

Port Hills Incident Action Plans

Incident Action Plans are a tool commonly used during medium-large scale events to ensure that all relevant personnel are aware of the directions being issued by the Incident Management Team. They provide a valuable overview of the incident, what the objectives are for each day, tasks to be undertaken and the resources needed.

In addition to this they also provide a practical resource to our operational staff by including details on the command structure with contact information and health and safety plans.

Redactions

Redactions have been made to this report in line with section 9(2)(a) of the Official Information Act to protect the privacy of natural persons and 9(2)(g)(ii) to protect members of organisations and employees from improper pressure or harassment.



Jason Flewellen

From: Douglas Marshall
Sent: Monday, 13 February 2017 9:03 p.m.
To: Jason Flewellen
Subject: Fwd: Special fire weather forecast for western Port Hills area
Attachments: image001.png

Importance: High

Regards

Douglas Marshall

----- Original message -----

From: "Woods, Darrin" <Darrin.Woods@[REDACTED]>
Date: 13/02/17 8:46 PM (GMT+12:00)
To: Douglas Marshall <Douglas.Marshall@[REDACTED]>, Rural Fire <ruralfire@[REDACTED]>
Subject: Fwd: Special fire weather forecast for western Port Hills area

Hi Douglas

Update in light of SW on site.

Cheers
Darrin

Sent from my Samsung device

----- Original message -----

From: Michael Green <Mike.Green@[REDACTED]>
Date: 13/02/2017 20:14 (GMT+12:00)
To: "Woods, Darrin" <Darrin.Woods@[REDACTED]>
Subject: RE: Special fire weather forecast for western Port Hills area


Darrin

What appears to be happening is that an orographic trough (that develops in the lee of the South Alps in westerly winds) is getting shoved off to east. This is doing two things....it is taking away the westerly gradient about and south of CHCH and turning the flow briefly southwest as it moves off.

These features are a bit unpredictable but any southwest wind will not be strong - in fact speeds are light about and south of you. I would expect the westerlies to dominate again pretty quick but with the cooling that will occur this evening, the speeds are likely to remain lower than in the earlier forecast. So expect west-northwest still to dominate but gust speeds more likely max gusts 50 km/h to midnight. Otherwise forecast as earlier.

Mike

ACTION PLAN

1. Action Plan Number	2. Action Plan as at:		ACTION PLAN COVER SHEET
02	Date/ Time	13/02/17 2230	
3. ECC/EOC		4. Originator Record #	
SDC EOC			
5. Operational Period covered by this Action Plan:			
2030 13/2/17 – 0600 14/2/17 Patrol & monitor 0600 14/2/17 – 1200 mid day Air attack			
6. Approved for release by Controller:			
Name:	Signed:	Date/Time:	
Douglas Marshall		13/2/17 2338	

7. Situation Summary
 (What has happened – based on event-critical / high-priority issues in SITREP? Note any assumptions / estimates made. Attach map, drawing, tables describing the event, but SITREP should provide most of this.)
 An area of gorse broom and pine trees in Early Valley Rd leading to the Summit Rd has been destroyed by fire. A pine plantation has been slightly damaged.
 This fire is separate from another fire which started at Marleys Hill at 1900 hrs and is heading towards the radar station at Cass Peak. This fire has possibly burnt around Marley's Hill but may have burnt the aerials on top of it.
 There is a concern that the radar station might be lost as well as the Kennedys Bush Scenic reserve. One house has been lost while another is still under threat.
 Evacuations have been completed for the area of approximately 20 houses at Early Valley as well as approximately four houses at Marley's Hill.
 Emergency Centre was opened at the Tai Tapu School by the TT Com Response Team, but has been closed

9. Overall Goal
 (What, in general terms, needs to be done to achieve the Objectives.)
 22.30 – 0600 Patrol and property protection where its safe to do so
 0600 - 1200 Focus on air attack with limited ground attack due to terrain & road access

10. Objectives
 (Enter clear, concise, time-bounded statements of the objectives for managing the emergency response.)
 Protect life and property, specifically the domestic dwellings in the area.
 0600 – 1200 confirm status of infrastructure (radar station, pylons, aerials at Marley's Hill)
 Protection of any heavy fuels in the area – ie the forestry plantation running between Early Valley and Holmes Rise. Further protection of Kennedy's Bush Scenic Reserve.
 Ten helicopters will form the basis of the Air Attack with a possible 2 x Cresco fixed wing working form landing strip at 183 Tancred's Rd.

11. Limiting Factors
 (Weather, resource, social + environmental factors that need to be taken into account for each goal/strategy.)
 Power pylons running from Early Valley Rd to Summit Rd, several houses, Aircraft dome at Cass Peak, Hilly Terrain, Limited access for ground crews.

Emergency Coordination System Form 13 - Action Plan Template

Weather: Refer to email of weather report from Darrin Woods and Mike Green.

Limited water sources in the area.

12. Specific Tasks

(Outline specific tasks, lead + support agencies, timelines, etc – where they are critical)

Do not enter into detailed planning here. That is the role of Task Planning, lead by the Task Lead Agency.

Continue protection of all domestic dwellings and Cass Peak radar station, Scenic Reserve and Pine Plantation.

Protect Hoon Hay Reserve and mitigate spread of fire into this area on towards Governors Bay.

Develop an Air Attack plan for 0600 – 1200 with a further air and ground attack plan being developed from 1200 onwards.

13. Resource Needs

(Outline management of critical resources)

Catering for 10 x pers required at 0600 for crew at SFP at Early Valley and Tai Tapu Rd.

Reassess resource needs mid-morning.

14. Information Flow

(Who needs to know what, when and how will it be achieved.)

Next IAP to be prepared based on RIMT decisions when they commence at 0730 14 Feb 17.

IC for RIMT is Rob Hands – key individuals to be briefed to be Mayors of SDC, CCC, CO's of SDC and CCC, PRFOS SDC, CCC and DOC.

15. Tele-Communications Plan

(Outline of objective/strategy/task critical communications systems, channels, phone/cell #s, etc.)

Cell phone coverage within Early Valley is limited but once on ridgelines there are no issues.

Fire One for ground crews, Fire Four for air crews

16. Recovery

(Outline longer-term Recovery implications, planning, activities)

Reassess if Welfare Centre is required to be established again.

17. Prepared by: Jared Davidson

Date/Time 13 February 2017 1125hrs

1. Incident Name		2. Operational Period	IAP COVER SHEET
Port Hills Complex		Date 14/02/17 Time 0600-2000	
INCIDENT ACTION PLAN			
The items checked below are included in the incident Action Plan			
<input type="checkbox"/>	SITUATION REPORT		
<input type="checkbox"/>	INCIDENT OBJECTIVES		
<input type="checkbox"/>	ORGANISATION LIST		
<input type="checkbox"/>	COMMUNICATIONS PLAN		
<input type="checkbox"/>	AIR OPERATIONS PLAN		
<input type="checkbox"/>	SAFETY PLAN		
<input checked="" type="checkbox"/>	DIVISION ASSIGNMENT		
<input type="checkbox"/>	SECTOR ASSIGNMENT		
<input type="checkbox"/>	MEDICAL PLAN		
<input type="checkbox"/>	FIRE MAP		
<input type="checkbox"/>	WEATHER FORECAST		
<input type="checkbox"/>	FIRE GROUND ROADING PLAN		
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
3. Approved by Incident Controller:			
Name	Signed	Date/Time	
Rob Hands		14/2/17 0600-1800 hrs	

1. Incident Name Port Hills Complex	2. Operational Period Date 14/02/17 Time 0600-2000	SITUATION REPORT
3. Location Rolleston EOC	4. Vegetation Scrub/Tussock/Grass/Forestry	
6. Assessment <p>2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have compromised significant assets in both locations.</p> <p>Assets at risk include communication repeaters, residential properties, Christchurch Adventure Park infrastructure, and significant recreation and ecological reserves.</p> <p>Unconfirmed property losses in the Early Valley area.</p> <p>12:30 update: Fires on the on the Port Hills between Sign of the Kiwi and Early Valley continue to burn, although the Marleys Hill Fire appears to be well contained at present and most activity is focussed on retardant to consolidate asset protection.</p> <p>Early Valley fire has burnt over the ridgeline above Governors Bay and Allandale, resulting in the need to assess risk to life and property at the head of Lyttelton Harbour.</p> <p>Confirmation that one house and one structure have been destroyed in Early Valley, and another house has been partially damaged in the area.</p>		
7. Action taken <p>Regional Incident Management Team in place, working with resources in the field on both incidents.</p> <p>Evacuation of properties in the vicinity of both fires.</p> <p>Road closures in place in the vicinity of both fires – these will remain in place until reassessment</p> <p>14 helicopters including aerial platform plus 2 fixed wings have been deployed for fire suppression, structure protection and supporting ground crews.</p> <p>Fixed wings laying retardant around key assets to strengthen protection.</p> <p>Retardant mixing operation established at Christchurch international Airport – ground application of retardant around key comms and structural assets on Summit Road.</p> <p>Road closures remain in place in the vicinity of both fires, although residents of Holmes Road have been allowed to return home.</p> <p>Welfare Centre has been established at the Lincoln Events Centre for affected residents in the Tai Tapu area.</p> <p>Geotech assessment of rockfall hazard over Governors Bay and Allandale initiated.</p> <p>Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.</p>		
8. Factors <p>Key factors are</p> <ul style="list-style-type: none"> • Multiple assets of value either compromised or destroyed by fire • Steep and dissected hill country posing difficulty with access • Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry • Potential for strengthening winds and wind changes early afternoon to south • Significant resource commitment in terms of personnel and equipment • Potential for other ignitions around the region requiring re-tasking of deployed resources • Possible actions required due to identified rockfall risk 		

9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely.

Further spread potential with daytime heating and increased winds is still possible later in the day and crews are remaining vigilant.

Consideration of release of some overhead assets from the Marleys Fire to support operations and rest relief for key fire management staff at Early Valley.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 14/2/17 1230



1. Incident Name Port Hills Complex	2. Operational Period Date 14/02/17 Time 0600-2000	INCIDENT OBJECTIVES
3. Overall Incident Objectives To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values, where it is safe to do so. Contain, control and extinguish the fire with minimum disruption to community.		
4. Objectives for specified Operational Period Consolidate containment lines established by overnight crews by 20:00 hrs. Focus on air attack during the morning with the intention of getting ground crews actively engaged in fire suppression across both fires no later than 12:00 hrs.		
5. Prepared by: Darrin Woods Date/Time 14/02/2017 /		



1. Incident Name		2. Operational Period		ORGANISATION LIST	
Port Hill Complex		Date	14/02/17		
		Time	0600-2000		
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Rob Hands				
Information Officer	Stephen Hill				
	Allanah Jarman				
Safety Officer	Graeme Knight				
Liaison Officer					
Fire Investigation	Graeme Still				
	Roy Hoogenraad				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency	SDC Douglas Marshall				
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager	Darrin Woods				
Management Support Unit	Christine Tatterson				
Situation Unit	Rodney Chambers				
Technical Specialists Unit	Fire Behaviour – Grant Pearce			7	
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply	Craig Westley				
Finance Unit					
Comms					
IT			3472808		
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager	Tim Sheppard			7	
Air Attack Supervisor	Paul Devlin			Fire4	
Air Support Supervisor				DOCO XFORD	
Ground Operations Marleys	Phil Crutchley				
Ground Operations Early Valley	Brian Taylor				
Ground Support					
8. Prepared by:		Date/Time 14/2/17 1315 hrs			



1. Incident Name Port Hills Complex - MARLEYS		2. Operational Period Date 14/02/17 Time 0600-2000		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
IMT	Command	Mt Benmore			
Air	Air Support	FIRE4			
5 Crew	Ground Ops	FIRE2			
2 chainsaw operators		FIRE2			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
Phil Crutchley				Ground Ops Marleys	
Kirsty Percasky				Safe Forward Point, Sign of Kiwi	
6. Other (eg email, Satphone, etc)					
7. Prepared by:		Don Geddes		Date/Time	



1. Incident Name Port Hills Complex – EARLY VALLEY		2. Operational Period Date 14/02/17 Time 0600-2000		COMMUNICATIONS PLAN	
3. Radio Channels					
<i>Assigned To</i>	<i>Function</i>	<i>Channel</i>	<i>Frequency</i>	<i>System</i>	
IMT	Command	Mt Benmore			
Air	Air Support	FIRE4			
Crew	Ground Ops	FIRE1			
4. Telephone					
<i>Assigned To</i>	<i>Landline</i>	<i>Cellphone</i>	<i>Fax</i>	<i>Comments</i>	
Brian Taylor				Ground Ops Early Valley	
6. Other (eg email, Satphone, etc)					
7. Prepared by: Don Geddes Date/Time					



1. Incident Name Port Hills Complex		2. Operational Period Date 14/02/17 Time 0600-2000		AIR OPERATIONS PLAN	
3. Personnel and Communications					
Position	Name	Affiliation	Phone	Radio Chan	
Air Attack Supervisor	Paul Devlin	CCC		FIRE4	
Air Support Supervisor					
4. Air Resource Assignments					
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/ Chan	Telephone Numbers
			183 Tancreds Airstrip		Onboard: Company:
	Fixed wing x1				
	Squirrel	UQ			
	Iroquois	HUE			
	Squirrel	HOQ			
	Cabri				
	BU117	HJU			
	Hughes 500	SD			
	EC120	HTV			
	Squirrel	HPQ			
	Squirrel	HDQ			
	Squirrel	IBC			
	Squirrel	WK			
	BK117	HGU			
	BK117				
500				Onboard: Company:	
5. Location of Filling Points/Service Areas					
Name			Grid Reference		
101@ 183 Tancreds (airstrip)					
Old Tai Tapu Road (Helibase)					

6. Safety Notes / Hazards / Radio Coverage Limitations

101@ 183 Tancreds (airstrip)
Old Tai Tapu Road Helibase updated 1023
Early Valley Road Sector / Mark Strowger

7. Air Operations Special Equip or Service

Ordered 1015

[REDACTED] eta 1200?
[REDACTED] - eta 1100?

Ground Crews

[REDACTED] x5
[REDACTED] x5
[REDACTED] x1 caravan
[REDACTED] x1
[REDACTED] x1

8. Prepared By: Darrin Woods

Date/Time



1. Incident Name Port Hills Complex		2. Operational Period Date 14/02/17 Time 0600-2000	SAFETY PLAN
3. General Safety Points			
ACES L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.	Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.	
4. Specific Safety Points <ul style="list-style-type: none"> Off and on highway – speed limit of 30km, headlights on Competent four wheel drivers for off road Power lines/poles/pylons within the fire ground have been burnt but haven't been assessed as yet. MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR Maintain hydration and nutrition levels Wasps and bees present Dust and smoke inhalation Steep terrain – potential rockfalls, bluffs present Report all accident and near misses Sun exposure/hypothermia Aircraft movements around heli operations and water bombing Heavy machinery operations 			
5. Prepared By: Graeme Knight		Date/Time 14/2/2017 /	



1. Incident Name Port Hill Complex		2. Operational Period Date 14/02/17 Time 0600-2000		SECTOR ASSIGNMENT	
3. Sector Early Valley	4. Description			5. Division Assigned	
6. Sector Supervisor Brian Taylor		Affiliation	Phone	Radio Ch	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
9 Helicopters					
1 Fixed wing					
8. Sector Assignment / Special Instructions Structure protection Containment Extinguishment					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor	Dean Turner				
Safety Officer	Marcel Van Leuwen				
10. Prepared By:			Date/Time 14/02/2017 /		



1. Incident Name Port Hill Complex		2. Operational Period Date 14/02/17 Time 0600-2000		SECTOR ASSIGNMENT	
3. Sector Marley	4. Description			5. Division Assigned	
6. Sector Supervisor Phil Crutchley		Affiliation	Phone	Radio Ch FIRE2	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
3 Heli on Marley					
1 fixed wing					
8. Sector Assignment / Special Instructions Contain and extinguish fire – patrol road Prevent fire escape Knock down hotspots					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor	Paul Devlin				
Safety Officer	Steve Oshner				
10. Prepared By:			Date/Time 14/02/2017 /		

1. Incident Name Port Hills Complex		2. Operational Period Date 14/02/17 Time 0600-2000		MEDICAL PLAN			
3. First Aid Station Name		Location	Phone/Radio Channel	Paramedics available at Station			
Stuart Larsen TL		Safe Forward Point	[REDACTED]	PHEC			
Vaughan Wiseman		Safe Forward Point		PHEC			
Grant Coslett		Safe Forward Point		PHEC			
4. Transportation Ambulance Service		Address	Phone/Radio Channel	Paramedics available with Ambulance			
Westpac Rescue Helo		515 Memorial Ave	[REDACTED]				
5. Hospitals Hospital Name		Address	Phone	Travel Time		Burn Unit	Heli Pad
				Road	Air		
Christchurch Public Hospital		Hagley Park	[REDACTED]	1 hr	20 min		
Burwood Hospital		300 Burwood Road		1.5 hr	30 min		
ChCh Womens Hospital		Riccarton Avenue					
CDHB HPO Matt Willoughby		DD [REDACTED]					
6. Special Emergency Procedures							
7. Prepared By: Don Geddes				Date/Time 12:00 14/02/17			
8. Reviewed by Safety Officer: Graeme Knight				Date/Time 14/02/17			

1. Incident Name Port Hills Complex	2. Operational Period Date 14-15/02/17 Time 2000-0700	IAP COVER SHEET																												
<p style="text-align: center;">INCIDENT ACTION PLAN</p> <p style="text-align: center;">The items checked below are included in the incident Action Plan</p> <table><tr><td><input type="checkbox"/></td><td>SITUATION REPORT</td></tr><tr><td><input type="checkbox"/></td><td>INCIDENT OBJECTIVES</td></tr><tr><td><input type="checkbox"/></td><td>ORGANISATION LIST</td></tr><tr><td><input type="checkbox"/></td><td>COMMUNICATIONS PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SAFETY PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SECTOR ASSIGNMENT</td></tr><tr><td><input type="checkbox"/></td><td>MEDICAL PLAN</td></tr><tr><td><input type="checkbox"/></td><td>FIRE MAP</td></tr><tr><td><input type="checkbox"/></td><td>WEATHER FORECAST</td></tr><tr><td><input type="checkbox"/></td><td>FIRE GROUND ROADING PLAN</td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr></table>			<input type="checkbox"/>	SITUATION REPORT	<input type="checkbox"/>	INCIDENT OBJECTIVES	<input type="checkbox"/>	ORGANISATION LIST	<input type="checkbox"/>	COMMUNICATIONS PLAN	<input type="checkbox"/>	SAFETY PLAN	<input type="checkbox"/>	SECTOR ASSIGNMENT	<input type="checkbox"/>	MEDICAL PLAN	<input type="checkbox"/>	FIRE MAP	<input type="checkbox"/>	WEATHER FORECAST	<input type="checkbox"/>	FIRE GROUND ROADING PLAN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
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3. Approved by Incident Controller:																														
Name	Signed	Date/Time																												
Rob Hands		14/02/17 hrs																												



1. Incident Name Port Hills Complex	2. Operational Period Date 14-15/02/17 Time 2000-0700	SITUATION REPORT
3. Location Rolleston EOC	4. Vegetation Scrub/Tussock/Grass/Forestry	5. NZ Topo50 Grid Ref.
6. Assessment <p>2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have compromised significant assets in both locations. Assets at risk include communication repeaters, residential properties, Christchurch Adventure Park infrastructure, and significant recreation and ecological reserves.</p> <p>Fires on the on the Port Hills between Sign of the Kiwi and Early Valley continue to burn, although the Marleys Hill Fire appears to be well contained at present and most activity is focussed on retardant to consolidate asset protection.</p> <p>Early Valley fire has burnt over the ridgeline above Governors Bay and Allandale, resulting in the need to assess risk to life and property at the head of Lyttelton Harbour.</p> <p>Confirmation that one house and one structure have been destroyed in Early Valley, and another house has been partially damaged in the area. No further structures have been lost.</p> <p>A significant aviation incident, which resulted in a fatality, saw aircraft grounded for a period. As a consequence, fire activity escalated with the arrival of the hottest part of yesterday.</p> <p>Marley Hill Fire remains contained, although ground crews are monitoring activity along the Summit Road. Suppression efforts commenced from downhill in the forest.</p> <p>Significant effort has been put into the left flank of the Early Valley Fire where there is the potential for fire to get into high hazard fuels below Marleys Hill.</p> <p>Fire continues to burn downhill from the ridgeline above Governors Bay and Allandale. This is burning in steep terrain that is likely to pose problems for any suppression efforts.</p> <p>Marley Hill fire remains contained - two 3 person ground crews patrolling and monitoring overnight.</p> <p>Early Valley fire continues to burn. Significant efforts into structure protection around Governors Bay during Tuesday afternoon. Three crews patrolling and monitoring overnight.</p> <p>No further structures have been lost beyond those reported earlier. Refined area of the fires is approximately 580 hectares following further aerial survey.</p>		
7. Action taken		

Regional Incident Management Team is working with resources in the field on both incidents.

