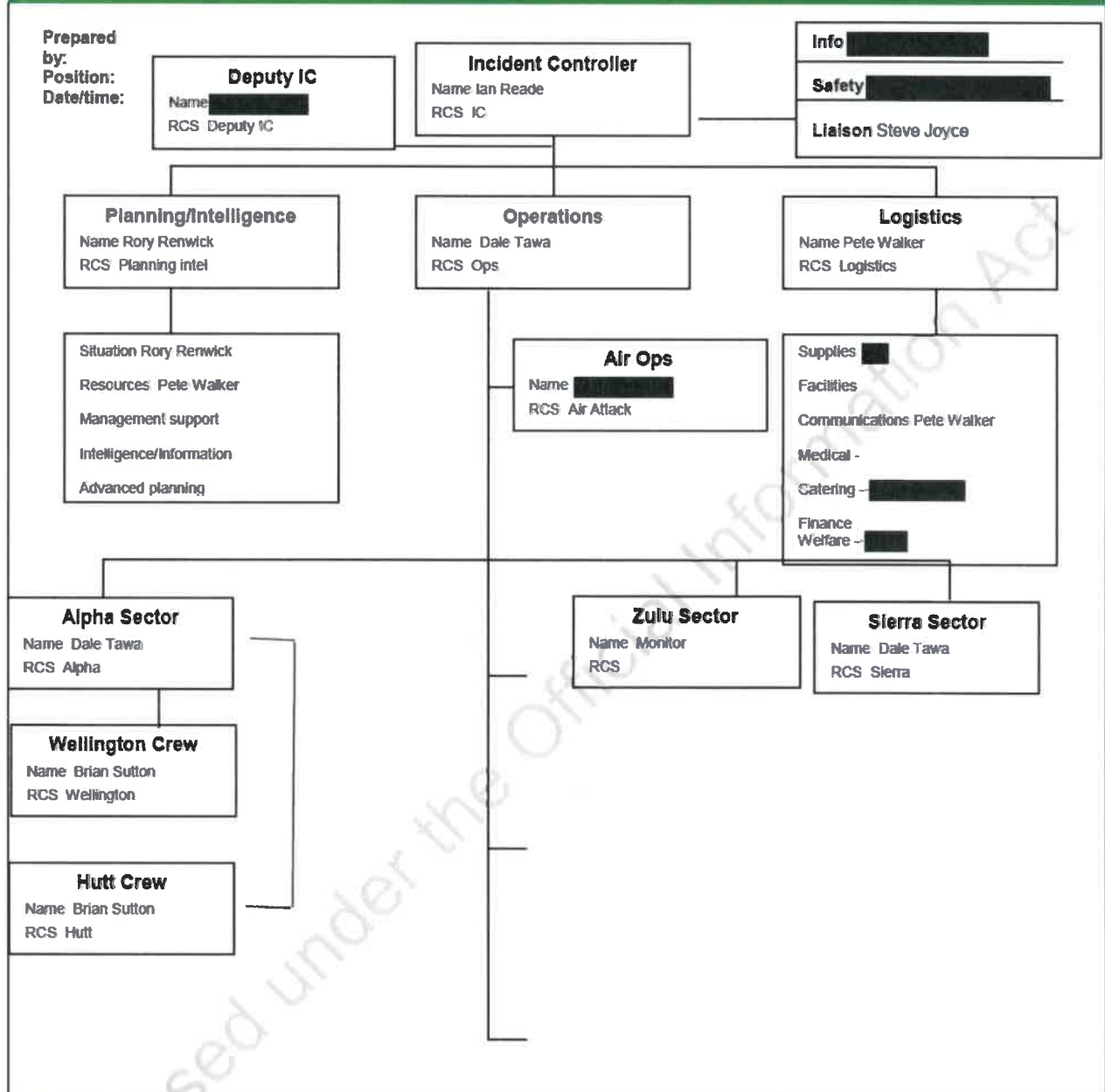
+ 5 hrs

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Incident Map



## Incident Management Structure



## Operational Tasking

Sector	Resource	Task	Grid	Tasked at hrs
Air Ops	Squirrel BK117	0630 Recce with Squirrel 0700 BK and Squirrel Air direct attack. Fly to ground crews to critical hot spots where possible. Air Operations to provide hourly weather reading announcements		
A		0800 Briefing Deploy by Helo to critical hot spots within 10m of perimeter and extinguish. Starting at intersection with sector S. Provide hourly Sit Reps.		



**Communication Plan:**

Radio channels and frequencies

Command:	DOC CH 5
Tactical:	Simplex DOC 15
Support:	
Ground to Air:	VHF Fire 4
Air to Air:	Pilots to confirm

Released under the Official Information Act

<b>1. Incident Name</b> Makara		<b>2. Operational Period</b> Date 4/2/18 Time 0800 to 2000		<b>MEDICAL PLAN</b> RF206			
<b>3. First Aid Station Name</b>		<b>Location</b>	<b>Phone/Radio Channel</b>	<b>Paramedics available at Station</b>			
Point 106		Staging	Doc 5	First aiders			
Crew leaders		fireline	Doc 5	First aiders			
<b>4. Transportation Ambulance Service</b>		<b>Address</b>	<b>Phone/Radio Channel</b>	<b>Paramedics available with Ambulance</b>			
St John Ambulance		1 Hospital road	██████	Yes			
Westapc rescue heli			Fire 4				
<b>5. Hospitals Hospital Name</b>		<b>Address</b>	<b>Phone</b>	<b>Travel Time</b>		<b>Burn Unit</b>	<b>Heli Pad</b>
				<b>Road</b>	<b>Air</b>		
Chatham's medical centre		1 hospital road	██████	20 mins	10 mins	No	No
<b>6. Special Emergency Procedures</b> Medical centre will stabilise patient while life flight is dispatched from Wellington							
<b>7. Prepared By:</b> Mike Sullivan			<b>Date/Time</b> 3 <sup>rd</sup> Feb 2230hrs				
<b>8. Reviewed by Safety Advisor:</b>			<b>Date/Time</b>				





## IAP

# INCIDENT ACTION PLAN

The items checked below are included in the incident Action Plan

- SITUATION REPORT
- INCIDENT OBJECTIVES & STRATEGIES
- ORGANISATION LIST
- ORGANISATION DIAGRAM
- COMMUNICATIONS PLAN
- AIR OPERATIONS PLAN
- SAFETY PLAN
- DIVISION ASSIGNMENT
- SECTOR ASSIGNMENT
- MEDICAL PLAN
- LOG
- FIRE MAP
- WEATHER FORECAST & MAPS
- FIRE BEHAVIOUR FORECAST
- FACILITIES LAYOUT
- 
- 

**1. Approved by Incident Controller:**

Name

Signed

Date/Time

*Ian REade*



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Taneora Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Taneora scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fireground. No further rain or fire spread was experienced during the day on Saturday.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2<sup>nd</sup> Feb. But were allowed back into the area the following day once rain moderated fire behaviour

Local Machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures

1st shift of NZ resources briefed and on fire ground

2 medium helicopters carrying out bucket work and crew transport on the 4<sup>th</sup> Feb – reducing the number of visible smokers around the perimeter.

Locals found to be mopping up around structures at the southern end of Zulu.

### 8. Factors

Approx 10mm rain fell Friday night followed by 1-2mm of rain Sunday morning

Access around fireground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-3 days to arrive.

### 9. Predicted Incident Development

It is likely that current tactics will prevent further fire spread however forecast strong winds early week will dry out and increasing FFMC means there is a possibility of significant fire growth if multiple flare ups that may be more than current resources can contain.

10. Prepared by: RORY RENWICK

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

**Incident specific objectives:** Contain the fire within current extent. Identify contingency plan should the fire not be able to be contained within the current extent.

Engage local stakeholder and landowners in planning and operational process

Incorporate local trained resource

Build local relationships and skill with the view to longer term future.

**Shift Specific objectives:** Priority to be given to securing the perimeter in Sierra and Alpha

Start on shift contingency plans in the event the fire becomes active.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

- Direct attack with aircraft on smoking veg fires in all 3 sectors, with priorities being:
  - Ensure perimeter is contained in Sierra, with action, evac lines established
  - Ensure perimeter is contained on the cliff face on the south of Zulu
- Ground crew mop up along Sierra and Alpha ensuring peat burning is extinguished.
- Ground crews to be backed up with bucket work and transportation from helicopters.
- Establish sustainable Jet A1 fuel deliveries to meet aircraft demands

5. Prepared by: Rory Renwick



## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	<i>Ian Reade</i>	██████		<i>Doc 5</i>
Deputy IC	██████████	██████		<i>Doc 5</i>
Information Officer	██████████	██████		<i>Doc 5</i>
Safety Officer	<i>Logan Akers</i>	██████		<i>Doc 5</i>
Liaison Officer	<i>Steve Joyce</i>	██████		<i>Doc 5</i>
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		<i>Doc 5</i>
Agency	MCDEM	██████		
Agency	Enterprise Trust	██████		
Agency				
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Rory Renwick	██████		<i>Doc 5</i>
Situations Unit	Rory Renwick			
Resources Unit	Pete Walker	██████		<i>Doc 5</i>
Management Support Unit	██████	██████		<i>Doc 5</i>
Information Unit				
Advance Planning Unit				
Technical Specialists Unit				
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Pete Walker	██████		<i>Doc 5</i>
Supply Unit	Sue Stewart		██████	
Catering Unit	██████████	██████		<i>Doc 5</i>
Facilities Unit				
Finance Unit	██████████ / Sue Stewart	██████	██████	
Communications Unit				
Medical Unit	Logan Akers	██████		<i>Doc 5</i>

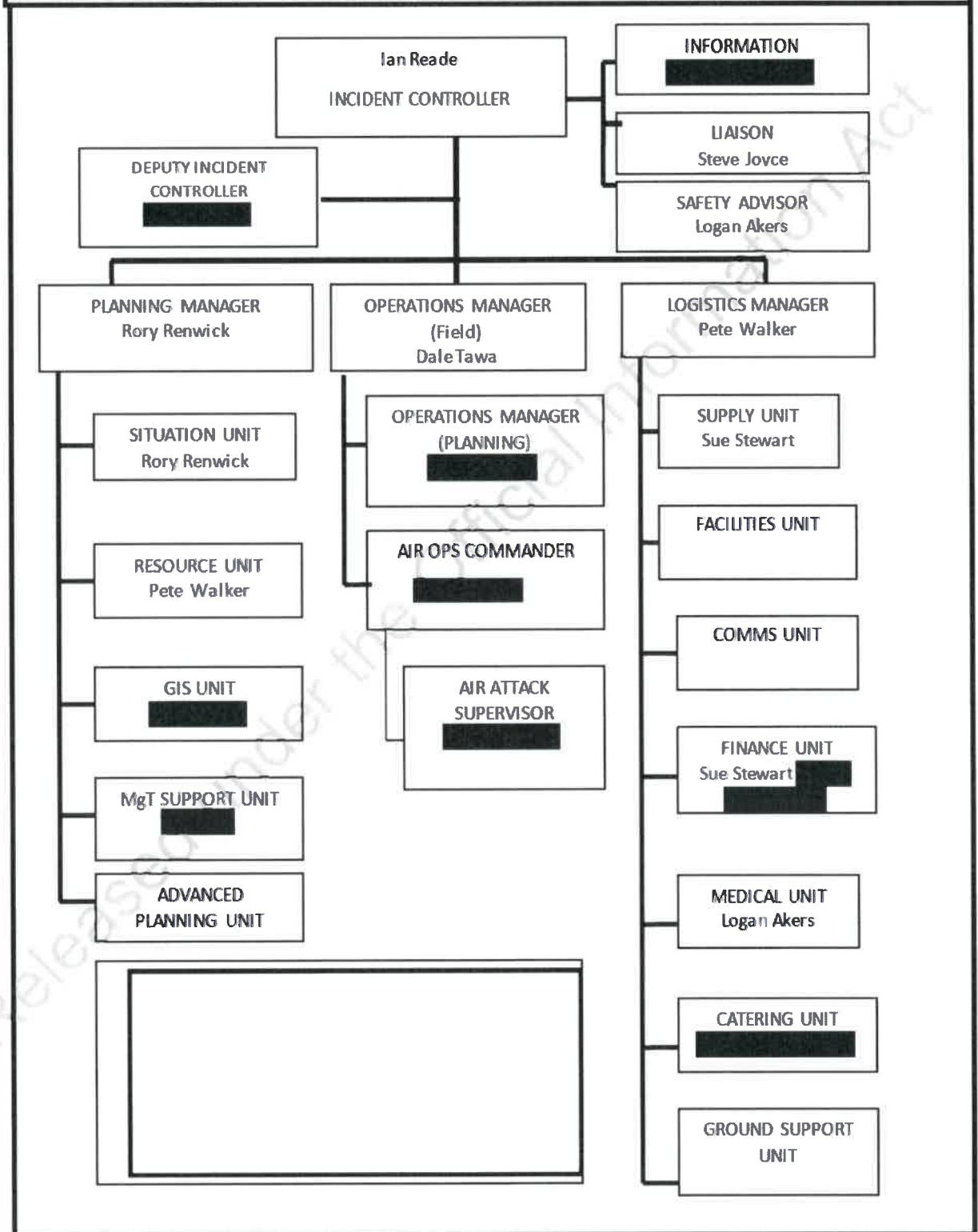


Makara Fire, Chatham Island.  
Shift period: 5<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	██████		Doc 5
Dep Ops / Dep Plan Manager	██████	██████		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	██████	██████		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

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## ORGANISATION CHART





## COMMUNICATIONS PLAN

<b>3. Radio Channels</b>				
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1?		

<b>4. Telephone</b>				
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>

<b>6. Other (e.g. email, Satphone, etc)</b>	
<i>Began unit available for internet and phone redundancy</i>	

<b>7. Prepared by:</b>	<i>Peter Walker</i>
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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	[REDACTED]	Contractor		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	[REDACTED]	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
[REDACTED] - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z	Fire 4	
[REDACTED] - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chathams staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: [REDACTED]



## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watchouts
<p>L - Lookout(s)</p> <p>A – Anchor Point(s)</p> <p>C – Communication(s)</p> <p>E – Escape Route(s)</p> <p>S – Safety Zone(s)</p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish Lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

1. Peat bogs – holes left by earlier peat fires
2. Livestock – wild livestock in unfenced areas
3. Bees – general and disturbing nests
4. Driving on the island – Day hazards – conditions of vehicles Night Hazards – Livestock on roadways
5. Non-FENZ resources operating on the fire ground
6. Flight operations
7. Foam handling
8. Small crews operating long hours – no relief.
9. Food and Hydration

5. Prepared By: XXXXXXXXXX



## SECTOR ASSIGNMENT

<b>3. Sector</b>	<b>4. Description</b>	<b>5. Division Assigned</b>			
A	Direct attack on the Western Flank				
<b>6. Sector Supervisor</b>		<b>Affiliation</b>	<b>Phone</b>		
Dale Tawa		FENZ	██████████		
			<b>Radio Ch</b>		
			DOC 5		
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
Wellington	██████████	+4	Van	0800	1800
Hutt	██████████	+4		0800	1800
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>Continuation of perimeter containment to a width of 10m</li> <li>Establish drop points and provide details to GIS Dave Carlton</li> <li>Develop ground access and provide details to GIS Dave Carlton</li> <li>Maintain reporting schedules</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Provide recommendations to operations for future tasking and resourcing.</li> <li>Home safe</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.	██████████				DOC5
Air Attack Supervisor	██████████				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b>		Dale Tawa			

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SECTOR ASSIGNMENT						
<b>3. Sector</b> Z		<b>4. Description</b> Eastern Flank			<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5	
<b>7. Resources Assigned this period</b>						
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>	
<b>8. Sector Assignment / Special Instructions</b>						
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (taskings same as above) in event of increased fire activity. In this area.</li> <li>• Locals may also be fire-fighting in this area.</li> </ul>						
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>	
Division/Division Cmdr.		[REDACTED]			DOC5	
Air Attack Supervisor		[REDACTED]			Fire 4	
Safety Officer		Logan Akers			DOC5	
<b>10. Prepared By:</b> Dale Tawa						

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>			<b>5. Division Assigned</b>
S		Northern Perimeter of Fire			
<b>6. Sector Supervisor</b>		<b>Affiliation</b>		<b>Phone</b>	<b>Radio Ch</b>
Dale Tawa		FENZ		[REDACTED]	DOC 5
<b>7. Resources Assigned this period</b>					
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop-off Point/time</b>	<b>Pickup Point/time</b>
Contractors	Fulton Hogan				
Hutt	[REDACTED]	+4		0800	1800
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>Continuation of perimeter containment to a width of 10m</li> <li>Establish drop points and provide details to GIS Dave Carlton</li> <li>Develop ground access and provide details to GIS Dave Carlton</li> <li>Maintain reporting schedules</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Provide recommendations to operations for future tasking and resourcing.</li> </ul> <p>Home safe</p> <p>If fire becomes active contractors with mulchers and graders will be engaged to establish structure protection fuel brakes.</p>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Division/Division Cmdr.		[REDACTED]			DOC5
Air Attack Supervisor		[REDACTED]			Fire 4
Safety Officer		Logan Akers			DOC5
<b>10. Prepared By:</b> Dale Tawa					



## MEDICAL PLAN

3. First Aid Station			
Name	Location	Phone/Radio Channel	Paramedics available at Station
Point 106	Staging	DOC 5	First Aiders
Crew Leaders	Alpha Sector	DOC 5	First Aiders

4. Transportation			
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance
Air Operations (Evac only)			
St John Ambulance	1 Hospital Road		Yes
WestPac Rescue			Yes

5. Hospitals						
Heli			Travel Time		Burn	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chathams Medical Centre	1 Hospital Road		20 min	10 min	No	No

**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
 Life Flight dispatched from Wellington  
 Check with Chathams Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:     Advise Logistics Manager

<b>7. Prepared by Logistics Manager / Safety Officer:</b> LJA <span style="background-color: black; color: black;">[REDACTED]</span>
<b>8. Reviewed by Incident Controller:</b>



## FIRE BEHAVIOUR PREDICTION

							Grass EROS	
		FFMC	Wind	Wind Dir	ISI	75% cured	Scrub EROS	
Monday Morning	4/02/2018 4:00	70	35	NNW	3.6	326	830	
Monday Afternoon	4/02/2018 16:00	85	41	NNW	16	1851	3500	
Tuesday Morning	5/02/2018 4:00	70	35	NW	3.6	326	830	
Tuesday afternoon	5/02/2018 16:00	83	35	WSW	9.4	858	2332	
Wednesday Morning	6/02/2018 4:00	75	30	WSW	2.7	200	564	
Wednesday afternoon	6/02/2018 16:00	83	25	WSW	4.4	405	1397	
Thursday Morning	7/02/2018 4:00	75	15	WSW	1.6	Nil	Nil	
Thursday afternoon	7/02/2018 16:00	85	15	WSW	4.5	168	1060	

Prepared By: *Rory Renwick*

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## Incident Action Plan



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
<i>Ian REade</i>		



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Taneora Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Taneora scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fireground. No further fire spread was experienced during Saturday Sunday or Monday.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Main focus of ground crews has been Sierra sector and northern Edge of Alpha.

Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter, focussing on the currently inaccessible areas along the cliff face in Zulu.

A local crew has been found to be mopping up around structures at the southern end of Zulu, and have been provided with some PPE, and communications so they can call for assistance in the event of an incident.

Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management.

### 8. Factors

Access around fireground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

### 9. Predicted Incident Development

It is likely that current tactics will prevent further fire spread however forecast strong shifty winds (from NW to SW) early week will dry out and increasing FFMC means there is a possibility of significant fire growth if multiple flare ups occur at the same time are more than current resources can contain.

10. Prepared by: RORY RENWICK

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Incident specific objectives: Contain the fire within current extent.

Should a significant escape from current extents occur:

- Evacuate ahead of fire breakout to the north
- Minimise fire spread
- Defend Marae and power station as priority private property

Engage local stakeholder and landowners in planning and operational process

Incorporate local trained resource

Build local relationships and skill with the view to longer term future.

Shift Specific objectives: Priority to be given to securing the perimeter in Sierra ahead of SW wind change in the late afternoon.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

To contain to current extents.

- Direct attack with aircraft on smoking veg fires in all 3 sectors, with priorities being:
- Ensure perimeter is contained in Sierra, with action, evac lines established
- Ensure perimeter is contained on the cliff face on the south of Zulu
- Ground crew mop up along perimeter of Sierra ensuring peat burning is extinguished.
- Ground crews to be backed up with bucket work and transportation from helicopters.

Contingency should a significant escape occur incorporated into a predetermined response plan.

- Direct attack on flanks and indirect on head
- Defensive structure protection
- Evacuate ahead of the fire

5. Prepared by: Rory Renwick



## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Ian Reade	██████	Doc 5
Deputy IC	██████	██████	Doc 5
Information Officer	██████████	██████	Doc 5
Safety Officer	Logan Akers	██████	Doc 5
Liaison Officer	Steve Joyce	██████	Doc 5
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Doc 5
Agency	MCDEM	██████	
Agency	Enterprise Trust	██████	
Agency			
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Rory Renwick	██████	Doc 5
Situations Unit	Rory Renwick		
Resources Unit	Pete Walker	██████	Doc 5
Management Support Unit	██████	██████	Doc 5
Information Unit			
Advance Planning Unit			
Technical Specialists Unit			
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Pete Walker	██████	Doc 5
Supply Unit	Sue Stewart		██████
Catering Unit	██████████	██████	Doc 5
Facilities Unit			
Finance Unit	██████████ / Sue Stewart	██████	██████
Communications Unit			
Medical Unit	Logan Akers	██████	Doc 5

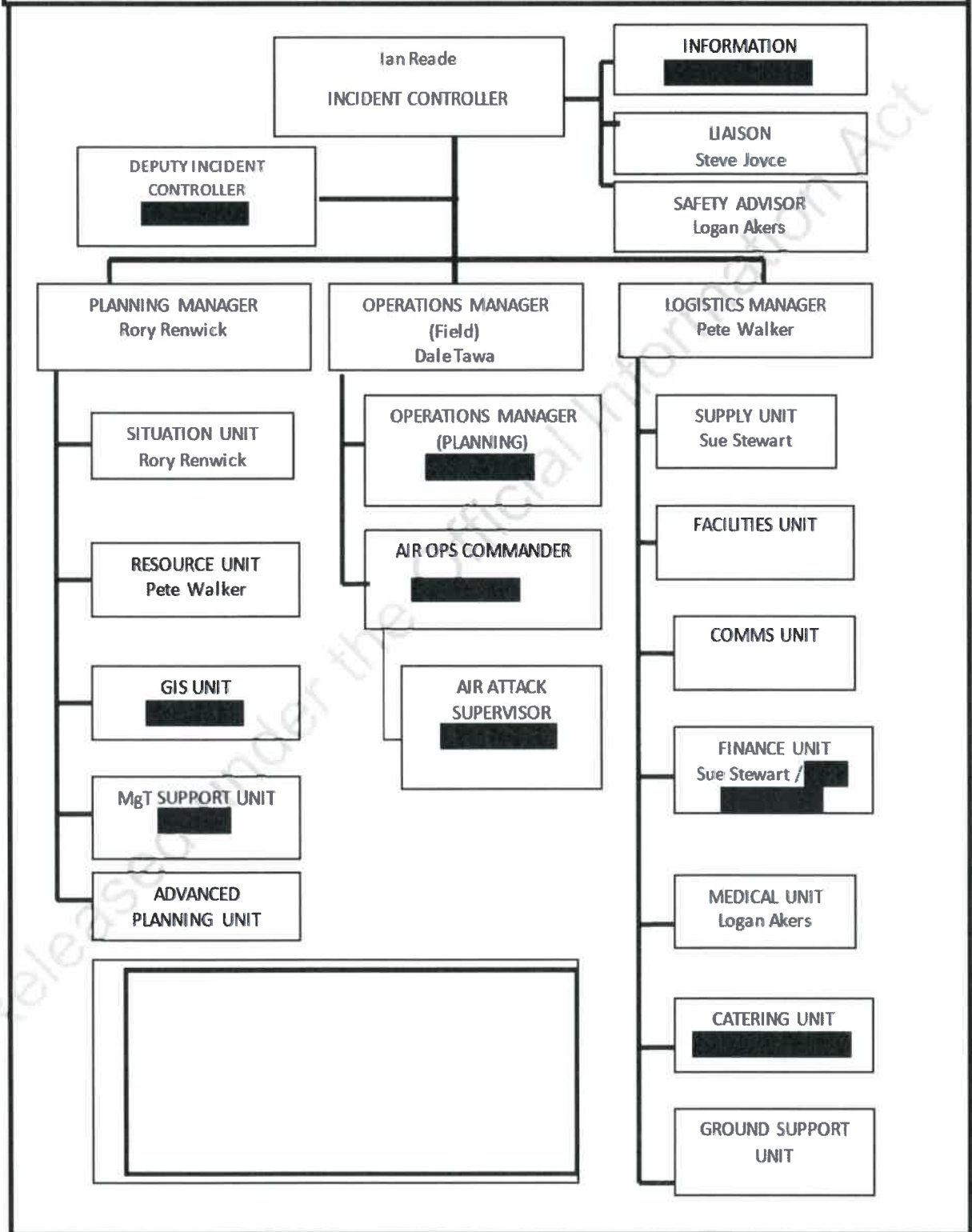


Makara Fire, Chatham Island.  
Shift period: 6<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	██████		Doc 5
Dep Ops / Dep Plan Manager	██████	██████		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	██████	██████		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

Released under the Official Information Act

## ORGANISATION CHART





Makara Fire, Chatham Island.  
Shift period: 6<sup>th</sup> Feb 2018 0800-2000

<b>COMMUNICATIONS PLAN</b>				
<b>3. Radio Channels</b>				
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>
<b>6. Other (e.g. email, Satphone, etc)</b>				
<i>Began unit available for internet and phone redundancy</i>				
<b>7. Prepared by:</b> <i>Peter Walker</i>				

Released under the Official Information Act



## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	[REDACTED]	Contractor		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	[REDACTED]	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
[REDACTED] - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z	Fire 4	
[REDACTED] - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chathams staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: [REDACTED]





## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watchouts
<p><b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

1. Peat bogs – holes left by earlier peat fires
2. Livestock – wild livestock in unfenced areas
3. Bees – general and disturbing nests
4. Driving on the island – Day hazards – conditions of vehicles Night Hazards – Livestock on roadways
5. Non-FENZ resources operating on the fire ground
6. Flight operations
7. Foam handling
8. Small crews operating long hours – no relief.
9. Food and Hydration

5. Prepared By: [REDACTED]



## SECTOR ASSIGNMENT

<b>3. Sector</b> <i>Alpha</i>	<b>4. Description</b> Direct attack on the Western Flank	<b>5. Division Assigned</b>			
<b>6. Sector Supervisor</b> Dale Tawa	<b>Affiliation</b> FENZ	<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5		
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>• Continuation of perimeter containment</li> <li>• Establish drop points and GPS</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules</li> <li>• Re-deployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> </ul>					
<b>9. Sector Communications</b>				<i>Phone</i>	<i>Radio Ch</i>
Operations Manager.	[REDACTED]				DOC5
Air Attack Supervisor	[REDACTED]				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b> Dale Tawa					

Released under the Official Information Act



Makara Fire, Chatham Island.  
Shift period: 6<sup>th</sup> Feb 2018 0800-2000

## SECTOR ASSIGNMENT

<b>3. Sector</b> <i>Zulu</i>	<b>4. Description</b> <i>Eastern Flank</i>	<b>5. Division Assigned</b>
<b>6. Sector Supervisor</b> <i>Dale Tawa</i>	<b>Affiliation</b> <i>FENZ</i>	<b>Phone</b> [REDACTED]
		<b>Radio Ch</b> <i>DOC 5</i>
<b>7. Resources Assigned this period</b>		
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>
		<i>Transport Required</i>
		<i>Drop-off Point/time</i>
		<i>Pickup Point/time</i>
<b>8. Sector Assignment / Special Instructions</b>		
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (tasking the same as Sierra) in event of increased fire activity</li> <li>• Awatapu land owners operating in southern part of Zulu sector</li> </ul>		
<b>9. Sector Communications</b>		
		<b>Phone</b>
		<b>Radio Ch</b>
Operations Manager	[REDACTED]	
Air Attack Supervisor	[REDACTED]	<i>DOC5</i>
Safety Officer	<i>Logan Akers</i>	<i>Fire 4</i>
		<i>DOC5</i>
<b>10. Prepared By:</b> <i>Dale Tawa</i>		

Released under the Official Information Act



Makara Fire, Chatham Island.  
Shift period: 6<sup>th</sup> Feb 2018 0800-2000

SECTOR ASSIGNMENT							
<b>3. Sector</b> <i>Sierra</i>		<b>4. Description</b> Northern Perimeter of Fire			<b>5. Division Assigned</b>		
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]			
				<b>Radio Ch</b> DOC 5			
<b>7. Resources Assigned this period</b>							
<b>Resource/Crew</b>		<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop-off Point/time</b>	<b>Pickup Point/time</b>	
Wellington		[REDACTED]	+5	Van	0800	1800	
Hutt		[REDACTED]	5		0800	1800	
<b>8. Sector Assignment / Special Instructions</b>							
<ul style="list-style-type: none"> <li>• Continuation of perimeter containment to a width of 10 meters</li> <li>• Establish drop points and provide details to GIS (Dave Carlton)</li> <li>• Develop ground access and provide details to GIS (Dave Carlton)</li> <li>• Maintain reporting schedules</li> <li>• Provide recommendations to Operations for future tasking and resourcing NLT 1300hrs</li> <li>• Redeployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> <li>• Trigger point activation will require reassignment following predetermined response plan</li> </ul>							
<b>9. Sector Communications</b>				<b>Phone</b>		<b>Radio Ch</b>	
Operations Manager.		[REDACTED]				DOC5	
Air Attack Supervisor		[REDACTED]				Fire 4	
Safety Officer		Logan Akers				DOC5	
<b>10. Prepared By:</b>				<i>Dale Tawa</i>			



<b>3. Sector</b> Sierra	<b>4. Description</b> Predetermined Contingency Response Plan	<b>5. Division Assigned</b>			
Dale Tawa		FENZ	DOC 5		
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
Air Ops	[Redacted]	1 x Squirrel 1 x B3			
Ground Crews	[Redacted]	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
Resources to redeploy as above in the event of fire escape <ul style="list-style-type: none"> <li>Breach of trigger point 1 requires all assets are directed towards structure protection</li> <li>Priority to houses on southern side of Waitangi Owenga Road between Kopinga Marae and Te Matarae Road</li> <li>Structures require four-meter foam fire break around houses</li> <li>Helos will be deployed subject to fire behaviour and fire front direction</li> <li>Breach of trigger point 2 requires immediate deployment of all assets to protection of sub-station and Kopinga Marae</li> </ul>					
<b>9. Sector Communications</b>				<i>Phone</i>	<i>Radio Ch</i>
Operations Manager	[Redacted]		DOC5		
Air Attack Supervisor	[Redacted]		Fire 4		
Safety Officer	Logan Akers		DOC5		
<b>10. Prepared By:</b> Dale Tawa					

Released under the Official Information Act



<b>MEDICAL PLAN</b>						
<b>3. First Aid Station</b>						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
<b>4. Transportation</b>						
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations (Evac only)						
St John Ambulance	1 Hospital Road	██████	Yes			
WestPac Rescue			Yes			
<b>5. Hospitals</b>						
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chathams Medical Centre	1 Hospital Road	██████	20 min	10 min	No	No
<b>6. Special Emergency Procedures</b>						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chathams Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS: Advise Logistics Manager</p>						
<b>7. Prepared by Logistics Manager / Safety Officer: LJA</b> ████████						
<b>8. Reviewed by Incident Controller:</b> ████████						



Makara Fire, Chatham Island.  
Shift period: 6th Feb 2018 0800-2000

## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Wind Km/hr	Wind Dir	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Tuesday Morning	6/02/2018 4:00			35	NW	3.6	326	830
Tuesday afternoon	6/02/2018 16:00	23	65	37	NW	9.4	990	2550
Wednesday Morning	7/02/2018 4:00			30	WSW	2.7	200	564
Wednesday afternoon	7/02/2018 16:00	18	58	26	W	4.4	405	1397
Thursday Morning	8/02/2018 4:00			15	WSW	1.6	Negligible	Negligible
Thursday afternoon	8/02/2018 16:00	21	56	15	WSW	4.5	168	1060
Friday Morning	8/02/2018 4:00			10	SW	1	Negligible	Negligible
Friday afternoon	8/02/2018 16:00	21	56	15	SW	4.5	168	1060

Prepared By: Rory Renwick





## Incident Action Plan



1. Approved by Incident Controller:

Name

Signed

Date/Time

*Ian Reade*

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## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Taneora Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarahina scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fireground. No further fire spread was experienced during Saturday Sunday. On Monday 4<sup>th</sup> there were a few flare ups near the perimeter but crews and helicopters were able to contain these. Conditions on Tuesday were mild due to morning rain reducing fire activity.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Main focus of ground crews has been Sierra sector and northern Edge of Alpha.

Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter, focussing on the currently inaccessible areas along the cliff face in Zulu.

A local crew has been found to be mopping up around structures at the southern end of Zulu, and have been provided with some PPE, and communications so they can call for assistance in the event of an incident.

Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management.

### 8. Factors

Access around fireground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

### 9. Predicted Incident Development

There is a high degree of confidence that further fore spread will be prevented and the objectives below will be achieved.

10. Prepared by: RORY RENWICK

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by the 12th February. Secure perimeter being defined as:

- Targeted extinguishment of all burning material within 10-30m of perimeter that can be detected from a helicopter or drone by thermal camera and areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air.

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

To contain to current extents.

- Direct attack with aircraft on smoking veg fires in all 3 sectors, with priorities being:
- Ensure perimeter is contained in Sierra, with action, evac lines established
- Ensure perimeter is contained on the cliff face on the south of Zulu
- Ground crew mop up along perimeter of Sierra ensuring peat burning is extinguished.
- Ground crews to be backed up with bucket work and transportation from helicopters.

Contingency should a significant escape occur incorporated into a predetermined response plan.

- Direct attack on flanks and indirect on head
- Defensive structure protection
- Evacuate ahead of the fire

5. Prepared by: Rory Renwick

Released under the Official Information Act 1982



## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Ian Reade	██████		Doc 5
Deputy IC	Steve Joyce	██████		Doc 5
Information Officer	██████████	██████		Doc 5
Safety Officer	Logan Akers	██████		Doc 5
Liaison Officer	██████████	██████		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Doc 5
Agency	MCDEM	██████		
Agency	Enterprise Trust	██████		
Agency				
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Rory Renwick	██████		Doc 5
Situations Unit	Rory Renwick			
Resources Unit	Pete Walker	██████		Doc 5
Management Support Unit	██████████	██████		Doc 5
Information Unit				
Technical Specialists Unit				
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Pete Walker	██████		Doc 5
Supply Unit	Sue Stewart		██████	
Catering Unit	██████████	██████		Doc 5
Facilities Unit	██████████			
Finance Unit	██████████ / Sue Stewart	██████	██████	
Communications Unit	Peter Walker			
Medical Unit	Logan Akers	██████		Doc 5

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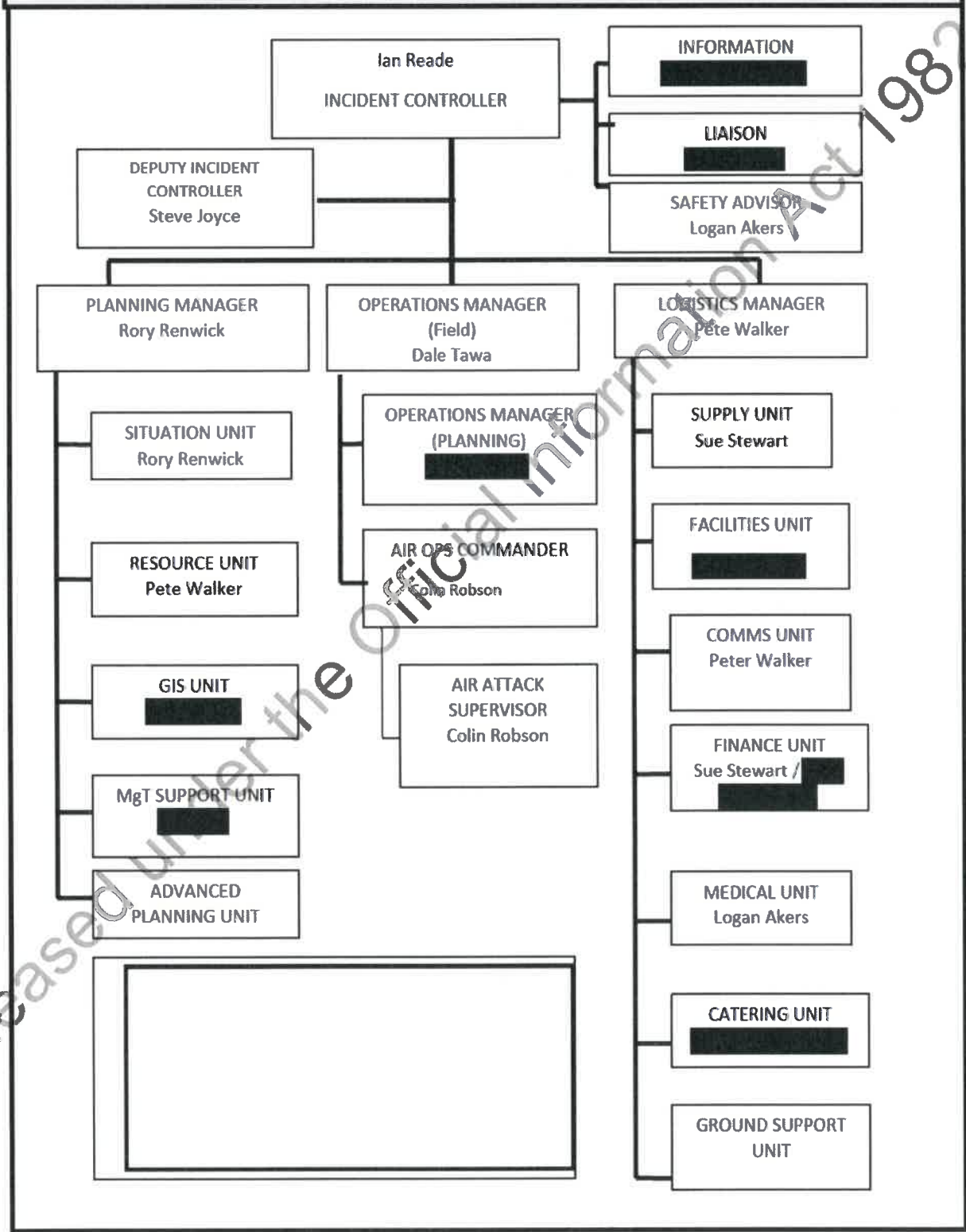


Makara Fire, Chatham Island.  
Shift period: 7<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	██████		Doc 5
Dep Ops / Dep Plan Manager	██████	██████		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	Colin Robinson	██████		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>
<b>6. Other (e.g. email, Satphone, etc)</b>				
<i>Began unit available for internet and phone redundancy</i>				
<b>7. Prepared by:</b> <i>Peter Walker</i>				

Released under the Official Information Act 1982



## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with Jamie

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

Released under the Official Information Act 1982



## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watchouts
<p>L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)</p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

*Fatigue – Crew Boss to monitor*  
*Slips and Falls – Crew briefings*  
*Air Operations – Crew briefings, pilots and Air Ops monitoring*  
*Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)*  
*Driving – All personnel briefed*  
*Dust – Air Crews advised – ground crews supplied PPE and monitor*  
*Fuels and Foam – Correct handling and storage – crews briefed*  
*Poor communications – particularly Alpha and Sierra – air ops to monitor radio*  
*PLB – RCCNZ notified of Chatham Islands activity*  
*Peat Bog – ground crews briefed*  
*Livestock / Bees – Ground crews briefed*  
*Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored*

### 5. Prepared By:

Logan Akers



## SECTOR ASSIGNMENT

<b>3. Sector</b> <i>Alpha</i>	<b>4. Description</b> Direct attack on the Western Flank	<b>5. Division Assigned</b>			
<b>6. Sector Supervisor</b> Dale Tawa	<b>Affiliation</b> FENZ	<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC5		
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
Wellington	[REDACTED]	+5	Van	0800	1800
Hutt	[REDACTED]	5		0800	1800
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>Hutt Crew working in southern part of sector under canopy</li> <li>Wellington working in central part of sector under canopy</li> <li>Continuation of perimeter containment</li> <li>Establish drop points and GPS</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Home safe</li> </ul>					
<b>9. Sector Communications</b>				<i>Phone</i>	<i>Radio Ch</i>
Operations Manager	[REDACTED]				DOC5
Air Attack Supervisor	Colin Robinson				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b>		Dale Tawa			

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SECTOR ASSIGNMENT					
<b>3. Sector</b> <i>Zulu</i>		<b>4. Description</b> Eastern Flank		<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>					
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop off Point/time</b>	<b>Pickup Point/time</b>
<i>DOC Crew</i>	<i>Binney</i>	<i>3</i>	<i>2x2 Seater LUV</i>		
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (tasking the same as Sierra) in event of increased fire activity</li> <li>• Awatapu land owners operating in southern part of Zulu sector</li> <li>• DOC to GPS track access from existing fire break in western sector to high point feature 205 in grid square 9322</li> <li>• DOC identify suitable Drop Points within fireground and clear Heli pads if required and provide co-ordinates.</li> <li>• DOC to route mark all access for LUV within fireground boundaries and map.</li> </ul>					
<b>9. Sector Communications:</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager	[REDACTED]				<i>DOC5</i>
Air Attack Supervisor	Colin Robinson				<i>Fire 4</i>
Safety Officer	Logan Akers				<i>DOC5</i>
<b>10. Prepared By:</b> <i>Dale Tawa</i>					

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SECTOR ASSIGNMENT					
<b>3. Sector</b> <i>Sierra</i>		<b>4. Description</b> Northern Perimeter of Fire			<b>5. Division Assigned</b>
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>					
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop-off Point/time</b>	<b>Pickup Point/time</b>
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>Continuation of perimeter containment to a width of 10 meters</li> <li>Establish drop points and provide details to GIS (Dave Carlton)</li> <li>Develop ground access and provide details to GIS (Dave Carlton)</li> <li>Maintain reporting schedules</li> <li>Provide recommendations to Operations for future tasking and resourcing NLT 1300hrs</li> <li>Redeployment to other sectors determined by fire behaviour</li> <li>Home safe</li> <li>Trigger point activation will require reassignment following predetermined response plan</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.		[REDACTED]			DOC5
Air Attack Supervisor		Colin Robinson			Fire 4
Safety Officer		Logan Akers			DOC5
<b>10. Prepared By:</b>		Dale Tawa			

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>			<b>5. Division Assigned</b>
		Predetermined Contingency Response Plan			
Dale Tawa		FENZ			DOC 5
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews		2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
Resources to redeploy as above in the event of fire escape					
<ul style="list-style-type: none"> <li>Breach of trigger point 1 requires withdrawal of ground crews and redeployment towards structure protection</li> </ul>					
WAITANGI OWENGA ROAD EVACUATION DETAIL.					
Trigger Point 1.					
Allowing 10L foam concentrate / property starting nearest breach and on the south side of the road, ignoring 2 X undefendable identified properties					
1420 – behind 2 fire breaks – protect only if fire crosses first fire break.					
1028 – defendable grass surround					
834 – wet grass area behind sheds if owner is unable to harrow/mulch ground					
798 – HIGH RISK – Do not commit crews – Foam dump from air.					
756 - defendable grass surround					
Trigger Point 2.					
Chatham Island Urban respond to Power Station					
1 Helo to defend Generators					
1 Helo to protect transmission lines					
Ground crews redirected to Kopinga with Fulton Hogan					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager					DOC5
Air Attack Supervisor	Colin Robinson				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b> Dale Tawa					

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Logan Akers		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews		2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<b>Injury Accident Contingency</b> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul>					
<b>Aircraft Incident Contingency</b> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager					DOC5
Air Attack Supervisor	Colin Robinson				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b>		Logan AKers			

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## MEDICAL PLAN

3. First Aid Station			
Name	Location	Phone/Radio Channel	Paramedics available at Station
Point 106	Staging	DOC 5	First Aiders
Crew Leaders	Alpha Sector	DOC 5	First Aiders

4. Transportation			
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance
Air Operations ( Emergency Evac only)			
St John Ambulance	1 Hospital Road		Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals						
Heli			Travel Time		Burn	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chathams Medical Centre	1 Hospital Road		20 min	10 min	No	No

**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
 Life Flight dispatched from Wellington  
 Check with Chathams Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:     Advise Logistics Manager

**7. Prepared by Logistics Manager / Safety Officer: ]**     Logan Akers

**8. Reviewed by Incident Controller:**

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Makara Fire Chatham Island.  
Shift period 7 Feb 2018 0800-2000

## WEATHER AND FIRE BEHAVIOUR PREDICTION

	Temp	RH	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75%scured m/hr	Scrub EROS m/hr
Wednesday Morning	7/02/2018 4:00		30	WSW	70	2.7	200	564
Wednesday afternoon	7/02/2018 16:00	65	26	W	85	7.8	650	1950
Thursday Morning	8/02/2018 4:00		15	WSW	70	1.6	Negligible	Negligible
Thursday afternoon	8/02/2018 16:00	60	15	WSW	85	4.5	168	1060
Friday Morning	8/02/2018 4:00		10	SW	70	1	Negligible	Negligible
Friday afternoon	8/02/2018 16:00	60	15	SW	85	4.5	168	1060

Prepared By: Rory Renwick

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**Updated forecast – 6 February 4:00 pm NZDT**

**Through to midnight Tuesday:**

- Wind SW to WSW. Sustained wind speeds 30-40 km/h with gusts to 60 km/h through to 8 pm, thereafter easing to 20-35 km/h with gusts up to 50 km/h.
- Temperature falling to near 11 degrees by midnight.
- Humidity decreasing from 90-95% to near 70%, before increasing again after sunset to near 85% by midnight.
- An odd shower possible. Rainfall, if any, less than 2 mm.

**Wednesday (midnight to midnight):**

- Sustained winds W to SW through to sunrise, tending more SW'ly after sunrise. Sustained at 20-30 km/h, with gusts up to 50 km/h to near 6 pm, easing to 10-25 km/h with gusts to 35 km/h after 6 pm.
- Early morning minimum temperature 11 degrees, increasing to near 20 degrees in the afternoon.
- Early morning maximum humidity near 90%, falling to 65% in the afternoon, then returning to near 90% by midnight.
- Slight chance of a shower, otherwise dry. Any rainfall less than 2 mm.

**Thursday (midnight to midnight):**

- Wind S to SW tending more S'ly near 6 am, then WSW to WNW from near midday to near 6 pm, thereafter becoming NNW to NE through to midnight. Sustained winds 20 km/h or less, with gusts to 35 km/h.
- Early morning minimum temperature 11-12 degrees, increasing to 20-21 degrees in the afternoon.
- Early morning maximum humidity near 85-90%, falling to 60% in the afternoon.
- Slight chance of a shower, otherwise dry. Any rainfall less than 2 mm.

**Outlook for Friday**

- Winds N to NW, sustained 25 km/h or less,
- Maximum temperatures 22-23 degrees.
- Minimum relative humidity to 60%.
- Dry to mainly dry weather expected.

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## Incident Action Plan



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
<i>Ian Reade</i>		

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## SITUATION REPORT

<b>3. Location</b> <i>South Western end Chatham Island</i>	<b>4. Vegetation</b> <i>Taneora Scrub / peat /</i>	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> <p>Vegetation in Tarahina scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fireground. No further fire spread was experienced during Saturday Sunday. On Monday 4<sup>th</sup> and Wednesday the 5<sup>th</sup> there were a few flare ups near the perimeter but crews and helicopters were able to contain these.</p>		
<b>7. Action taken</b> <p>Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.</p> <p>Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.</p> <p>Main focus of ground crews has been Sierra sector and northern Edge of Alpha.</p> <p>Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter, focussing on the currently inaccessible areas along the cliff face in Zulu.</p> <p>A local crew has done considerable mopping up around structures at the southern end of Zulu, and have been provided with some PPE and communications so they can call for assistance in the event of an incident.</p> <p>Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management.</p>		
<b>8. Factors</b> <p>Access around fireground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.</p> <p>Obtaining resources that are not available on the island will take 2-4 days to arrive.</p> <p>Weather – See separate weather / fire behaviour predictions at back of IAP.</p>		
<b>9. Predicted Incident Development</b> <p>There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.</p>		
<b>10. Prepared by:</b> RORY RENWICK		

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by the 12th February. Secure perimeter being defined as:

- Targeted extinguishment of all burning material within 10-30m of perimeter that can be detected from a helicopter or drone by thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air.

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Direct attack with ground crews and aircraft

Establish ground access to centre of fire for LUVs and 4x4

Establish landing zones for crew access by helicopter

Map hotspots with thermal camera from helicopter.

Maintain at least two NZ crews and one helicopter on island until Sierra is secure and good access has been established to all area.

5. Prepared by: Rory Renwick

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## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	<i>Ian Reade</i>	██████		Doc 5
Deputy IC	<i>Steve Joyce</i>	██████		Doc 5
Information Officer	██████████	██████		Doc 5
Safety Officer	<i>Logan Akers</i>	██████		Doc 5
Liaison Officer	██████████	██████		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Doc 5
Agency	MCDEM	██████		
Agency	Enterprise Trust	██████		
Agency				
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	<i>Rory Renwick</i>	██████		Doc 5
Situations Unit	<i>Rory Renwick</i>			
Resources Unit	<i>Pete Walker</i>	██████		Doc 5
Management Support Unit	██████████	██████		Doc 5
Information Unit				
Technical Specialists Unit				
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	<i>Pete Walker</i>	██████		Doc 5
Supply Unit	<i>Sue Stewart (NZ based)</i>		██████	
Catering Unit	██████████	██████		Doc 5
Facilities Unit	██████████			
Finance Unit	██████████ <i>Sue Stewart</i>	██████	██████	
Communications Unit	<i>Peter Walker</i>			
Medical Unit	<i>Logan Akers</i>	██████		Doc 5

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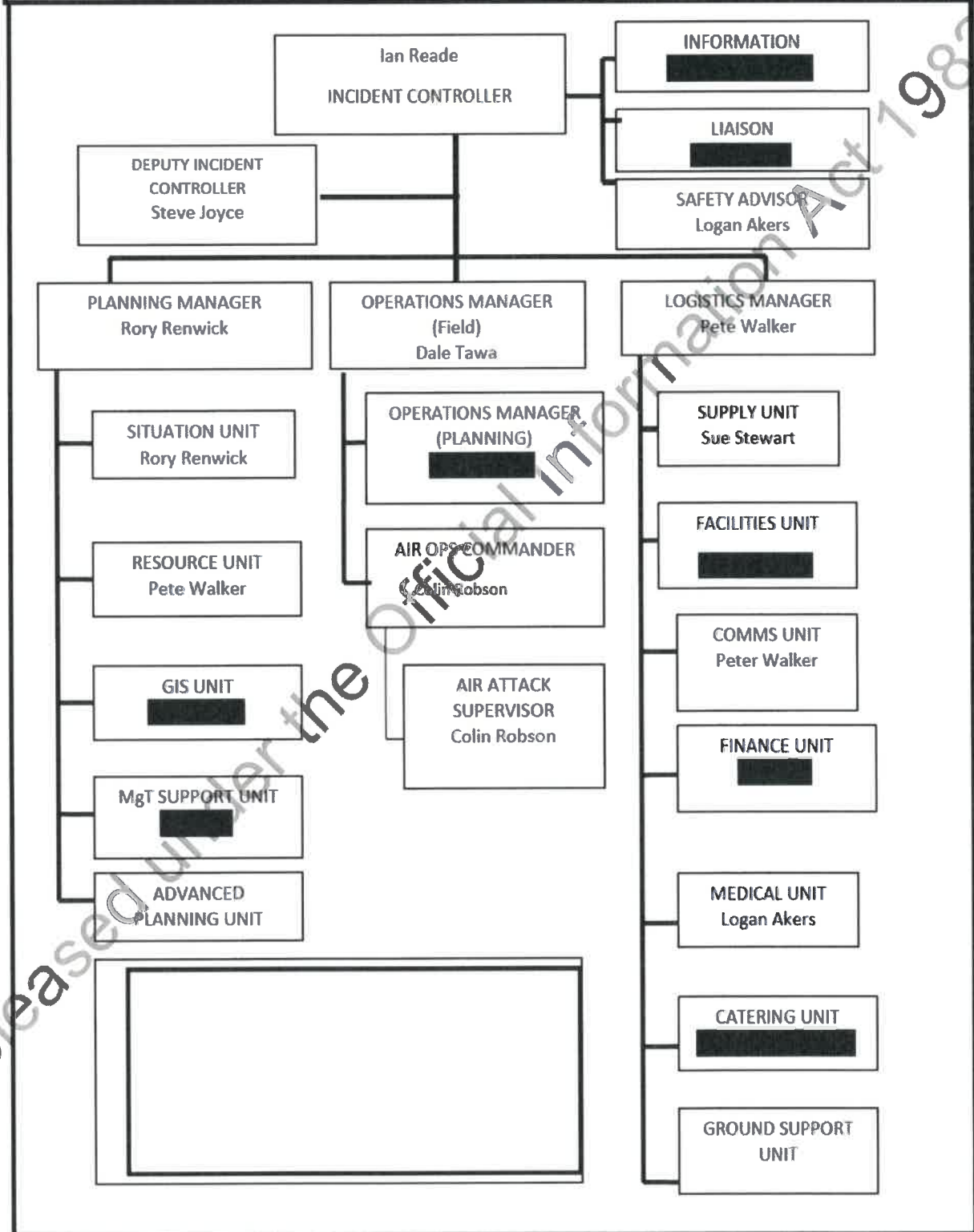


Makara Fire, Chatham Island.  
Shift period: 8<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	[REDACTED]		Doc 5
Dep Ops / Dep Plan Manager	[REDACTED]	[REDACTED]		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	Colin Robinson	[REDACTED]		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>
<b>6. Other (e.g. email, Satphone, etc)</b>				
<i>Began unit available for internet and phone redundancy</i>				
FENZ SAT Phone				
<b>7. Prepared by:</b> <i>Peter Walker</i>				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards

Power lines West on Owenga Road. Small Cessna fixed wing operating from airport from ████ Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

Prepared By: Colin Robson



<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<p style="text-align: center;"><b>LACES</b></p> <p>L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)</p>	<p style="text-align: center;"><b>Fire Orders</b></p> <ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<p style="text-align: center;"><b>Watchouts</b></p> <ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p><i>Fatigue – Crew Boss to monitor</i></p> <p><i>Slips and Falls – Crew briefings</i></p> <p><i>Air Operations – Crew briefings, pilots and Air Ops monitoring</i></p> <p><i>Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)</i></p> <p><i>Driving – All personnel briefed</i></p> <p><i>Dust – Air Crews advised – ground crews supplied PPE and monitor</i></p> <p><i>Fuels and Foam – Correct handling and storage – crews briefed</i></p> <p><i>Poor communications – particularly Alpha and Sierra – air ops to monitor radio</i></p> <p><i>PLB – RCCNZ notified of Chatham Islands activity</i></p> <p><i>Peat Bog – ground crews briefed</i></p> <p><i>Livestock / Bees – Ground crews briefed</i></p> <p><i>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</i></p> <p><i>Off road driving – restricted to DOC and other qualified personnel.</i></p>		
<b>5. Prepared By:</b>		Logan Akers