Evacuation of properties in the vicinity of both fires.

14 helicopters including aerial platform plus 2 fixed wings were deployed for fire suppression, structure protection and supporting ground crews on Tuesday.

Fixed wings laying retardant around key assets to strengthen protection.

Retardant mixing operation established at Christchurch international Airport – ground application of retardant around key comms and structural assets on Summit Road.

Geotech assessment of rockfall hazard over Governors Bay and Allandale initiated.

Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.

Road closures remain in place in the vicinity of both fires, with careful consideration being given to when and where these could be lifted. Some closures likely to remain in place over next 24 hours, with extension of closures to popular mountain bike trails around Kennedys Bush.

Geotech assessment of rockfall hazard over Governors Bay and Allandale was completed.

8. Factors

Key factors are

- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Possible actions required due to identified rockfall risk

9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely provided containment lines hold around structures on Worsleys Hill.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 14/02/17



1. Incident Name Port Hills Complex	2. Operational Period Date 14-15/02/17 Time 2000-0700	INCIDENT OBJECTIVES
3. Overall Incident Objectives To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values, where it is safe to do so. Contain, control and extinguish the fire with minimum disruption to community.		
4. Objectives for specified Operational Period Maintain watching brief on both Marley Hill and Early Valley Road fires. Patrol perimeter and road verges, where safe to do so. In event of fire escalation report via 111.		
5. Prepared by: Rob Hands Date/Time 14/02/2017		



1. Incident Name		2. Operational Period		ORGANISATION LIST	
Port Hill Complex		Date	14-15/02/17		
		Time	2000-0700		
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Nigel Burse				
Information Officer					
Safety Officer					
Liaison Officer					
RIMT IC	Rob Hands				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency					
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager					
Management Support Unit					
Situation Unit					
Technical Specialists Unit					
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply					
Finance Unit					
Comms					
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager					
Air Attack Supervisor					
Air Support Supervisor					
Ground Operations Marleys					
Ground Operations Early Valley					
Ground Support					
8. Prepared by:		Date/Time 14/2/17 hrs			

1. Incident Name Port Hills Complex - MARLEYS		2. Operational Period Date 14-15/02/17 Time 2000-0700		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
Nigel Burse	IC			[REDACTED]	
2 crew		FIRE2			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
6. Other (eg email, Satphone, etc)					
Contact 111	If fire escalates.				
7. Prepared by:		Don Geddes		Date/Time 14/02/2017 /	

1. Incident Name Port Hills Complex – EARLY VALLEY		2. Operational Period Date 14-15/02/17 Time 2000-0700		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
Nigel Burse	IC			[REDACTED]	
3 Crews	Ground Ops	FIRE2			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
6. Other (eg email, Satphone, etc)					
Contact 111	If fire escalates.				
7. Prepared by:		Don Geddes		Date/Time 14/02/2017 /	

1. Incident Name Port Hills Complex		2. Operational Period Date 14-15/02/17 Time 2000-0700		SAFETY PLAN
3. General Safety Points Particular care around western edge of Marleys Hill fire with regard to potential fire runs from Early Valley fire.				
ACES L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.		Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.	
4. Specific Safety Points <ul style="list-style-type: none"> Off and on highway – speed limit of 30km, headlights on Competent four wheel drivers for off road Power lines/poles/pylons within the fire ground have been burnt but haven't been assessed as yet. MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR Maintain hydration and nutrition levels Wasps and bees present Dust and smoke inhalation Steep terrain – potential rockfalls, bluffs present Report all accident and near misses Sun exposure/hypothermia Aircraft movements around heli operations and water bombing Heavy machinery operations 				
5. Prepared By: Graeme Knight			Date/Time 14/2/2017 /	



1. Incident Name Port Hill Complex		2. Operational Period Date 14-15/02/17 Time 2000-0700		SECTOR ASSIGNMENT	
3. Sector Early Valley	4. Description			5. Division Assigned	
6. Sector Supervisor [REDACTED]		Affiliation	Phone	Radio Ch [REDACTED]	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Vehicles	Cellphone	
West Melton		2	4x4 appliance		
Darfield VRFF		4	Tanker 101		
[REDACTED]	[REDACTED]	2	Tanker	[REDACTED]	
8. Sector Assignment / Special Instructions Patrolling and monitoring					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor					
Safety Officer					
10. Prepared By:			Date/Time 14/02/2017 /		



1. Incident Name Port Hill Complex		2. Operational Period Date 14-15/02/17 Time 2000-0700		SECTOR ASSIGNMENT	
3. Sector Marley	4. Description			5. Division Assigned	
6. Sector Supervisor Barrie Hunt (HCFT)		Affiliation	Phone	Radio Ch FIRE2	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons		Vehicles	Cellph
High Country Fire Tm	Barry Hunt	3		4x4 appliance	
City Care Ltd	Dave Reese	3		Smokechaser & Tanker	
8. Sector Assignment / Special Instructions Patrolling and monitoring					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor					
Safety Officer					
10. Prepared By:			Date/Time 14/02/2017 /		

FIRE BEHAVIOUR FORECAST NO: 1**FIRE NAME: PORT HILLS COMPLEX****PREDICTION PERIOD:** Tuesday 14th 1500 to Wednesday 15th 1800, February 2017**Area:** Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury**Time & Date Forecast Issued:** 1500, Feb 14th, 2017**R.Chambers:** Fire Behaviour Officer**Weather Summary:**

Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning North-northeast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates

Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

Wind speed: 25 km/h average

Noon FPMC: 90.5, Hourly FPMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

Slopes: range from flat to 30+ deg, average 20 deg

Upslope SCF: 2.8, Downslope SCF: 0.3

Gorse (1.5-2.0 m tall):

Flat:	ROS 3370 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m,	FL 11 m
20 deg upslope:	8650 m/h,		150,000 kW/m,	19 m
20 deg downslope	840 m/h,		15,000 kW/m,	6.5 m

Hardwood Scrub (2.0 m tall):

Flat:	ROS 1685 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m,	FL 6 m
20 deg upslope:	4330 m/h,		32,000 kW/m,	9 m
20 deg downslope	420 m/h,		3100 kW/m,	3.1 m

Immature Pine Plantation (11-20 y.o.):

Flat:	ROS 652 m/h,	AFL 25 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	1863 m/h,		23,000 kW/m,	8 m
20 deg downslope	163 m/h,		2000 kW/m,	2.6 m

Grass (100% cured, 0.3m tall & 80% cover):

Flat:	ROS 3275 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	9360 m/h,		23,000 kW/m,	8 m
20 deg downslope	820 m/h,		2000 kW/m,	2.6 m

Firebreak construction along Cashmere Stream flank:

Approx.. 3 km break required

Estimated construction rate for dozer: 1500 m/h

So, estimated 2-3 hours to complete break

Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay:

Approx. downslope -17 deg (rise 300 m over 1000 m run)

Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL

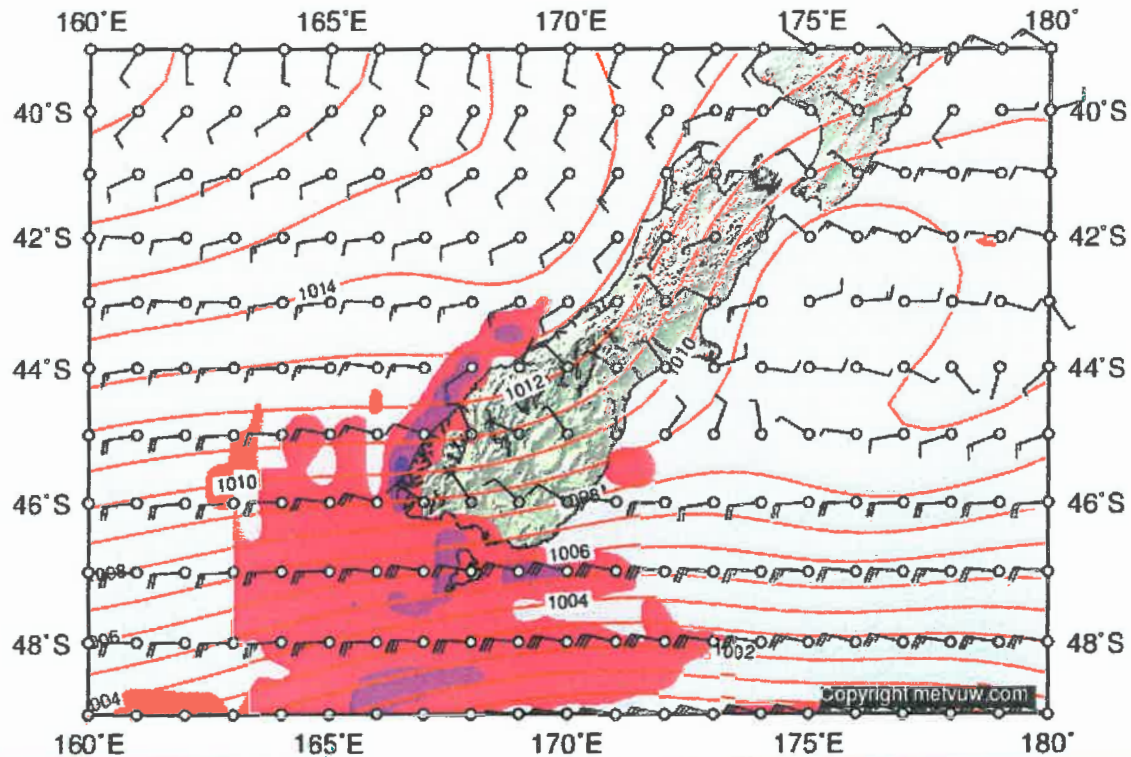
Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL

So, estimated time to travel 1 km downslope run: 1-2 hrs

18-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 0100 NZDT Wednesday 15 February 2017

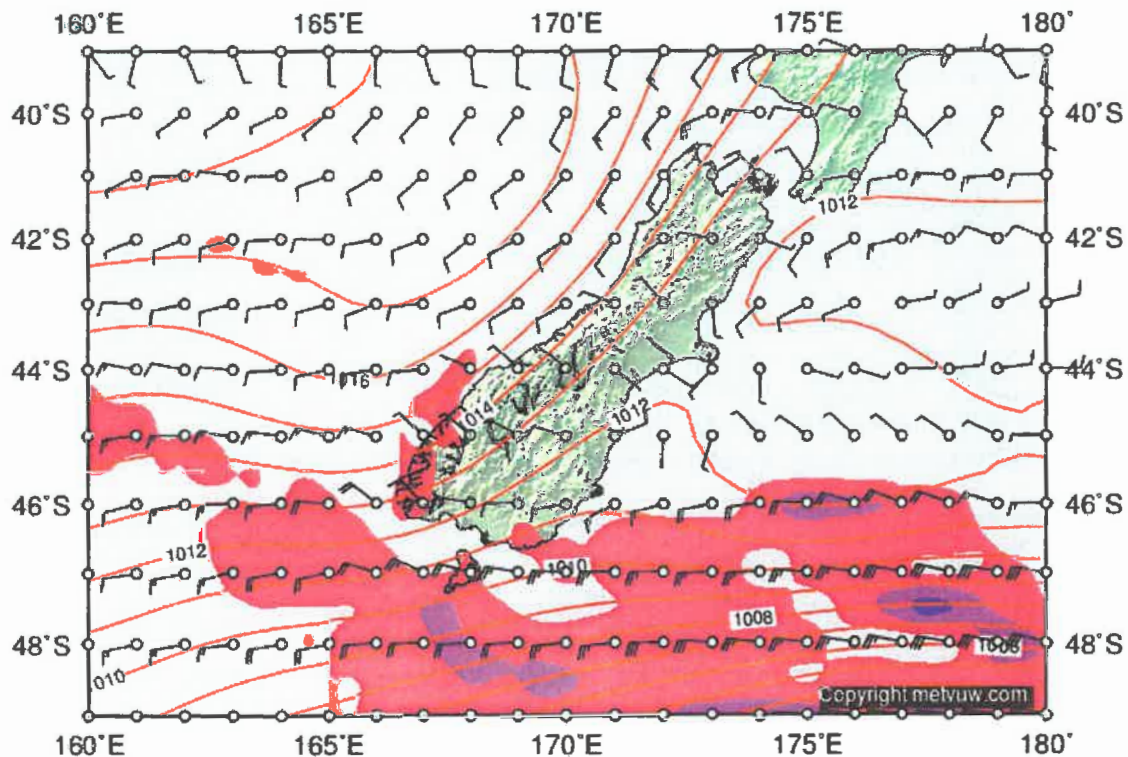
Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



30-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 1300 NZDT Wednesday 15 February 2017

Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



Plotted by James McGregor

1. Incident Name Port Hills Complex	2. Operational Period Date 15/02/17 Time 0730-1930	IAP COVER SHEET																														
<p style="text-align: center;">INCIDENT ACTION PLAN</p> <p style="text-align: center;">The items checked below are included in the incident Action Plan</p> <table><tr><td><input type="checkbox"/></td><td>SITUATION REPORT</td></tr><tr><td><input type="checkbox"/></td><td>INCIDENT OBJECTIVES</td></tr><tr><td><input type="checkbox"/></td><td>ORGANISATION LIST</td></tr><tr><td><input type="checkbox"/></td><td>COMMUNICATIONS PLAN</td></tr><tr><td><input type="checkbox"/></td><td>AIR OPERATIONS PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SAFETY PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SECTOR ASSIGNMENT</td></tr><tr><td><input type="checkbox"/></td><td>MEDICAL PLAN</td></tr><tr><td><input type="checkbox"/></td><td>FIRE MAP</td></tr><tr><td><input type="checkbox"/></td><td>WEATHER FORECAST</td></tr><tr><td><input type="checkbox"/></td><td>FIRE GROUND ROADING PLAN</td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr></table>			<input type="checkbox"/>	SITUATION REPORT	<input type="checkbox"/>	INCIDENT OBJECTIVES	<input type="checkbox"/>	ORGANISATION LIST	<input type="checkbox"/>	COMMUNICATIONS PLAN	<input type="checkbox"/>	AIR OPERATIONS PLAN	<input type="checkbox"/>	SAFETY PLAN	<input type="checkbox"/>	SECTOR ASSIGNMENT	<input type="checkbox"/>	MEDICAL PLAN	<input type="checkbox"/>	FIRE MAP	<input type="checkbox"/>	WEATHER FORECAST	<input type="checkbox"/>	FIRE GROUND ROADING PLAN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
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3. Approved by Incident Controller:																																
Name	Signed	Date/Time																														
Rob Hands		15/02/17 2200hrs																														



1. Incident Name Port Hills Complex	2. Operational Period Date 15/02/17 Time 0730-1930	SITUATION REPORT
3. Location Rolleston EOC	4. Vegetation Scrub/Tussock/Grass/Forestry	5. NZ Topo50 Grid Ref.
6. Assessment <p>2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have compromised significant assets in both locations. Assets at risk include communication repeaters, residential properties, Christchurch Adventure Park infrastructure, and significant recreation and ecological reserves.</p> <p>Fires on the on the Port Hills between Sign of the Kiwi and Early Valley continue to burn, although the Marleys Hill Fire appears to be well contained at present and most activity is focussed asset protection.</p> <p>Early Valley fire has burnt over the ridgeline above Governors Bay and Allandale, resulting in the need to assess risk to life and property at the head of Lyttelton Harbour.</p> <p>Helicopter incident resulted in a fatality, RIMT dealing with appropriate authorities. Marley Hill fire remains contained with two 3 person ground crews patrolling and monitoring overnight.</p> <p>Early Valley fire continues to burn. Significant efforts into structure protection around Governors Bay during Tuesday afternoon. Three crews patrolling and monitoring overnight.</p> <p>Refined area of the fires is approximately 580 hectares.</p> <p>Confirmation that one house and one structure have been destroyed in Early Valley, and another house has been partially damaged in the area. No further structures have been lost.</p> <p>A significant aviation incident, which resulted in a fatality, saw aircraft grounded for a period. As a consequence, fire activity escalated with the arrival of the hottest part of yesterday.</p>		
7. Action taken <p>Regional incident Management team is working with resources in the field on both incidents.</p> <p>Road closures remain in place in the vicinity of both fires, with careful consideration being given to when and where these could be lifted. Some closures likely to remain in place over next 24 hours, with extension of closures to popular mountain bike trails around Kennedys Bush.</p> <p>Resource planning for tomorrow is under way, including investigation of the potential use of heavy machinery to open up existing tracks as contingency lines.</p> <p>Geotech assessment of rockfall hazard over Governors Bay and Allandale was completed and identified no immediate concerns for populated areas. This will need reassessment if the fire breaches the summit further to the east.</p> <p>Heavy machinery created breaks around structures on Worsleys Track on the Marley Hill fire.</p> <p>Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.</p>		

8. Factors

Key factors are

- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Winds may pose difficulties for fire suppression above Governors Bay.

9. Predicted Incident Development

The Early Valley Fire still has the potential to join with the Marley Hill Fire if it breaches containment lines in the north east. This will compromise communication towers and further structures.