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Makara Fire, Chatham Island.  
Shift period: 8<sup>th</sup> Feb 2018 0800-2000

## SECTOR ASSIGNMENT

<b>3. Sector</b> <i>Alpha</i>	<b>4. Description</b> Direct attack on the Western Flank	<b>5. Division Assigned</b>			
<b>6. Sector Supervisor</b> Dale Tawa	<b>Affiliation</b> FENZ	<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5		
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
Wellington	[REDACTED]	+5	Van	0800	1800
Hutt	[REDACTED]	5		0800	1800
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>• Hutt Crew working in southern part of sector under canopy</li> <li>• Wellington working in central part of sector under canopy</li> <li>• Continuation of perimeter containment</li> <li>• Establish drop points and GPS</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules</li> <li>• Re-deployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> </ul>					
<b>9. Sector Communications</b>				<i>Phone</i>	<i>Radio Ch</i>
Operations Manager:	[REDACTED]				DOC5
Air Attack Supervisor:	Colin Robinson				Fire 4
Safety Officer:	Logan Akers				DOC5
<b>10. Prepared By:</b>		Dale Tawa			

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SECTOR ASSIGNMENT					
<b>3. Sector</b> Zulu		<b>4. Description</b> Eastern Flank			<b>5. Division Assigned</b>
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>					
<b>Resource/Crew</b> DOC Crew		<b>Leader</b> Binney	<b># Persons</b> 3	<b>Transport Required</b> 2x2 Seater LUV	<b>Drop Off Point/time</b>
<b>Pickup Point/time</b>					
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (tasking the same as Sierra) in event of increased fire activity</li> <li>• Awatapu land owners operating in southern part of Zulu sector</li> <li>• DOC to GPS track access from existing fire break in western sector to high point feature 205 in grid square 9922</li> <li>• DOC identify suitable Drop Points within fireground and clear Heli pads if required and provide co-ordinates.</li> <li>• DOC to route mark all access for LUV within fireground boundaries and map.</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager		[REDACTED]			DOC5
Air Attack Supervisor		Colin Robinson			Fire 4
Safety Officer		Logan Akers			DOC5
<b>10. Prepared By:</b> Dale Tawa					

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SECTOR ASSIGNMENT						
<b>3. Sector</b> <i>Sierra</i>		<b>4. Description</b> Northern Perimeter of Fire			<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5	
<b>7. Resources Assigned this period</b>						
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>	
<b>8. Sector Assignment / Special Instructions</b>						
<ul style="list-style-type: none"> <li>Continuation of perimeter containment to a width of 10 meters</li> <li>Establish drop points and provide details to GIS ([REDACTED])</li> <li>Develop ground access and provide details to GIS ([REDACTED])</li> <li>Maintain reporting schedules</li> <li>Provide recommendations to Operations for future tasking and resourcing NLT 1300hrs</li> <li>Redeployment to other sectors determined by fire behaviour</li> <li>Home safe</li> <li>Trigger point activation will require reassignment following predetermined response plan</li> </ul>						
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager.		[REDACTED]			DOC5	
Air Attack Supervisor		Colin Robinson			Fire 4	
Safety Officer		Logan Akers			DOC5	
<b>10. Prepared By:</b>		<i>Dale Tawa</i>				

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Predetermined Contingency Response Plan			
Dale Tawa		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews		2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
Resources to redeploy as above in the event of fire escape					
<ul style="list-style-type: none"> <li>Breach of trigger point 1 requires withdrawal of ground crews and redeployment towards structure protection</li> </ul>					
WAITANGI OWENGA ROAD EVACUATION DETAIL.					
Trigger Point 1.					
Allowing 10L foam concentrate / property starting nearest breach and on the south side of the road, ignoring 2 X un-defendable identified properties 1420 – behind 2 fire breaks – protect only if fire crosses first fire break. 1028 – defendable grass surround 834 – wet grass area behind sheds if owner is unable to harrow/mulch ground 798 – HIGH RISK – Do not commit crews – Foam dump from air. 756 - defendable grass surround					
Trigger Point 2.					
Chatham Island Urban respond to Power Station 1 Helo to defend Generators 1 Helo to protect transmission lines Ground crews redirected to Kopinga with Fulton Hogan					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager				DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Logan Akers			DOC5	
<b>10. Prepared By:</b> Dale Tawa					

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Logan Akers		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews		2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<b>Injury Accident Contingency</b> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul>					
<b>Aircraft Incident Contingency</b> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager					DOC5
Air Attack Supervisor	Colin Robinson				Fire 4
Safety Officer	Logan Akers				DOC5
<b>10. Prepared By:</b>		Logan AKers			

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MEDICAL PLAN						
<b>3. First Aid Station</b>						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
<b>4. Transportation</b>						
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations ( Emergency Evac only)						
St John Ambulance	1 Hospital Road	██████████	Yes			
WestPac Rescue			Yes			
Life Flight						
<b>5. Hospitals</b>						
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chathams Medical Centre	1 Hospital Road	██████████	20 min	10 min	No	No
<b>6. Special Emergency Procedures</b>						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chathams Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>						
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b> Logan Akers						
<b>8. Reviewed by Incident Controller:</b>						

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Makara Fire Chatham Island.  
Shift period 8 Feb 2018 0800-2000

**WEATHER AND FIRE BEHAVIOUR PREDICTION**

	Temp	RH	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Thursday Morning	8/02/2018 4:00		15	SE	70	1.6	Negligible	Negligible
Thursday afternoon	8/02/2018 16:00	60	15	SE	82.5	4.5	160	650
Friday Morning	9/02/2018 4:00		10	E	78	1.6	Negligible	268
Friday afternoon	9/02/2018 16:00	60	15	NE	85	4.5	168	1060
Saturday Morning	10/02/2018 4:00		15	NE	80	2.4	100	487
Saturday afternoon	10/02/2018 16:00	60	20	NE	86	6.9	511	1650

Prepared By: Rory Renwick

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**Updated forecast – 7 February 4:00 pm NZDT**

**Rest of Wednesday (through to midnight):**

- Winds SW 10-25 km/h easing to 10-25 km/h with gusts to 35 km/h.
- Temperature falling to near 14°C by midnight
- Relative humidity increasing to 85-90% by midnight.
- Slight chance of a shower, otherwise dry. Rainfall, if any, less than 2 mm.

**Thursday (midnight to midnight):**

- Wind backing with time from SW before sunrise, to S by midday, then S to SE by 3 pm, to ENE by 6 pm. Sustained winds 20 km/h or less, with gusts to 35 km/h, with gusts to 25 km/h after midday.
- Early morning minimum temperature 12-13 degrees, increasing to 21-22 degrees in the afternoon.
- Early morning maximum humidity near 90%, falling to 70% in the afternoon, then increasing to 90-95% by midnight.
- Slight chance of a shower, otherwise dry. Rainfall, if any, less than 2 mm.

**Friday (midnight to midnight):**

- E to NE before sunrise, becoming NE to NNE after sunrise at 10-25 km/h, gusts up to 35 km/h, highest gusts in the afternoon.
- Early morning minimum temperature 13-14 degrees, increasing to 21-22 degrees in the afternoon.
- Early morning maximum humidity near 95%, falling to 65% in the afternoon, then increasing to near 90% by midnight.
- Dry to mainly dry weather expected.

**Outlook for Saturday:**

- Winds N to NE, sustained 15-30 km/h.
- Maximum temperatures 22-23 degrees.
- Minimum relative humidity to 65-70%.
- Dry to mainly dry weather expected.

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## Incident Action Plan



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
John Reade		

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## SITUATION REPORT

<b>3. Location</b> <i>South Western end Chatham Island</i>	<b>4. Vegetation</b> <i>Taneora Scrub / peat /</i>	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b>		
<p>Vegetation in Tarahinau scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fireground. No further fire spread was experienced during Saturday Sunday. On Monday 4<sup>th</sup> and Wednesday the 5<sup>th</sup> there were a few flare ups near the perimeter but crews and helicopters were able to contain these. Thermal flights on Wednesday- Thursday saw numerous small hot spots on or near the perimeter on Sierra and some larger hot areas in other sectors.</p>		
<b>7. Action taken</b>		
<p>Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.</p> <p>Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.</p> <p>Main focus of ground crews has been Sierra sector and northern Edge of Alpha.</p> <p>Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter, focussing on the currently inaccessible areas along the cliff face in Zulu.</p> <p>A local crew has done considerable mopping up around structures at the southern end of Zulu, and have been provided with some PPE, and communications so they can call for assistance in the event of an incident.</p> <p>Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management.</p>		
<b>8. Factors</b>		
<p>Access around fireground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.</p> <p>Obtaining resources that are not available on the island will take 2-4 days to arrive.</p> <p>Weather – See separate weather / fire behaviour predictions at back of IAP.</p> <p>Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.</p>		
<b>9. Predicted Incident Development</b>		
<p>There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.</p>		

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10. Prepared by: RORY RENWICK

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 20m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 20m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 20m of perimeter that can be detected from a helicopter or drone by thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Rory Renwick

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ORGANISATION LIST				
<b>3. Incident Control</b>		Phone	Cell Phone	Radio Ch
Incident Controller	Ian Reade	██████		Doc 5
Deputy IC	Steve Joyce	██████		Doc 5
Information Officer	██████████	██████		Doc 5
Safety Officer	Logan Akers	██████		Doc 5
Liaison Officer	██████████	██████		Doc 5
<b>4. Agency Representative</b>		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Doc 5
Agency	MCDEM	██████		
Agency	Enterprise Trust	██████		
Agency				
<b>5. Planning/Intel Section</b>		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Rory Renwick	██████		Doc 5
Situations Unit	Rory Renwick			
Resources Unit	Pete Walker	██████		Doc 5
Management Support Unit	██████████	██████		Doc 5
Information Unit				
Technical Specialists Unit				
<b>6. Logistics Section</b>		Phone	Cell Phone	Radio Ch
Logistics Manager	Pete Walker	██████		Doc 5
Supply Unit	Sue Stewart (NZ based)		██████	
Catering Unit	██████████	██████		Doc 5
Facilities Unit	██████████			
Finance Unit	██████████ Sue Stewart	██████	██████	
Communications Unit	Peter Walker			
Medical Unit	Logan Akers	██████		Doc 5

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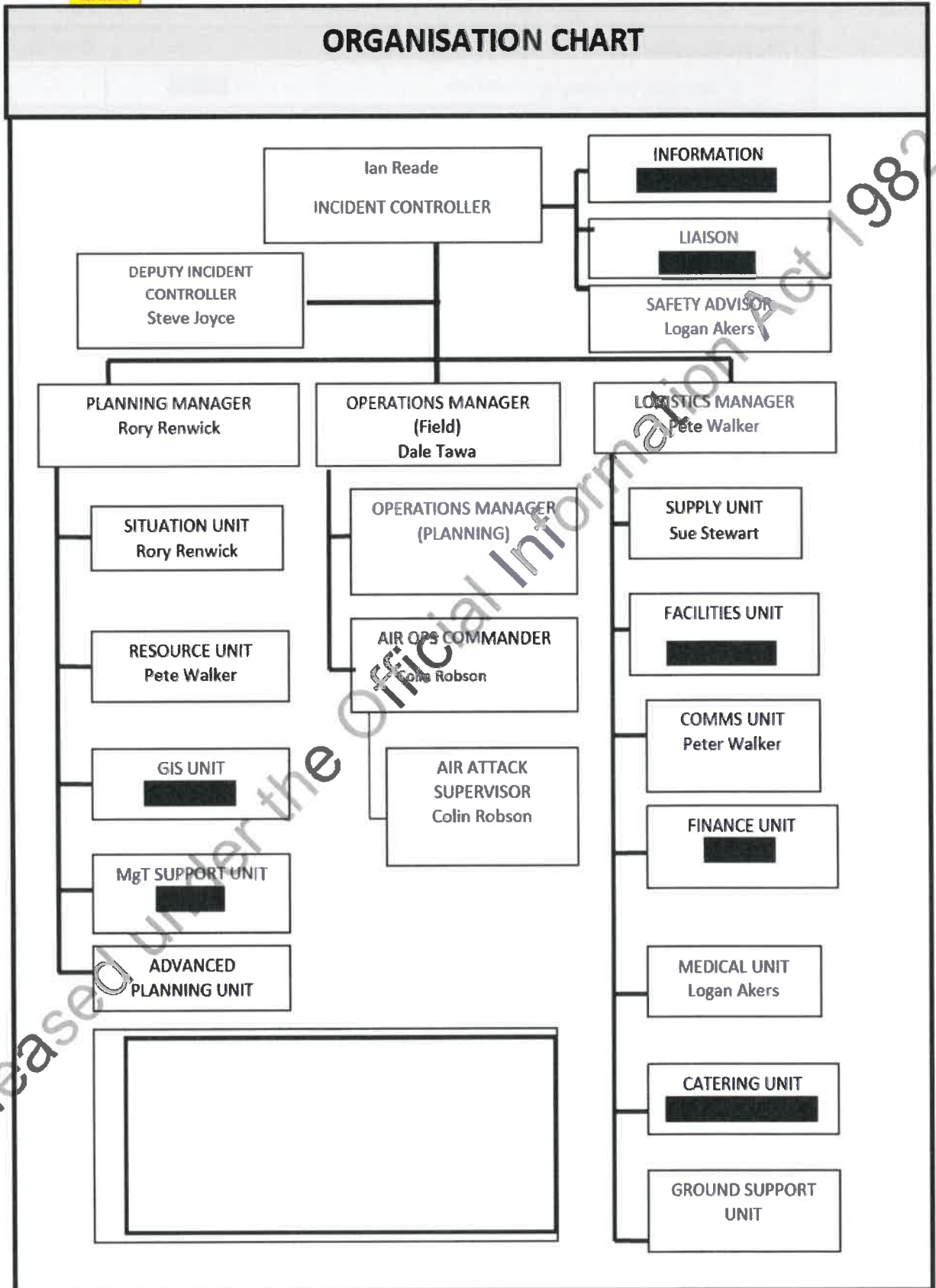


Makara Fire, Chatham Island.  
Shift period: 9<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	██████		Doc 5
Dep Ops / Dep Plan Manager		██████		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	Colin Robinson	██████		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

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## ORGANISATION CHART



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<b>COMMUNICATIONS PLAN</b>				
<b>3. Radio Channels</b>				
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>
<b>6. Other (e.g. email, Satphone, etc)</b>				
<i>Began unit available for internet and phone redundancy</i>				
FENZ SAT Phone				
<b>7. Prepared by:</b> <i>Peter Walker</i>				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chathams staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watchouts</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p><i>Fatigue – Crew Boss to monitor</i></p> <p><i>Slips and Falls – Crew briefings</i></p> <p><i>Air Operations – Crew briefings, pilots and Air Ops monitoring</i></p> <p><i>Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)</i></p> <p><i>Driving – All personnel briefed</i></p> <p><i>Dust – Air Crews advised – ground crews supplied PPE and monitor</i></p> <p><i>Fuels and Foam – Correct handling and storage – crews briefed</i></p> <p><i>Poor communications – particularly Alpha and Sierra – air ops to monitor radio</i></p> <p><i>PLB – RCCNZ notified of Chatham Islands activity</i></p> <p><i>Peat Bog – ground crews briefed</i></p> <p><i>Livestock / Bees – Ground crews briefed</i></p> <p><i>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</i></p> <p><i>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</i></p>		
<b>5. Prepared By:</b>		<i>Logan Akers</i>

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## SECTOR ASSIGNMENT

<b>3. Sector</b> <i>Alpha</i>	<b>4. Description</b> Direct attack on the Western Flank	<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> Dale Tawa	<b>Affiliation</b> FENZ	<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>			
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>
Wellington	[REDACTED]	+5	Van
Hutt	[REDACTED]	5	0300
			<b>Drop-off Point/time</b> 0800
			<b>Pickup Point/time</b> 1800
<b>8. Sector Assignment / Special Instructions</b>			
<ul style="list-style-type: none"> <li>• Hutt Crew working in southern part of sector under canopy</li> <li>• Wellington working in central part of sector under canopy</li> <li>• Continuation of perimeter containment</li> <li>• Establish drop points and GPS</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules</li> <li>• Re-deployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> </ul>			
<b>9. Sector Communications</b>		<b>Phone</b>	<b>Radio Ch</b>
Operations Manager	<i>Dale Tawa</i>		DOC5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Logan Akers		DOC5
<b>10. Prepared By:</b>		<i>Dale Tawa</i>	

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SECTOR ASSIGNMENT					
<b>3. Sector</b> <i>Zulu</i>		<b>4. Description</b> Eastern Flank		<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>					
<b>Resource/Crew</b> <i>DOC Crew</i>	<b>Leader</b> [REDACTED]	<b># Persons</b> 3	<b>Transport Required</b> 2x2 Seater LUV	<b>Drop-off Point/time</b>	<b>Pickup Point/time</b>
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (tasking the same as Sierra) in event of increased fire activity</li> <li>• Awatapu land owners operating in southern part of Zulu sector</li> <li>• DOC to GPS track access from existing fire break in western sector to high point feature 205 in grid square 9322</li> <li>• DOC identify suitable Drop Points within fireground and clear Heli pads if required and provide co-ordinates.</li> <li>• DOC to route mark all access for LUV within fireground boundaries and map.</li> </ul>					
<b>9. Sector Communications:</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager		<i>Dale Tawa</i>			<i>DOC5</i>
Air Attack Supervisor		Colin Robinson			Fire 4
Safety Officer		Logan Akers			DOC5
<b>10. Prepared By:</b> <i>Dale Tawa</i>					

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SECTOR ASSIGNMENT					
<b>3. Sector</b> <i>Sierra</i>		<b>4. Description</b> Northern Perimeter of Fire			<b>5. Division Assigned</b>
<b>6. Sector Supervisor</b> Dale Tawa		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> DOC 5
<b>7. Resources Assigned this period</b>					
<i>Resource/Crew</i>	<i>Leader</i>	<i># Persons</i>	<i>Transport Required</i>	<i>Drop-off Point/time</i>	<i>Pickup Point/time</i>
<b>8. Sector Assignment / Special Instructions</b>					
<ul style="list-style-type: none"> <li>Continuation of perimeter containment to a width of 10 meters</li> <li>Establish drop points and provide details to GIS [REDACTED]</li> <li>Develop ground access and provide details to GIS [REDACTED]</li> <li>Maintain reporting schedules</li> <li>Provide recommendations to Operations for future tasking and resourcing NLT 1300hrs</li> <li>Redeployment to other sectors determined by fire behaviour</li> <li>Home safe</li> <li>Trigger point activation will require reassignment following predetermined response plan</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.		Dale Tawa			DOC5
Air Attack Supervisor		Colin Robinson			Fire 4
Safety Officer		Logan Akers			DOC5
<b>10. Prepared By:</b>		Dale Tawa			

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Logan Akers		FENZ		3050033 DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Dale Tawa	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<b>Injury Accident Contingency</b> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul>					
<b>Aircraft Incident Contingency</b> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Dale Tawa			DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Logan Akers			DOC5	
<b>10. Prepared By:</b>			Logan AKers		

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	DOC 5	First Aiders				
Crew Leaders	Alpha Sector	DOC 5	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
Heli	Hospital Name	Address	Phone	Travel Time		Burn	
	Chathams Medical Centre	1 Hospital Road		Road 20 min	Air 10 min	Unit No	Pad No
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chathams Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:     Advise Logistics Manager</p>							
<b>7. Prepared by Logistics</b>							
Manager / Safety Officer: ]     Logan Akers							
<b>8. Reviewed by Incident</b>							
Controller:							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Friday	9/02 16:00	22	60	0	18	NE	85	4.5	350	1260
Saturday	10/02 16:00	23	60	0	26	NE	85	7.8	650	1950
Sunday	11/02 1600	20	79	12	37	NE	56	2.1	Negligible	370

**Prepared By:** *Rory Renwick*

Updated forecast – 8 February 4:15 pm NZDT

**Friday (midnight to midnight):**

- N to NE wind sustained 15 km/h or less to near 6 am, increasing to 10-20 km/h by midday and beyond. Gusts 30-35 km/h possible.
- Early morning minimum temperature 13-14 degrees, increasing to a maximum temperature of 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 65% in the afternoon, then increasing to near 90% by midnight.
- Slight chance of an evening shower, but any rainfall would be minimal.

**Saturday (midnight to midnight):**

- NE wind sustained 10-25 km/h, tending E-NE near/after midday and increasing to 15-30 km/h.
- Early morning minimum temperature 14-15, increasing to a maximum temperature 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 65-70% in the afternoon, then increasing to near 90% by midnight.
- Chance of a couple late-day showers, with amounts less than 3 mm.

**Outlook for Sunday:**

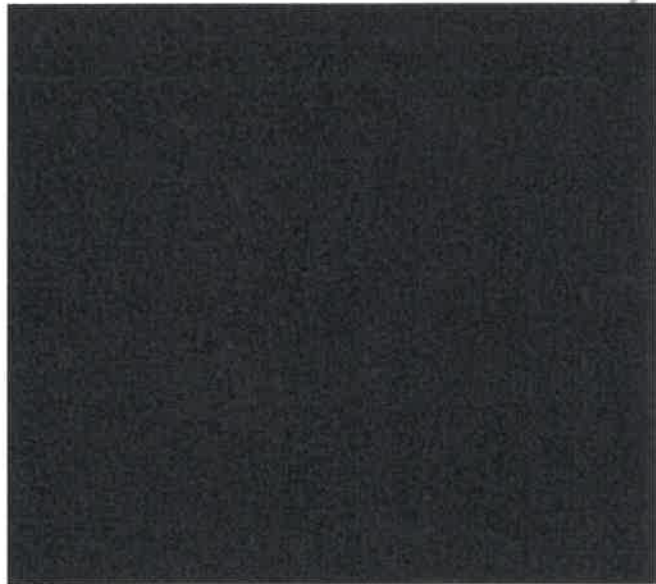
- NE wind sustained 25-40 km/h and gusts up to 50 km/h.
- Early morning minimum temperature 17-18, increasing to a maximum temperature 21-22 degrees.
- Maximum relative humidity 95-100% (largely, but not entirely, dependent on showers materialising).
- Threat for showers.

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### Incident Action Plan



1. Approved by Incident Controller:

Name	Signed	Date/Time
Ian Reade		

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## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. On Monday 4 <sup>th</sup> and Wednesday the 5 <sup>th</sup> there were a few flare ups near the perimeter but crews and helicopters were able to contain these. Thermal flights on Wednesday- Thursday saw numerous small hot spots on or near the perimeter on Sierra and some larger hot areas in other sectors.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour. Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures. Main focus of ground crews has been Sierra sector and northern Edge of Alpha. Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter focussing on the currently inaccessible areas along the cliff face in Zulu. A local crew has done considerable mopping up around structures at the southern end of Zulu, and have been provided with some PPE and communications so they can call for assistance in the event of an incident. Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management, and will be replaced by a regional team at the beginning of this shift.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.		
<b>10. Prepared by:</b> RORY RENWICK		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 20m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 20m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 20m of perimeter that can be detected from a helicopter or drone by thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Rory Renwick

Released under the Official Information Act 1982



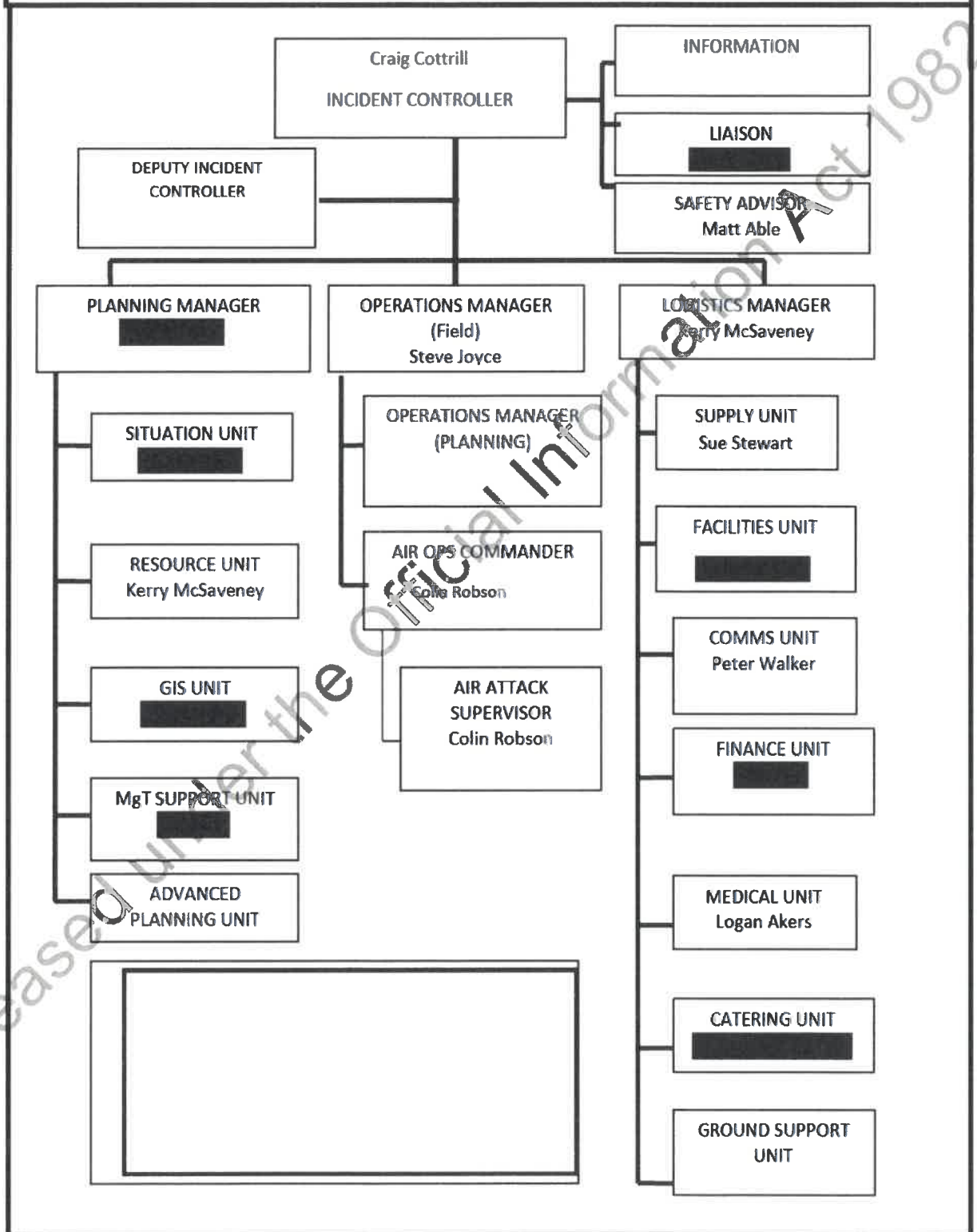
## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	██████		Doc 5
Safety Officer	Matt Able	██████		Doc 5
Liaison Officer	████████████████████	██████		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Doc 5
Agency	MCDEM	██████		
Agency	Enterprise Trust	██████		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	████████████████████	██████		Doc 5
Situations Unit	████████████████████			
Resources Unit	Kerry McSaveney	██████		Doc 5
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	██████		Doc 5
Supply Unit	Sue Stewart (NZ based)		██████	
Catering Unit	████████████████████	██████		Doc 5
Facilities Unit	████████████████████			
Finance Unit	████████████████████	██████	██████	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	██████		Doc 5
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Steve Joyce	██████		Doc 5
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	██████		Doc 5
8. Prepared by:	Rory Renwick			

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## ORGANISATION CHART





COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone		██████████		
<b>7. Prepared by:</b> Peter Walker				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A-Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Fatigue – Crew Boss to monitor  Slips and Falls – Crew briefings  Air Operations – Crew briefings, pilots and Air Ops monitoring  Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)  Driving – All personnel briefed  Dust – Air Crews advised – ground crews supplied PPE and monitor  Fuels and Foam – Correct handling and storage – crews briefed  Poor communications – particularly Alpha and Sierra – air ops to monitor radio  PLB – RCCNZ notified of Chatham Islands activity  Peat Bog – ground crews briefed  Livestock / Bees – Ground crews briefed  Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored  Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p>		
<b>5. Prepared By:</b>		Logan Akers

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## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Hutt	Jason Sarich	5
B			
C	Wellington	Bryan Sutton	5
D			
S			
Y			
Z			

- 8. Sector Assignment / Special Instructions**
- Dig hot areas down and out to cold earth and if available mix with water by poking nozzle right into the ground.
  - Continuation of extinguishment of all hot spots to a width of 20m from perimeter containment
  - Establish and GPS drop points
  - Develop and flag ground access
  - Maintain reporting schedules, on commencement of work and twice during each day.
  - Re-deployment to other sectors determined by fire behaviour
  - Return home safe

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5

**10. Prepared By:** Dale Tawa

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Able 5		FENZ		DOC	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Matt Able			DOC5	
<b>10. Prepared By:</b>			Logan Akers		



MEDICAL PLAN						
<b>3. First Aid Station</b>						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
<b>4. Transportation</b>						
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations ( Emergency Evac only)						
St John Ambulance	1 Hospital Road		Yes			
WestPac Rescue			Yes			
Life Flight						
<b>5. Hospitals</b>						
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>	
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No
<b>6. Special Emergency Procedures</b>						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's AT for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>						
<b>7. Prepared by Logistics</b>						
Manager / Safety Officer: ]		Logan Akers				
<b>8. Reviewed by Incident</b>						
Controller:						

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	10/02	21	65	0.2	21	NE	83	4.6	340	1108
Sunday	11/02	19	85	20	38	NE	46	2	Negligible	370
Monday	12/02	20	80	0.8	43	N	70	5	380	1341

Prepared By: **Rory Renwick**

Updated forecast – 9 February 4:10 pm NZDT

### Saturday (midnight to midnight):

- NE wind sustained 15-20 km/h in the morning, then tending NE to ENE in the afternoon and increasing to 20-30 km/h. Gusts to 40 km/h.
- Early morning minimum temperature 14-15, increasing to a maximum temperature of 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 75% in the afternoon, then increasing to near 95% by midnight.
- Showers developing in the afternoon and continuing into the evening. Rainfall of 10-15 mm possible by midnight.

### Sunday (midnight to midnight):

- ENE wind sustained 20-30 km/h in the morning, thereafter tending NE and increasing to 25-35 km/h. Gusts up to 50 km/h.
- Early morning minimum temperature 16-17 degrees, increasing to a maximum temperature of 21-22 degrees.
- Maximum relative humidity 95% early morning, decreasing to 75-80% in the afternoon, then increasing to near 100% by midnight.
- Threat for showers continues until midday, then clearing. Additional amounts of 5-10 mm possible.

### Outlook for Monday:

- NE wind sustained 25-45+ km/h, may tend N-NW late afternoon into the evening.
- Early morning minimum temperature 17-18, increasing to a maximum temperature 21-22 degrees.
- Maximum relative humidity 95-100%.
- Isolated showers possible.

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Makara Fire, Chatham Island.  
Shift period: 10<sup>th</sup> Feb 2018 0800-2000

# LOG

Time.	Action

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name

Signed

Date/Time

Craig Cottrill

10/2/18 20:00



Makara Fire, Chatham Island.  
Shift period: 11<sup>th</sup> Feb 2018 0600-2000

## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Tarehinau Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarahinau scrub (*Dracophyllum*) fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned out today, the second IMT is in place until about Friday of next week.

### 8. Factors

Access around fire-ground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

### 9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

### 10. Prepared by:

██████████

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

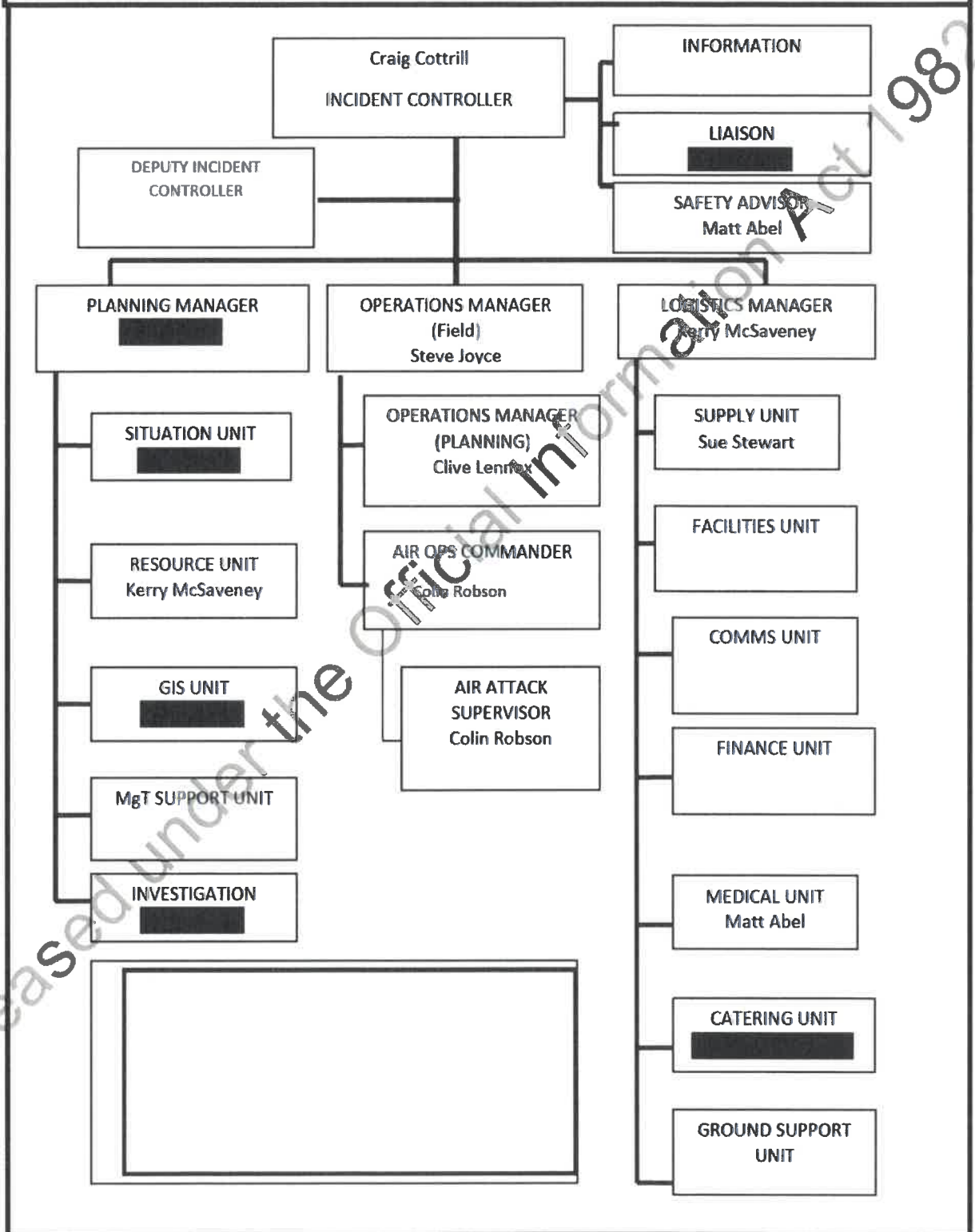
5. Prepared by: [REDACTED]

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ORGANISATION LIST			
<b>3. Incident Control</b>			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]	Doc 5
Safety Officer	Matt Able	[REDACTED]	Doc 5
Liaison Officer	[REDACTED]	[REDACTED]	Doc 5
<b>4. Agency Representative</b>			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	[REDACTED]	Doc 5
Agency	Chatham Islands Council	[REDACTED]	
Agency	Enterprise Trust	[REDACTED]	
<b>5. Planning/Intel Section</b>			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]	Doc 5
Situations Unit	[REDACTED]		
Resources Unit	Kerry McSaveney	[REDACTED]	Doc 5
<b>6. Logistics Section</b>			
		Phone	Cell Phone Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]	Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]
Catering Unit	[REDACTED]	[REDACTED]	Doc 5
Facilities Unit			
Finance Unit		[REDACTED]	[REDACTED]
Communications Unit	Kerry McSaveney		
Medical Unit	Matt Able	[REDACTED]	Doc 5
<b>7. Operations Section</b>			
Operations Manager	Steve Joyce	[REDACTED]	Doc 5
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	Colin Robinson	[REDACTED]	Doc 5
<b>8. Prepared by:</b>	Jamie Cowan		

## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone				
<b>7. Prepared by:</b> Kerry McSaveney				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel B3	IMR	Sectors A Z	Fire 4	
██████████ - Garden City		HGU	Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Crew boss and pilots to monitor - Rapid changes.</p> <p>Fatigue – Crew Boss to monitor with rest periods</p> <p>Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)</p> <p>Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring</p> <p>Driving – All personnel briefed</p> <p>Dust – Air Crews advised – ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage – crews briefed</p> <p>Poor communications – air ops to monitor radio, PLBs issued to crews</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Peat Bog – ground crews briefed and made aware of tomos</p> <p>Livestock- wild bulls and pigs</p> <p>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Chainsaw only to be operated by unit standard qualified personnel</p>		
<b>5. Prepared By:</b>		Matt Abel

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SECTOR ASSIGNMENT			
<b>6. Sector Supervisor</b>		<b>Affiliation</b>	<b>Phone</b>
Steve Joyce		FENZ	[REDACTED]
<b>Radio Ch</b>			
DOC5			
<b>7. Resource Allocation</b>			
Sector	Crew / Resource	Leader (s)	# Persons
A	Helos monitor		
B	Hutt	Jason Sarich	5
C	Wellington	Bryan Sutton	6
D			
S			
Y			
Z			
<b>8. Sector Assignment / Special Instructions</b>			
<ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>Establish and GPS drop points</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> </ul>			
<b>9. Sector Communications</b>		<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5
<b>10. Prepared By:</b>		Steve Joyce	

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> </ul> <p>Advice Incident Controller of aircraft incident.</p>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Matt Abel			DOC5	
<b>10. Prepared By:</b>		Matt Abel			



<b>MEDICAL PLAN</b>							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	DOC 5	First Aiders				
Crew Leaders	Alpha Sector	DOC 5	First Aiders				
<b>4. Transportation</b>							
Ambulance Service		Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations (Emergency Evac only)							
St John Ambulance		1 Hospital Road		Yes			
WestPac Rescue				Yes			
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>							
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b> Matt Able							
<b>8. Reviewed by Incident Controller:</b>							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Sunday	11/02	22	85	15	35	NE	50	1	Negligible	Negligible
Monday	12/02	22	80	10	40	NE-NW	46	1	Negligible	Negligible
Tuesday	13/02	23	80	5	35	WNW	42	1	Negligible	Negligible

Prepared By: [REDACTED]

### Updated forecast – 10 February 4:10 pm NZDT

#### Sunday (midnight to midnight):

- NE wind sustained 20-30 km/h in the morning, thereafter increasing to 25-35 km/h. Gusts up to 50 km/h.
- Early morning minimum temperature 17-18 degrees, increasing to a maximum temperature of 21-22 degrees.
- Maximum relative humidity near 100% early morning, decreasing to 85% in the afternoon, then increasing to near 100% by midnight.
- Threat for rain continues until midday, then clearing. Additional amounts of 10-15 mm possible.

#### Monday (midnight to midnight):

- NNE wind in the morning becoming NNW in the afternoon. Sustained winds 35-40 km/h with gusts up to 60 km/h.
- Early morning minimum temperature 17-18, increasing to a maximum temperature of 22 degrees.
- Early morning relative humidity of 95-100%, falling to 80% in the afternoon.
- Morning showers possible with rainfall up to 10 mm.

#### Outlook for Tuesday:

- NW wind becoming WNW at 25-35 km/h.
- Maximum temperature near 23 degrees.
- Minimum relative humidity near 80%.
- Early morning rain possible, then clearing.

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LOG	
Time.	Action

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		10/2/18 20:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarahinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau scrub (Dracophyllum) fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2 <sup>nd</sup> Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Siama, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3 <sup>rd</sup> Feb and transitioned on the 10 <sup>h</sup> . 2 <sup>nd</sup> IMT is in place until about Friday of next week.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.		
<b>10. Prepared by:</b> [REDACTED]		

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

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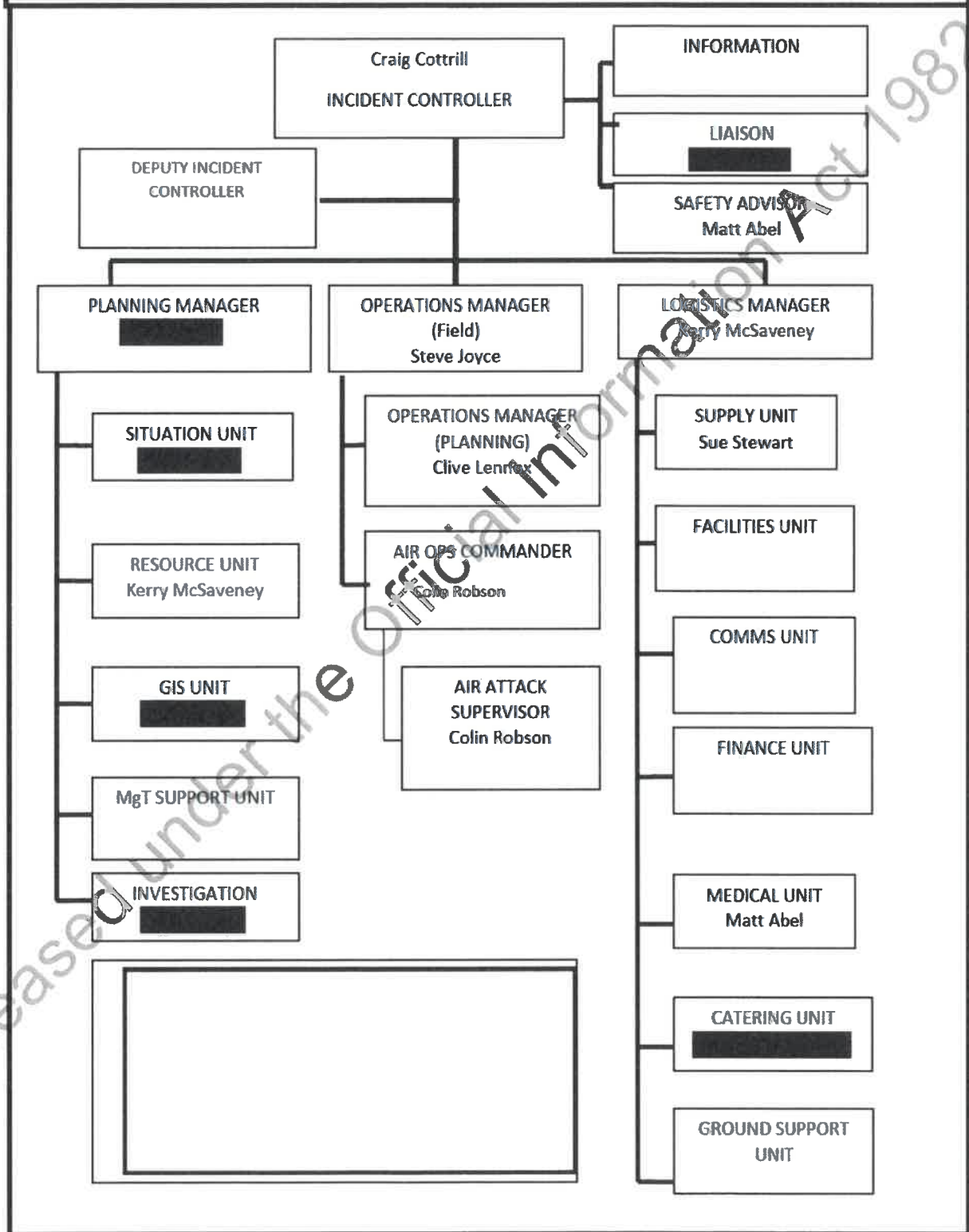


## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]		Doc 5
Safety Officer	Matt Able	[REDACTED]		Doc 6
Liaison Officer	[REDACTED]	[REDACTED]		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Doc 5
Agency	Chatham Islands Council	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]		Doc 5
Situations Unit	[REDACTED]			
Resources Unit	Kerry McSaveney	[REDACTED]		Doc 5
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]		Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]	
Catering Unit	[REDACTED]	[REDACTED]		Doc 5
Facilities Unit				
Finance Unit		[REDACTED]	[REDACTED]	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	[REDACTED]		Doc 5
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Steve Joyce	[REDACTED]		Doc 5
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	[REDACTED]		Doc 5
8. Prepared by:	[REDACTED]			

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone				
<b>7. Prepared by:</b> Kerry McSaveney				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A-Z	Fire 4	
██████ - Garden City		HGU	Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Crew boss and pilots to monitor - Rapid changes.</p> <p>Fatigue – Crew Boss to monitor with rest periods</p> <p>Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)</p> <p>Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring</p> <p>Driving – All personnel briefed</p> <p>Dust – Air Crews advised – ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage – crews briefed</p> <p>Poor communications – air ops to monitor radio, PLBs issued to crews</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Peat Bog – ground crews briefed and made aware of tomos</p> <p>Livestock- wild bulls and pigs</p> <p>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Chainsaw only to be operated by unit standard qualified personnel</p>		
<b>5. Prepared By:</b>		Matt Abel





## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Helos monitor		
B	Hutt	Jason Sarich	5
C	Wellington	Bryan Sutton	8
D			
S			
Y			
Z			

8. Sector Assignment / Special Instructions
<ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>Establish and GPS drop points</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> </ul>

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5

<b>10. Prepared By:</b>	Steve Joyce
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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> </ul> <p>Advice Incident Controller of aircraft incident.</p>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Matt Abel			DOC5	
<b>10. Prepared By:</b>			Matt Abel		

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Makara Fire, Chatham Island.  
Shift period: 12<sup>th</sup> Feb 2018 0600-2000

MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	DOC 5	First Aiders				
Crew Leaders	Alpha Sector	DOC 5	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road	██████	Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road	██████	20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b> Matt Able							
<b>8. Reviewed by Incident Controller:</b>							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Monday	12/02	22	90	15	40	NE-NW	30	0	Negligible	Negligible
Tuesday	13/02	23	80	5	30	NNW	61	0	Negligible	Negligible
Wednesday	14/02	22	65	0	20	SW	78	1	70	600

Prepared By: [REDACTED]

**Updated forecast – 11 February 4:15 pm NZDT**

**Monday (midnight to midnight):**

- NNE wind in the morning becoming N in the afternoon. Sustained winds 35-40 km/h increasing to 40-45 km/h by late morning. Gusts 65-70 km/h possible.
- Early morning minimum temperature 17-18, increasing to a maximum temperature of 22 degrees.
- Early morning relative humidity of 95-100%, falling to 80-85% in the afternoon.
- Early morning rain likely, with additional rain possible late in the day. Total rainfall of 10-20 mm possible.

**Tuesday (midnight to midnight):**

- NNW wind becoming WNW in the afternoon. Sustained winds 25-35 km/h with gusts up to 50 km/h.
- Morning minimum temperature near 17 degrees, increasing to 24 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Early morning showers possible, then clearing. Rainfall up to 5 mm.

**Wednesday Outlook:**

- W wind becoming SW at 15-25 km/h.
- Morning minimum temperature near 16 degrees, increasing to 20-21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.

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Makara Fire, Chatham Island.  
Shift period: 13<sup>th</sup> Feb 2018 0600-2000

## Incident Action Plan

MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		12/2/18 17:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau scrub ( <i>Dracophyllum</i> ) fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.  37mm of rain in the past 48 hours.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>h</sup> . 2 <sup>nd</sup> IMT is in place until about Friday of this week.  Crew stood down due to bad weather for 12 <sup>th</sup> February.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Possible cyclone approaching the Chathams next week.		
<b>10. Prepared by:</b> [REDACTED]		



## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 40km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

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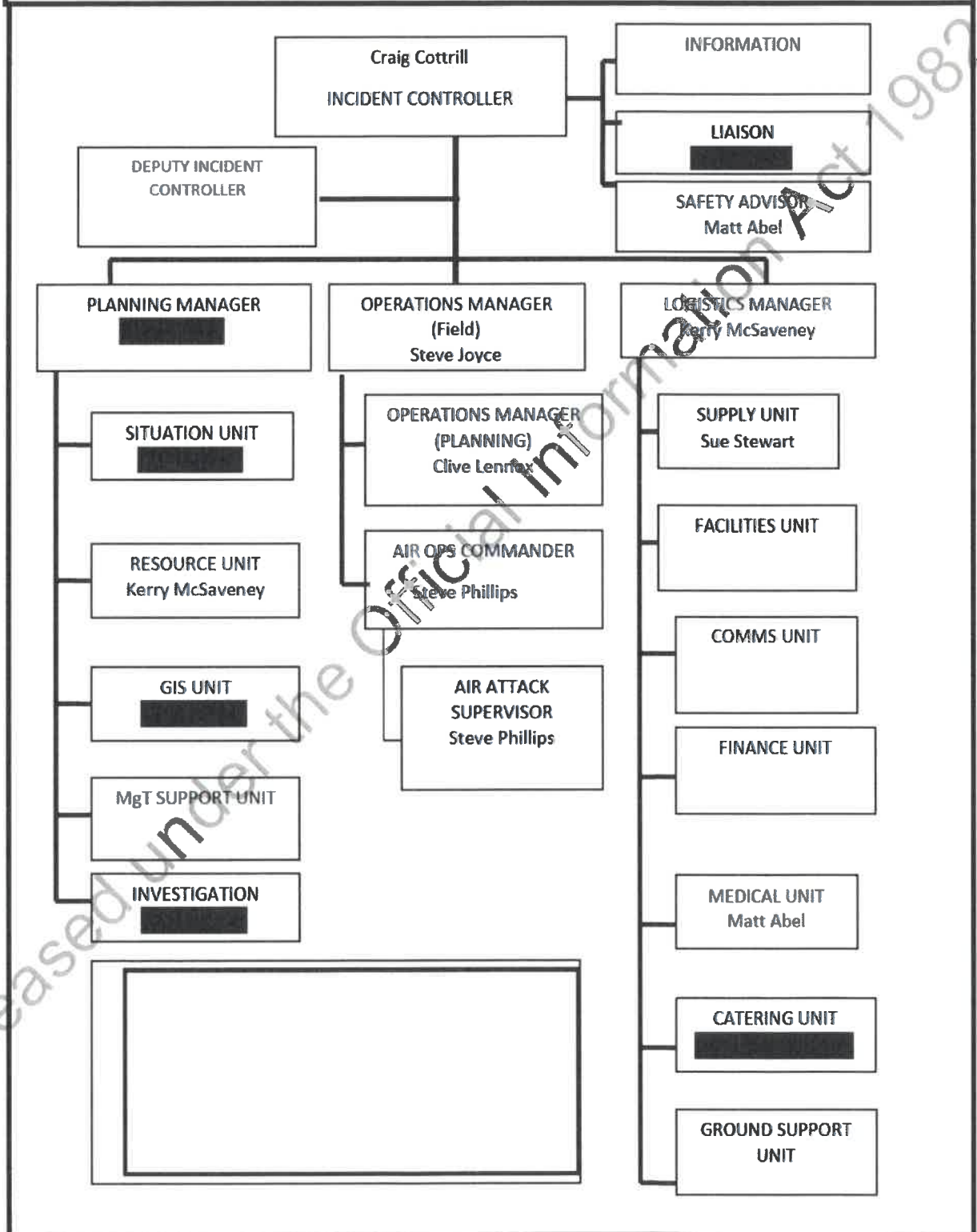


## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	██████	Doc 5
Safety Officer	Matt Able	██████	Doc 5
Liaison Officer	████████████████████	██████	Doc 5
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Doc 5
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	████████████████████	██████	Doc 5
Situations Unit	████████████████████		
Resources Unit	Kerry McSaveney	██████	Doc 5
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Kerry McSaveney	██████	Doc 5
Supply Unit	Sue Stewart (NZ based)		██████████
Catering Unit	████████████████████	██████	
Facilities Unit			
Finance Unit		██████	██████████
Communications Unit	Kerry McSaveney		
Medical Unit	Matt Able	██████	Doc 5
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Steve Joyce	██████	Doc 5
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	Colin Robinson	██████	Doc 5
8. Prepared by:	████████████████████		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone				
<b>7. Prepared by:</b> Kerry McSaveney				

Released under the Official Information Act 1982



## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	Fire 4	
█ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with █

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Steve Phillips

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Crew boss and pilots to monitor - Rapid changes.</p> <p>Fatigue – Crew Boss to monitor with rest periods</p> <p>Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)</p> <p>Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring</p> <p>Driving – All personnel briefed</p> <p>Dust – Air Crews advised – ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage – crews briefed</p> <p>Poor communications – air ops to monitor radio, PLBs issued to crews</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Peat Bog – ground crews briefed and made aware of tomos</p> <p>Livestock- wild bulls and pigs</p> <p>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Chainsaw only to be operated by unit standard qualified personnel</p>		
<b>5. Prepared By:</b>	Matt Abel	



## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A			
B			
C	DOC crew		4
D			
S	Hutt	Jason Sarich	5
Y			
Z			

8. Sector Assignment / Special Instructions
<p>ALL sectors</p> <ul style="list-style-type: none"> <li>• Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>• Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>• Establish and GPS drop points</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>• Re-deployment to other sectors determined by fire behaviour</li> <li>• Use helicopter for water if necessary.</li> <li>• Use helicopter to recon fire line.</li> <li>• Thermal camera flight- [REDACTED]</li> <li>• Doc crew on Charlie to prep landing site, GPS location and cut access track/escape route to fire edge.</li> <li>• Move repeater- [REDACTED]</li> </ul>

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Steve Phillips		Fire 4
Safety Officer	Matt Able		DOC5

<b>10. Prepared By:</b>	Steve Joyce
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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop off Point/time	Pickup Point/time
Air Ops	Steve Phillips	1 x B3 Squirrel 1 x BK			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<b>Injury Accident Contingency</b>					
<ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident.</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul>					
<b>Aircraft Incident Contingency</b>					
<ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Steve Phillips			Fire 4	
Safety Officer	Matt Abel			DOC5	
<b>10. Prepared By:</b>		Matt Abel			

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	DOC 5	First Aiders				
Crew Leaders	Alpha Sector	DOC 5	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b> Matt Able							
<b>8. Reviewed by Incident Controller:</b> Craig Cottrill							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Tuesday	13/02	23	80	5	30	NNW	52	0	Negligible	Negligible
Wednesday	14/02	20	65	0	20	W to SW	75	2	50	400
Thursday	15/02	20	65	0	20	SE	82	4	150	1000 E

Prepared By: [REDACTED]

Updated forecast – 12 February 4:30 pm NZDT

**Tuesday (midnight to midnight):**

- NNW wind becoming WNW to NW in the afternoon. Sustained winds 20-30 km/h, increasing to 25-35 near midday, then easing to near 20 km/h after 6 pm. Gusts up to 45 km/h, then decreasing quickly after 6 pm. Thereafter, sustained wind tending W through to midnight and easing to 20 km/h or less.
- Morning minimum temperature near 18-19 degrees, increasing to near 24 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Showers likely, mainly through to about sunrise. Rainfall of 10 mm or less (mainly before 6 am).

**Wednesday (midnight to midnight):**

- Wind veering with time going from west near midnight to south near midday to east by/after 6 pm, sustained at 20 km/h or less.
  - Morning minimum temperature near 16-17 degrees, increasing to 21-22 degrees in the afternoon.
  - Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.

**Thursday Outlook:**

- Wind east to southeast, sustained at 10-25 km/h.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.