Forecast wind changes to NE late Wednesday could see fire activity spreading back towards populated areas in the Tai Tapu area.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 2000hrs

C

1. Incident Name Port Hills Complex	2. Operational Period Date 15/02/17 Time 0730-1930	INCIDENT OBJECTIVES
3. Overall Incident Objectives To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values, where it is safe to do so. Contain, control and extinguish the fire with minimum disruption to community.		
4. Objectives for specified Operational Period Consolidate containment lines on all sectors by 19:30 hrs. Focus on air attack during the morning on burning zones above Governors Bay to make best use of favourable conditions before forecast strengthening NE winds Strengthen fire breaks around key structures as required		
5. Prepared by: Rob Hands		Date/Time 15/02/2017 2200hrs

C



1. Incident Name		2. Operational Period		ORGANISATION LIST	
Port Hill Complex		Date	15/02/17		
		Time	0730-1930		
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Rob Hands				
Information Officer	Stephen Hill				
	Allanah Jarman				
Safety Officer	Graeme Knight				
Liaison Officer					
Fire Investigation	Graeme Still				
	Roy Hoogenraad				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency	SDC Douglas Marshall				
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager	Darrin Woods				
Management Support Unit	Christine Tatterson				
Situation Unit	Rodney Chambers				
Advanced Planning Unit	Brian Keown				
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply	Craig Westley				
Finance Unit					
Comms					
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager	Tim Sheppard			7	
Air Attack Supervisor	Richard Macnamara			Fire4	
Air Support Supervisor	Atila deOliveria				
Ground Operations Marleys	Danny Kimber				
Ground Operations Early Valley	Al Hutt				
Ground Support					
8. Prepared by:		Date/Time 15/2/17 / 2200hrs			



1. Incident Name Port Hills Complex - MARLEYS		2. Operational Period Date 15/02/17 Time 0730-1930		COMMUNICATIONS PLAN	
3. Radio Channels Assigned To		Function	Channel		
IMT		Command	ESB164		
Air		Air Support	FIRE4		
5 Crew		Ground Ops	FIRE2		
1 chainsaw operator		(DOC)	FIRE2		
4. Telephone Assigned To		Landline	Cellphone	Fax	Comments
Danny Kimber					Ground Ops Marleys
Sarah Ensor					Safe Forward Point, Sign of Kiwi
6. Other (eg email, Satphone, etc)					
7. Prepared by:		Don Geddes		Date/Time 15/02/2017 /	

1. Incident Name Port Hills Complex – EARLY VALLEY		2. Operational Period Date 15/02/17 Time 0730-1930		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
IMT	Command	ESB164			
Air	Air Support	FIRE4			
Crew	Ground Ops	FIRE3			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
Danny Kimber				Ground Ops Early Valley	
6. Other (eg email, Satphone, etc)					
7. Prepared by:		Don Geddes		Date/Time 15/02/2017 /	



1. Incident Name Port Hills Complex – Sector Delta		2. Operational Period Date 15/02/17 Time 0730-1930		AIR OPERATIONS PLAN	
3. Personnel and Communications					
Position	Name	Affiliation	Phone	Radio Chan	
Air Attack Supervisor	Richard Macnamara	MKRFA		FIRE4	
Air Support Supervisor	Atila deOliveira	Buller DC		FIRE4	
4. Air Resource Assignments					
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/ Chan	Telephone Numbers
			183 Tancreds Airstrip		Onboard: Company:
	Fixed wing x1				
	Squirrel	UQ			
	Squirrel	HOQ			
	Cabri				
	BU117	HJU			
	Hughes 500	SD			
	EC120	HTV			
	Squirrel	HPQ			
	Squirrel	HDQ			
	Squirrel	IBC			
	BK117	HGU			
	Iroquois				
	Iroquois				
	BK117				
500					
5. Location of Filling Points/Service Areas					
Name			Grid Reference		
101@ 183 Tancreds (airstrip)					
Old Tai Tapu Road (Helibase)					

6. Safety Notes / Hazards / Radio Coverage Limitations

101@ 183 Tancreds (airstrip)
Old Tai Tapu Road Helibase
Early Valley Road Sector

7. Air Operations Special Equip or Service**Ground Crews**

ChCh Heli x5
NZFSC Lincoln x5
Mt Hutt x1 caravan
Beck x 2
CSI x1?
Tekapo x 1?

8. Prepared By: Don Geddes

Date/Time 15/02/2017 /



1. Incident Name Port Hills Complex		2. Operational Period Date 15/02/17 Time 0730-1930		SAFETY PLAN
3. General Safety Points Particular care around western edge of Marleys Hill fire with regard to potential fire runs from Early Valley fire. Extreme caution with any structure protection above Governors Bay and Allendale.				
ACES L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.		Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.	
4. Specific Safety Points <ul style="list-style-type: none"> Off and on highway – speed limit of 30km, headlights on Competent four wheel drivers for off road Power lines/poles/pylons within the fire ground have been burnt but haven't been assessed as yet. MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR <ul style="list-style-type: none"> Maintain hydration and nutrition levels Wasps and bees present Dust and smoke inhalation Steep terrain – potential rockfalls, bluffs present Report all accident and near misses Sun exposure/hypothermia Aircraft movements around heli operations and water bombing Heavy machinery operations 				
5. Prepared By: Graeme Knight			Date/Time 15/2/2017 /	

1. Incident Name Port Hill Complex		2. Operational Period Date 15/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Alpha	4. Description Marleys			5. Division Assigned	
6. Sector Supervisor Danny Kimber		Affiliation DOC	Phone [REDACTED]	Radio Ch FIRE2	
7. Resources Assigned this period					
<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>
MSCRFA		5			
MSCRFA		5			
Bottle Lake RFA		3			
HCFT		4			
3 Helicopters					
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line.					
9. Sector Communications			Phone	Radio	
Ch	Air Attack Supervisor	Richard Macnamara		FIRE4	
	Safety Officer	Steve Oshner	[REDACTED]		
10. Prepared By:		Date/Time 15/02/2017 /			



1. Incident Name Port Hill Complex		2. Operational Period Date 15/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Bravo	4. Description Early Valley Left Flank		5. Division Assigned		
6. Sector Supervisor Al Hutt		Affiliation SDC	Phone [REDACTED]	Radio Ch FIRE3	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
5 Helicopters					
1 Fixed wing					
DOC Aoraki		5			
CCC Coastal		4			
ECan		10			
DOC		4			
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Patrol Summit Road. Direct attack as required.					
9. Sector Communications					
Air Support Supervisor	Carrie Lakin		Phone	Radio Ch	
Safety Officer	Graeme Knight		[REDACTED]	Fire4	
10. Prepared By:			Date/Time 15/02/2017 /		





1. Incident Name Port Hill Complex		2. Operational Period Date 15/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Charlie	4. Description Early Valley Right Flank			5. Division Assigned	
6. Sector Supervisor Dale Wilhelm		Affiliation CCL	Phone [REDACTED]	Radio Ch FIRE3	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
5 Helicopters					
1 Fixed wing					
HCFT		5			
HEB		4			
CCL		5			
CCL		5			
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Patrol Summit Road. Direct attack as required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Carrie Lakin		[REDACTED]	Fire4	
Safety Officer	Graeme Knight		[REDACTED]		
10. Prepared By:			Date/Time 15/02/2017 /		



1. Incident Name Port Hills Complex		2. Operational Period Date 15/02/17 Time 0730-1930		MEDICAL PLAN			
3. First Aid Station		Phone/Radio Channel					
Name	Location						
Stu Larsen TL	Safe Forward Point	[REDACTED]		PHEC			
Neil Franklin	Safe Forward Point	[REDACTED]		PHEC			
4. Transportation Ambulance Service		Address	Phone/Radio Channel	Paramedics available with Ambulance			
Westpac Rescue Helo	515 Memorial Ave	03 358 244					
5. Hospitals		Address	Phone	Travel Time		Burn Unit	Heli Pad
Hospital Name				Road	Air		
Christchurch Public Hospital	Hagley Park	[REDACTED]	1 hr	20 min			
Burwood Hospital	300 Burwood Road	[REDACTED]	1.5 hr	30 min			
CDHB HPO Matt Willoughby	DDI [REDACTED]						
6. Special Emergency Procedures							
7. Prepared By: Don Geddes				Date/Time 15/02/17 /			
8. Reviewed by Safety Officer: Graeme Knight				Date/Time 15/02/17 /			

FIRE BEHAVIOUR FORECAST NO: 1**FIRE NAME: PORT HILLS COMPLEX****PREDICTION PERIOD: Tuesday 14th 1500 to Wednesday 15th 1800, February 2017****Area:** Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury**Time & Date Forecast Issued:** 1500, Feb 14th, 2017**R.Chambers:** Fire Behaviour Officer**Weather Summary:**

Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning North-northeast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates

Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

Wind speed: 25 km/h average

Noon FPMC: 90.5, Hourly FPMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

Slopes: range from flat to 30+ deg, average 20 deg

Upslope SCF: 2.8, Downslope SCF: 0.3

Gorse (1.5-2.0 m tall):

Flat:	ROS 3370 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m,	FL 11 m
20 deg upslope:	8650 m/h,		150,000 kW/m,	19 m
20 deg downslope	840 m/h,		15,000 kW/m,	6.5
m				

Hardwood Scrub (2.0 m tall):

Flat:	ROS 1685 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m,	FL 6 m
20 deg upslope:	4330 m/h,		32,000 kW/m,	9 m
20 deg downslope	420 m/h,		3100 kW/m,	3.1
m				

Immature Pine Plantation (11-20 y.o.):

Flat:	ROS 652 m/h,	AFL 25 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	1863 m/h,		23,000 kW/m,	8 m
20 deg downslope	163 m/h,		2000 kW/m,	2.6 m

Grass (100% cured, 0.3m tall & 80% cover):

Flat:	ROS 3275 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	9360 m/h,		23,000 kW/m,	8 m
20 deg downslope	820 m/h,		2000 kW/m,	2.6 m

Firebreak construction along Cashmere Stream flank:

Approx.. 3 km break required

Estimated construction rate for dozer: 1500 m/h

So, estimated 2-3 hours to complete break

Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay:

Approx.downslope -17 deg (rise 300 m over 1000 m run)

Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL

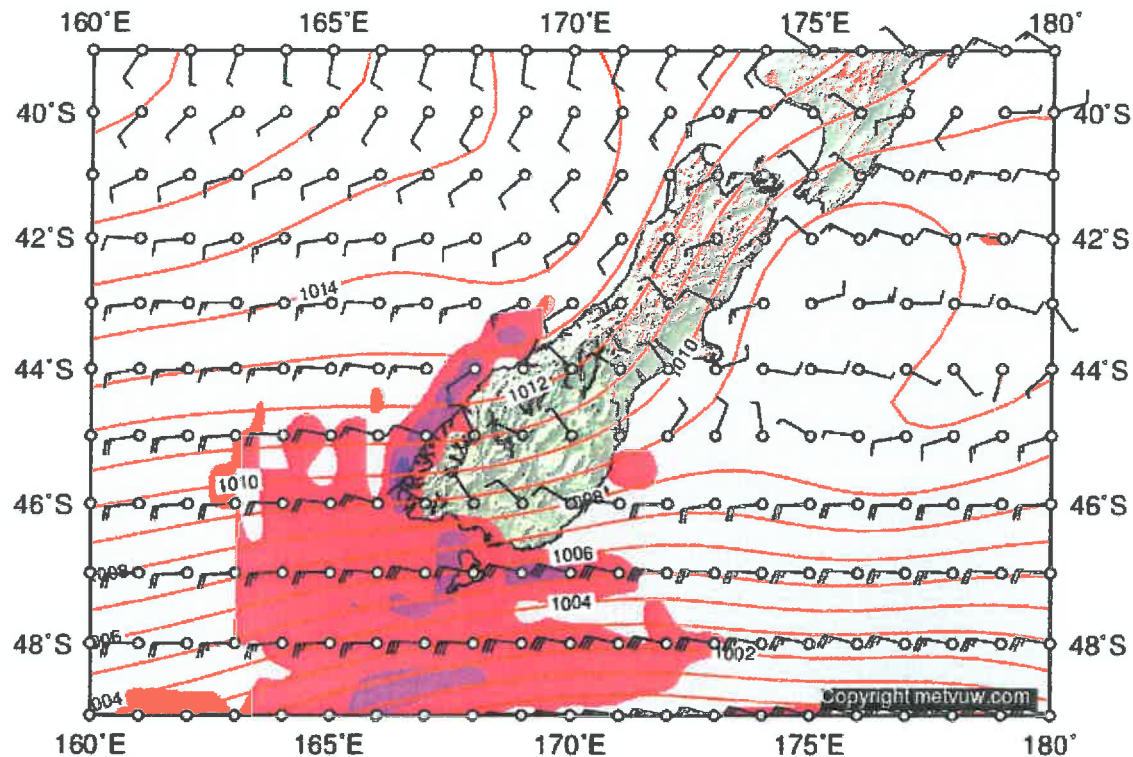
Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL

So, estimated time to travel 1 km downslope run: 1-2 hrs

18-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 0100 NZDT Wednesday 15 February 2017

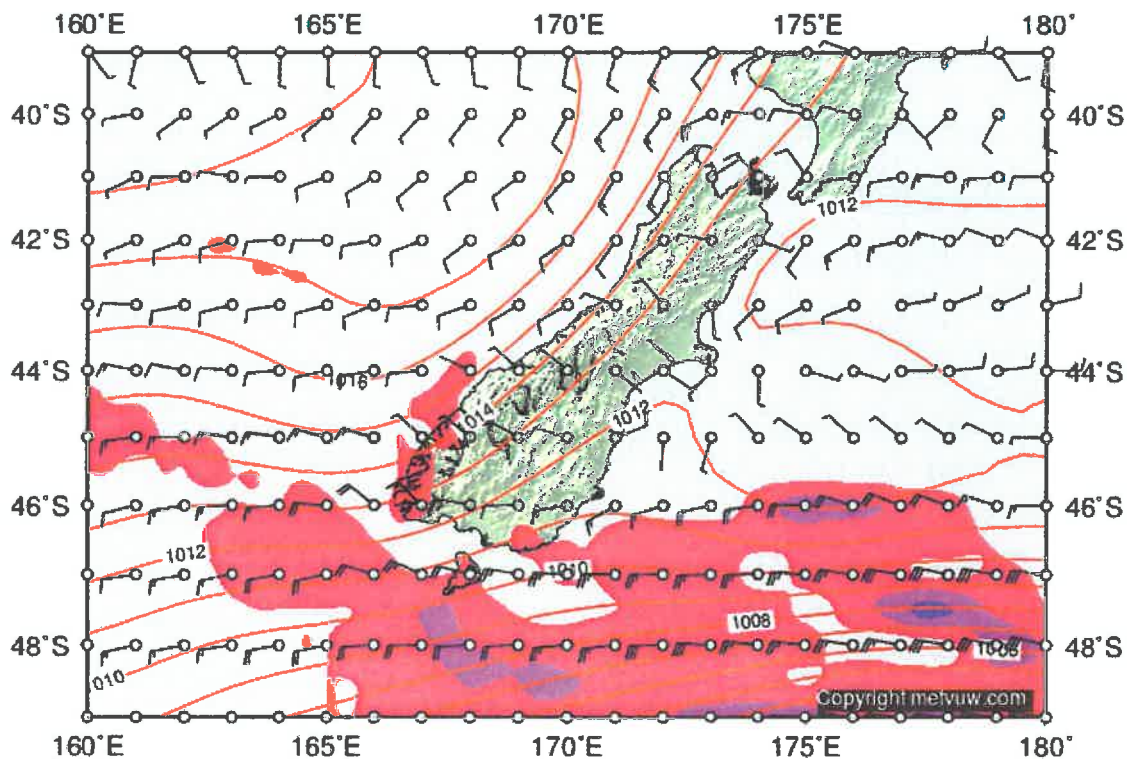
Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



30-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 1300 NZDT Wednesday 15 February 2017

Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



Plotted by James McGregor

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1. Incident Name		2. Operational Period	IAP COVER SHEET
Port Hills Complex		Date 15-16/02/17 Time 2000-0800	
INCIDENT ACTION PLAN			
The items checked below are included in the incident Action Plan			
<input type="checkbox"/>	SITUATION REPORT		
<input type="checkbox"/>	INCIDENT OBJECTIVES		
<input type="checkbox"/>	ORGANISATION LIST		
<input type="checkbox"/>	COMMUNICATIONS PLAN		
<input type="checkbox"/>	SAFETY PLAN		
<input type="checkbox"/>	SECTOR ASSIGNMENT		
<input type="checkbox"/>	MEDICAL PLAN		
<input type="checkbox"/>	FIRE MAP		
<input type="checkbox"/>	WEATHER FORECAST		
<input type="checkbox"/>	FIRE GROUND ROADING PLAN		
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
3. Approved by Incident Controller:			
Name	Signed	Date/Time	
Rob Hands		15/02/17 hrs	



1. Incident Name Port Hills Complex	2. Operational Period Date 15-16/02/17 Time 2000-0800	SITUATION REPORT
3. Location Rolleston EOC	4. Vegetation Scrub/Tussock/Grass/Forestry	5. NZ Topo50 Grid Ref.
6. Assessment <p>2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have now joined and have compromised significant assets in both locations. Assets compromised include communication repeaters, infrastructure, residential properties, Christchurch Adventure Park infrastructure, and significant recreation and ecological reserves.</p> <p>At 6:05pm on the 15th February a State of Local Emergency was declared for the Christchurch City Council and Selwyn District Council Areas. CDEM Group staff are co-locating with Christchurch City Council CDEM EOC.</p> <p>The Regional Incident Management Team (RIMT) for Rural Fire will remain located at the Selwyn District Council and they will continue to manage the fire response. A liaison officer from Canterbury CDEM Group will be located at the RIMT.</p> <p>NZ Police will manage the evacuation of people and Christchurch City Council will manage the welfare support for Christchurch City residents currently being evacuated. 40-50 strong combined Police and Military team patrolling tonight, and are ready to initiate evacuations.</p> <p>Road closures remain in place in the vicinity of both fires.</p> <p>The Marleys Hill fire has spread extensively down Worsley Spur, causing extensive vegetation burning in the Christchurch Adventure Park. The fire is approaching the residential area of Westmoreland.</p> <p>Three further structures have been lost in Hoon Hay Valley Road and one on Old Tai Tapu Road.</p> <p>Refined area of the fires is approximately 1655 hectares.</p>		
7. Action taken <p>Regional Incident Management Team has been working with resources in the field on both incidents. Evacuation of properties in the vicinity of both fires.</p> <p>16 helicopters including aerial platform plus 2 fixed wings were deployed for fire suppression, structure protection and supporting ground crews on Wednesday.</p> <p>NZ Fire Service with Forestry crews have worked on containing the fire that has burnt downhill from the ridgeline above Governors Bay and Allandale. This is burning in steep terrain that is likely to pose problems for any suppression efforts. Earlier evacuation of Allandale has been lifted.</p> <p>Evacuations are happening in Worsley Road, Hoon Hay Valley Road and Kennedys Bush Road above Cashmere Rd, Dyers Pass Road has been evacuated from Sign of the Takahe, Early Valley Rd. Approx 300 people evacuated to date. Welfare centres have been opened at Te Hapua Halswell Centre and Lincoln Events Centre for people displaced by the fires.</p> <p>Road closures remain in place in the vicinity of both fires.</p> <p>Geotech assessment of rockfall hazard over Governors Bay and Allandale was completed.</p> <p>Restricted Air Space in place – extend to 3,500ft up until midday Friday 17th February.</p>		
8. Factors		

Key factors are

- **Extreme Fire Behaviour**
- **Property evacuations**
- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Predicted wind changes with development of strong NE winds late Wednesday
- Significant resource commitment in terms of personnel and equipment
- Possible actions required due to identified rockfall risk
- Orion remains on full alert to respond to any issues with power supply which poses some threat to continuity of power supply to the Port Hills and the greater city.