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Makara Fire, Chatham Island.  
Shift period: 13<sup>th</sup> Feb 2018 0600-2000

**LOG**

Time.	Action

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## Incident Action Plan

### MAKARA FIRE



1<sup>st</sup> to see the sun!

**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		13/2/18 18:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau scrub ( <i>Dracophyllum</i> ) fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.  Low visibility yesterday kept the crews off the fireground. 38mm of rain in the past 72 hours.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helpads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>th</sup> . 2 <sup>nd</sup> IMT is in place until about Friday of this week.  Crew stood down due to bad weather for the second day on 13 <sup>th</sup> February.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Possible cyclone approaching the Chathams next week.		
<b>10. Prepared by:</b> [REDACTED]		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

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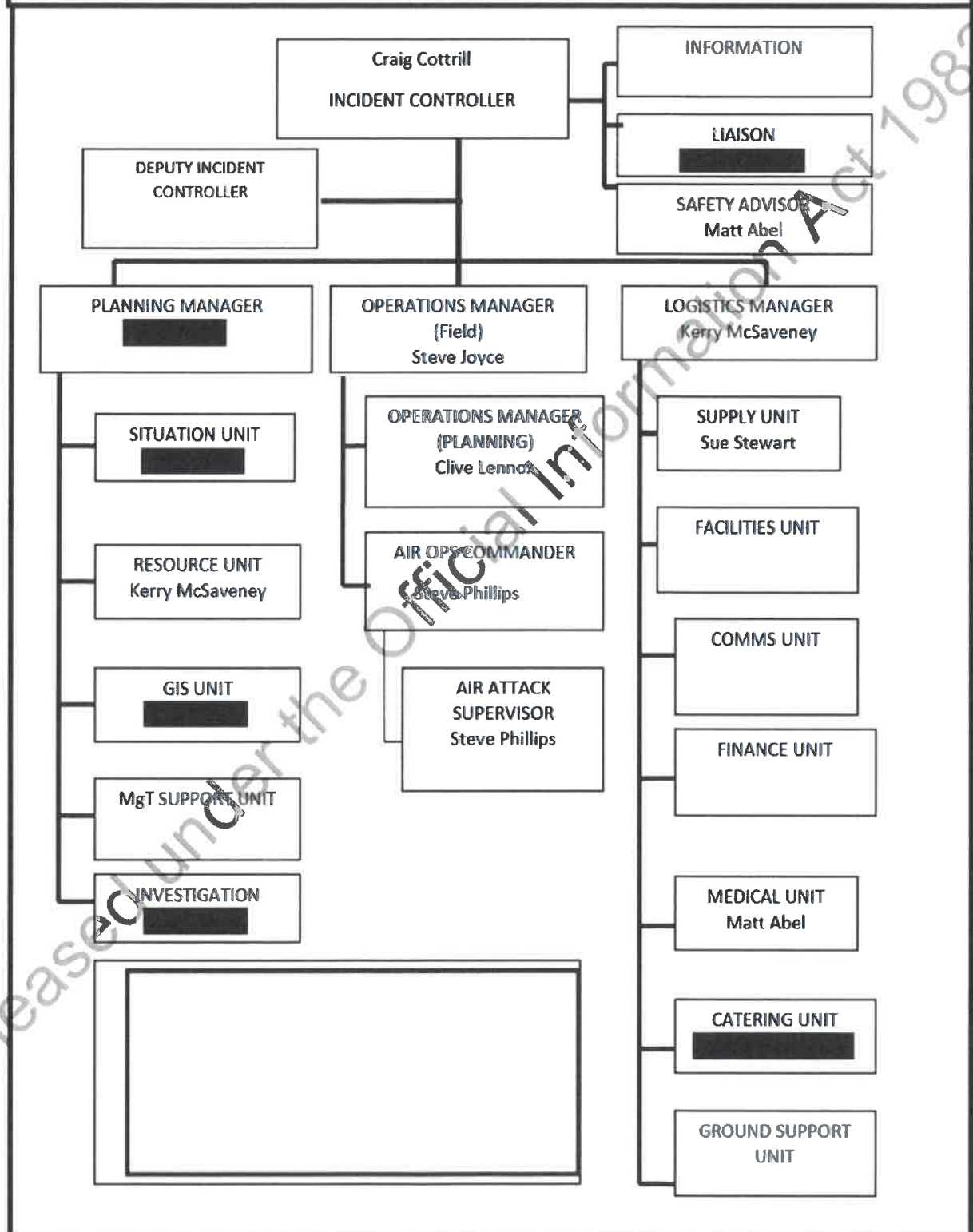
## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	██████	Doc 5
Safety Officer	Matt Able	██████	Doc 5
Liaison Officer	██████████	██████	Doc 5
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Doc 5
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	██████████	██████	Doc 5
Situations Unit	██████████		
Resources Unit	Kerry McSaveney	██████	Doc 5
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Kerry McSaveney	██████	Doc 5
Supply Unit	Sue Stewart (NZ based)		██████
Catering Unit	██████████	██████	
Facilities Unit			
Finance Unit		██████	██████
Communications Unit	Kerry McSaveney		
Medical Unit	Matt Able	██████	Doc 5
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Steve Joyce	██████	Doc 5
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	Colln Robinson	██████	Doc 5
8. Prepared by:	██████████		

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## ORGANISATION CHART



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Makara Fire, Chatham Island.  
Shift period: 14<sup>th</sup> Feb 2018 0600-2000

COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Kerry McSaveney		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	Fire 4	
█ - Garden City	BK117	HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with █

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Steve Phillips



## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stop, rest, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Crew boss and pilots to monitor - Rapid changes.

Fatigue – Crew Boss to monitor with rest periods

Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)

Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring

Driving – All personnel briefed

Dust – Air Crews advised – ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage – crews briefed

Poor communications – air ops to monitor radio, PLBs issued to crews

PLB – RCCNZ notified of Chatham Islands activity

Peat Bog – ground crews briefed and made aware of tomos

Livestock- wild bulls and pigs

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaw only to be operated by unit standard qualified personnel

### 5. Prepared By:

Matt Abel



## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A			
B			
C			
D			
S	Hutt and Doc crew.	Jason Sarich	5 + 4
Y			
Z			

**8. Sector Assignment / Special Instructions**  
ALL sectors

- Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.
- Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment
- Establish and GPS drop points
- Develop and flag ground access
- Maintain reporting schedules, on commencement of work and twice during each day.
- Re-deployment to other sectors determined by fire behaviour
- Use helicopter for water if necessary.
- Use helicopter to recon fire line.
- Thermal camera flight- [REDACTED]
- Move repeater- [REDACTED]

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Fire Attack Supervisor	Steve Phillips		Fire 4
Safety Officer	Matt Able		DOC5

**10. Prepared By:** Steve Joyce

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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Steve Phillips	1 x B3 Squirrel 1 x BK			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident.</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Steve Phillips			Fire 4	
Safety Officer	Matt Abel			DOC5	
<b>10. Prepared By:</b>			Matt Abel		

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	DOC 5	First Aiders				
Crew Leaders	Alpha Sector	DOC 5	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations (Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>							
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b>							
Matt Able							
<b>8. Reviewed by Incident Controller:</b>							
Craig Cottrill							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Wednesday	14/02	20	80	2	20	W to S	40	1	Negligible	Negligible
Thursday	15/02	20	70	5	20	SE	50	1	Negligible	Negligible
Friday	16/02	20	65	0	20	W to NW	70	2	50	400

Prepared By: [REDACTED]

### Updated forecast – 13 February 4:15 pm NZDT

#### Wednesday (midnight to midnight):

- Wind veering with time going from NW near midnight to S by early afternoon, then ESE after about 6 pm, sustained at 15-25 km/h. Gusts up to 35 km/h on Wednesday evening.
- Morning minimum temperature near 18 degrees, increasing to 21-22 degrees in the afternoon.
- Morning relative humidity near 100% falling to 80-85% in the afternoon.
- Showers possible late in the evening. Rainfall less than 5 mm.
- Visibility below 1 km remains likely until about 8-9 am, then improving. Visibility below 1 km once again possible after 8-9 pm.

#### Thursday (midnight to midnight):

- Wind E to SE, sustained at 15-25 km/h with gusts 35-40 km/h. Shifting to W in the evening.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- Pre-dawn showers possible, with amounts 10 mm or less.
- Visibility below 1 km possible until 7-8 am.

#### Friday outlook:

- Wind W becoming NNW in the afternoon. Sustained 15-20 km/h with gusts up to 40 km/h by the evening.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.





## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		14/2/18 19:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. No Thermal camera data has been gathered in he past 3 days due to bad weather. Limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. Smoking. 38 mm of rain earlier this week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>th</sup> . 2 <sup>nd</sup> IMT is in place until about Friday of this week.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Possible cyclone approaching the Chathams next week.		
<b>10. Prepared by:</b> [REDACTED]		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

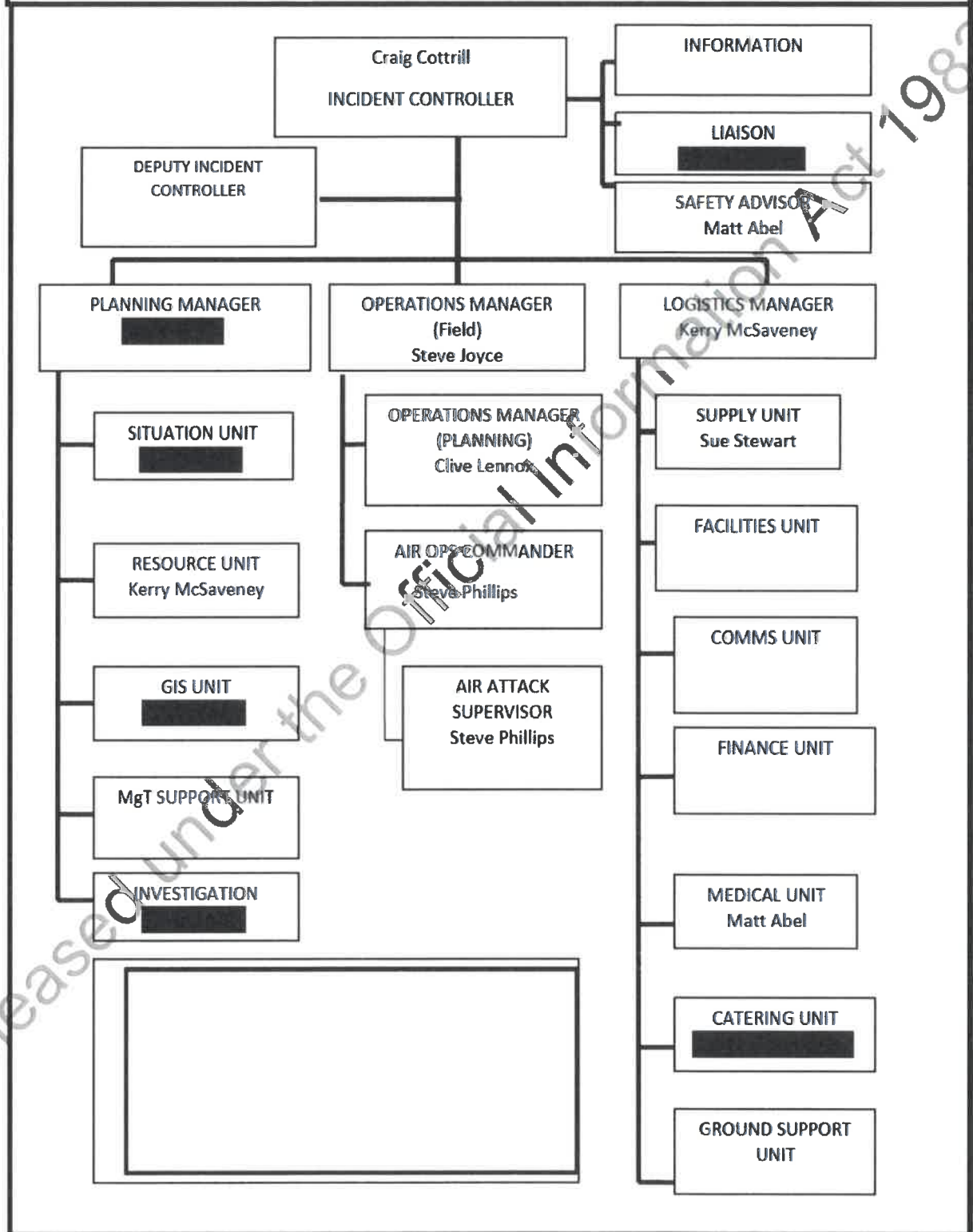
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<b>ORGANISATION LIST</b>				
<b>3. Incident Control</b>				
		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	██████		Fire RPT 1
Safety Officer	Matt Able	██████		Fire RPT 1
Liaison Officer	██████████	██████		Fire RPT 1
<b>4. Agency Representative</b>				
		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Fire RPT 1
Agency	Chatham Islands Council	██████		
Agency	Enterprise Trust	██████		
<b>5. Planning/Intel Section</b>				
		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	██████████	██████		Fire RPT 1
Situations Unit	██████████			
Resources Unit	Kerry McSaveney	██████		Fire RPT 1
<b>6. Logistics Section</b>				
		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	██████		Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████████	
Catering Unit	Debbie G / Debbie K	██████		
Facilities Unit				
Finance Unit		██████	██████████	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	██████		Fire RPT 1
<b>7. Operations Section</b>				
		Phone	Cell Phone	Radio Ch
Operations Manager	Steve Joyce	██████		Fire RPT 1
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	██████		Fire RPT 1
<b>8. Prepared by:</b>				
		██████████		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Kerry McSaveney		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	█	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
█ - Southern Helicopters	Squirrel B3	IRM	Support ground crews	Fire 4	
█ - Garden City	BK117	HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal light with █

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: Steve Phillips

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.

Fatigue – Hydrate and Crew Boss to monitor, rest periods.

Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.

Air Operations – Crew briefings, pilots and Air Ops monitoring

Driving – All personnel briefed 60kph speed limit, stock on road.

Dust – Air Crews briefed, ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging

Poor communications – Air ops to monitor radio

PLB – RCCNZ notified of Chatham Islands activity

Livestock wild bulls and pigs – Ground crews briefed

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED

Hygiene- Wash hands before eating and after toilet breaks

### 5. Prepared By:

Matt Abel



## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>		<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce		FENZ	[REDACTED]	Fire RPT 1
<b>7. Resource Allocation</b>				
Sector	Crew / Resource	Leader (s)	#Persons	
A	Hutt crew	Jason Sarich	5	
B	Pumicelands	Andy Uhl	5	
C	Taranaki plus Wigs	Matt Hickmott-Balks	5 + 1	
D	Doc Crew	[REDACTED]	3	
S	Monitor by helo			
Y	Monitor by helo			
Z	Monitor by helo			
<b>8. Sector Assignment / Special Instructions</b>				
<p>ALL sectors</p> <ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> <li>Delta requires wajax and 2 hose packs (Sling in). Drop off HP 2 and work hot spot north of HP1. Dig up and drown</li> <li>Charlie drop into HP 4 and work south.</li> <li>Bravo drop to HP 10 and work south</li> <li>Alpha drop to SW hut or nearest drop point and work north</li> <li>Thermal camera flight- [REDACTED]</li> </ul>				
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.		Steve Joyce		Fire RPT 1
Air Attack Supervisor		Steve Phillips		Fire 4
Safety Officer		Matt Able		Fire RPT 1
<b>10. Prepared By:</b> Steve Joyce				



MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	Fire RPT 1	First Aiders				
Crew Leaders	Alpha Sector	Fire RPT 1	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations (Emergency Evac only)							
St John Ambulance	1 Hospital Road	305 0035	Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>							
Hospital Name	Address	Phone	Road	Air	Unit	Pad	Travel Time
Chatham's Medical Centre	1 Hospital Road	305 0035	20 min	10 min	No	No	Burn
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b>							
Matt Able							
<b>8. Reviewed by Incident Controller:</b>							
Craig Cottrill							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Thursday	15/02	20	70	5	20	E	50	1	Negligible	Negligible
Friday	16/02	20	65	0	20	W to NW	70	2	50	400
Saturday	17/02	20	65	0	30	NW	82	6	300	1600 E

Prepared By: Jamie Cowan

### Updated forecast – 14 February 4:15 pm NZDT

#### Thursday (midnight to midnight):

- Wind E to SE becoming NE after 8 pm, sustained at 15-25 km/h with gusts 35-40 km/h.
- Morning minimum temperature near 16 degrees, increasing to 21 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Rain or showers tapering off by about 9 am with clouds giving way to sun.
- Visibility below 5 km possible in moderate rain, although the chance for visibility to be below 1 km is low.

#### Friday (midnight to midnight):

- Wind W becoming NW, then N possible by evening. Sustained 15-25 km/h with gusts up to 35-40 km/h by the evening.
- Morning minimum temperature near 16 degrees, increasing to 22 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 75% in the afternoon.
- No rainfall expected.

#### Saturday outlook:

- Wind N-NW and increasing. Sustained 20-25 km/h during the morning, increasing to 30-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 18 degrees, increasing to 23 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.



## Incident Action Plan

### MAKARA FIRE



1. Approved by Incident Controller:

Name

Signed

Date/Time

Craig Cottrill

17/2/18 19:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered yesterday, limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain has fallen so far this week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on this IAP.		
<b>8. Factors</b> Access around fire ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the latest thermal run indicated that crews had been making great progress; the completion date has not been adjusted.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Possible cyclone approaching the Chathams next week, expecting rain, poor visibility and disruptions to flights, resource arrivals/departures.		
<b>10. Prepared by:</b> GLENN THOMPSON		

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

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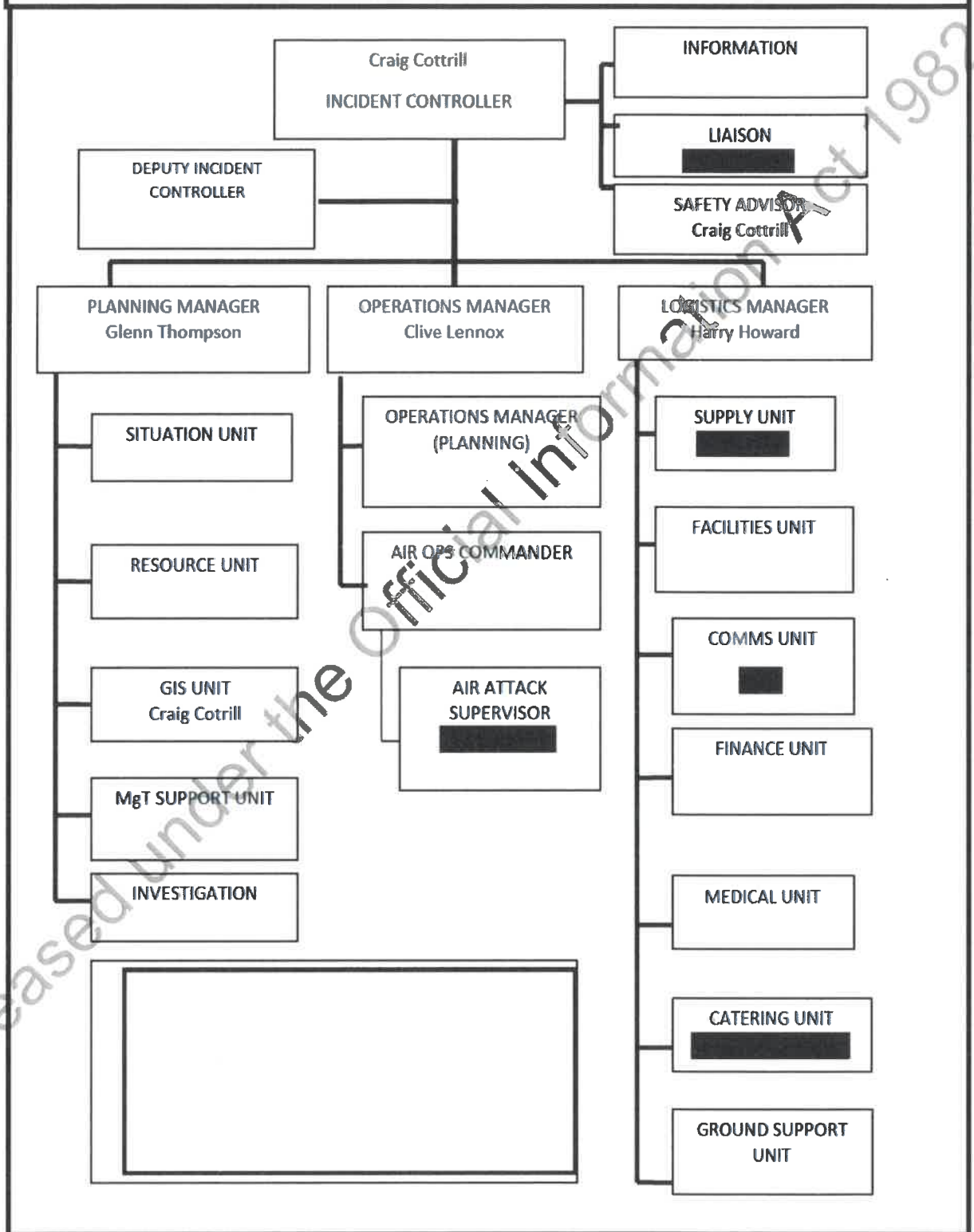




Makara Fire, Chatham Island.  
Shift period: 17<sup>th</sup> Feb 2018 0700-1900

<b>ORGANISATION LIST</b>			
<b>3. Incident Control</b>			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	██████	Fire RPT 1
Safety Officer	Craig Cottrill	██████	Fire RPT 1
Liaison Officer	██████████	██████	Fire RPT 1
<b>4. Agency Representative</b>			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
<b>5. Planning/Intel Section</b>			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
<b>6. Logistics Section</b>			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████
Catering Unit	██████████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
<b>7. Operations Section</b>			
Operations Manager	Clive Lennox	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	██████████	██████	Fire RPT 1
<b>8. Prepared by:</b> Glenn Thompson			

## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Channel
Air Div. Commander				
Air Attack Supervisor	██████████	GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel IB3	IRM	Support ground crews	VHF Fire 4	
██████████ - Garden City	BK117	HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: ██████████

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.</p> <p>Fatigue – Hydrate and Crew Boss to monitor, rest periods.</p> <p>Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.</p> <p>Air Operations – Crew briefings, pilots and Air Ops monitoring</p> <p>Driving – All personnel briefed 60kph speed limit, stock on road.</p> <p>Dust – Air Crews briefed, ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging</p> <p>Poor communications – Air ops to monitor radio</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Livestock wild bulls and pigs – Ground crews briefed</p> <p>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED</p> <p>Hygiene- Wash hands before eating and after toilet breaks</p>		
<b>5. Prepared By:</b>		Craig Cottrill

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## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>		<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce		FENZ	[REDACTED]	Fire RPT 1
<b>7. Resource Allocation</b>				
Sector	Crew / Resource	Leader (s)	# Persons	
A	Monitor by helo			
B	Monitor by helo			
C	Taranaki	[REDACTED]	5	
D	Monitor by helo			
S	Wellington	[REDACTED]	5	
X	Pumiclands	[REDACTED]	5	
Z	Monitor by helo			
<b>8. Sector Assignment / Special Instructions</b>				
ALL sectors				
<ul style="list-style-type: none"> <li>• Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>• Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>• Use helicopter for water if necessary.</li> <li>• Use helicopter to recon fire line.</li> <li>• X-Ray requires wajax and 2 hose packs (Sling in). Drop off HP and work hot spot. Dig up and down</li> </ul>				
<b>9. Sector Communications</b>				
Operations Manager.	Clive Lennox			Fire RPT 1
Attack Supervisor	[REDACTED]			Fire 4
Safety Officer	Craig Cottrill			Fire RPT 1
<b>10. Prepared By:</b> Clive Lennox				

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## MEDICAL PLAN

3. First Aid Station		Phone/Radio	Paramedics
Name	Location	Channel	available at Station
Point 106	Staging	Fire RPT 1	First Aiders
Crew Leaders	Various sectors	Fire RPT 1	First Aiders

4. Transportation	Address	Phone/Radio	Paramedics
Ambulance Service		Channel	available with Ambulance
Air Operations ( Emergency Evac only)			
St John Ambulance	1 Hospital Road		Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals		Travel Time			Burn	
Heli						
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No

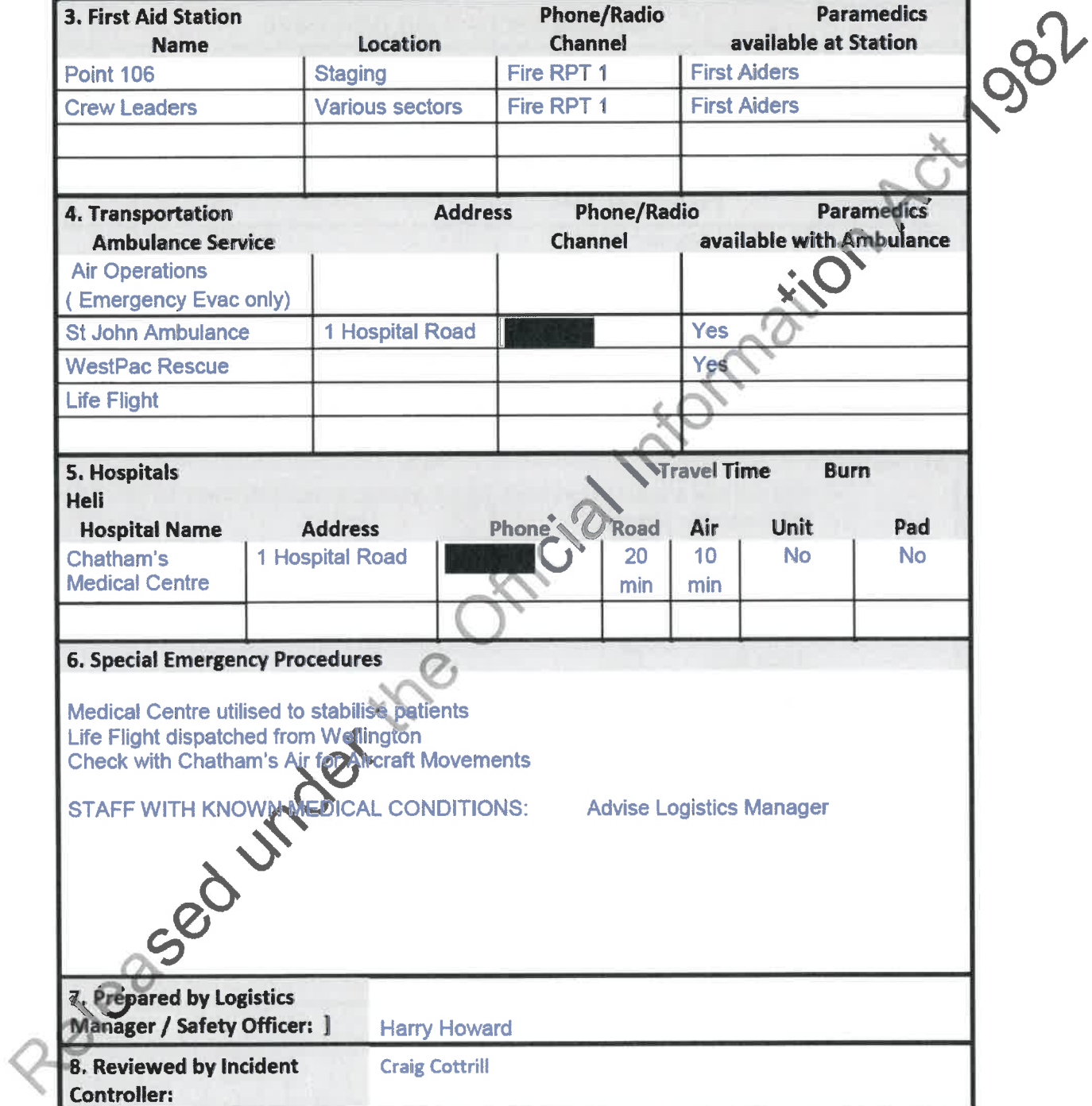
**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
Life Flight dispatched from Wellington  
Check with Chatham's Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager

**7. Prepared by Logistics**  
Manager / Safety Officer: ]      Harry Howard

**8. Reviewed by Incident**  
Controller:      Craig Cottrill



## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	17/02	20	80	0	30	NW	67	3	70	500 E
Sunday	18/02	20	80	0	20	NW	76	3	70	500 E
Monday	19/02	20	80	0	25	NW	80	3	95	700 E

Prepared By: Glenn Thompson

### Updated forecast – 16 February 1530 NZDT

#### Friday (through to midnight):

- Wind N to NW sustained 15-30 km/h, with gusts to 35 km/h possible.
- Temperature decreasing to near 17°C by midnight.
- Humidity increasing to near 100% before midnight.
- No rainfall expected.
- Chance for visibility below 1 km increasing after 10 pm.