9. Predicted Incident Development

The Early Valley fire is continuing to require significant suppression efforts, particularly around the forested areas. Further property losses unlikely provided containment lines hold around structures on Worsleys Hill.

Road closures and suppression efforts still likely to be required in the foreseeable future until fires well contained.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 / hrs



1. Incident Name Port Hills Complex	2. Operational Period Date 15-16/02/17 Time 2000-0800	INCIDENT OBJECTIVES
3. Overall Incident Objectives To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values, where it is safe to do so. Contain, control and extinguish the fire with minimum disruption to community.		
4. Objectives for specified Operational Period Maintain watching brief on both Marley Hill and Early Valley Road fires. Patrol perimeter and road verges, where safe to do so. In event of fire escalation report via 111. NZFS Command Unit is situated at the Sign of the Takahe. Maintain public presence around the fire perimeter and interact with the community, when safe to do so.		
5. Prepared by: Craig Alexander Date/Time 15/02/17 / hrs		



1. Incident Name Port Hill Complex		2. Operational Period Date 15-16/02/17 Time 2000-0800		ORGANISATION LIST	
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Barry Hunt				
Information Officer					
Safety Officer					
Liaison Officer					
RIMT IC	Rob Hands				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency	Selwyn District Council, DOC				
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager					
Management Support Unit					
Situation Unit					
Technical Specialists Unit					
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply					
Finance Unit					
Comms					
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager	Tim Sheppard				
Air Attack Supervisor					
Air Support Supervisor					
Crews	DOC West Coast x6				
Crews	High Country Fire Team x3				
Crews	City Care Ltd x3				
Crews	Rob Lambie				
Crews	Pines Beach (til 22:00 hrs)				
8. Prepared by: Craig Alexander		Date/Time 15/02/17 / hrs			



1. Incident Name Port Hills Complex		2. Operational Period Date 15-16/02/17 Time 2000-0800		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
Barry Hunt	IC	FIRE2		[REDACTED]	
4 Crews		FIRE2			
[REDACTED]		FIRE2			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
NZFS ComCen	[REDACTED]				
6. Other (eg email, Satphone, etc)					
Contact 111	If fire escalates.				
7. Prepared by:		Craig Alexander		Date/Time 15/02/17 / hrs	



1. Incident Name Port Hills Complex		2. Operational Period Date 15-16/02/17 Time 2000-0800	SAFETY PLAN
3. General Safety Points Particular care around western edge of Marleys Hill fire with regard to potential fire runs from Early Valley fire. Extreme caution with any structure protection above Governors Bay and Allendale.			
LACES L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.	Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.	

4. Specific Safety Points

- Off and on highway – speed limit of 30km, headlights on
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been burnt but have not been assessed as yet. **MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES**
- **FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR**
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain – potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia/hyperthermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Main transmission lines, 30 metre setback due to potential arcing in the thick smoke.
- Beware of public, farmers, recreational users, and stock.

5. Prepared By: Graeme Knight

Date/Time 15/2/2017 /



1. Incident Name Port Hill Complex		2. Operational Period Date 15-16/02/17 Time 2000-0800		SECTOR ASSIGNMENT	
3. Sector	4. Description			5. Division Assigned	
6. Sector Supervisor		Affiliation	Phone	Radio Ch	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Vehicles	Cellphone	
West Melton		2	4x4 appliance		
		2	Tanker		
High Country Fire Tm	Barry Hunt	3	4x4 appliance		
City Care Ltd	Dave Reese	4	Smokechaser & Tanker		
DOC West Coast		6			
Pines Beach (til 22:00)	Rob Lambie	4			
8. Sector Assignment / Special Instructions Patrolling and monitoring. Maintain watching brief on both Marley Hill and Early Valley Road fires. Patrol perimeter and road verges, where safe to do so. In event of fire escalation report via 111. NZFS Command Unit is situated at the Sign of the Takahe. Maintain public presence around the fire perimeter and interact with the community, when safe to do so.					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor					
Safety Officer					
10. Prepared By:			Date/Time 15/02/17 / hrs		

1. Incident Name Port Hills Complex		2. Operational Period Date 15-16/02/17 Time 2000-0800		MEDICAL PLAN					
3. First Aid Station Name		Location						Phone/Radio Channel	
Antz		Safe Forward Point		[REDACTED]		PHEC (til 21:30)			
Paddy		Safe Forward Point		[REDACTED]		PHEC (til 21:30)			
4. Transportation Ambulance Service		Address		Phone/Radio Channel		Paramedics available with Ambulance			
Westpac Rescue Helicopter		515 Memorial Ave		[REDACTED]					
5. Hospitals Hospital Name		Address		Phone		Travel Time Road		Burn Unit	Heli Pad
Christchurch Public Hospital		Hagley Park		[REDACTED]		1 hr		20 min	
Burwood Hospital		300 Burwood Road		[REDACTED]		1.5 hr		30 min	
CDHB HPO Matt Willoughby		DD [REDACTED]							
6. Special Emergency Procedures									
7. Prepared By: Don Geddes Date/Time 15/02/17 / hrs									
8. Reviewed by Safety Officer: Graeme Knight Date/Time 15/02/17 / hrs									

FIRE BEHAVIOUR FORECAST NO: 2**FIRE NAME: PORT HILLS COMPLEX****PREDICTION PERIOD: Wednesday 15th 1300 to Wednesday 16th 2000, February 2017**Area: Port Hills Complex; Early Valley, Marleys Hill and Governors Bay (Summit Road), CanterburyTime & Date Forecast Issued: 1300, Feb 15th, 2017R.Chambers: Fire Behaviour Officer**Weather Summary:**

Wednesday: Light westerlies, changing to north-east and freshening into the afternoon. Winds 060/070, rising 30km/hr, Gusting 40km/hr. Max 22C and RH low of 30%.

Overnight: North-easterlies persisting fresh at higher levels and easing at lower levels. RH recovering to 80%.

Thursday: NE 20-30km/hr, Temp Max 20C, RH Min 50%.

Fri/Sat: Computer models indicates keen northeast winds during this period. Average speeds likely reach 40 to 45 km/h with gusts 55 km/h at times. The good news is that the northeast flow brings in low cloud and higher RH. Patchy light rain/drizzle is expected at times, esp. from Fri evening through to Sat morning. Top temps stay in the teens. RH could be 100% at times at higher elevations.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grass and tussock lands, dense scrub and gorse, regenerating native bush and various aged exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential continues for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

The backing fire above Governors Bay in regenerating native hardwoods has the potential to become a head fire as the NE develops in the Lyttelton Harbour basin.

A general deterioration in fire behaviour conditions is expected from early afternoon onwards with the potential for extreme fire behaviour under fresh to strong north-easterlies.

Observed FDC/FWI for Port Hills – 1100hrs 15/02/2017

STATION	FOREST	SCRUB	GRASS	FFMC	ISI	FWI	TEMP	RH	DIR	WSP	RN24	DMC	DC	BUI	GC%
Bottle Lake	H	E	H	89	5	20	19.1	28	209.0	5.4	0	71	711	114	75
Burnham	H	E	H	89	5	18	19.5	26	189.0	4.7	0	61	484	93	80
Motukarara	H	E	H	91	6	22	18.3	25	202.0	5.0	0	61	469	92	70

FFMCs in the high 80s rising again to 90+ mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points under Fresh NE wind change

- 1) Sector A Marleys Hill fire: the potential exists for south-easterly spread with strengthening winds and breach containment under Marleys Hill and risk of encirclement of assets such as residences and communications arrays.
- 2) Sector B on the northern flank of the Early Valley fire at the head of the Cashmere Stream: the flanking fire has the potential to continue cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 3) Sector C on the southern flank of the Early Valley fire: the potential exists under fresh NE winds for escape into dense forestry fuels and spread towards the Holmes Valley area.
- 4) Sector D Governors Bay and Allandale: Backing fires have the potential to become head fire and move southward under Cass Peak towards Living Springs conference complex.

Safety Considerations:

Winds becoming fresh NE of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations and may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

1. Incident Name Port Hills Complex	2. Operational Period Date 16/02/17 Time 0730-1930	IAP COVER SHEET																														
<p style="text-align: center;">INCIDENT ACTION PLAN</p> <p style="text-align: center;">The items checked below are included in the incident Action Plan</p> <table><tr><td><input type="checkbox"/></td><td>SITUATION REPORT</td></tr><tr><td><input type="checkbox"/></td><td>INCIDENT OBJECTIVES</td></tr><tr><td><input type="checkbox"/></td><td>ORGANISATION LIST</td></tr><tr><td><input type="checkbox"/></td><td>COMMUNICATIONS PLAN</td></tr><tr><td><input type="checkbox"/></td><td>AIR OPERATIONS PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SAFETY PLAN</td></tr><tr><td><input type="checkbox"/></td><td>SECTOR ASSIGNMENT</td></tr><tr><td><input type="checkbox"/></td><td>MEDICAL PLAN</td></tr><tr><td><input type="checkbox"/></td><td>FIRE MAP</td></tr><tr><td><input type="checkbox"/></td><td>WEATHER FORECAST</td></tr><tr><td><input type="checkbox"/></td><td>FIRE GROUND ROADING PLAN</td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr></table>			<input type="checkbox"/>	SITUATION REPORT	<input type="checkbox"/>	INCIDENT OBJECTIVES	<input type="checkbox"/>	ORGANISATION LIST	<input type="checkbox"/>	COMMUNICATIONS PLAN	<input type="checkbox"/>	AIR OPERATIONS PLAN	<input type="checkbox"/>	SAFETY PLAN	<input type="checkbox"/>	SECTOR ASSIGNMENT	<input type="checkbox"/>	MEDICAL PLAN	<input type="checkbox"/>	FIRE MAP	<input type="checkbox"/>	WEATHER FORECAST	<input type="checkbox"/>	FIRE GROUND ROADING PLAN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
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Name	Signed	Date/Time																														
Rob Hands		15/02/17 2200hrs																														



1. Incident Name Port Hills Complex	2. Operational Period Date 16/02/17 Time 0730-1930	SITUATION REPORT
3. Location Rolleston EOC	4. Vegetation Scrub/Tussock/Grass/Forestry	5. NZ Topo50 Grid Ref.
6. Assessment <p>2 significant fires located on the Port Hills between Sign of the Kiwi and Early Valley have compromised significant assets in both locations. Assets compromised include communication repeaters, electricity infrastructure, residential properties, the Christchurch Adventure Park, and significant recreation and ecological reserves.</p> <p>There has been significant fire development during the afternoon and continuing into the evening on Wednesday. Estimated area of the fire is now in excess of 1850 hectares and still growing. Fire has crossed Dyers Pass Road below Sign of the Kiwi and is developing in Victoria Park without suppression efforts. It has also spread to within close proximity of the dense residential housing of Westmoreland.</p> <p>Indications are that there have been a significant number of properties affected. At least 3 additional houses have been destroyed in the area of Worsleys Road.</p> <p>At 6.05pm on the 15th February a State of Local Emergency was declared for the Christchurch City Council and Selwyn District Council Areas. CDEM Group staff are co-locating with Christchurch City Council CDEM EOC.</p> <p>The Regional Incident Management Team (RIMT) for Rural Fire will remain located at the Selwyn District Council and they will continue to manage the fire response. A liaison officer from Canterbury CDEM Group will be located at the RIMT.</p> <p>NZ Police will manage the evacuation of people and Christchurch City Council will manage the welfare support for Christchurch City residents currently being evacuated. 40-50 strong combined Police and Military team patrolling tonight, and are ready to initiate evacuations.</p> <p>Road closures remain in place in the vicinity of both fires. Some closures likely to remain in place over next 24 hours, with extension of closures to popular mountain bike trails around Kennedys Bush in place.</p> <p>Ground crews are patrolling and monitoring the fireground overnight.</p>		
7. Action taken <p>Regional incident Management team remains in place and is working with resources in the field.</p> <p>Works during the day focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so.</p> <p>A number of evacuations have been undertaken as the fire has compromised properties in the Worsleys, Hoon Hay Valley and Kennedys Bush Roads. Plans have been prepared to extend evacuation cordons overnight if the need arises.</p> <p>Road closures have been extended.</p> <p>Welfare Centres have been opened at Halswell Library and Lincoln Event Centre and are being managed by Civil Defence.</p> <p>Restricted Air Space remains in place – extend to 3,500ft up until midday Friday 17th February.</p> <p>Power authorities are working to maintain service.</p>		

8. Factors

Key factors are

- **Extreme fire behaviour**
- **Multiple property evacuations**
- Multiple assets of value either compromised or destroyed by fire
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Smoke reducing visibility
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure
- Heavy traffic volumes with bystanders

9. Predicted Incident Development

Potential for fires to continue to spread towards residential properties, with fresh easterly winds continuing.

Fire east of Dyers Pass will continue to develop with no active suppression – reassessment will be required in the morning.

Incident Management Team is being escalated to support this complex, with support from multiple agencies.

Road closures and suppression efforts will continue for at least the next couple of days.

10. Prepared by: Darrin Woods

Date/Time 15/02/17 2200hrs



1. Incident Name Port Hills Complex	2. Operational Period Date 16/02/17 Time 0730-1930	INCIDENT OBJECTIVES
3. Overall Incident Objectives To protect life by ensuring the safety of all personnel and the public. Provide asset protection to all identified values, where it is safe to do so. Contain, control and extinguish the fire with minimum disruption to community.		
4. Objectives for specified Operational Period Comprehensive assessment of the fireground to confirm taskings for crews and aircraft prior to deployment. Reestablish containment lines on all sectors. Priorities to be set by the IMT. Strengthen fire breaks around key structures as required. Crews supported by heavy machinery, tankers and aircraft will aggressively attack areas of the fire as prioritised.		
5. Prepared by: Rob Hands		Date/Time 15/02/2017 2200hrs

C

1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930		ORGANISATION LIST	
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Rob Hands				
Information Officer	Stephen Hill				
Safety Officer	Graeme Knight				
Liaison Officer					
Fire Investigation	Graeme Still				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency	SDC Douglas Marshall				
Lead Agency	DOC Andy Thompson				
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager	Darrin Woods				
Dept Planning/Intell Manager	Allan Grigg				
Management Support Unit	Gavin Treadgold				
Management Support Unit	Christine Tatterson				
Situation Unit	Rodney Chambers				
Advanced Planning Unit	Tony Teeling				
	Terry O'Neil, Nathan Keoghan				
6. Logistics Section		Phone	Cell Phone	Radio Ch	
Logistics Manager	Don Geddes				
Supply	Angela Chisnall				
Finance Unit					
Comms					
7. Operations Section		Phone	Cell Phone	Radio Ch	
Operations Manager	Bruce Janes (Trevor Tidey)			7	
Deputy Operations Manager	Brian Keown				
Air Attack Supervisor	Richard Macnamara			Fire4	
Air Support Supervisor	Atila deOliveria			Fire4	
Air Support Supervisor	Dean Turner			Fire4	
Ground Support					
8. Prepared by:		Date/Time 15/2/17 / 2200hrs			

1. Incident Name Port Hills Complex – ALPHA Marleys		2. Operational Period Date 16/02/17 Time 0730-1930		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
IMT	Command	ESB164			
Air	Air Support	FIRE4			
Alpha Marleys	Crews	FIRE2			
Bravo Early Valley	Crews	FIRE3			
Charlie Early Valley	Crews	FIRE3			
Echo Governors Bay	NZFS Crew	FIRE1			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
Kirsty Percasky				SFP Sign of Kiwi	
Sarah Ensor				SFP Sign of Kiwi	
Colleen Cooper				SFP Sign of Kiwi	
Rachel Pelvin				SA Marleys	
Sasha Roselli				SA Marleys	
6. Other (eg email, Satphone, etc)					
7. Prepared by: Don Geddes Date/Time 15/02/2017 /					

1. Incident Name Port Hills Complex – Sector Delta		2. Operational Period Date 16/02/17 Time 0730-1930		AIR OPERATIONS PLAN	
3. Personnel and Communications					
Position	Name	Affiliation	Phone	Radio Chan	
Air Attack Supervisor	Richard Macnamara	MKRFA	0272332693	FIRE4	
Air Support Supervisor	Atila deOliveira	Buller DC	0272460952	FIRE4	
4. Air Resource Assignments					
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/ Chan	Telephone Numbers
	Cressco Fixed Wing	TB	Chch International Airport	Fire4	Onboard: Company:
	Fixed wing x1		Retardant/ Water Bombing	Fire4	
	Fixed wing x1		Retardant/ Water Bombing	Fire4	
	Squirrel	HUQ		Fire4	
	Squirrel	HOQ		Fire4	
	Cabri		GPS Plotting	Fire4	
	BK117	HJU		Fire4	
	EC120	HTV		Fire4	
	Squirrel	HPQ		Fire4	
	Squirrel	HDQ		Fire4	
	Squirrel	IBC		Fire4	
	BK117	HGU		Fire4	
	Iroquois UH1	HHB	Gov Bay	Fire4	
	Iroquois UH1	HHF	Gov Bay	Fire4	
5. Location of Filling Points/Service Areas					
Name		Grid Reference			
Christchurch International Airport		Grays Road, Harewood			
Old Tai Tapu Road (Helibase)					
6. Safety Notes / Hazards / Radio Coverage Limitations					
NOTAM in place Aviation Security at Christchurch Airport					
7. Air Operations Special Equip or Service					
Jet A1 tanker					
x5					
NZFSC Lincoln x5					
x1 caravan					
x 2					
8. Prepared By: Don Geddes			Date/Time 15/02/2017 /		

1. Incident Name Port Hills Complex	2. Operational Period Date 16/02/17 Time 0730-1930	SAFETY PLAN
3. General Safety Points Extreme fire behaviour Extreme caution as smoke will compromise visibility at times.		
ACES L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.	Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.
4. Specific Safety Points <ul style="list-style-type: none"> • Off and on highway – speed limit of 30km, headlights on • Competent four wheel drivers for off road • Power lines/poles/pylons within the fire ground have been burnt but haven't been assessed as yet. MAINTAIN SAFE DISTANCE FROM THESE STRUCTURES FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR • Maintain hydration and nutrition levels • Wasps and bees present • Dust and smoke inhalation • Steep terrain – potential rockfalls, bluffs present • Report all accident and near misses • Sun exposure/hypothermia • Aircraft movements around heli operations and water bombing • Heavy machinery operations 		
5. Prepared By: Graeme Knight		Date/Time 15/2/2017 /