#### Saturday (midnight to midnight):

- Wind NNW to NW and increasing. Sustained 15-25 km/h during the morning, increasing to 25-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 17°C, increasing to 23°C in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.
- Chance for visibility below 1 km through 8-9 am.

#### Sunday (midnight to midnight):

- W to NW wind before sunrise becoming variable for a time after sunrise, then tending N to NW in the afternoon. Sustained wind increasing to 20 km/h in the morning, increasing to 15-25 km/h thereafter. Gusts up to 40 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 23-23°C in the afternoon.
- Morning relative humidity near 100%, falling to near 85% in the afternoon.
- Slight chance for a morning shower; otherwise, no rainfall expected.

#### Monday (outlook):

- NW wind 20-25 km/h during the morning increasing to 25-35 km/h during the afternoon and evening. Gusts up to 50 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 22-23°C in the afternoon.





**Makara Fire, Chatham Island.**  
**Shift period: 17<sup>th</sup> Feb 2018 0700-1900**

- Morning relative humidity near 100%, falling to 85% in the afternoon.
- No rainfall expected during the day. Showers possibly developing toward midnight.

#### **On the potential impact of Tropical Cyclone Gita**

Rain from (ex) Tropical Cyclone will most likely begin late Monday night or early Tuesday and peak in the late Tuesday-Wednesday timeframe. There is a chance for a significant rainfall in excess of 50 mm. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall. Wind gusts near or above 75 km/h are possible as well, especially Wednesday into Thursday.

#### **On the potential impact of Tropical Cyclone Gita**

Rain from (ex) Tropical Cyclone could begin as early as late Monday and peak in the Tuesday-Wednesday timeframe. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		17/2/18 19:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b> 
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered yesterday, limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain has fallen so far this week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on this IAP.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the latest thermal run indicated that crews had been making great progress; the completion date has not been adjusted.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Possible cyclone approaching the Chathams next week, expecting rain, poor visibility and disruptions to flights, resource arrivals/departures.		
<b>10. Prepared by:</b> GLENN THOMPSON		

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

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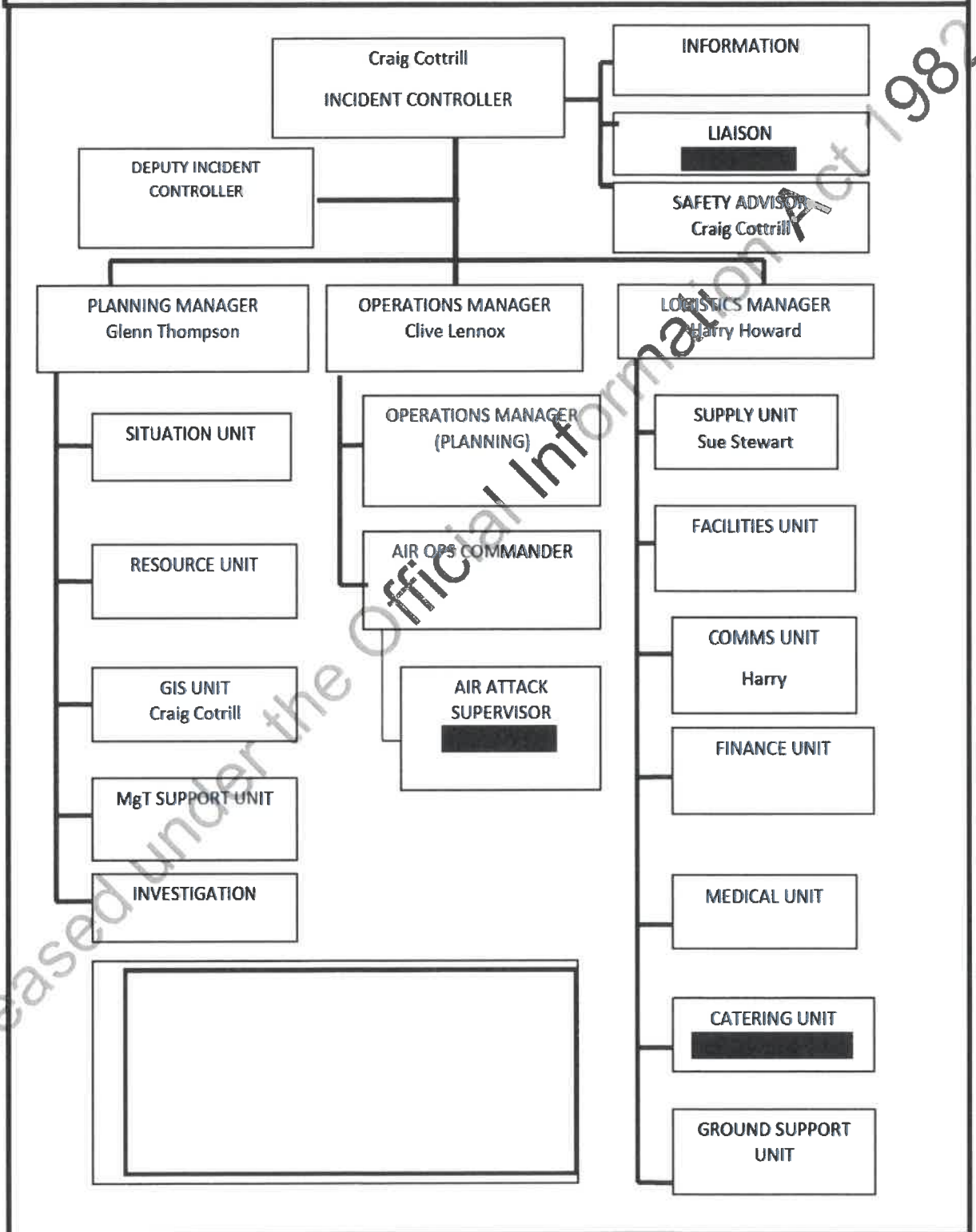


## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	██████	Fire RPT 1
Safety Officer	Craig Cottrill	██████	Fire RPT 1
Liaison Officer	██████████	██████	Fire RPT 1
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████
Catering Unit	██████████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Clive Lennox	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	██████████	██████	Fire RPT 1
8. Prepared by:			
	Glenn Thompson		

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## ORGANISATION CHART



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## COMMUNICATIONS PLAN

3. Radio Channels				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
Radio channels versus frequency for VHF Fire RPT 1				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
6. Other (e.g. email, Sat phone, etc.)				
7. Prepared by:		Harry Howard		

Released under the Official Information Act 1982





## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor	██████████	GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel B3 BK117	IRM	Support ground crews	VHF Fire 4	
██████████ - Garden City		HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: ██████████

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.  
 Fatigue – Hydrate and Crew Boss to monitor, rest periods.  
 Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.  
 Air Operations – Crew briefings, pilots and Air Ops monitoring  
 Driving – All personnel briefed 60kph speed limit, stock on road.  
 Dust – Air Crews briefed, ground crews supplied PPE and monitor  
 Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging  
 Poor communications – Air ops to monitor radio  
 PLB – RCCNZ notified of Chatham Islands activity  
 Livestock wild bulls and pigs – Ground crews briefed  
 Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored  
 Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.  
 Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED  
 Hygiene- Wash hands before eating and after toilet breaks

### 5. Prepared By:

Craig Cottrill



## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	Fire RPT 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by helo		
B	Monitor by helo		
C	Taranaki	[REDACTED]	5
D	Monitor by helo		
S	Wellington	[REDACTED]	5
X	Pumiclands	[REDACTED]	5
Z	Monitor by helo		

8. Sector Assignment / Special Instructions
<p>ALL sectors</p> <ul style="list-style-type: none"> <li>• Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>• Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>• Use helicopter for water if necessary.</li> <li>• Use helicopter to recon fire line.</li> <li>• X-Ray requires wajax and 2 hose packs (Sling in). Drop off HP and work hot spot. Dig up and drown</li> </ul>

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Clive Lennox		Fire RPT 1
Attack Supervisor	[REDACTED]		Fire 4
Safety Officer	Craig Cottrill		Fire RPT 1

<b>10. Prepared By:</b>	Clive Lennox
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## MEDICAL PLAN

3. First Aid Station			
Name	Location	Phone/Radio Channel	Paramedics available at Station
Point 106	Staging	Fire RPT 1	First Aiders
Crew Leaders	Various sectors	Fire RPT 1	First Aiders

4. Transportation			
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance
Air Operations ( Emergency Evac only)			
St John Ambulance	1 Hospital Road		Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals								
Heli							Travel Time	Burn
Hospital Name	Address	Phone	Road	Air	Unit	Pad		
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No		

**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
Life Flight dispatched from Wellington  
Check with Chatham's Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager

<b>7. Prepared by Logistics Manager / Safety Officer: ]</b>	Harry Howard
<b>8. Reviewed by Incident Controller:</b>	Craig Cottrill

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	17/02	20	80	0	30	NW	67	3	70	500 E
Sunday	18/02	20	80	0	20	NW	76	3	70	500 E
Monday	19/02	20	80	0	25	NW	80	3	95	700 E

Prepared By: Glenn Thompson

### Updated forecast – 16 February 1530 NZDT

#### Friday (through to midnight):

- Wind N to NW sustained 15-30 km/h, with gusts to 35 km/h possible.
- Temperature decreasing to near 17°C by midnight.
- Humidity increasing to near 100% before midnight.
- No rainfall expected.
- Chance for visibility below 1 km increasing after 10 pm.

#### Saturday (midnight to midnight):

- Wind NNW to NW and increasing. Sustained 15-25 km/h during the morning, increasing to 25-35 km/h during the afternoon. Gusts up to 50 km/h by the afternoon and evening.
- Morning minimum temperature near 17°C, increasing to 23°C in the afternoon.
- Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected during the day; slight chance for a shower at night.
- Chance for visibility below 1 km through 8-9 am.

#### Sunday (midnight to midnight):

- W to NW wind before sunrise becoming variable for a time after sunrise, then tending N to NW in the afternoon. Sustained wind increasing to 20 km/h in the morning, increasing to 15-25 km/h thereafter. Gusts up to 40 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 23-23°C in the afternoon.
- Morning relative humidity near 100%, falling to near 85% in the afternoon.
- Slight chance for a morning shower; otherwise, no rainfall expected.

#### Monday (outlook):

- NW wind 20-25 km/h during the morning increasing to 25-35 km/h during the afternoon and evening. Gusts up to 50 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 22-23°C in the afternoon.



**Makara Fire, Chatham Island.**  
**Shift period: 17<sup>th</sup> Feb 2018 0700-1900**

- Morning relative humidity near 100%, falling to 85% in the afternoon.
- No rainfall expected during the day. Showers possibly developing toward midnight.

#### **On the potential impact of Tropical Cyclone Gita**

Rain from (ex) Tropical Cyclone will most likely begin late Monday night or early Tuesday and peak in the late Tuesday-Wednesday timeframe. There is a chance for a significant rainfall in excess of 50 mm. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall. Wind gusts near or above 75 km/h are possible as well, especially Wednesday into Thursday.

#### **On the potential impact of Tropical Cyclone Gita**

Rain from (ex) Tropical Cyclone could begin as early as late Monday and peak in the Tuesday-Wednesday timeframe. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		17/2/18 19:00



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Tarehinau Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered yesterday, limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain has fallen so far this week.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10<sup>th</sup>. The 3<sup>rd</sup> IMT started on the 16<sup>th</sup> of Feb.

### 8. Factors

Access around fire ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Early thermal camera monitoring revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the latest thermal run indicated that crews had been making great progress; the completion date has not been adjusted.

### 9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

Ex tropical cyclone Gits is expected to reach the Chathams on Wednesday, this could bring significant rain, poor visibility and disruptions to flights, resource arrivals/departures.

10. Prepared by: GLENN THOMPSON

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

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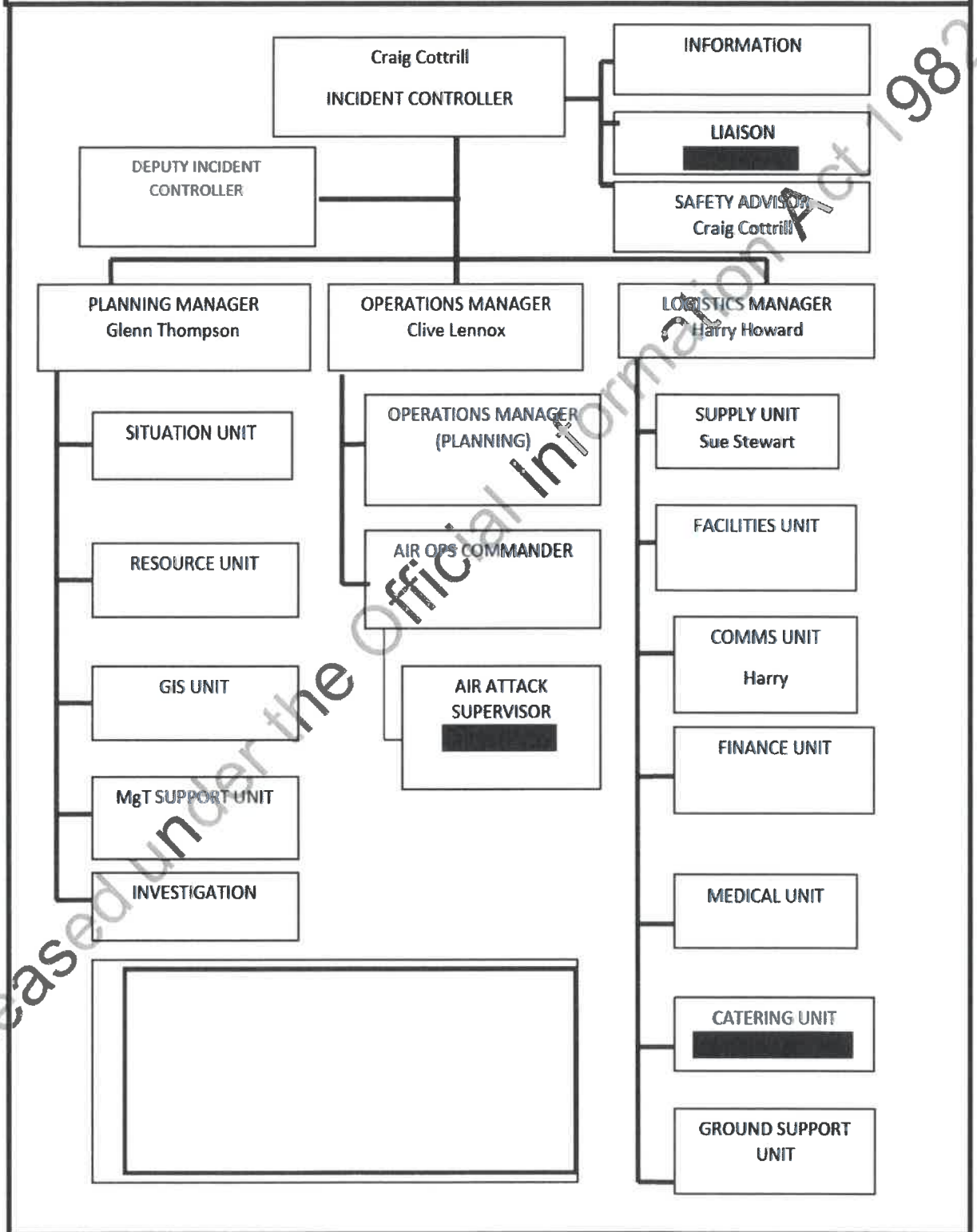


## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	██████	Fire RPT 1
Safety Officer	Craig Cottrill	██████	Fire RPT 1
Liaison Officer	██████████	██████	Fire RPT 1
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████████
Catering Unit	██████████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Clive Lennox	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	██████████	██████	Fire RPT 1
8. Prepared by:			
	Glenn Thompson		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	119.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor		GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot		Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
- Southern Helicopters	Squirrel   B3 BK117	IRM	Support ground crews	VHF Fire 4	
- Garden City		HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: [REDACTED]

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.

Fatigue – Hydrate and Crew Boss to monitor, rest periods.

Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.

Air Operations – Crew briefings, pilots and Air Ops monitoring

Driving – All personnel briefed 60kph speed limit, stock on road.

Dust – Air Crews briefed, ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging

Poor communications – Air ops to monitor radio

PLB – RCCNZ notified of Chatham Islands activity

Livestock wild bulls and pigs – Ground crews briefed

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED

Hygiene- Wash hands before eating and after toilet breaks

5. Prepared By:

Craig Cottrill



<b>SECTOR ASSIGNMENTS</b>			
NB- All sectors on one page.			
<b>6. Operations Manager</b>		<b>Affiliation</b>	<b>Phone</b>
Steve Joyce		FENZ	[REDACTED]
<b>7. Resource Allocation</b>			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by helo		
B	Monitor by helo		
C	Taranaki	[REDACTED]	5
D	Monitor by helo		
S	Wellington	[REDACTED]	5
X	Pumiclands	[REDACTED]	5
Z	Monitor by helo		
<b>8. Sector Assignment / Special Instructions</b>			
<p><b>ALL sectors</b></p> <ul style="list-style-type: none"> <li>• Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>• Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>• Use helicopter for water if necessary.</li> <li>• Use helicopter to recon fire line.</li> <li>• X-Ray requires wajax and 2 hose packs (Sling in). Drop off HP and work hot spot. Dig up and down</li> </ul>			
<b>9. Sector Communications</b>		<b>Phone</b>	<b>Radio Ch</b>
Operations Manager.	Clive Lennox		Fire RPT 1
Attack Supervisor	[REDACTED]		Fire 4
Safety Officer	Craig Cottrill		Fire RPT 1
<b>10. Prepared By:</b>		Clive Lennox	

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## MEDICAL PLAN

3. First Aid Station		Phone/Radio	Paramedics
Name	Location	Channel	available at Station
Point 106	Staging	Fire RPT 1	First Aiders
Crew Leaders	Various sectors	Fire RPT 1	First Aiders

4. Transportation	Address	Phone/Radio	Paramedics
Ambulance Service		Channel	available with Ambulance
Air Operations ( Emergency Evac only)			
St John Ambulance	1 Hospital Road	██████████	Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals		Travel Time			Burn	
Heli						
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road	██████████	20 min	10 min	No	No

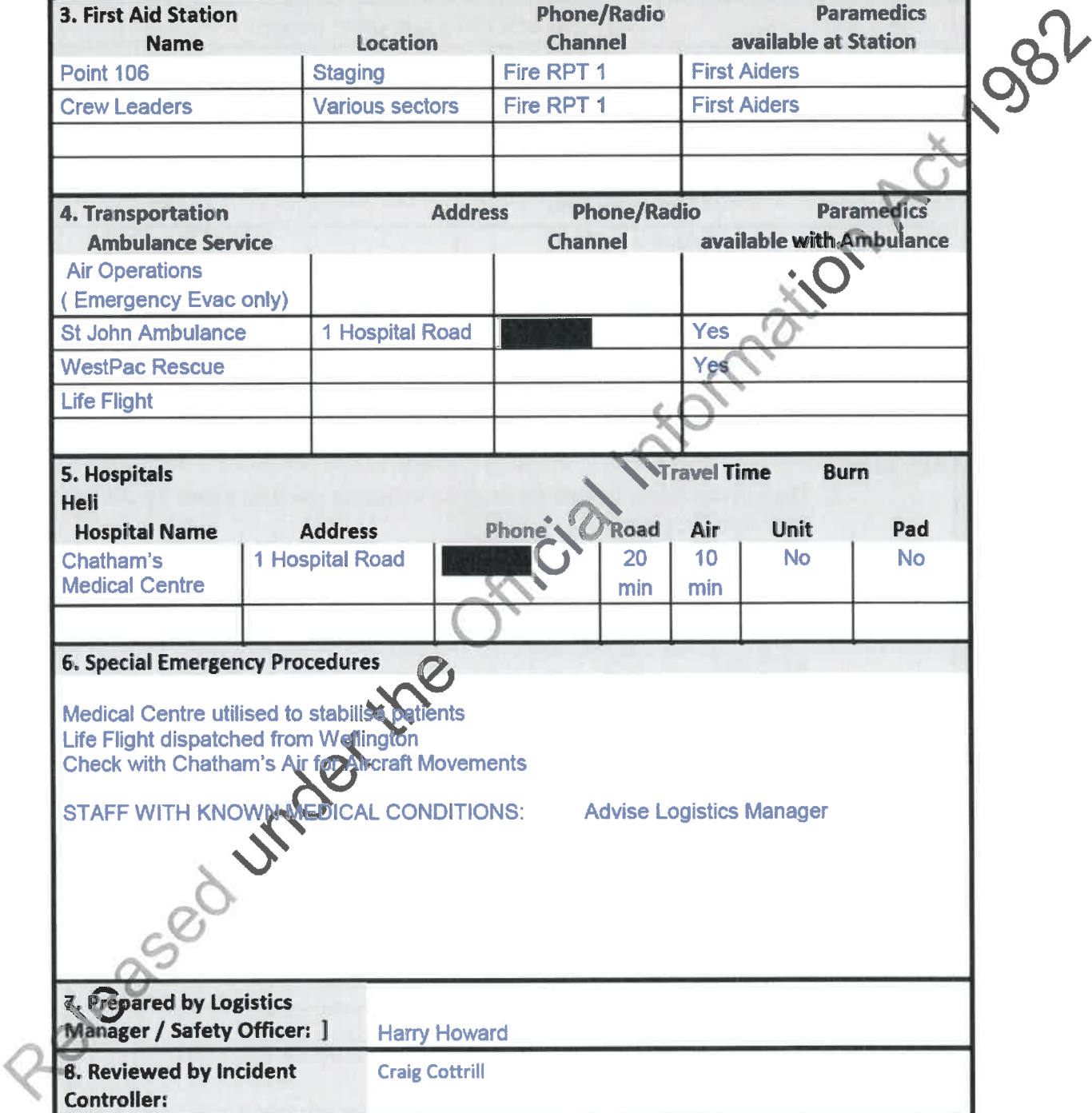
**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
Life Flight dispatched from Wellington  
Check with Chatham's Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager

**7. Prepared by Logistics**  
Manager / Safety Officer: ]      Harry Howard

**8. Reviewed by Incident**  
Controller:      Craig Cottrill



## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Sunday	18/02	20	80	0	20	NW	76	2	60	500 E
Monday	19/02	20	80	0	25	NW	79	3	80	600 E
Tuesday	20/02	18	85	5	25	S	53	1	12	120 E

Prepared By: Glenn Thompson

### Updated forecast – 17 February 4:00 pm NZDT

#### Rest of Today:

- Wind NW, sustained 25-35 km/h. Gusts up to 50 km/h this afternoon and dropping to around 40 km/h this evening.
- Temperature falling to around 18°C by midnight.
- Relative humidity rising to near 100% by about 9 pm.
- No rainfall expected.

#### Sunday (midnight to midnight):

- WNW wind before sunrise becoming variable for a time in the morning, then tending NNW by late morning and continuing through the day. Sustained wind 10-15 km/h in the morning, increasing to 15-25 km/h thereafter. Gusts 35-40 km/h possible in the afternoon and evening.
  - Morning minimum temperature near 18°C, increasing to 23°C in the afternoon.
  - Morning relative humidity near 100%, falling to near 85% in the afternoon.
  - Slight chance for a pre-dawn shower; otherwise, no rainfall expected.
- Visibility may occasionally drop below 1 km during the afternoon and evening.

#### Monday (midnight to midnight):

- NW wind becoming WNW in the afternoon. Sustained 20-25 km/h during the morning increasing to 25-35 km/h during the afternoon and evening. Gusts up to 50 km/h possible in the afternoon and evening.
- Morning minimum temperature near 18°C, increasing to 22°C in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.



**Makara Fire, Chatham Island.**  
**Shift period: 18<sup>th</sup> Feb 2018 0700-1900**

- No rainfall expected during the day. Showers possibly developing toward midnight.

**Tuesday (outlook):**

- W wind shifting to S in the morning and then SE-E in the afternoon. Sustained winds 20-30 km/h with gusts up to 50 km/h late in the day.
- The temperature may fall during the day, from near 20°C early in the morning to the mid-teens in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Periodic showers possible, with rainfall amounts up to 15 mm.

**On the potential impact of Tropical Cyclone Gita**

Rain from ex-Tropical Cyclone Gita will most likely peak on Wednesday into Thursday morning, with a chance for a significant rainfall in excess of 50 mm. However, there still exists some uncertainty on the storm's track and placement of heavy rainfall. Wind gusts near or above 80 km/h are possible as well, especially Wednesday and Thursday.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Glenn Thompson		18/2/18 19:00

## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera data was gathered on Friday, indicated a limited number of hotspots are still visible on the perimeter and crews are currently cold trailing the edge and digging up hotspots. 50 mm of rain fell last week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on the 16 <sup>th</sup> of Feb.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal camera monitoring late last week revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. However the last thermal run indicated that crews had been making great progress; the completion date has not been adjusted.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Rain from ex-Tropical Cyclone Gita will most likely peak on Wednesday evening into Thursday morning, with a chance of 35mm of rain. Wind gusts near or above 80 - 90 km/h are possible as well, especially on Thursday.		
<b>10. Prepared by:</b> GLENN THOMPSON		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

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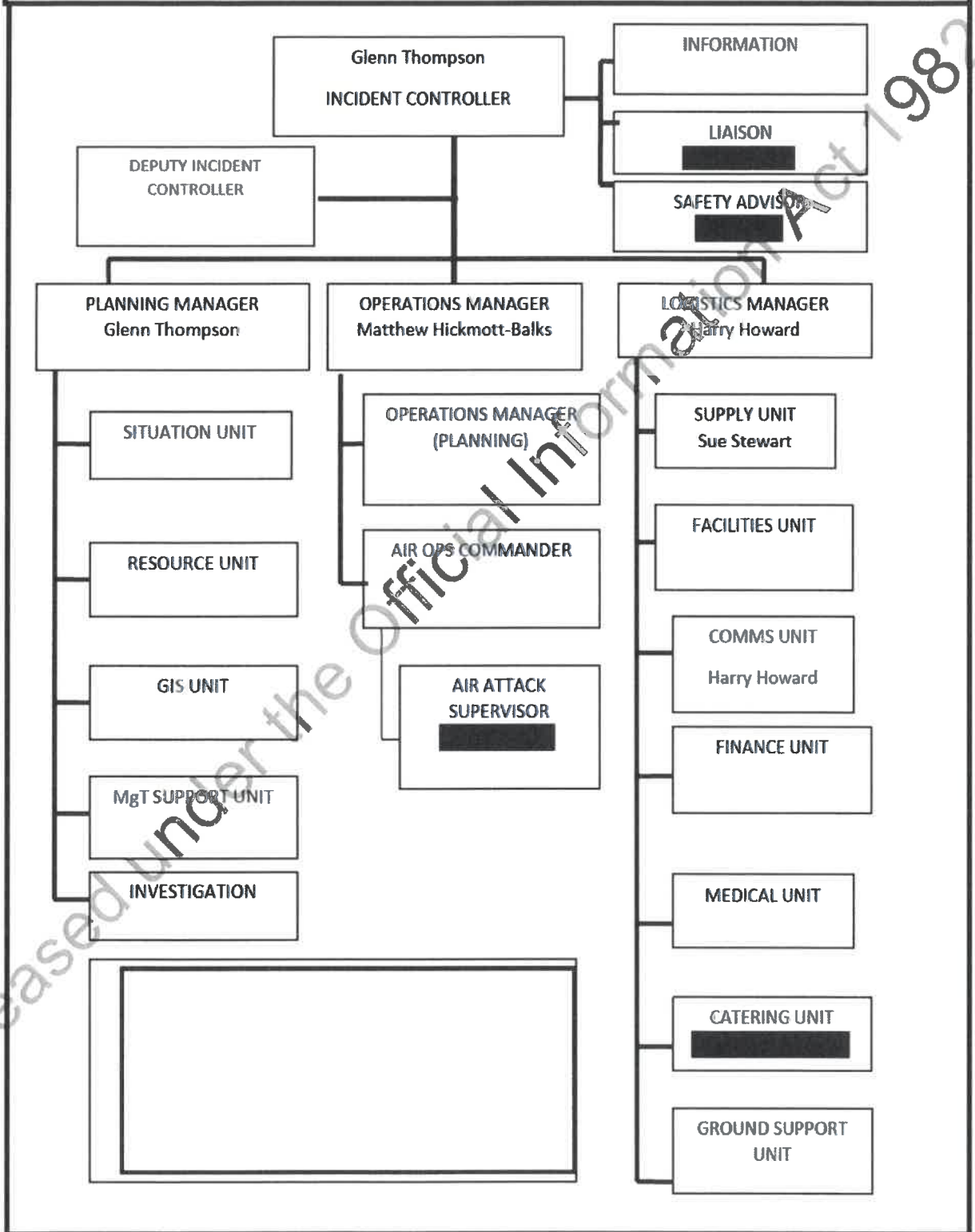
## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Glenn Thompson	██████	Fire RPT 1
Safety Officer	██████	██████	Fire RPT 1
Liaison Officer	██████	██████	Fire RPT 1
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████
Catering Unit	██████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Matthew Hickmott-Balks	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	██████	██████	Fire RPT 1
8. Prepared by:			
	Glenn Thompson		

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## ORGANISATION CHART



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COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	118.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Channel
Air Div. Commander				
Air Attack Supervisor	[REDACTED]	GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	[REDACTED]	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
[REDACTED] - Southern Helicopters	Squirrel B3	IRM	Support ground crews	VHF Fire 4	
[REDACTED] - Garden City	BK117	HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: [REDACTED]

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.