1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Alpha	4. Description Marleys			5. Division Assigned	
6. Sector Supervisor Brian Taylor		Affiliation DOC	Phone [REDACTED]	Radio Ch FIRE2	
7. Resources Assigned this period					
<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>
CCL		4			
CCL		4			
CCL		4			
HCFT		5			
NZRT12		8			
MSCRFA		5			
MSCRFA		6			
DOC Otago		4			
DOC Canterbury		4			
DOC Aoraki		5			
5 Helicopters					
Fixed wing as required					
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Direct attack where required.					
9. Sector Communications			Phone	Radio Ch	
Air Attack Supervisor	Richard Macnamara			FIRE4	
Safety Officer	Steve Oshner		0274740163		
10. Prepared By:			Date/Time 15/02/2017 /		



1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Bravo	4. Description Early Valley Left Flank			5. Division Assigned	
6. Sector Supervisor Al Hutt		Affiliation SDC	Phone [REDACTED]	Radio Ch FIRE3	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
3 Helicopters					
Fixed wing as required					
Sefton		3			
Makeriri Silvi		4			
Darfield		13			
HEB		3			
Mayfield		4			
Alford Forest		5			
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Direct attack as required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Atila deOliveria		[REDACTED]	Fire4	
Safety Officer	Graeme Knight		[REDACTED]		
10. Prepared By:			Date/Time 15/02/2017 /		



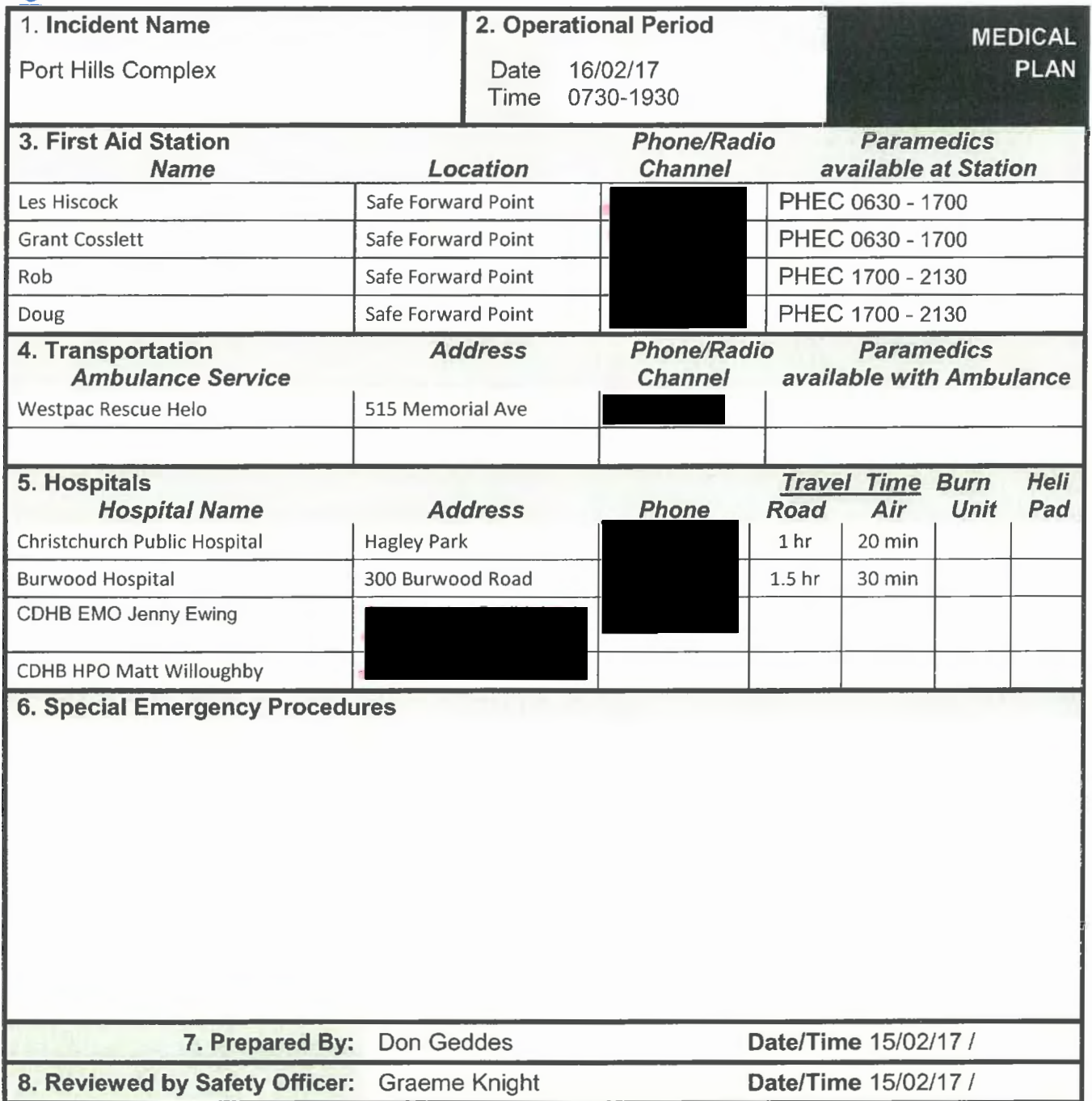


1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Charlie	4. Description Holmes Road			5. Division Assigned	
6. Sector Supervisor Dale Wilhelm		Affiliation CCL	Phone [REDACTED]	Radio Ch FIRE3	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
2 Helicopters					
1 Fixed wing as required					
Makeriri Silvi		4			
Hanmer		6			
Hawarden/Waikari		6			
HCFT		4			
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines as required. Direct attack as required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Atila deOliveria		[REDACTED]	Fire4	
Safety Officer	Graeme Knight		[REDACTED]		
10. Prepared By:			Date/Time 15/02/2017 /		



1. Incident Name Port Hill Complex		2. Operational Period Date 16/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Echo	4. Description Governors Bay		5. Division Assigned		
6. Sector Supervisor Des Irving		Affiliation NZFS	Phone [REDACTED]	Radio Ch FIRE1	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
2 Helicopters (Iriquois)					
1 Fixed wing as required					
NZFS Crews					
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines as required. Direct attack as required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Atila deOliveria		[REDACTED]	Fire4	
Safety Officer	Graeme Knight		[REDACTED]		
10. Prepared By:			Date/Time 15/02/2017 /		





FIRE BEHAVIOUR FORECAST NO: 1**FIRE NAME: PORT HILLS COMPLEX****PREDICTION PERIOD: Tuesday 14th 1500 to Wednesday 15th 1800, February 2017****Area:** Port Hills Complex, Early Valley and Marley's Hill (Summit Road), Canterbury**Time & Date Forecast Issued:** 1500, Feb 14th, 2017**R.Chambers:** Fire Behaviour Officer**Weather Summary:**

Moderate north-westerlies with possible light southerly change for a few hours mid-Tuesday afternoon. Then turning North-northeast into the evening. Light westerly early Wednesday and then strengthen north-easterly from midday. Overnight low of 8C, RH recovery to 60%. Wednesday maximum 22C and RH low of 25%.

Fire Behaviour General:

The fire ground covers a range of fuel types including cured ungrazed grasses and tussock lands, dense scrub and gorse, regenerating native bush and exotic forest plantations. The fire area encompasses multiple valley systems and ridge lines which include complex and steep terrain, and varying aspects.

Areas of active fire growth with back burning and flare ups are being observed. Rates of spread are slower under forest types while highest in scrub and grass fuels.

Potential exists for flare ups and increases in fire activity due to heavy pine plantation fuel types at both the Marley's Hill and Early Valley fires. The Early Valley fire is also burning in heavy scrub fuels with slopes of approximately 20% which has the potential for rapid upslope runs with rates of spread of around 2-4km/hr in gorse and 1-2km/hr in regenerating native bush. Flame lengths would be in excess of 10m.

Fire behaviour should ease overnight but expect a deterioration in conditions from midday onwards with the potential for extreme fire behaviour conditions developing again during the later afternoon.

FFMCs in the high 80s rising again to 90+ tomorrow mean fine fuels are vulnerable to easy ignition. The BUI (90+) and DC of 500 indicates large amounts of fuel available for combustion and deep seated burning in heavy fuels.

Pressure Points

- 1) The head of the Cashmere Stream: the flanking fire has the potential to cross the valley and run upslope to Worsley Spur and Marleys Hill, threatening properties and assets.
- 2) The two slop-over's across the Summit Road: these backing fires have the potential to spread rapidly down slope under favourable wind conditions threatening Governors Bay and Allandale.
- 3) The plantation sector of the southern flank of the Early Valley fire: the potential exists under fresh NE winds to spread towards the Holmes Valley area.
- 4) Forested sector of the Marleys Hill fire: also has the potential to flare-up and breach containment with strengthening winds.

Safety Considerations:

Tomorrow RH will again drop below 30%. Winds becoming variable and gusty with NW of 20-30km/hr and later becoming NE winds of 30km/hr. Fire spread will become erratic with flanks becoming head fires and threatening ground crews.

Potential exists for backing fires to become fast spreading, high intensity upslope runs with aspect and fuel changes.

Steep terrain requires awareness of rock fall hazard and rapid rates of spread which may be hazardous to ground staff.

Smoke conditions may interfere with aircraft operations during both early morning and changeable winds and slope enhanced fire activity. Smoke may also pose a health hazard to fire fighters and public.

High intensity runs producing ember transport have the potential to breach fire breaks such as roads and bare earth control lines and threaten properties. Uncontained sections of the perimeter also have the potential to continue perimeter growth.

Port Hills Complex - Fire Behaviour Estimates

Prepared: Tue. 14th February 2017, 1500 hrs

Fuel types include: Cured grass, tussock, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on mid-afternoon weather and FWI conditions, 14 Feb. 2017

Wind speed: 25 km/h average

Noon FFMC: 90.5, Hourly FFMC (1500h): 90.0, Hourly ISI: 15.0, BUI: 92

Slopes: range from flat to 30+ deg, average 20 deg

Upslope SCF: 2.8, Downslope SCF: 0.3

Gorse (1.5-2.0 m tall):

Flat:	ROS 3370 m/h,	AFL 25-30 t/ha,	HFI 51,000 kW/m,	FL 11 m
20 deg upslope:	8650 m/h,		150,000 kW/m,	19 m
20 deg downslope	840 m/h,		15,000 kW/m,	6.5
m				

Hardwood Scrub (2.0 m tall):

Flat:	ROS 1685 m/h,	AFL 15 t/ha,	HFI 12,500 kW/m,	FL 6 m
20 deg upslope:	4330 m/h,		32,000 kW/m,	9 m
20 deg downslope	420 m/h,		3100 kW/m,	3.1
m				

Immature Pine Plantation (11-20 y.o.):

Flat:	ROS 652 m/h,	AFL 25 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	1863 m/h,		23,000 kW/m,	8 m
20 deg downslope	163 m/h,		2000 kW/m,	2.6 m

Grass (100% cured, 0.3m tall & 80% cover):

Flat:	ROS 3275 m/h,	AFL 4.9 t/ha,	HFI 8100 kW/m,	FL 5 m
20 deg upslope:	9360 m/h,		23,000 kW/m,	8 m
20 deg downslope	820 m/h,		2000 kW/m,	2.6 m

Firebreak construction along Cashmere Stream flank:

Approx.. 3 km break required

Estimated construction rate for dozer: 1500 m/h

So, estimated 2-3 hours to complete break

Fire could take 30-60 mins to spread 200-400 m to track from estimated flank location

Downslope fire spread towards Governors Bay:

Approx. downslope -17 deg (rise 300 m over 1000 m run)

Downslope fire behaviour in gorse: estimated 1059 m/h, 30 t/ha, 16,000 kW/m, 6.7 m FL

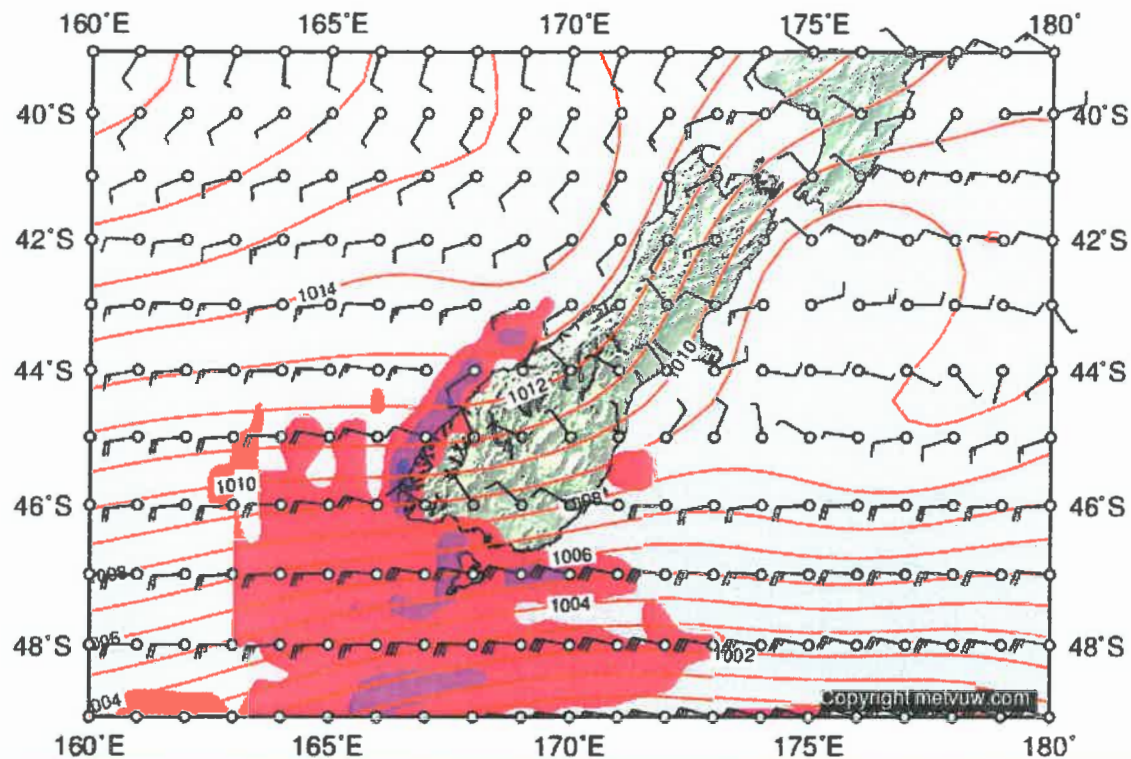
Downslope fire behaviour in hardwood scrub: 530 m/h, 14 t/ha, 3640 kW/m, 3.4 m FL

So, estimated time to travel 1 km downslope run: 1-2 hrs

18-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 0100 NZDT Wednesday 15 February 2017

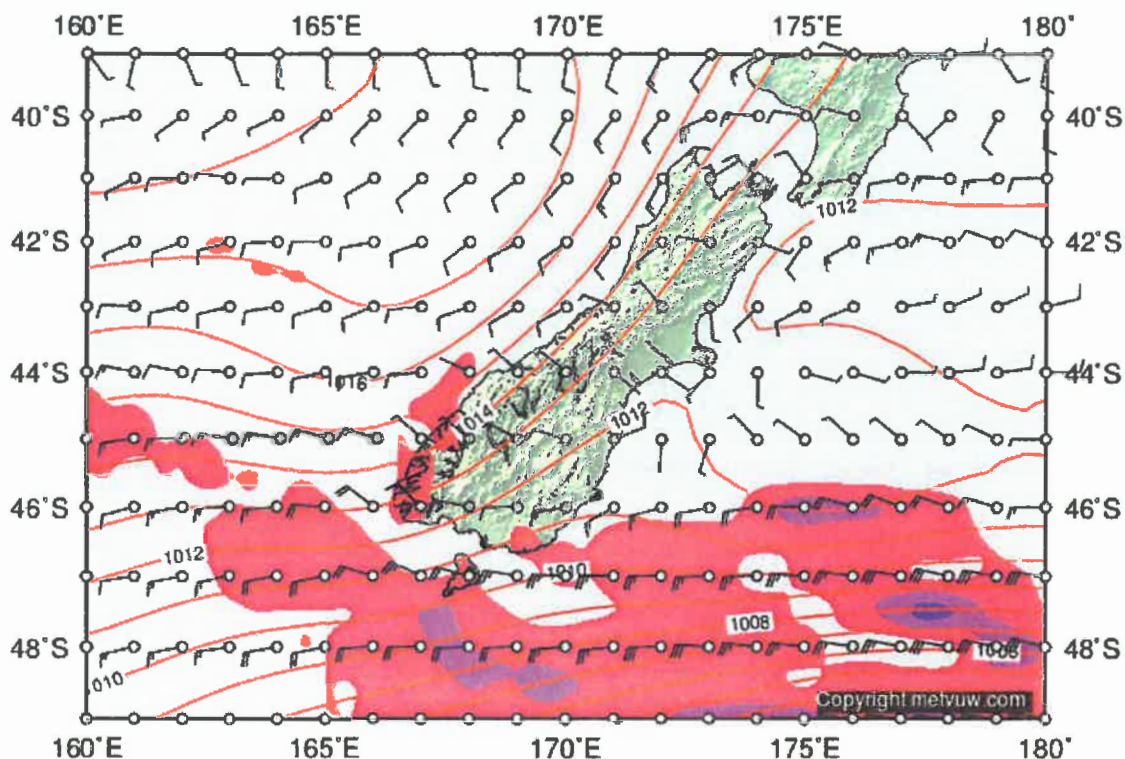
Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



30-hr forecast of MSLP (hPa), surface wind (kts) and 6-hr accumulated rainfall (mm)

Valid for:- 1300 NZDT Wednesday 15 February 2017

Forecasts issued at:- 0700 NZDT Tue 14 Feb 2017 (1800 GMT Mon 13 Feb 2017)