Fatigue – Hydrate and Crew Boss to monitor, rest periods.

Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.

Air Operations – Crew briefings, pilots and Air Ops monitoring

Driving – All personnel briefed 60kph speed limit, stock on road.

Dust – Air Crews briefed, ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging

Radio communications – Air ops to monitor radio

PLB – RCCNZ notified of Chatham Islands activity

Livestock wild bulls and pigs – Ground crews briefed

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED

Hygiene- Wash hands before eating and after toilet breaks

**5. Prepared By:**

Glenn Thompson

## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>				<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Matthew Hickmott-Balks				FENZ	[REDACTED]	Fire RPT 1
<b>7. Resource Allocation</b>						
Sector	Crew / Resource	Leader (s)	# Persons			
A	Taranaki	Andrew Lennox	4			
B	Taranaki	Andrew Lennox	4			
C	Wellington	Bryce Holcroft	5			
D	Monitor by helicopter					
S	Monitor by helicopter		5			
X	Monitor by helicopter		5			
Z	Monitor by helicopter					
	Pumicelands	Andy Uhl	5			
<b>8. Sector Assignment / Special Instructions</b>						
ALL sectors						
<ul style="list-style-type: none"> <li>• Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>• Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>• Fireline weather observations at 1000hrs, 1200hrs &amp; 1400hrs.</li> <li>• Use helicopter for water if necessary.</li> <li>• Use helicopter to recon fire line.</li> <li>• <b>Bravo Sector: Enter via Helipad 9 and head south to Helipad10.</b></li> </ul>						
<b>9. Sector Communications</b>						
Operations Manager.				Matthew Hickmott-Balks		Fire RPT 1
Air Attack Supervisor				[REDACTED]		Fire 4
Safety Officer				[REDACTED]		Fire RPT 1
<b>10. Prepared By:</b> Glenn Thompson						

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	Fire RPT 1	First Aiders				
Crew Leaders	Various sectors	Fire RPT 1	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's Air for Aircraft Movements  <b>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</b>							
<b>7. Prepared by Logistics</b>							
<b>Manager / Safety Officer: ]</b>		Harry Howard					
<b>8. Reviewed by Incident</b>							
<b>Controller:</b>		Glenn Thompson					

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Monday	19/02	23	85	0	25	NW	77	4	135	900 E
Tuesday	20/02	20	80	15	20	S	48	1	3	40 E
Wednesday	21/02	20	80	10	30	NW	49	1	8	90 E

**Prepared By:** Glenn Thompson

### Updated forecast – 19 February 5:45 am NZDT

#### **Monday (midnight to midnight):**

- NW wind becoming W in the afternoon, then SW after 6 pm. Sustained 20-30 km/h to 9 am, increasing to 30-40 km/h thereafter by 6 pm then decreasing to 15-25 km/h after 9 pm. Gusts to 55 km/h possible from mid-morning to mid-afternoon, then less than 40 km/h after 8 pm.
- Temperature increasing to 23°C in the afternoon.
- Relative humidity decreasing to near 80% in the afternoon.
- No rainfall expected.
- Visibility forecast to stay above 1 km.

#### **Tuesday (midnight to midnight):**

- SW wind sustained 20 km/h or less, becoming NE after 3 am. After 9 am sustained wind becoming and increasing to Sustained winds 20-30 km/h in the morning, then increasing to 25-35 km/h. Gusts to 45 km/h in the afternoon.
- Early morning temperature near 15°C before sunrise, increasing to near 19°C and nearly steady through about 6 pm.
- Relative humidity near 100% in the morning, decreasing to 85-90% at times.
- Periods of rain likely, heavy at times, with rainfall amounts of 20-40 mm possible. Visibility may drop below 1 km at times.
- Visibility may drop below 1 km at times, especially over any higher terrain.

#### **Wednesday (midnight to midnight):**

- SE to NE before 6 am, then becoming NW. Sustained winds 25-35 km/h to near 6 am, then increasing to 30-40 km/h, thereafter. Gusts to 60 km/h possible, mainly in the afternoon.
- Early morning temperature near 16-17°C around midnight, then climbing to near 23-24°C.
- Morning relative humidity near 100%, falling to 75-80% in the afternoon.
- Showers likely, mainly during the morning, amounts 10 mm or less. Afternoon sun possible.



**Makara Fire, Chatham Island.**  
**Shift period: 19<sup>th</sup> Feb 2018 0700-1900**

- Visibility may drop below 1 km at times during the morning, especially over any higher terrain.

**Thursday Outlook:**

- Wind NW tending W'ly by 6 am then SW near midday and beyond Sustained 25-40 km/h, with gusts to 60 km/h possible to midday. Winds easing near/after 6 pm.
- Temperature near 16-17°C in the morning increasing to near 19 °C in the afternoon.
- Relatively humidity decreasing to 75-80% in the afternoon.
- Little or no rain forecast.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name

Signed

Date/Time

Glenn Thompson

19/2/18 19:00



## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday or Sunday. Small flare ups near the perimeter were common and these were easily contained by helicopters. Thermal camera data gathered on Friday 16 <sup>th</sup> , indicated a limited number of hotspots, these were extinguished over Saturday 17 <sup>th</sup> and Sunday 18 <sup>th</sup> of Feb. Over the weekend crews have cold trailed sectors along Alpha, Bravo, Charlie, Sierra and Xray. Further aerial reconnaissance on Monday the 19 <sup>h</sup> showed a small number of hotspots in the centre of the burn, 100m south of the Sierra sector fire line. These were extinguished by ground crews. 50 mm of rain fell last week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2 <sup>nd</sup> Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3 <sup>rd</sup> Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on the 16 <sup>th</sup> of Feb.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal camera monitoring during the second week of the fire revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. The last thermal run indicated that crews had been making great progress and there was a limited number of hotspots remaining; the completion date has not been adjusted.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Rain from ex-Tropical Cyclone Gita over Tuesday, Wednesday and Thursday could bring up to 50mm of rain. Wind gusts up to 60 km/h are possible on Wednesday, especially in the afternoon.		
<b>10. Prepared by:</b> GLENN THOMPSON		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

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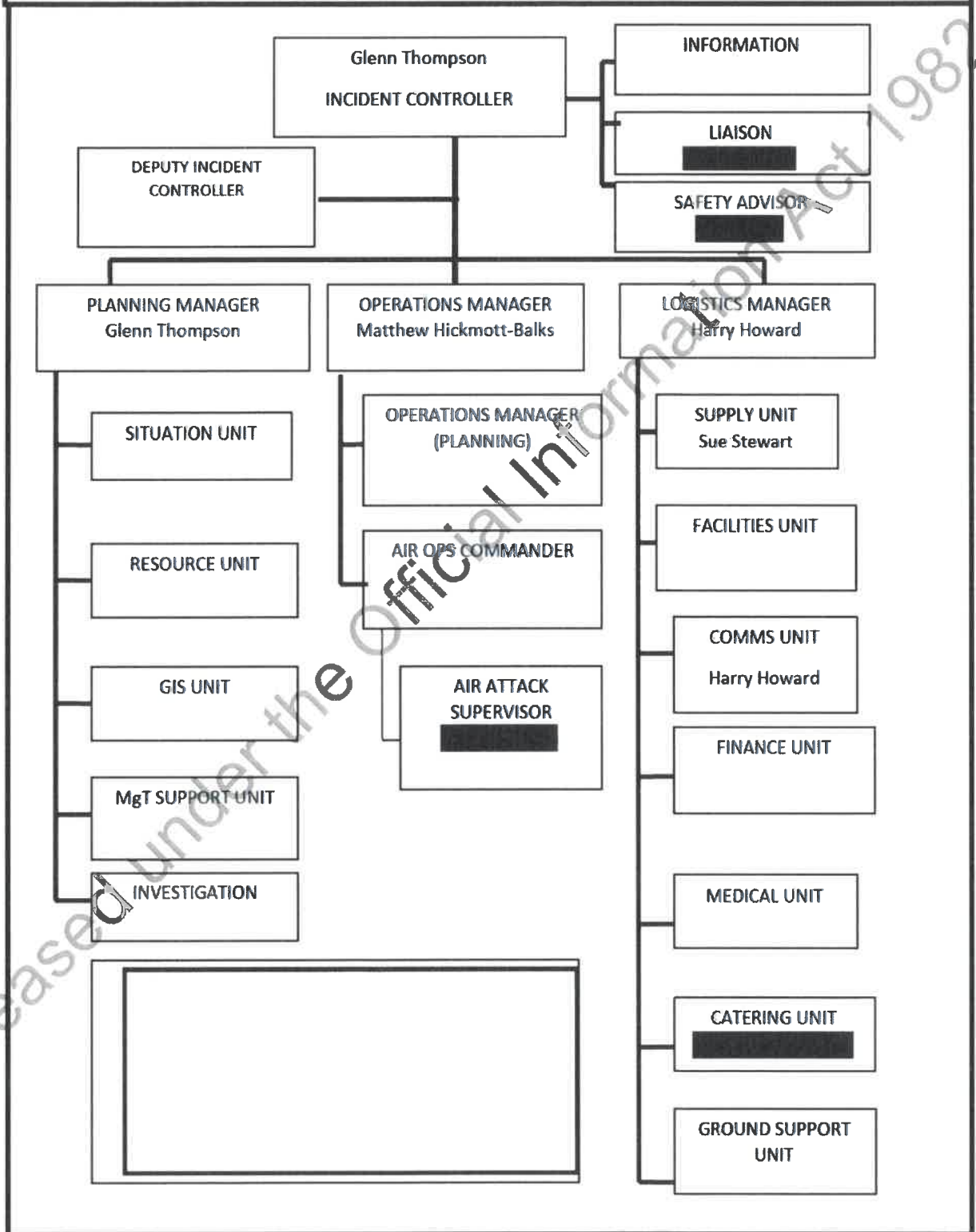


## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Glenn Thompson	██████	Fire RPT 1
Safety Officer	██████	██████	Fire RPT 1
Liaison Officer	██████	██████	Fire RPT 1
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Sue Stewart (NZ based)		██████
Catering Unit	██████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
7. Operations Section			
		Phone	Cell Phone Radio Ch
Operations Manager	Matthew Hickmott-Balks	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	██████	██████	Fire RPT 1
8. Prepared by:			
	Glenn Thompson		

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## ORGANISATION CHART





COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	118.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
Pumicelands	ICOM	CH 16		
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor		GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot		Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
Southern Helicopters	Squirrel B3	IRM	Support ground crews	VHF Fire 4	
Garden City	BK117	HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: [REDACTED]

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.</p> <p>Fatigue – Hydrate and Crew Boss to monitor, rest periods.</p> <p>Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.</p> <p>Air Operations – Crew briefings, pilots and Air Ops monitoring</p> <p>Driving – All personnel briefed 60kph speed limit, stock on road.</p> <p>Dust – Air Crews briefed, ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage, crews briefed. Helos now fuelling at staging</p> <p>Radio communications – Air ops to monitor radio</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Livestock wild bulls and pigs – Ground crews briefed</p> <p>Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED</p> <p>Hygiene- Wash hands before eating and after toilet breaks</p>		
<b>5. Prepared By:</b>		Glenn Thompson

## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Matthew Hickmott-Balks	FENZ	[REDACTED]	Fire RPT 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by helicopter		
B	Monitor by helicopter		
C	Monitor by helicopter		
D	Monitor by helicopter		
S	Monitor by helicopter		
X	Monitor by helicopter		
Z	Monitor by helicopter		
All sector hotspots	Wellington	Bryce Holcroft	5

8. Sector Assignment / Special Instructions
<p>ALL sectors</p> <ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Fireline weather observations at 1000hrs, 1200hrs &amp; 1400hrs.</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> </ul>

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Matthew Hickmott-Balks		Fire RPT 1
Air Attack Supervisor	[REDACTED]		Fire 4
Safety Officer	[REDACTED]		Fire RPT 1

<b>10. Prepared By:</b>	Glenn Thompson
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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	Fire RPT 1	First Aiders				
Crew Leaders	Various sectors	Fire RPT 1	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p><b>STAFF WITH KNOWN MEDICAL CONDITIONS:</b>      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer: ]</b> Harry Howard							
<b>8. Reviewed by Incident Controller:</b> Glenn Thompson							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Tuesday	20/02	20	85	20	25	SE	43	1	1	17 E
Wednesday	21/02	23	75	10	30	NW	62	2	49	402 E
Thursday	22/02	19	75	0	40	NW	71	5	198	1202 E

Prepared By: Glenn Thompson

### Updated forecast – 19 February 4:20 pm NZDT

#### Rest of Today:

- WNW wind gradually turning SW during the evening. Sustained 25-35 km/h through about 6 pm then decreasing to 15-25 km/h after 9 pm. Gusts to 50 km/h possible, then dropping below 40 km/h after 8 pm.
- Temperature dropping to 17°C by midnight.
- Relative humidity increasing to near 95% by midnight.
- No rainfall expected.
- Visibility expected to stay above 1 km.

#### Tuesday (midnight to midnight):

- SW wind sustained 15 km/h or less, becoming SE-E after 4 am. After 9 am sustained wind becoming E and increasing to 20-30 km/h, then increasing to 25-35 km/h in the afternoon. Gusts to 45-50 km/h in the afternoon and evening.
- Early morning temperature near 15°C before sunrise, increasing to near 20°C in the afternoon.
- Relative humidity near 100% in the morning, decreasing to 85-90% at times.
- Periods of rain expected, with rainfall amounts of 15-30 mm possible.
- Visibility may drop below 1 km at times in the afternoon and evening, especially over any higher terrain.



Wednesday (midnight to midnight):

- SE to NE before 6 am, then becoming NW. Sustained winds 25-35 km/h to near 6 am, then increasing to 30-40 km/h, thereafter. Gusts to 60 km/h possible, mainly in the afternoon.
- Early morning temperature near 16-17°C around midnight, then climbing to near 23-24°C.
- Morning relative humidity near 100%, falling to 75-80% in the afternoon.
- Showers likely, mainly during the morning, amounts 10 mm or less. Afternoon sun possible.
- Visibility may drop below 1 km at times during the morning, especially over any higher terrain.

Thursday Outlook:

- Wind NW tending W'ly by 6 am then SW near midday and beyond. Sustained 25-40 km/h, with gusts to 60 km/h possible to midday. Winds easing near/after 6 pm.
- Temperature near 16-17°C in the morning increasing to near 19 °C in the afternoon.
- Relative humidity decreasing to 75-80% in the afternoon.
- Little or no rain expected.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Glenn Thompson		19/2/18 19:00

## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday or Sunday. Small flare ups near the perimeter were common and these were easily contained by helicopters. Thermal camera data gathered on Friday 16 <sup>th</sup> , indicated a limited number of hotspots, these were extinguished over Saturday 17 <sup>th</sup> and Sunday 18 <sup>th</sup> of Feb. Over the weekend crews have cold trailed sectors along Alpha, Bravo, Charlie, Sierra and Xray. Further aerial reconnaissance on Monday the 19 <sup>h</sup> showed a small number of hotspots in the centre of the burn 100m south of the Sierra sector fire line. These were extinguished by ground crews. 50 mm of rain fell last week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2 <sup>nd</sup> Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3 <sup>rd</sup> Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on the 16 <sup>th</sup> of Feb.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal camera monitoring during the second week of the fire revealed a much higher number of hot areas than previously estimated. This led to a revision of the objectives especially the completion time. The last thermal run indicated that crews had been making great progress and there was a limited number of hotspots remaining; the completion date has not been adjusted.		
<b>9. Predicted Incident Development</b> There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.  Rain from ex-Tropical Cyclone Gita over Tuesday, Wednesday and Thursday could bring up to 50mm of rain. Wind gusts up to 60 km/h are possible on Wednesday, especially in the afternoon.		
<b>10. Prepared by:</b> GLENN THOMPSON		

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To secure the entire perimeter (estimated 50km long) by extinguishing all burning material within 30m of perimeter by the 28th February

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a dedicated safety officer.
2. Continue to liaise with all effected parties/agencies
3. Dedicate resources to the appropriate flank/sector as weather dictates
4. Treatment of all burning material within 30m of perimeter will be achieved by:
  - Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
  - Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.
  - Monitor sectors not being patrolled by helicopter.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Glenn Thompson

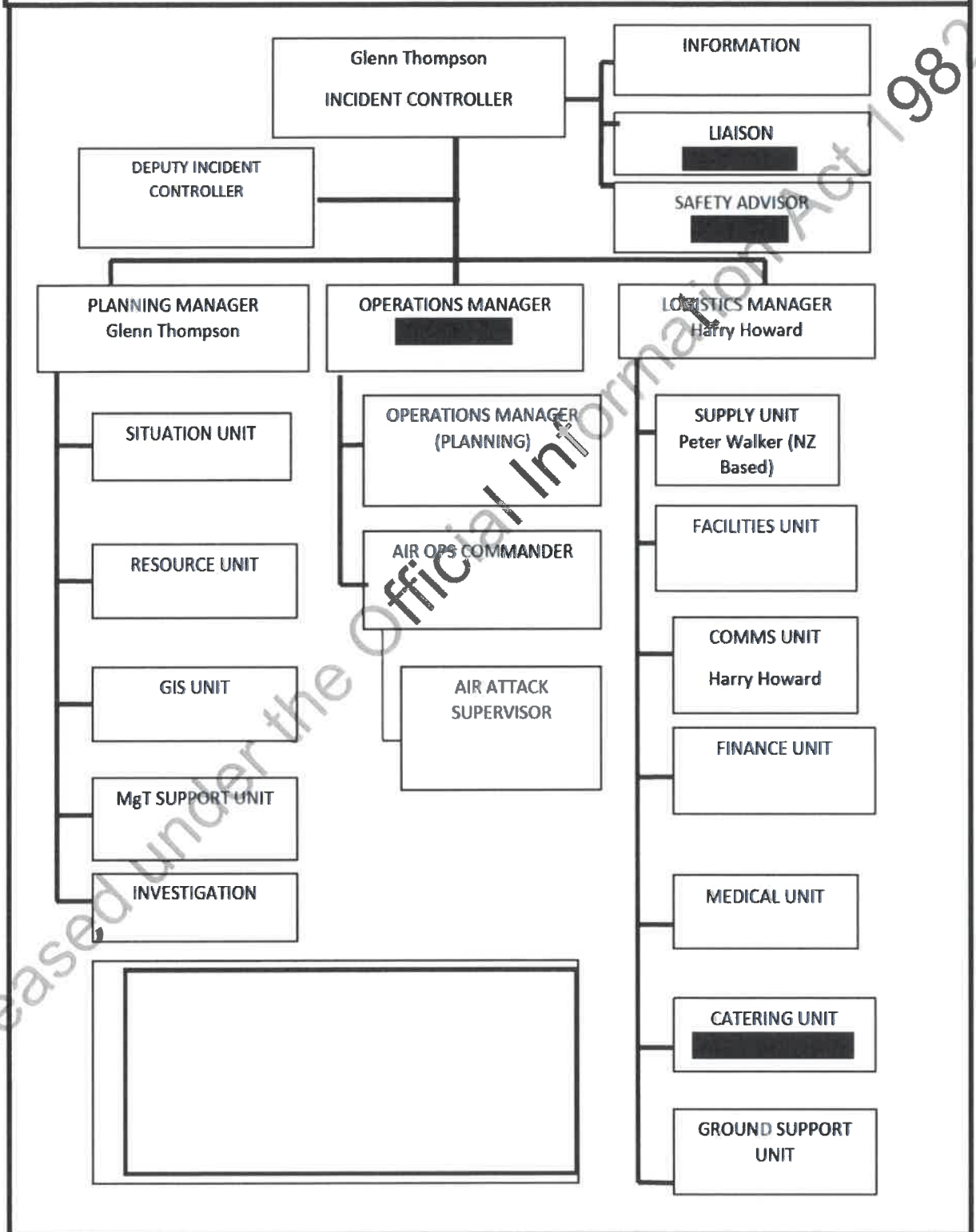


## ORGANISATION LIST

3. Incident Control			
		Phone	Cell Phone Radio Ch
Incident Controller	Glenn Thompson	██████	Fire RPT 1
Safety Officer	██████	██████	Fire RPT 1
Liaison Officer	██████	██████	Fire RPT 1
4. Agency Representative			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	██████	Fire RPT 1
Agency	Chatham Islands Council	██████	
Agency	Enterprise Trust	██████	
5. Planning/Intel Section			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	Glenn Thompson	██████	Fire RPT 1
Situations Unit			
Resources Unit	Harry Howard	██████	Fire RPT 1
6. Logistics Section			
		Phone	Cell Phone Radio Ch
Logistics Manager	Harry Howard	██████	Fire RPT 1
Supply Unit	Peter Walker (NZ based)		██████
Catering Unit	██████	██████	
Facilities Unit			
Finance Unit			
Communications Unit			
Medical Unit			
7. Operations Section			
Operations Manager	██████	██████	Fire RPT 1
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor			
<b>8. Prepared by:</b>	Glenn Thompson		

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## ORGANISATION CHART





COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire RPT 1		
Tactical	Crew Coms	VHF Fire 1		
Ground to Air	Air Ops	VHF Fire 4		
Air to Air	Pilots	118.1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor	██████████	GRWC		Fire 4 Fire RPT 1
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 Fire RPT 1
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel   B3	IRM	Support ground crews	VHF Fire 4	
██████████ - Garden City	BK117	HGU		VHF Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Staging Area	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield.

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards. Landowner has confirmed no stock will be in the staging area until operations finish.

8. Prepared By: ██████████

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Air Ops, pilots and crews briefed and monitoring for rapid change.

Fatigue – Hydrate and Crew Boss to monitor, rest periods.

Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.

Air Operations – Crew briefings, pilots and Air Ops monitoring

Driving – All personnel briefed 60kph speed limit, stock on road.

Dust – Air Crews briefed, ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage, crews briefed. Helicopters now fuelling at staging area.

Radio communications – Air ops to monitor radio

PLB – RCCNZ notified of Chatham Islands activity

Livestock wild bulls and pigs – Ground crews briefed

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaws- Only to be operated by unit standard qualified personnel, FULL PPE TO BE USED

Hygiene- Wash hands before eating and after toilet breaks

### 5. Prepared By:

Glenn Thompson

## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
██████████	FENZ	██████████	Fire RPT 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by helicopter		
B	Monitor by helicopter		
C	Monitor by helicopter		
D	Monitor by helicopter		
S	Monitor by helicopter		
X	Monitor by helicopter		
Z	Monitor by helicopter		
All sector hotspots	Wellington	Bryce Holcroft	5

8. Sector Assignment / Special Instructions	
<p>ALL sectors</p> <ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots identified through aerial reconnaissance.</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Fire line weather observations at 1000hrs, 1200hrs &amp; 1400hrs.</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> </ul>	

9. Sector Communications		Phone	Radio Ch
Operations Manager.	██████████		Fire RPT 1 & Fire 4
Attack Supervisor			
Safety Officer	██████████		Fire RPT 1

**10. Prepared By:** Matthew Hickmott-Balks

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	Fire RPT 1	First Aiders				
Crew Leaders	Various sectors	Fire RPT 1	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
Heli		Travel Time			Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p><b>STAFF WITH KNOWN MEDICAL CONDITIONS:</b>      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics</b>							
Manager / Safety Officer: ]		Harry Howard					
<b>8. Reviewed by Incident</b>							
Controller:		Glenn Thompson					

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 65% cured m/hr	Scrub EROS m/hr
Wednesday	21/02	23	75	10	35	NE	63	2.9	84	618 E
Thursday	22/02	20	80	0	35	NW	81	7.6	376	1899 E
Friday	23/02	19	75	0	30	SW	70	2.8	82	606 E

Prepared By: Glenn Thompson

### Updated forecast – 20 February 4:15 pm NZDT

#### Rest of Today:

- E wind sustained 30-40 km/h, tending NE late. Gusts to 45-50 km/h.
- Temperature falling to near 16°C by midnight.
- Relative humidity increasing to near 100% by midnight.
- Periods of rain developing, with rainfall amounts of 10-20 mm possible.
- Visibility may drop below 1 km at times in the afternoon and evening, especially over any higher terrain.

#### Wednesday (midnight to midnight):

- E to NE before 2-3 am, then becoming N and eventually NW by late morning. Sustained winds 25-35 km/h to near 6 pm, then decreasing to 20-25 km/h in the evening. Gusts to 55 km/h possible through early afternoon, then slowly decreasing.
- Early morning temperature near 16-17°C around midnight, then climbing to near 23°C.  
Morning relative humidity near 100%, falling to 75% in the afternoon.
- Showers likely, mainly during the early morning, with amounts of 10 mm or less. Clearing by the afternoon.
- Visibility may drop below 1 km at times during the early morning, especially over any higher terrain.



**Thursday (midnight to midnight):**

- Wind NW tending W by 6 am then SW after midday. Sustained 25-35 km/h, with gusts to 60 km/h possible, then 50 km/h in the evening.
- Temperature near 16-17°C in the morning increasing to near 19-20°C in the afternoon.
- Relatively humidity decreasing to 75-80% in the afternoon.
- Chance of a couple evening showers.