Plotted by James McGregor

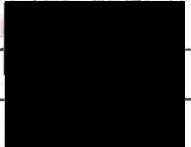
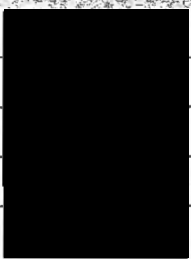
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1. Incident Name Port Hills Complex	2. Operational Period Date: 16 February 2017 Time: 1900hrs	SITUATION REPORT RF201
3. Location Marleys Hill and Early Valley	4. Vegetation Forest/Scrub/Grass/Slash	
6. Assessment <p>The Port Hill fires (Early Valley & Summit Road) have now merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area has been contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was re-flown at 1600. Locations requiring continued suppression efforts include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.</p> <p>There have been a significant number of properties affected.</p> <p>At this moment the confirmed number destroyed structures is 11 houses and 2 large sheds.</p> <p>Metservice weather Port Hills 19:10; 17 degree, 85% RH and average wind E 39km/hr.</p>		
7. Action taken <p>Regional Incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.</p> <p>Works during the day has focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there are 20 crews working.</p> <p>A number of evacuations were undertaken yesterday as the fire has compromised properties in the Worsleys, Hoon Hay Valley and Kennedys Bush Roads. Many other households have self-evacuated. Actual number of people affected is unknown. Operations are working through a process to assess homes so people can return to their homes.</p> <p>Road closures have been extended with police and defence manning road blocks.</p> <p>There is a Welfare Centre at the Halswell Library being managed by Civil Defence.</p> <p>Restricted Air Space remains in place – extend to 3,500ft up until midday Friday 17th February. Power authorities are working to maintain service.</p> <p>Total Fire Ban put into place from Waimate/McKenzie District to Hurunui District by the National Fire Authority. Effective 17th February until further notice. This has been done to reduce the potential for further fire outbreaks while regional resources are concentrating on the Port Hills fire.</p>		
8. Factors Key factors are <ul style="list-style-type: none"> • Smoke reducing visibility • Steep and dissected hill country posing difficulty with access • Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry • Continued significant resource commitment in terms of personnel and equipment • Limited water supplies close to the fire ground are being exhausted. • Damage to power infrastructure • Fire crews, helicopter personnel and management staff fatigue. Rotation with resources from outside the region need to be considered. 		
9. Predicted Incident Development <p>Tomorrow (17 Feb) NE winds are expected to increase to 40-45 km/hr and gusting to 55km/hr. The RH is also expected to increase 100% as drizzle develops in the evening. These conditions are expected have fire behaviour similar to today with increased wind maybe flaring up hot spots and high RH making new fires less likely to develop. On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.</p>		
10. Prepared by: Terry O'Neill	Date/Time 16/02/2017 2000 hrs	

1 Incident Name Port Hills Complex		2 Operational Period Date 17/02/17 Time 0730-1930		INCIDENT OBJECTIVES
3 Overall Incident Objectives				
1) To protect life by ensuring the safety of all personnel and the public. 2) Provide asset protection to all identified values under threat, where it is safe to do so. 3) Ensure all required preparations for next operational period are completed 4) Undertake risk assessment to enable the public to return to buildings. 5) Strengthen containment line and join methodically to existing completed/safe cold line around the fire perimeter.				
4 Strategies for specified Operational Period				
1a) Clearly identify fireground and any other areas of risk 1b) Ensure access to fireground is restricted to trained, competent and assigned personnel only 1c) Ensure Safety Officer/s are appointed, briefed and actively managing safety risks 1d) Provide clear briefings ad command and control and communications 2a) Identify all assets that may be at threat within the operational period 2b) Assess each asset for likelihood of successful protection 2c) Assess resources available over operational period 2d) Prioritise sites or secure more resources if insufficient for protection of all assets 2e) Ensure security of evacuated areas is maintained 3a) Ensure IMT has been briefed by night Ops before departing the fire ground to ensure any required activities or preparations for following operational period are understood 3b) Sector Supervisor to confirm crew availability to Operations Manager no later than 1100 hours 4a) Undertake thermal imaging assessments of buildings once environment cools 4b) Using Council systems to identify and contact landowners/occupants to inform them as to whether they can return home. 4c) Undertake public messaging to support this action 5a) Starting from anchor points or safety zones, methodically work the perimeters with either hand tools, water or machinery to reinforce perimeter fire breaks. 5b) Initially establish 1 to 5 metre fire breaks as above. In areas of concern or heavy vegetation increase the width to 20 metres. 5c) Where possible GPS all completed line to be downloaded by situation at the end of shift. 5d) Sector supervisors to liaise with Ops regarding helicopter water drops onto their sectors.				
5 Prepared by: Trevor Tidey		Date/Time 16/02/17 2000 hrs		
(Empty space for additional notes or signatures)				

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1. Incident Name		2. Operational Period		ORGANISATION LIST	
Port Hill Complex		Date Time	17/02/17 0730-1930		
3. Incident Control		Phone	Cell Phone	Radio Ch	
Incident Controller	Richard McNamara				
Information Officer	Stephen Hill				
Safety Officer	Phil Crutchley (Alpha)				
PIM	CDEM Group				
Safety Officer	Steve Oschner (Bravo)				
Liaison Officer	Tim Mitchell-NRFA				
	Major Peter-NZDF				
	Ian Rex-St John				
	Gavin Treadgold-CDEM Group				
	Andy Thompson-DOC				
	Chris Scott-Police				
RIMT IC	Rob Hands				
4. Agency Representative		Phone	Cell Phone	Radio Ch	
Lead Agency	SDC Douglas Marshall				
Lead Agency	DOC Andy Thompson				
5. Planning/Intell Section		Phone	Cell Phone	Radio Ch	
Planning/Intell Manager	Tony Teeling				
Dept Planning/Intel Manager	Allan Grigg				
Management Support Unit	Jeanette Clark				
Situation Unit	Veronica Clifford				
Situation Unit	Grant Pearce				
Situation Unit	Terry O'Neil				
Resources Team Leader	Julie Woodward				
Resources	John Skilton				
Resources	Jo Clark				
Resources	Jo Harkerss				
Resources	Pete Johnson				
Fire Behaviour	Nathan Keegan				
Fire Investigation	Rory Hoogenraad				
Ground Observers	Warren Hunt				
Ground Observers	Shaun Tivers				
Ground Observers	Paul Grover				

Ground Observers	Steve Pemberton			
Ground Observers	Brad Edwards			
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Janet Walsh (Don Geddes)			
Logistics	Kay Holder			
Supply	Craig Westley			
Finance Unit	Pam Stephens			
Comms	SDC			
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Trevor Tidey			
Deputy Operations Manager	John Hays-NZDF			
Air Attack Supervisor	Graeme Still			
Air Support Supervisor	Atila deOliveria			
Assistant Air Support Supervisor	Carrie Lakin			
Ground Support				
8. Prepared by:	Allan Grigg	Date/Time 16/02/17 / 2000hrs		


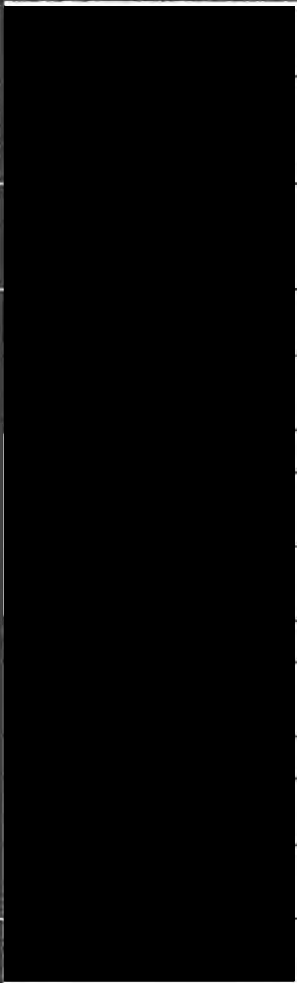
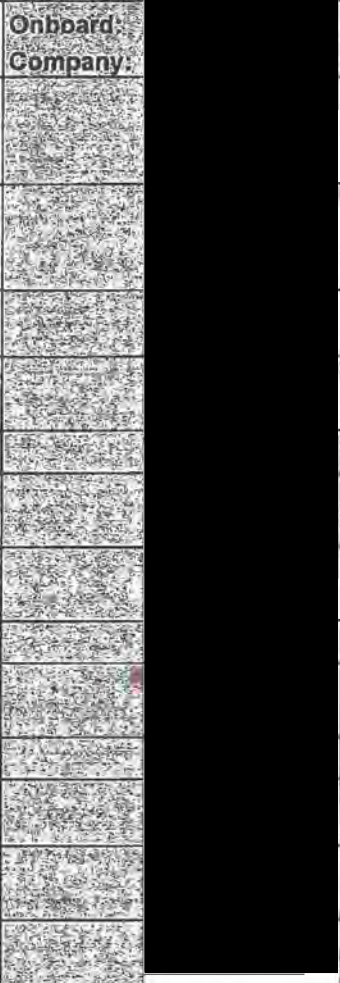
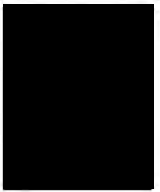
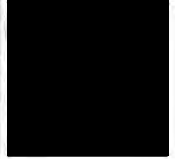
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C

1. Incident Name Port Hills Complex – ALPHA MARLEYS		2. Operational Period Date 17/02/17 Time 0730-1930		COMMUNICATIONS PLAN	
3. Radio Channels					
Assigned To	Function	Channel	Frequency	System	
IMT	Command	ESB164		027 534 1742	
Air	Air Support	FIRE4			
Alpha Marleys	Crews	Fire2			
Bravo Early Valley	Crews	Fire3			
Charlie Early Valley	Crews	Fire3			
Echo Governors Bay	NZFS Crew	Fire1			
4. Telephone					
Assigned To	Landline	Cellphone	Fax	Comments	
Kirsty Percasky				SFP Sign of Kiwi	
Sarah Ensor				SFP Sign of Kiwi	
Colleen Cooper				SFP Sign of Kiwi	
Rachel Pelvin				SA Marleys	
Sasha Roselli				SA Marleys	
5. Other (eg email, Satphone, etc)					
				Email	
Logistics				logistics@selwyn.govt.nz	
Operations				operations@selwyn.govt.nz	
Public Information				pim@selwyn.govt.nz	
Planning				Eoc.plan@selwyn.govt.nz	
Welfare				welfare@selwyn.govt.nz	
Contact 111	If fire escalates.				
6. Prepared by:		Don Geddes		Date/Time 16/02/17 / 2000hrs	

C

C

1. Incident Name Port Hills Complex		2. Operational Period Date 17/02/17 Time 0730-1930		AIR OPERATIONS PLAN		
3. Personnel and Communications						
Position	Name	Affiliation	Phone	Radio Chan		
Air Attack Supervisor	Graeme Still	CCC		FIRE4		
Air Support Supervisor	Atila deOliveria	Buller DC		FIRE4		
Assistant Air Support Supervisor	Carrie Lakin	Mid-South Canterbury		FIRE4		
4. Air Resource Assignments						
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/ Chan	Onboard Company	Telephone Numbers
	Cressco Fixed Wing	TB	Christchurch International	FIRE4		
	Fixed wing x1		Retardant/ Water bombing	FIRE4		
	Fixed wing x 1		Retardant/ Water bombing	FIRE4		
	Squirrel	HUQ		FIRE4		
	Squirrel	HOQ		FIRE4		
	Cabri		GPS Plotting	FIRE4		
	BK117	HJU		FIRE4		
	EC120	HTV		FIRE4		
	Squirrel	HPQ		FIRE4		
	Squirrel	HDQ		FIRE4		
	Squirrel	IBC		FIRE4		
	BK117	HGU		FIRE4		
	Iroquois UH1	HHB	Gov Bay	FIRE4		
Iroquois UH1	HHB	Gov Bay	FIRE4			
Air Retardant Crew						
Based at Christchurch Airport						

5. Location of Filling Points/Service Areas

Christchurch International Airport	Grays Rd, Harewood
Old Tai Tapu Rd (Helibase)	

6. Safety notes/Hazards/Radio Coverage Limitations

NOTAM in place
Aviation Security at Christchurch Airport

7. Air Operations Special Equip or Service

██████████ 10K Jet A1 Tanker
██████████ x 5
NZFSC Lincoln x 5
██████████ x 1 caravan
██████████ x 2

8. Prepared by:

Don Geddes

Date/Time 16/02/17 / 2000hrs

1. Incident Name Port Hills Complex		2. Operational Period Date 17/02/17 Time 0730-1930	SAFETY PLAN
3. General Safety Points Particular care around western edge of Marleys Hill fire with regard to potential fire runs from Early Valley fire. Extreme caution with any structure protection above Governors Bay and Allendale.			
ACES L - Lookout(s) A - Anchor Point(s) C - Communication(s) E - Escape Route(s) S - Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. 10. Stay alert, keep calm, think clearly, act decisively.	Watchouts 1. Fire not scouted and sized up. 2. In country not seen in daylight. 3. Safety zones and escape routes not identified. 4. Unfamiliar with weather and local factors influencing fire behaviour. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line.	

4. Specific Safety Points

- Off and on highway within cordon – speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- **MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES**
- **FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR**
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain – potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock – contact line manager if issues arise.
- Pink ribbons tied around dangerous trees – unsafe – stay 2 times the height of the tree away

5. Prepared By: Graeme Knight

Date/Time 16/2/2017 / 2000


C

1. Incident Name Port Hill Complex		2. Operational Period Date 17/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Alpha	4. Description Marleys and Worsleys Spur			5. Division Assigned	
6. Sector Supervisor Nick Singleton (Summit Rd) and Brian Taylor (Worsleys Spur) FIRE3 + 164 NS [REDACTED]		Affiliation	Phone SDC	Radio Ch BT [REDACTED]	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1- DOC Aoraki + medic		4			
Crew 2- CCC Coastal		4			
Crew 3- DOC Geraldine		5			
Crew 4- DOC Mahaanui		4			
Crew 5- DOC Otago		4			
Crew 6 -Ashburton Rural		4			
Crew 7- Alford Forest		3			
8. Sector Assignment / Special Instructions Protrans tanker plus one other to continue to fill sugar loaf pond. Helicopter to apply retardant around houses at junction of Worsleys Spur and Summit Road south of Marleys peak Protect life and property. Strengthen containment lines. Direct attack where required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Dean Turner AAS Atila deOliveria ASS		[REDACTED]	Fire4	
Safety Officer	Graeme Knight		[REDACTED]		
10. Prepared By:		Bruce Jane		Date/Time 16/02/2017 / 2000	


C

1. Incident Name Port Hill Complex		2. Operational Period Date 17/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Bravo	4. Description Early Valley area			5. Division Assigned	
6. Sector Supervisor Al Hutt		Affiliation DOC	Phone [REDACTED]	Radio Ch FIRE3 + 164	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1- HCFT		5			
Crew 4- Darfield VRFF		10			
Crew 5 - HEB x 4		4			
Crew 6 -Maekerikeri Silviculture x 4 + chainsaws		4			
Safety – Steve Ochsner					
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line.					
9. Sector Communications			Phone	Radio	
Air Attack Supervisor: Dean Turner AAS Atila deOliveria ASS			[REDACTED]	FIRE4	
Safety Officer: Graeme Knight Safety – Steve Oschner					
10. Prepared By: Bruce Jane		Date/Time 16/02/2017 / 2000			

C

1. Incident Name Port Hill Complex		2. Operational Period Date 17/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Charlie	4. Description Early Valley Right Flank			5. Division Assigned	
6. Sector Supervisor Dale Wilhelm		Affiliation CCL	Phone 027 228 5288	Radio Ch FIRE3	
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Bill Stevenson Heavy Machinery					
Crew 1- Bottle Lake		5			
Crew 2- ECan		6			
Crew 4 – Hurunui		6			
Crew 5 – Hurunui		6			
8. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Run hose lines. Patrol Summit Road, assist with fire break being pushed right up to Summit Road Direct attack as required.					
9. Sector Communications			Phone	Radio Ch	
Air Support Supervisor	Dean Turner AAS Atila deOliveria ASS			Fire4	
Safety Officer	Graeme Knight				
10. Prepared By:		Bruce Jane		Date/Time 16/02/2017 / 2000	

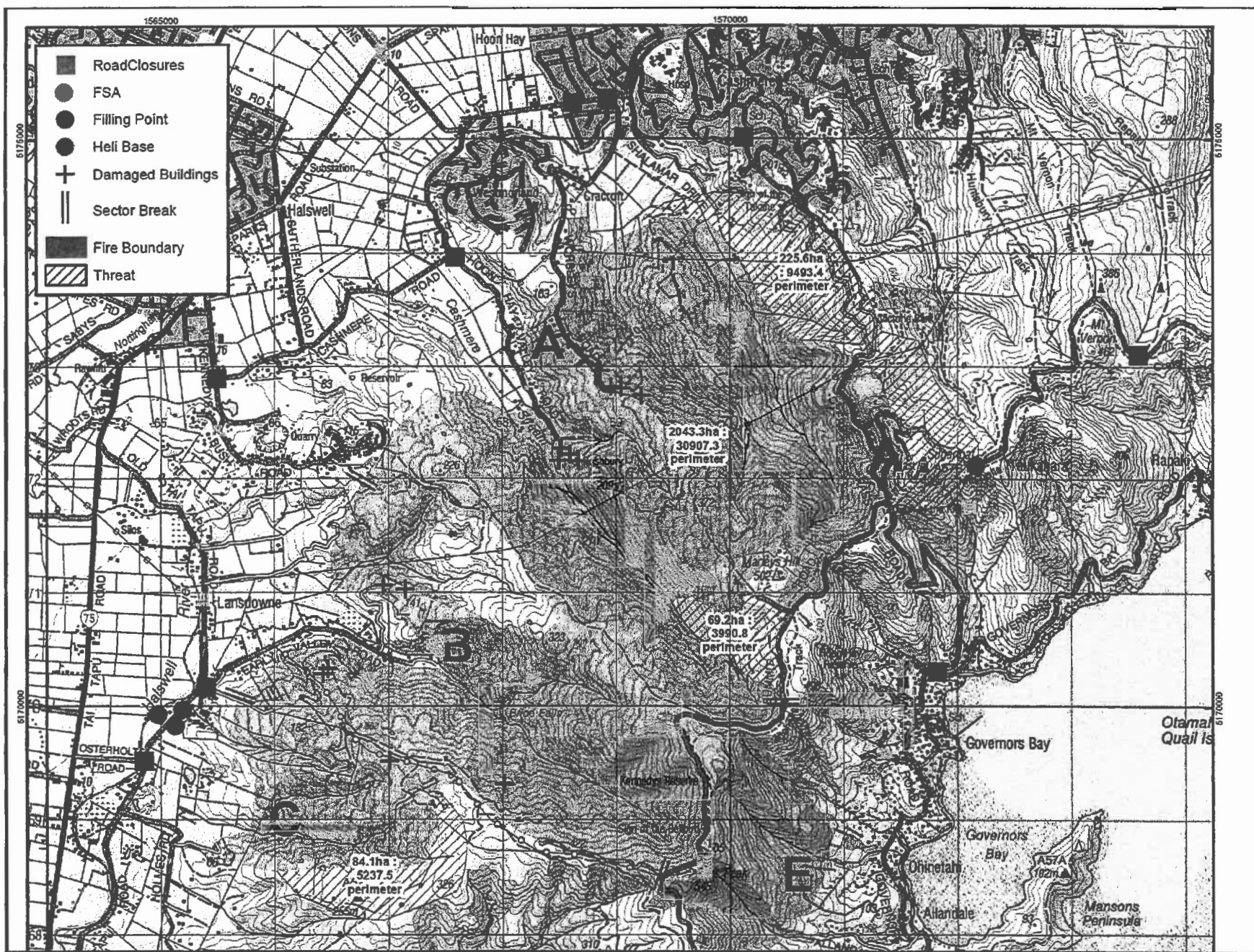
C

1. Incident Name Port Hill Complex		2. Operational Period Date 17/02/17 Time 0730-1930		SECTOR ASSIGNMENT	
3. Sector Echo	4. Description Governors Bay		5. Division Assigned		
6. Sector Supervisor Gavin Dumphy		Affiliation NZFS Area Commander Hutt Valley		Phone	Radio Ch FIRE1
7. Resources Assigned this period					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
NZFS Crews		4			
8. Sector Assignment / Special Instructions Protect life and property. Overwatch only.					
9. Sector Communications				Phone	Radio Ch
Air Support Supervisor		Dean Turner AAS Atila deOliveria ASS			Fire4
Safety Officer		Graeme Knight			
10. Prepared By		Bruce Jane		Date/Time 16/02/2017 / 2000	

C

1. Incident Name Port Hills Complex		2. Operational Period Date 17/02/17 Time 0730-1930		MEDICAL PLAN			
3. First Aid Station <i>Name</i>		<i>Location</i>	<i>Phone/Radio Channel</i>	<i>Paramedics available at Station</i>			
Stu							
Kurt							
Paddy							
Fiona							
4. Transportation <i>Ambulance Service</i>		<i>Address</i>	<i>Phone/Radio Channel</i>	<i>Paramedics available with Ambulance</i>			
Westpac Rescue Helicopter		515 Memorial Ave					
5. Hospitals <i>Hospital Name</i>		<i>Address</i>	<i>Phone</i>	<i>Travel Time Road</i>	<i>Time Air</i>	<i>Burn Unit</i>	<i>Heli Pad</i>
Christchurch Public Hospital		Hagley Park		1 hr	20 min		
Burwood Hospital		300 Burwood Road		1.5 hr	30 min		
CDHB HPO Matt Willoughby		DDI					
6. Special Emergency Procedures Notify line supervisor immediately in the event of injury or emergency call being made.							
7. Prepared By:		Don Geddes		Date/Time 16/02/17 / 2000hrs			
8. Reviewed by Safety Officer:		Graeme Knight		Date/Time 16/02/17 / 2000hrs			

C



Port Hills Complex - Fire Breakout Behaviour Scenarios – Part 2

Prepared: Thu. 16th February 2017, 1700 hrs

Fuel types include: Cured grass, gorse and regenerating native scrub, mixed age exotic plantations.

Fire behaviour calculations based on late-afternoon weather and FWI conditions 16 Feb. 2017

Wind speed: 30 km/h average ENE

Noon FPMC: 90, Hourly FPMC (1600h): 90.0, Hourly ISI: 19, BUI: 99

Slopes: range from flat to 20+ deg, average +/- 15 deg

Upslope SCF: 1.9-2.3, Flat SCF: 1.0, Backing SCF: 0.3-0.4

1) Below Dyers Rd (Adventure Park)

Mature pine plantation: NB. all pine fires exhibit crown fire potential

Flat:	ROS 940 m/h,	AFL 26 t/ha, HFI 12,300 kW/m,	FL 6 m
Flanking (cross-slope)	470 m/h,	6,000 kW/m,	4.5 m
Upslope:	1790 m/h,	23,500 kW/m,	8 m
Backing upslope (into wind)	360 m/h,	4,800 kW/m,	3.5 m

Distance to Dyers Rd approx. 700 m

2) Adventure Park to Worsleys Rd (below Shalamar Dr)

Grazed grass (100% cured, 0.3 m tall, 70% cover):

Flat:	ROS 3730 m/h,	AFL 3 t/ha, HFI 5,300 kW/m,	FL 4 m
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Distance to Worsleys Rd approx. 700 m

3) Below Dyers Rd (Shalamar Rd to Sign of the Kiwi)

Hardwood scrub (2 m tall):

Flat:	ROS 1945 m/h,	AFL 15 t/ha, HFI 14,400 kW/m,	FL 6.5 m
Flanking (cross-slope)	1000 m/h,	7,000 kW/m,	4.5 m
Upslope:	4470 m/h,	33,000 kW/m,	9.5 m
Backing upslope (into wind)	600 m/h,	4,500 kW/m,	3.5 m

Distance to Dyers Rd approx. 400 m

Smoke Hazard

Issued: 2000hrs, Feb 16th 2017

Prediction period: Thursday, 16th Feb to Saturday, 18th Feb

Despite the reduced fire activity, smoke hazard still remains high.

- Smoke modelling for the Port Hills fire indicates the potential for high smoke hazard to public health.
- Smoke hazard levels are highest during daylight hours, especially morning and evening, and decline overnight.
- For this evening and again throughout the day on Friday, likely areas affected include Lincoln and Leeston. Particulate matter concentrations (PM2.5) are close to or exceed safe health levels.
- Smoke hazard is forecasted to decrease on Saturday, but some long range effects are forecasted as far as Timaru.

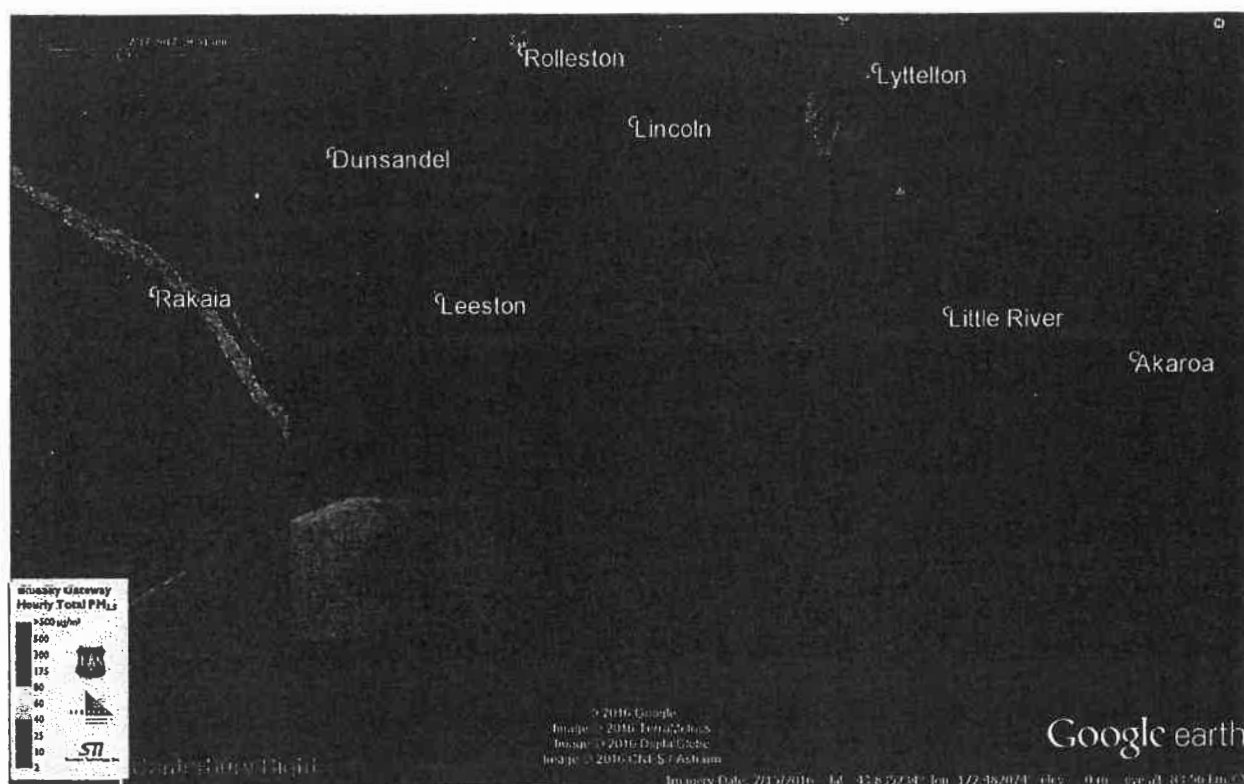


Image: Smoke prediction for Friday 17th at 9am.

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	AP COVER SHEET
<div style="text-align: center;"> <h2>ACTION PLAN</h2> <p>The items checked below are included in the Action Plan</p> <ul style="list-style-type: none"> <input type="checkbox"/> SITUATION REPORT <input type="checkbox"/> INCIDENT OBJECTIVES <input type="checkbox"/> ORGANISATIONAL LIST <input type="checkbox"/> COMMUNICATIONS PLAN <input type="checkbox"/> SECTOR ASSIGNMENT <input type="checkbox"/> SAFETY PLAN <input type="checkbox"/> MEDICAL PLAN <input type="checkbox"/> FIRE MAPS <input type="checkbox"/> WEATHER FORECAST <input type="checkbox"/> SMOKE PROPAGATION MODELLING </div>		
3. Approved by Incident Controller: Richard McNamara	Signed	Date/Time Date: 17/02/2017 Time:

1. Incident Name Port Hills Complex	2. Operational Period Date: 17 February 2017 Time: 1530hrs	SITUATION REPORT RF201
3. Location Marleys Hill and Early Valley	4. Vegetation Forest/Scrub/Grass/Slash	
6. Assessment <p>The Port Hill fires (Early Valley & Marleys Hill) merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area was contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was flown early morning of the 16th and was then re-flown in the afternoon with no detectable change. Fire ground observers have identified locations requiring continued suppression efforts and they include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, the area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.</p> <p>There have been a significant number of properties affected.</p> <p>The confirmed number of destroyed structures is 11 houses and 2 large sheds.</p> <p>The perimeter which is over 29km has 21% confirmed as controlled which has been defined as bare earth or blacked out ground for at least 10 metres. The actual percentage of perimeter that is controlled is expected to be more than 21% and the state of the perimeter is currently being assessed by ground staff.</p> <p>Metservice Port Hills 1515; 16 degree, 99% RH, rain 0.2mm and average wind NE 22km/hr.</p>		
7. Action taken <p>Regional incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.</p> <p>Works during yesterday focussed on maintaining and installing control lines with heavy machineries and crews, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there are 20 crews working. The night shift continued suppression efforts and utilised thermal imaging cameras.</p> <p>A number of evacuations were undertaken on Wednesday as the fire has compromised properties in the Worsleys, Hoon Hay Valley, Kennedys Bush Roads and Dyers Pass Road. Many other households have self-evacuated. Actual number of people affected is unknown.</p> <p>Assessment of properties under way so that people can be provided with information regarding their homes. As at 1500 the cordon for Westmorland had been lifted and residents have been allowed to return to their homes. In the meantime road closures continue at Hoon Hay Valley Road, Kennedys Bush Road and Dyers Pass Road with police and defence manning road blocks. There is a Welfare Centre at the Halswell Library being managed by Civil Defence.</p> <p>Restricted Air Space remains in place – extend to 3,500ft up. Power authorities are working to repair damaged infrastructure. An total Fire Ban is in places.</p>		

8. Factors

Key factors are

- Residents are wishing to return to their houses ASAP.
- Smoke reducing visibility
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure.
- Powerlines and Adventure Park zip lines pose a hazard to aircraft.
- Fire crews, helicopter personnel and management staff fatigue.
- Damp weather and high humidity's will have safety implications with regard to ground operations, slip hazards and vehicle access, and air operations will be affected by the low cloud.

9. Predicted Incident Development

Today NE winds are expected to increase to 35 km/hr and gusting to 50km/hr. The RH is also expected to increase 85-95% as drizzle develops in the afternoon. Most intense precipitation is expected mid-afternoon but less than 2mm expected until 2400. These conditions are expected to result in moderate fire behaviour although increasing wind may flare up hot spots. The high RH and drizzle will make new fires less likely to develop. On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.

10. Prepared by: Patrik Eschenmoser

Date/Time 17/02/2017 1530 hrs

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	INCIDENT OBJECTIVES
3. Overall Incident Objectives 1. To protect life by ensuring the safety of residents/public and all personnel. 2. Protect all identified values/assets under threat, where it is safe to do so. 3. Patrol and maintain control lines, where it is safe to do so.		
4. Objectives for the specified Operational Period 1a) Clearly identify fireground and any other areas of risk 1b) Ensure access to fireground is restricted to trained, competent and assigned personnel only 1c) Ensure Safety Officer/s are appointed, briefed and actively managing safety risks 1d) Provide clear briefings and command and control and communications 2a) Identify all assets that may be at threat within the operational period 2b) Assess each asset for likelihood of successful protection 2c) Assess resources available over operational period 2d) Prioritise sites or secure more resources if insufficient for protection of all assets 2e) Ensure security of evacuated areas is maintained 3a) Crews to have LACES in place prior to executing of task. 3b) Crews patrol control lines and maintain blackout, where safe to do so.		
5. Prepared by: Patrik Eschenmoser		Date/Time 17/02/2017 17:30

1. Incident Name Port Hills Complex		2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours		ORGANISATION LIST
3. Incident Control				
Incident Controller	Pete Scarlet			
Internal Comms Officer				
External Comms Officer				
Liaison Officer				
Safety Officer				
RIMT IC	Richard McNamara			
CCC PRFO	Darryn Woods			
DOC	Craig Alexander			
4. Planning Section				
Planning Manager Dept Planning/Intel Manager				
Management Support				
Situation Unit				
Resource Leader				
Resources				
Resources				
Resources				
Resources				
Fire Behaviour				
Fire Investigation				
Ground Observers				
Ground Observers				
5. Operations Section				
Operations Manager	Kerry O'Neill			
Deputy Operations Manager				
Air Attack Supervisor				

Air Support Supervisor			
Assistant Air Support Supervisor			
Agency Representatives			
NZFS			
6. Logistics Section			
Logistics Manager			
Logistics			
Supply			
Finance Unit			
Comms			
8. Prepared by: Patrik Eschenmoser		Date/Time 17/02/2017 17:30	

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	COMMUNICATIONS PLAN
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3. Radio Channels

Assigned To	Function	Channel	Frequency	System
IMT	Command	ESB164		
Air	Air Support	FIRE4		
Alpha Marleys	Crews	Fire2		
Bravo Early Valley	Crews	Fire3		
Charlie Early Valley	Crews	Fire3		
Echo Governors Bay	NZFS Crew	Fire1		


4. Telephone

Assigned To	Landline	Cellphone	Fax	Comments
Kirsty Percasky				SFP Sign of Kiwi
Sarah Ensor				SFP Sign of Kiwi
Colleen Cooper				SFP Sign of Kiwi
Rachel Pelvin				SA Marleys
Sasha Roselli				SA Marleys

5. Other (eg, email, Satphone, etc)

Logistics				logistics@selwyn.govt.nz
Operations				operations@selwyn.govt.nz
Public Information				pim@selwyn.govt.nz
Planning				Eoc.plan@selwyn.govt.nz
Welfare				welfare@selwyn.govt.nz
Contact 111	If fire escalates.			

10. Prepared By:	Date/Time
Patrik Eschenmoser	17/02/2017 17:30

1. Incident Name Port Hills Complex		2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours		SECTOR ASSIGNMENT	
3. Sector	4. Description Patrol				
5. Sector Supervisor: Barry Hunt					
6. Resources Assigned this period					
Resource Crew	Leader	# Persons	Vehicles	Cell phones	Radio
City Care Ltd	Dave Reese	3	Smokechaser & Tanker		
DOC West Coast	Gavin Collis	4	4x4 & Handtools		
NZFS	Mike Dombrowski	2	Command unit		
NZFS	James Weston	4	Pump		
7. Sector Assignment / Special Instructions Carry out site assessments of all significant structures within the cordon. All crews to work with handheld thermal imaging cameras to assess hotspots within 50 metres of structures and record results as per sheet provided					
10. Prepared By: Patrik Eschenmoser			Date/Time 17/02/2017 17:30		

1. Incident Name Port Hills Complex	2. Operational Period Date: 17-18/02/2017 Time: 1930 hours to 0730 hours	SAFETY PLAN
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6. General Safety Points

Particular care around dangerous trees within the fire perimeter. Trees marked as dangerous (two pink tapes around trunk) require a two tree length safety cordon.

Extreme caution with any structure protection above Governors Bay and Allendale.

ACES	Fire Orders	Watchouts
L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. Stay alert, keep calm, think clearly, act decisively.	1. Fire size is unknown. 2. Unfamiliar territory. 3. No escape route. 4. Don't know local weather. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line. 19. Working with machinery 20. Working with aircraft 21. Working around trees

4. Specific Safety Points

- Off and on highway within cordon – speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- **MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES**
- **FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR**
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain – potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock – contact line manager if issues arise.
- Pink ribbons tied around dangerous trees – unsafe – stay 2 times the height of the tree away

5. Prepared By: Patrik Eschenmoser

Date/Time 17/02/2017 17:30

1. Incident Name Port Hills Complex		2. Operational Period Date: 17/02/17 - 2000 to 0800 Time:		MEDICAL PLAN			
3. First Aid Station		Phone/Radio					
Name	Location	Channel		available at Station			
Stu							
Kurt							
Paddy							
Fiona							
4. Transportation		Address		Phone/Radio		Paramedics	
Ambulance Service				Channel		available with Ambulance	
Westpac Rescue Helicopter	515 Memorial Ave						
5. Hospitals		Address		Phone		Travel Time	
Hospital Name						Road	Air
Christchurch Public Hospital	Hagley Park					1 hr	20 min
Burwood Hospital	300 Burwood Road					1.5 hr	30 min
CDHB HPO Matt Willoughby	DDI						
6. Special Emergency Procedures							
Notify line supervisor immediately in the event of injury or emergency call being made,							
7. Prepared By:		Date/Time:					
PatrikEschenmoser							
8. Reviewed by Safety Officer:		N/A				Date/Time	

Weather Forecast

Now to 6 pm today

- Sustained wind: E to NE 10-20 km/h.
- Wind gusts: 30-45 km/h, with the strongest gusts during the afternoon and evening as well as over higher terrain.
- Minimum relative humidity: 75-85% during the late afternoon.
- Precipitation: threat for passing light rain showers. Rainfall ending 6 pm today of 2 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 pm today to 6 am Saturday

- Sustained wind: E to NE 15-25 km/h, perhaps easing a bit to 10-20 km/h after midnight.
- Wind gusts: to 40-50 km/h, with the strongest gusts over higher terrain. Gusts may decrease to 30-40 km/h after about 3-4 am.
- Maximum relative humidity: 85-95%.
- Precipitation: threat for passing light rain showers. Rainfall, ending 6 am Saturday, of 2 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 am to 6 pm Saturday

- Sustained wind: NE 10-20 km/h, possibly becoming E and increasing to 15-25 km/h during the afternoon. Wind gusts 35-45 km/h (highest in the afternoon)
- Minimum relative humidity: 80-90%.
- Precipitation: threat for passing light rain showers or drizzle. Rainfall of 3 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Sunday

- Sustained wind: Northeast 10-20 km/h with gusts 30-45 km/h (highest in the afternoon).
- Minimum relative humidity: 65-75%.
- Slight chance of a passing light shower or two. Any rainfall 1 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Monday

- Sustained wind: Northeast 15-30 km/h with gusts 40-50 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 65-75%.
- No precipitation expected at this time.