**Friday outlook:**

- Wind SW sustained 25-35 km/h with gusts to 50 km/h early, then increasing to 60-65 km/h in the afternoon.
- Temperature near 15°C in the morning increasing to near 19°C in the afternoon.
- Relatively humidity decreasing to 75% in the afternoon.
- Scattered showers possible.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Glenn Thompson		21/2/18 18:00

## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday or Sunday. Small flare ups near the perimeter were common and these were easily contained by helicopters. Thermal camera data gathered on Friday 16 <sup>th</sup> , indicated a limited number of hotspots, these were extinguished over Saturday 17 <sup>th</sup> and Sunday 18 <sup>th</sup> of Feb. Over the weekend crews have cold trailed sectors along Alpha, Bravo, Charlie, Sierra and Xray. Further aerial reconnaissance on Monday the 19 <sup>h</sup> showed a small number of hotspots in the centre of the burn, 100m south of the Sierra sector fire line. These were extinguished by ground crews. On Wednesday the 21 <sup>st</sup> of February 2018 aerial reconnaissance did not pick up any further hotspots. 20mm of rain has fallen this week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2 <sup>nd</sup> Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3 <sup>rd</sup> Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on the 16 <sup>th</sup> of Feb.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal camera monitoring during the second week of the fire revealed a much higher number of hot areas than previously estimated. On Wednesday the 21 <sup>st</sup> of February the fire perimeter was fully contained using ground crews and aircraft. Incident objectives have been changed to reflect the ongoing fire ground monitoring that will occur over the next two weeks.		
<b>9. Predicted Incident Development</b> Containment of the entire fire perimeter (estimated at 50km long) by extinguishing all burning material within 30m of the perimeter by the 28 <sup>th</sup> of February, has been achieved. On-going monitoring of the fire will continue to occur over the next two weeks by Fire and Emergency NZ personnel and DOC Staff. Ground crew are now recommissioning firefighting equipment and aircraft are being prepared for the journey back to New Zealand.		
<b>10. Prepared by:</b> GLENN THOMPSON		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To continue to monitor the fire ground until the 16<sup>th</sup> of March 2018.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a Safety Officer for the recommissioning of freighting resources.
2. Continue to liaise with all effected parties/agencies on a regular basis.
3. Monitor the fire ground using ground observation.

5. Prepared by: Glenn Thompson

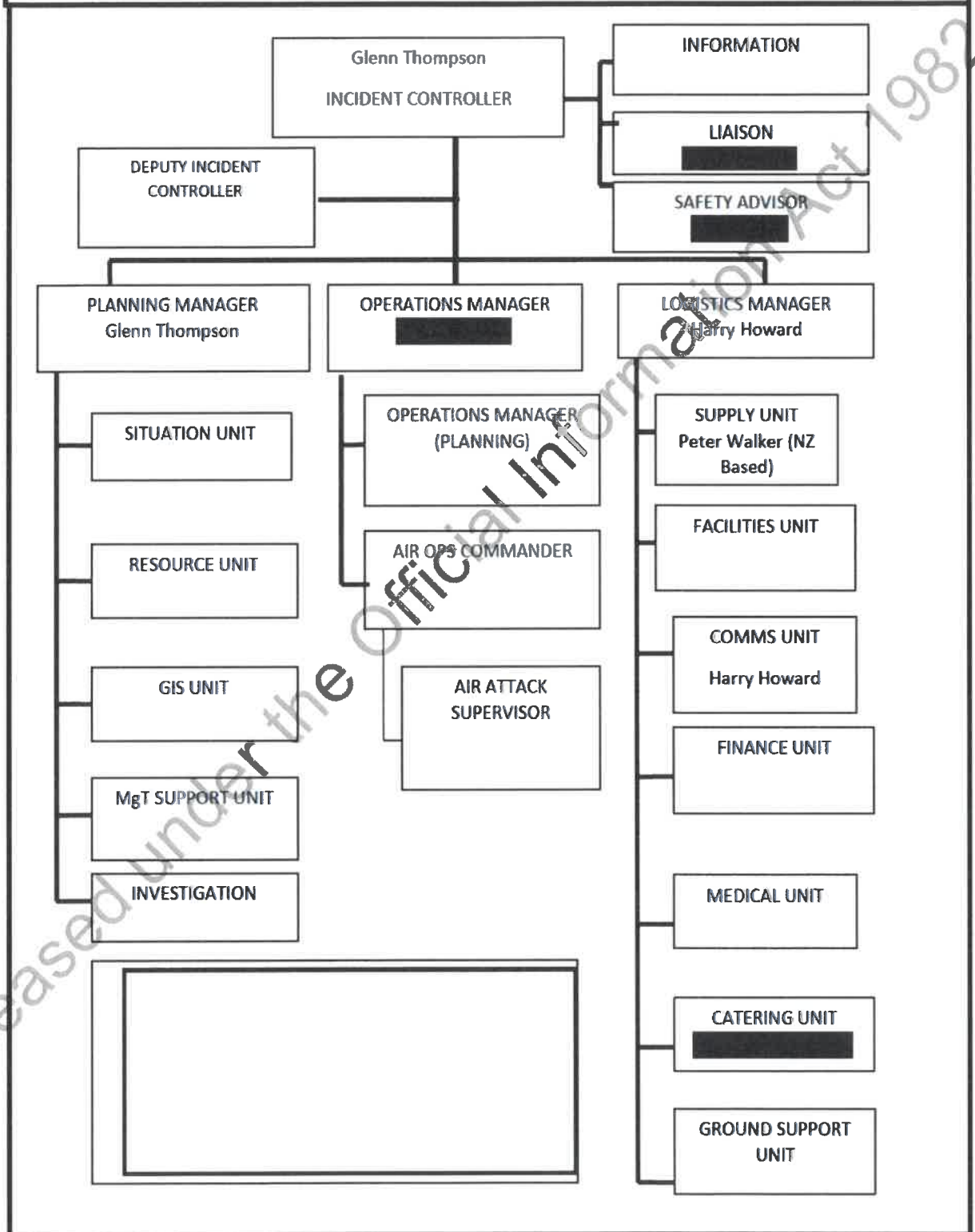
Released under the Official Information Act 1982



ORGANISATION LIST				
<b>3. Incident Control</b>				
		Phone	Cell Phone	Radio Ch
Incident Controller	Glenn Thompson	██████		Fire RPT 1
Safety Officer	██████	██████		Fire RPT 1
Liaison Officer	██████	██████		Fire RPT 1
<b>4. Agency Representative</b>				
		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	██████		Fire RPT 1
Agency	Chatham Islands Council	██████		
Agency	Enterprise Trust	██████		
<b>5. Planning/Intel Section</b>				
		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Glenn Thompson	██████		Fire RPT 1
Situations Unit				
Resources Unit	Harry Howard	██████		Fire RPT 1
<b>6. Logistics Section</b>				
		Phone	Cell Phone	Radio Ch
Logistics Manager	Harry Howard	██████		Fire RPT 1
Supply Unit	Peter Walker (NZ based)		██████	
Catering Unit	██████	██████		
Facilities Unit				
Finance Unit				
Communications Unit				
Medical Unit				
<b>7. Operations Section</b>				
Operations Manager	██████	██████		Fire RPT 1
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor				
<b>8. Prepared by:</b> Glenn Thompson				

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## ORGANISATION CHART







COMMUNICATIONS PLAN				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire 1		
Tactical	Crew Coms	VHF Fire 1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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<b>AIR OPERATIONS PLAN</b>					
<b>3. Personnel and Communications</b>					
Position	Name	Affiliation	Phone	Radio Chan	
Air Div. Commander					
Air Attack Supervisor					
Air Support Supervisor					
Lead Helicopter Pilot					
Lead Fixed-Wing Pilot					
<b>4. Air Resource Assignments</b>					
Pilot Name/ Company	Aircraf t Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
<b>5. Location of Filling Points/Service Areas</b>					
Name	Grid Reference				
<b>6. Safety Notes / Hazards / Radio Coverage Limitations</b>					
<b>7. Air Operations Special Equip or Service</b>					
Helicopters are being prepared by the pilots for the return to New Zealand. Crews will provide assistance if required by pilots.					
<b>8. Prepared By:</b> <span style="background-color: black; color: black;">XXXXXXXXXX</span>					

Released under the Official Information Act 1982

<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<p>L - Lookout(s)</p> <p>A – Anchor Point(s)</p> <p>C – Communication(s)</p> <p>E – Escape Route(s)</p> <p>S – Safety Zone(s)</p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Crews briefed and monitoring for rapid change.</p> <p>Fatigue – Hydrate and Crew Boss to monitor, rest periods.</p> <p>Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.</p> <p>Driving – All personnel briefed 60kph speed limit, stock on road.</p> <p>Dust – Air Crews briefed, ground crews supplied PPE and monitor</p> <p>Fuels and Foam – Correct handling and storage, crews briefed. Helicopters now fuelling at staging area.</p> <p>Poor communications – IMT to monitor radio</p> <p>PLB – RCCNZ notified of Chatham Islands activity</p> <p>Livestock wild bulls and pigs – Ground crews briefed</p> <p>Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.</p> <p>Hygiene- Wash hands before eating and after toilet breaks</p>		
<b>5. Prepared By:</b>		Glenn Thompson

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## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
██████████	FENZ	██████████	Fire 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by ground observation		
B	Monitor by ground observation		
C	Monitor by ground observation		
D	Monitor by ground observation		
S	Monitor by ground observation		
X	Monitor by ground observation		
Z	Monitor by ground observation		
All sector hotspots	Wellington	Bryce Holdcroft	5

**8. Sector Assignment / Special Instructions**  
 ALL sectors

- Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.
- Continuation of extinguishment of all hot spots identified through ground based reconnaissance.
- Develop and flag ground access
- Maintain reporting schedules, on commencement of work.

9. Sector Communications		Phone	Radio Ch
Operations Manager.	██████████		Fire 1
Air Attack Supervisor			
Safety Officer	██████████		Fire 1

**10. Prepared By:** ██████████

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
Point 106	Staging	Fire 1	First Aiders				
Crew Leaders	Various sectors	Fire 1	First Aiders				
<b>4. Transportation</b>							
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance				
Air Operations ( Emergency Evac only)							
St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
<b>Heli</b>		<b>Travel Time</b>			<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p><b>STAFF WITH KNOWN MEDICAL CONDITIONS:</b>      Advise Logistics Manager</p>							
<b>7. Prepared by Logistics Manager / Safety Officer:</b> ] Harry Howard [							
<b>8. Reviewed by Incident Controller:</b> Glenn Thompson							

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 65% cured m/hr	Scrub EROS m/hr
Thursday	22/02	21	75	5	30	NW	67	2.7	73	553 E
Friday	23/02	20	80	5	30	SW	61	2.0	46	378 E
Saturday	24/02	19	75	0	30	SW	61	2.8	82	606 E

Prepared By: Glenn Thompson

### Updated forecast – 21 February 4:15 pm NZDT

Rest of today:

- NW 15-25 km/h. Gusts up to 40 km/h through the evening, then decreasing tonight.
- Temperature falling to near 17°C by midnight.
- Relative humidity increasing to around 100% by midnight.
- No rainfall expected.

Thursday (midnight to midnight):

- Wind NNW tending W late in the morning, then SW after 5:00 pm. Sustained 20-30 km/h in the morning, then 25-40 km/h in the afternoon and evening with gusts to 60 km/h possible, decreasing in the evening.
- Temperature near 16-17°C in the morning increasing to near 21°C in the afternoon.
- Relative humidity near 95% early, decreasing to 70-75% in the afternoon.
- Chance of a couple showers early in the morning and again in the evening. Total rainfall 5 mm or less.
- Slight chance for visibility less than 1km before 8:00 am.

Friday (midnight to midnight):

- Wind SW sustained 25-35 km/h with gusts to 60 km/h early in the afternoon and evening.
- Temperature near 15°C in the morning increasing to near 20°C in the afternoon.
- Relative humidity near 95% early, decreasing to 75% in the afternoon.
- Scattered showers possible in the afternoon and evening. Total rainfall 5 mm or less.



Makara Fire, Chatham Island.  
Shift period: 22<sup>th</sup> Feb 2018 0700-1900

Saturday outlook:

- Wind SW sustained 25-35 km/h with gusts 60-65 km/h.
- Temperature near 14°C in the morning increasing to near 19°C in the afternoon.
- Relative humidity near 95% early, decreasing to 70-75% in the afternoon.
- Isolated showers possible, primarily in the morning.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Glenn Thompson		21/2/18 18:00

## SITUATION REPORT

<b>3. Location</b> South Western end Chatham Island	<b>4. Vegetation</b> Tarehinau Scrub / peat /	<b>5. NZTM Grid Ref.</b>
<b>6. Assessment</b> Vegetation in Tarahinau, (Dracophyllum) bracken and scrub fuels with areas of Peat, started on the 1 <sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2 <sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday or Sunday. Small flare ups near the perimeter were common and these were easily contained by helicopters. Thermal camera data gathered on Friday 16 <sup>th</sup> , indicated a limited number of hotspots, these were extinguished over Saturday 17 <sup>th</sup> and Sunday 18 <sup>th</sup> of Feb. Over the weekend crews have cold trailed sectors along Alpha, Bravo, Charlie, Sierra and Xray. Further aerial reconnaissance on Monday the 19 <sup>th</sup> showed a small number of hotspots in the centre of the burn, 100m south of the Sierra sector fire line. These were extinguished by ground crews. On Wednesday the 21 <sup>st</sup> of February 2018 aerial reconnaissance did not pick up any further hotspots. 20mm of rain has fallen this week.		
<b>7. Action taken</b> Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2 <sup>nd</sup> Feb, and were allowed back into the area the following day once rain moderated fire behaviour.  Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.  Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.  The first Incident Management Team from NZ arrived midday on the 3 <sup>rd</sup> Feb and transitioned on the 10 <sup>h</sup> . The 3 <sup>rd</sup> IMT started on the 16 <sup>th</sup> of Feb.		
<b>8. Factors</b> Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides. Obtaining resources that are not available on the island will take 2-4 days to arrive. Weather – See separate weather / fire behaviour predictions at back of IAP. Thermal camera monitoring during the second week of the fire revealed a much higher number of hot areas than previously estimated. On Wednesday the 21 <sup>st</sup> of February the fire perimeter was fully contained using ground crews and aircraft. Incident objectives have been changed to reflect the ongoing fire ground monitoring that will occur over the next two weeks.		
<b>9. Predicted Incident Development</b> Containment of the entire fire perimeter (estimated at 50km long) by extinguishing all burning material within 30m of the perimeter by the 28 <sup>th</sup> of February, has been achieved. On-going monitoring of the fire will continue to occur over the next two weeks by Fire and Emergency NZ personnel and DOC Staff. Ground crew are now recommissioning firefighting equipment and aircraft are being prepared for the journey back to New Zealand.		
<b>10. Prepared by:</b> GLENN THOMPSON		

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

1. Ensure safety of all responders
2. Protect life of residents
3. Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)
4. Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)
5. To continue to monitor the fire ground until the 16<sup>th</sup> of March 2018.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

1. Appoint a Safety Officer for the recommissioning of firefighting resources.
2. Continue to liaise with all effected parties/agencies on a regular basis.
3. Monitor the fire ground using ground observation.

5. Prepared by: Glenn Thompson

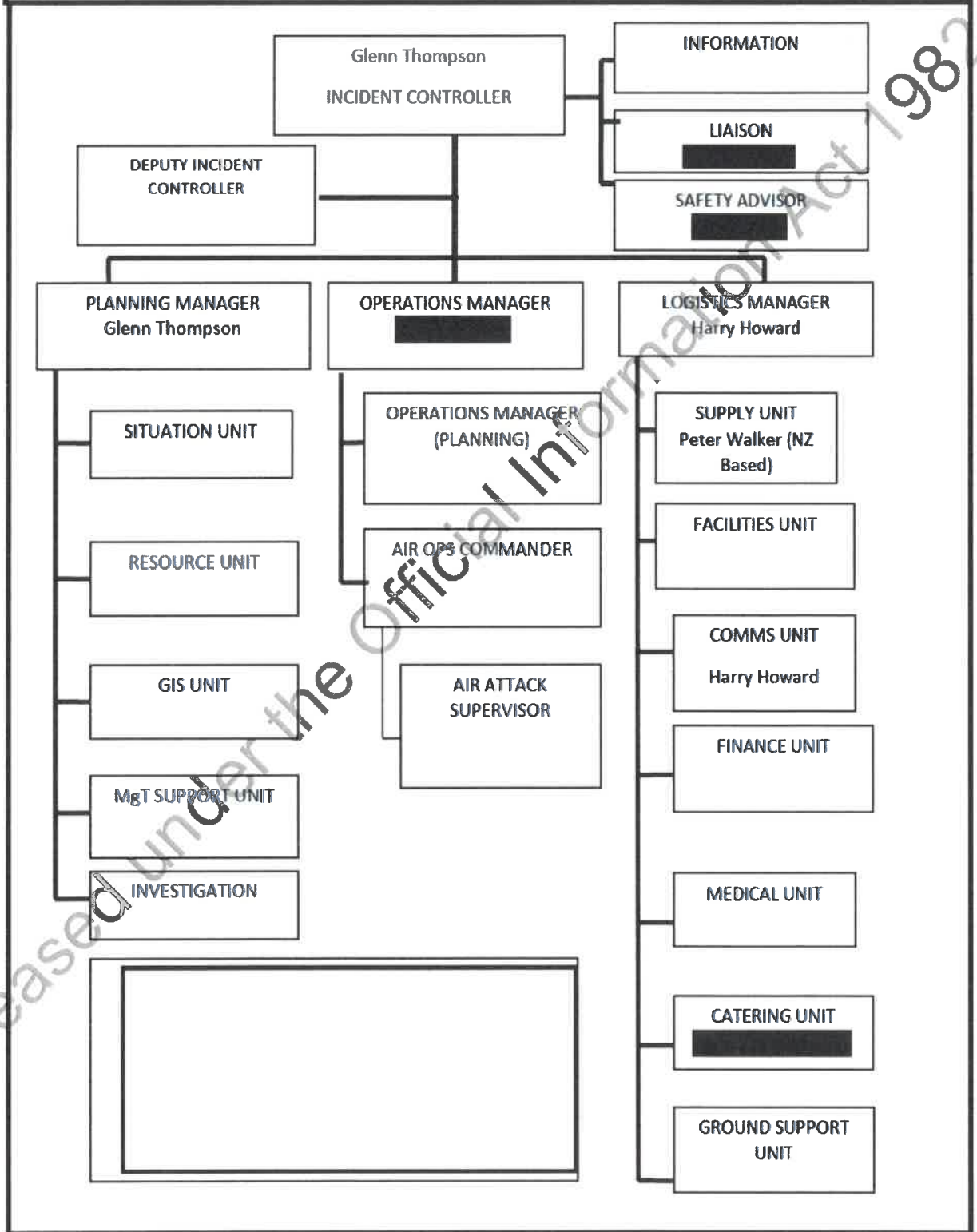
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<b>ORGANISATION LIST</b>			
<b>3. Incident Control</b>			
		Phone	Cell Phone
Incident Controller	Glenn Thompson	[REDACTED]	[REDACTED]
Safety Officer	[REDACTED]	[REDACTED]	[REDACTED]
Liaison Officer	[REDACTED]	[REDACTED]	[REDACTED]
<b>4. Agency Representative</b>			
		Phone	Cell Phone
Lead Agency	FENZ	[REDACTED]	[REDACTED]
Agency	Chatham Islands Council	[REDACTED]	[REDACTED]
Agency	Enterprise Trust	[REDACTED]	[REDACTED]
<b>5. Planning/Intel Section</b>			
		Phone	Cell Phone
Planning/Intel Manager	Glenn Thompson	[REDACTED]	[REDACTED]
Situations Unit		[REDACTED]	[REDACTED]
Resources Unit	Harry Howard	[REDACTED]	[REDACTED]
<b>6. Logistics Section</b>			
		Phone	Cell Phone
Logistics Manager	Harry Howard	[REDACTED]	[REDACTED]
Supply Unit	Peter Walker (NZ based)	[REDACTED]	[REDACTED]
Catering Unit	[REDACTED]	[REDACTED]	[REDACTED]
Facilities Unit		[REDACTED]	[REDACTED]
Finance Unit		[REDACTED]	[REDACTED]
Communications Unit		[REDACTED]	[REDACTED]
Medical Unit		[REDACTED]	[REDACTED]
<b>7. Operations Section</b>			
Operations Manager	[REDACTED]	[REDACTED]	[REDACTED]
Sector Alpha Supervisor		[REDACTED]	[REDACTED]
Sector Zulu Supervisor		[REDACTED]	[REDACTED]
Sector Sierra Supervisor		[REDACTED]	[REDACTED]
Air Attack Supervisor		[REDACTED]	[REDACTED]
<b>8. Prepared by:</b> Glenn Thompson			

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## ORGANISATION CHART



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<b>COMMUNICATIONS PLAN</b>				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	VHF Fire 1		
Tactical	Crew Coms	VHF Fire 1		
<b>Radio channels versus frequency for VHF Fire RPT 1</b>				
Agency	Radio	Channel		Comments
DOC	Base sets	Ch 30		
FENZ	DUAL Band	Zone A CH 15		
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
<b>7. Prepared by:</b>		Harry Howard		

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander				
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot				
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers

### 5. Location of Filling Points/Service Areas

Name	Grid Reference

### 6. Safety Notes / Hazards / Radio Coverage Limitations

### 7. Air Operations Special Equip or Service

Helicopters are being prepared by the pilots for the return to New Zealand. Crews will provide assistance if required by pilots.

8. Prepared By: [REDACTED]

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<b>SAFETY PLAN</b>		
<b>3. General Safety Points</b>		
<b>LACES</b>	<b>Fire Orders</b>	<b>Watch outs</b>
<b>L - Lookout(s)</b> <b>A – Anchor Point(s)</b> <b>C – Communication(s)</b> <b>E – Escape Route(s)</b> <b>S – Safety Zone(s)</b>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>
<b>4. Specific Safety Points</b>		
<p>Weather – Crews briefed and monitoring for rapid change.            Fatigue – Hydrate and Crew Boss to monitor, rest periods.            Slips, Trips and Falls – Crew briefed, made aware “punji sticks”, cliffs, deep water and bogs.            Driving – All personnel briefed 60kph speed limit, stock on road.            Dust – All Crews briefed, ground crews supplied PPE and monitor at staging area.            Fuels and Foam – Correct handling and storage, crews briefed. Helicopters now fuelling at staging area.            Poor communications – IMT to monitor radio            PLB – RCCNZ notified of Chatham Islands activity            Livestock wild bulls and pigs – Ground crews briefed            Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.            Hygiene- Wash hands before eating and after toilet breaks</p>		
<b>5. Prepared By:</b>		Glenn Thompson





## SECTOR ASSIGNMENTS

NB- All sectors on one page.

<b>6. Operations Manager</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
██████████	FENZ	██████████	Fire 1

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Monitor by ground observation		
B	Monitor by ground observation		
C	Monitor by ground observation		
D	Monitor by ground observation		
S	Monitor by ground observation		
X	Monitor by ground observation		
Z	Monitor by ground observation		
All sector hotspots	Wellington	Bryce Holcroft	5

**8. Sector Assignment / Special Instructions**  
**ALL sectors**

- Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.
- Continuation of extinguishment of all hot spots identified through ground based reconnaissance.
- Develop and flag ground access
- Maintain reporting schedules, on commencement of work.

9. Sector Communications	Phone	Radio Ch
Operations Manager. ██████████		Fire 1
Air Attack Supervisor ██████████		
Safety Officer ██████████		Fire 1

**10. Prepared By:** ██████████

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MEDICAL PLAN							
<b>3. First Aid Station</b>							
Name	Location	Phone/Radio Channel	Paramedics available at Station				
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St John Ambulance	1 Hospital Road		Yes				
WestPac Rescue			Yes				
Life Flight							
<b>5. Hospitals</b>							
Heli		Travel Time			Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No	
<b>6. Special Emergency Procedures</b>							
Medical Centre utilised to stabilise patients Life Flight dispatched from Wellington Check with Chatham's Air for Aircraft Movements  <b>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</b>							
<b>7. Prepared by Logistics</b>							
Manager / Safety Officer: ]		Harry Howard [ ]					
<b>8. Reviewed by Incident</b>							
Controller:		Glenn Thompson					

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

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Prepared By: Glenn Thompson

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Rest of today:

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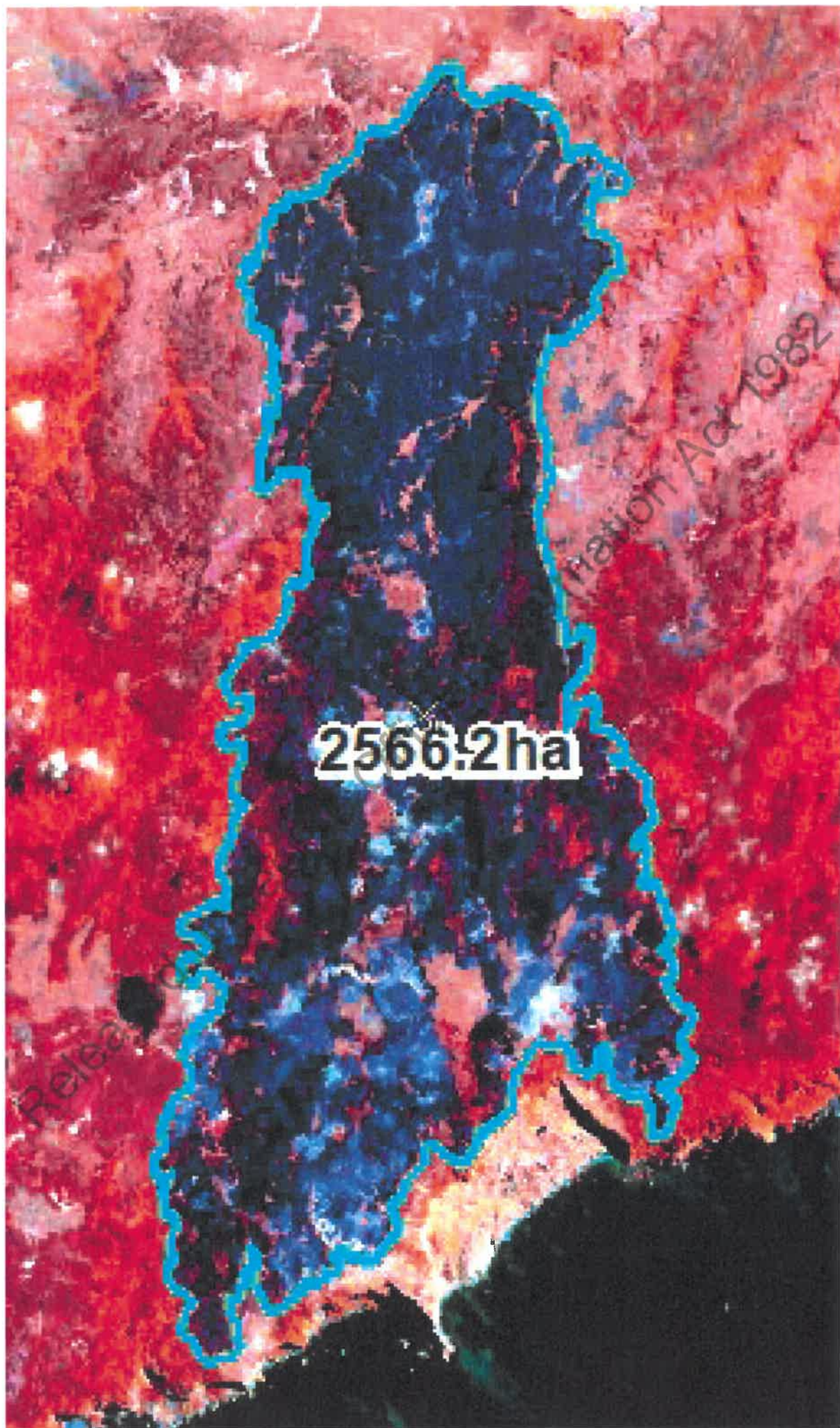
Makara Fire, Chatham Island.  
Shift period: 22<sup>th</sup> Feb 2018 0700-1900

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- Temperature near 14°C in the morning increasing to near 19°C in the afternoon.
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- Isolated showers possible, primarily in the morning.

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