Outlook for Tuesday

- Sustained wind: Northeast 15-25 km/h with gusts 35-45 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 60-70%.
- No precipitation expected at this time.

10. Prepared by: Seth Carrier (NIWA)

Date/Time

17/02/2017 - 1140

1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	AP COVER SHEET
<div style="text-align: center;"> <h2>ACTION PLAN</h2> <p>The items checked below are included in the Action Plan</p> <ul style="list-style-type: none"> <input type="checkbox"/> SITUATION REPORT <input type="checkbox"/> INCIDENT OBJECTIVES <input type="checkbox"/> ORGANISATIONAL LIST <input type="checkbox"/> COMMUNICATIONS PLAN <input type="checkbox"/> SECTOR ASSIGNMENT <input type="checkbox"/> SAFETY PLAN <input type="checkbox"/> MEDICAL PLAN <input type="checkbox"/> FIRE MAPS <input type="checkbox"/> WEATHER FORECAST <input type="checkbox"/> SMOKE PROPAGATION MODELLING </div>		
3. Approved by Incident Controller: Richard McNamara	Signed	Date/Time Date: 17/02/2017 Time:

1. Incident Name Port Hills Complex	2. Operational Period Date: 17 February 2017 Time: 1800 hrs	SITUATION REPORT RF201
3. Location Port Hills	4. Vegetation Forest/Scrub/Grass/Slash	
6. Assessment <p>The Port Hill fires (Early Valley & Summit Road) have now merged into one following the significant escalation of the fire during the afternoon and evening of the 15 February. The area of the fire is now 2075ha and this area has been contained during the day time operational period of the 16th. This containment was confirmed when the fire perimeter was re-flown on the afternoon of the 16th. Fire ground observers have identified locations requiring continued suppression efforts and they include the area above Dyers Pass Road below Sign of the Kiwi into Victoria Park, in and around Sugar Loaf, the area around Marleys Hill and the southern flank of the fire which potentially could blow out into unburnt fuel. The fire runs on the 15th took the fire into close proximity of the dense residential housing of Westmoreland.</p> <p>There have been a significant number of properties affected.</p> <p>At this moment the confirmed number of destroyed structures is 11 houses and 2 large sheds.</p> <p>Metservice weather Port Hills 0835; 17 degree, 88% RH and average wind E 20km/hr.</p>		
7. Action taken <p>Regional incident Management team remains in place, while a State of Emergency has been declared over both Christchurch and Selwyn.</p> <p>Works during yesterday focussed on establishing containment lines with heavy machinery, while continuing to use aircraft to contain breakouts. Rural and urban crews worked to provide asset protection and to strengthen controls lines where safe to do so, there were 20 crews working. The night shift continued suppression efforts and utilised thermal imaging cameras.</p> <p>A number of evacuations were undertaken on Wednesday as the fire has compromised properties in the Worsleys, Hoon Hay Valley, Kennedys Bush Roads and Dyers Pass Road. Many other households have self-evacuated. Actual number of people affected is unknown.</p> <p>Operations are working through a process to assess homes so people can return to their homes. Road cordons have been reviewed during Friday with some disestablished and others moved to allow some residents back to their homes.</p> <p>There is a Welfare Centre at the Halswell Library being managed by Civil Defence.</p> <p>Restricted Air Space remains in place – extend to 3,500ft up until midday Monday 20th February. Power authorities are working to maintain service.</p>		

8. Factors

Key factors are

- Smoke reducing visibility
- Steep and dissected hill country posing difficulty with access
- Heavy fuel loads – mixtures scrub, tussocks and exotic and native forestry
- Continued significant resource commitment in terms of personnel and equipment
- Limited water supplies close to the fire ground are being exhausted.
- Damage to power infrastructure
- Fire crews, helicopter personnel and management staff fatigue. Rotation with resources from outside the region need to be considered.
- Damp weather and high humidity's will moderate fire behaviour and potentially aid fire suppression efforts. It will also have safety implications with regard to ground operations, slip hazards and vehicle access, and air operations will be affected by the low cloud.







9. Predicted Incident Development

On Saturday the drizzle is expected to turn to light rain with continued NE winds, these will be good conditions for blacking out the fire perimeter. Areas of concern are the land around Victoria Park and east of Dyers Pass Road, Marleys Hill electronic assets and the southern flank of the fire which has terrain and vegetation suitable for fire spread.

10. Prepared by: Bruce Pryor

Date/Time 17/02/2017 2137 hrs

1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	INCIDENT OBJECTIVES
3. Overall Incident Objectives <ol style="list-style-type: none"> 1. To protect life by ensuring the safety of all personnel and the public. 2. Provide asset protection to all identified values under threat, where it is safe to do so. 3. Ensure all required preparations for next operational period are completed 4. Fire risk assessment to enable the public to return to buildings. 5. Strengthen control line and join methodically to existing completed/safe cold line around the fire perimeter. 		
4. Objectives for the specified Operational Period <ol style="list-style-type: none"> 1a) Clearly identify fireground and any other areas of risk 1b) Ensure access to fireground is restricted to trained, competent and assigned personnel only 1c) Ensure Safety Officer/s are appointed, briefed and actively managing safety risks 1d) Provide clear briefings and command and control and communications 2a) Identify all assets that may be at threat within the operational period 2b) Assess each asset for likelihood of successful protection 2c) Assess resources available over operational period 2d) Prioritise sites or secure more resources if insufficient for protection of all assets 2e) Ensure security of evacuated areas is maintained 3a) Ensure IMT has been briefed by night Ops before departing the fire ground to ensure any required activities or preparations for following operational period are understood 3b) Sector Supervisor to confirm crew availability to Operations Manager no later than 1100 hours 4a) Continuous fire risk assessment of buildings throughout the day. 4b) Risk assessment results to CDEM 5a) Starting from anchor points or safety zones, methodically work the perimeters with either hand tools, water or machinery to reinforce perimeter fire breaks. 5b) Establish 10 metre control lines. In areas of concern or heavy vegetation increase the width to 20 metres. 5c) Where possible GPS all completed line to be downloaded by situation at the end of shift. 5d) Sector supervisors to liaise with Ops regarding helicopter water drops onto their sectors. 5e) Perimeter containment to be extended to '20-metre black inside edge', right around the fire. 		
10. Prepared by: Bruce Pryor	Date/Time 17/02/2017 2137 hrs	

1. Incident Name Port Hills Complex		2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours		ORGANISATION LIST	
3. Incident Control					
Incident Controller		Richard McNamara			
Internal Comms Officer		Stephen Hill			
Liaison Officer		CDEM Group			
Safety Officer		Graeme Knight			
RIMT IC		Richard McNamara 			
4. Planning Section					
Planning Manager		Tony Teeling			
Dept Planning/Intel Manager		Bruce Janes			
Management Support		Pat Eschenmoser			
		Bruce Pryor			
		Emma Crampton			
Situation Unit		Grant Pearce			
		Brian Keown			
Resource Leader		Julie Woodward			
Resources		John Skilton			
		Karen Lowry			
Plans		Allan Grigg			
Fire Behaviour		Nathan Keoghan			
Ground Observers		Shaun Tivers			
Ground Observers		Paul Grover			
Ground Observers		Steve Pemberton			
Ground Observers		Brad Edwards			
5. Operations Section					
Operations Manager		Trevor Tidey			
Deputy Operations Manager		Bruce Janes			
Air Attack Supervisor		Steve Oschner			

Air Support Supervisor	Paul Fechney		
Air Support Supervisor	Dale Wilhelm		
Assistant Air Support Supervisor	Carrie Lakin		
Agency Representatives			
SDC	Douglas Marshall		
DOC	Andy Thompson		
RF/CCC/CDEM	Darrin Woods		
5. Logistics Section			
Logistics Manager	Janet Walsh		
Supply	Craig Westley		
	NZDF		
Finance Unit	Chris Tatterson		
Comms	AM Leanne and Jason		
	PM Heather and Ann Marie		
Princess Margaret Staging Area - Alpha	Kirsty Percasky - DOC		
	Colleen Cooper		
	Sam, Maggie and Craig		
Halswell Quarry Park Staging	AM Pam Stevens & Christine		
	PM Deb Webb & Rowell des Forges		
Catering	Ready Response Team (Doug Watt) until 1500		
	NZDF after 1500		
8. 10. Prepared by: Bruce Pryor		Date/Time 17/02/2017 2137 hrs	

1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	COMMUNICATIONS PLAN
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3. Radio Channels

Assigned To	Function	Channel	Frequency	System
IMT	Command	ESB164		027 534 1742
Air	Air Support	FIRE3 CIMS 164		
Alpha port Hills	Crews	Fire3 CIMS164		
Bravo Early Valley	Crews	Fire3 CIMS 164		
Charlie Southern Flank	Crews	Fire3 CIMS 164		
Deltas Air Ops				
Echo Governors Bay	NZFS Crew	Fire1		


1. Telephone

Assigned To	Landline	Cellphone	Fax	Comments
Kirsty Percasky				SA Princess Margaret
Sarah Ensor				SA Princess Margaret
Colleen Cooper				SA Princess Margaret
Sam				SA Princess Margaret
Maggie				SA Princess Margaret
Craig				SA Princess Margaret
AM Pam Stevens				SA Halswell
Christine				SA Halswell
Debb Webb				SA Halswell
Rowell des Forges				SA Halswell

2. Other (eg, email, Satphone, etc)

Logistics				logistics@selwyn.govt.nz
Operations				operations@selwyn.govt.nz
Public Information				pim@selwyn.govt.nz

Planning				Eoc.plan@selwyn.govt.nz
Welfare				welfare@selwyn.govt.nz
Contact 111	If fire escalates.			
10. Prepared By:			Date/Time	
Patrik Eschenmoser			17/02/2017 17:30	

1. Incident Name Port Hills Complex		2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours		SECTOR ASSIGNMENT	
3. Sector A		4. Description Port Hills			
5. Sector Supervisor		Affiliation	Phone	Radio Channel	
Danny Kimber		DOC		Fire 3	
Brian Taylor		DOC		CIMS164	
6. Sector Assignment / Special Instructions					
Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line. Extend perimeter black line to 20 metres					

<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>
Crew 1 - NZRT		4			
Crew 2 - CCC		3 Plus plus			
Crew 3 - NZDF		8 (C/W 4 appliances)			
Crew 4 – DOC Geraldine		6			
Crew 5 - Ashburton		5			
Crew 6 – Scott Bowie		1			
Crew 7 - Waihaorunga		3 (C/W appliance)			
Crew 8 - Aorangi		5 (C/W 4x4 appliance)			
Crew 9 - Lauriston		3 (C/W medium tanker)			
Crew 10 - Pendarves		4 (C/W tanker)			
Crew 11 – CCC		6			
9. Sector Communications					
		<i>Phone</i>	<i>Radio Ch</i> Fire 3 / CIMS 164		
Steve Oschner ASS Dale Wilhelm ASS Paul Fechny ASS			Fire 4 CIMS164		

1. Incident Name Port Hills Complex		2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours		SECTOR ASSIGNMENT	
3. Sector B		4. Description Early Valley			
5. Sector Supervisor Al Hutt		Affiliation SDC	Phone [REDACTED]	Radio Channel Fire 3	
6. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line. Extend perimeter black line to 20 metres					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1 – HCFT		5			
Crew 2 – Darfield VRFF		11			
Crew 3 – HEB		5			
Crew 4 – Makeriri Forestry		4 (Chainsaw crew)			
Crew 5 – Swannanoa		6			
SAFETY	Steve Oschner - [REDACTED]	1			
SAFETY	Graeme Knight [REDACTED]				
Equipment : Bottle Lake 4x4 tanker West Melton Large Tanker 4x4 tanker plus 6 personnel 2 tankers 1 smoke chaser					
9. Sector Communications			Phone	Radio Ch Fire 3 / CIMS 164	
Steve Oschner ASS Dale Wilhelm ASS Paul Fechny ASS			[REDACTED]	Fire 4 CIMS164	

1. Incident Name Port Hills Complex		2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours		SECTOR ASSIGNMENT	
3. Sector C		4. Description Southern Flank			
5. Sector Supervisor Simon Woods		Affiliation CCL	Phone [REDACTED]	Radio Channel Fire 3 CIMS164	
6. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line. Extend perimeter black line to 20 metres					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1 – Duvauchelles		6			
Crew 2 – ECAN		6			
SAFETY	Graeme Knight [REDACTED]				
9. Sector Communications					
		Phone	Radio Ch Fire 3 / CIMS 164		
Steve Oschner ASS Dale Wilhelm ASS Paul Fechney ASS		[REDACTED]	Fire 4 CIMS164		

1. Incident Name		2. Operational Period		AIR OPERATIONS	
Port Hills Complex Sector D		Date Time	18/02/17 0730-1930	PLAN	
3. Personnel and Communications					
Position	Name	Affiliation	Phone	Radio Chan	
Air Attack Supervisor	Steve Ochsner	CCC	[REDACTED]	FIRE4	
Air Support Supervisor	Daryl Wilhelm	CCC	??	FIRE4	
	Paul Fechney	DOC Rangiora	[REDACTED]		
Assistant Air Support Liaison	Carrie Lakin	SDC Timaru	[REDACTED]	FIRE4	
4. Air Resource Assignments					
Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/ Chan	Telephone Numbers
[REDACTED]	Cressco Fixed Wing	TB	Christchurch International	FIRE4	Onboard: Company: [REDACTED]
	Fixed wing x1 Cressco	AS	Retardant/ Water bombing	FIRE4	
	Fixed wing x 1 Air tractor	SKF	Retardant/ Water bombing	FIRE4	
[REDACTED]	Squirrel	HUQ		FIRE4	[REDACTED]
	Squirrel	HDQ		FIRE4	
	Cabri	LU	GPS Plotting	FIRE4	
	BK117	HJK		FIRE4	
	EC120	HTV		FIRE4	
[REDACTED]	Squirrel	HPQ		FIRE4	[REDACTED]
	Squirrel	HDQ		FIRE4	
	Squirrel	IBC		FIRE4	

	BK117	HGU		FIRE4		
	BK117	HYB				
	Iroquois UH1	HHB	Gov Bay	FIRE4		
	Iroquois UH1	HHF	Gov Bay	FIRE4		
	Squirrel	HBD				
	Squirrel	HBI				
	Thermal imaging	HIY				
Air Retardant Crew						
Based at Christchurch Airport						
5. Location of Filling Points/Service Areas						

Christchurch International Airport	Grays Rd, Harewood
Old Tai Tapu Rd (Helibase)	
6. Safety notes/Hazards/Radio Coverage Limitations	
NOTAM in place until Monday 20 February Aviation Security at Christchurch Airport	
7. Air Operations Special Equip or Service	
Jet A1 Tanker x 5 NZFSC Lincoln x 5 x 1 caravan x 2	
10. Prepared by: Bruce Pryor	Date/Time 17/02/2017 2137 hrs

1. Incident Name Port Hills Complex		2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours		SECTOR ASSIGNMENT	
3. Sector E		4. Description Governors Bay			
5. Sector Supervisor Gavin Dumphy		Affiliation NZFS Hutt Valley	Phone XXXXXXXXXX	Radio Channel Fire 1 CIMS164	
6. Sector Assignment / Special Instructions Protect life and property. Strengthen containment lines. Patrol road edge, prevent from crossing road. Prevent fire breaching retardant line. Extend perimeter black line to 20 metres					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Crew 1 – NZFS		4			
SAFETY	Graeme Knight [REDACTED]				
9. Sector Communications					
		Phone	Radio Ch Fire 1 / CIMS 164		
Steve Oschner ASS Dale Wilhelm ASS Paul Fechney ASS		[REDACTED]	Fire 4 CIMS164		

1. Incident Name Port Hills Complex	2. Operational Period Date: 18/02/2017 Time: 0700 hours to 1930 hours	SAFETY PLAN
3. General Safety Points Particular care around dangerous trees within the fire perimeter. Trees marked as dangerous (two pink tapes around trunk) require a two tree length safety cordon. Extreme caution with any structure protection above Governors Bay and Allendale.		
LACES L - Lookout(s) A – Anchor Point(s) C – Communication(s) E – Escape Route(s) S – Safety Zone(s)	Fire Orders 1. Fight fire aggressively but provide for safety first. 2. Initiate all action based upon current and expected fire behaviour. 3. Recognise current weather conditions and obtain forecasts. 4. Ensure instructions are given and understood. 5. Obtain current information on fire status. 6. Remain in Communication with crew members, your supervisor and adjoining forces. 7. Determine safety zones and escape routes. 8. Establish lookouts in potentially hazardous situations. 9. Retain control at all times. Stay alert, keep calm, think clearly, act decisively.	Watchouts 1. Fire size is unknown. 2. Unfamiliar territory. 3. No escape route. 4. Don't know local weather. 5. Uninformed on strategy, tactics and hazards. 6. Instructions and assignments not clear. 7. No communications link with crew members or supervisor. 8. Constructing fireline without safe anchor point. 9. Constructing fireline downhill with fire below. 10. Attempting frontal assault on fire. 11. Unburned fuel between you and the fire. 12. Cannot see main fire, not in contact with anyone who can. 13. On hillside where rolling material can ignite fuel below. 14. Weather is getting hotter and drier. 15. Wind increases and/or changes direction. 16. Getting frequent spot fires across the line. 17. Terrain and fuels make escape to safety zones difficult. 18. Taking a nap near the fire line. 19. Working with machinery 20. Working with aircraft 21. Working around trees

4. Specific Safety Points

- Off and on highway within cordon – speed limit of 30km, headlights and seatbelts on at all times
- Competent four wheel drivers for off road
- Power lines/poles/pylons within the fire ground have been assessed.
- **MAINTAIN A SAFE DISTANCE OF 30M FROM THESE STRUCTURES**
- **FIRE GROUND WILL BECOME SLIPPERY IF SHOWERS OCCUR**
- Maintain hydration and nutrition levels
- Wasps and bees present
- Dust and smoke inhalation
- Steep terrain – potential rockfalls, bluffs present
- Report all accident and near misses
- Sun exposure/hypothermia
- Aircraft movements around heli operations and water bombing
- Heavy machinery operations
- Potential rootballs dislodging
- Unstable trees with damaged root structures
- Beware of public, farmers, recreational users, and stock – contact line manager if issues arise.
- Pink ribbons tied around dangerous trees – unsafe – stay 2 times the height of the tree away

10. Prepared by: Bruce Pryor

Date/Time 17/02/2017 2137 hrs

1. Incident Name		2. Operational Period		MEDICAL PLAN			
Port Hills Complex		Date:	18/02/17 - 0700 to 1930				
3. First Aid Station		Phone/Radio		Paramedics			
Name	Location	Channel	available at Station				
Stu							
Kurt							
Paddy							
Fiona							
4. Transportation		Address		Phone/Radio		Paramedics	
Ambulance Service				Channel		available with Ambulance	
Westpac Rescue Helicopter		515 Memorial Ave		[REDACTED]			
5. Hospitals				Travel Time		Burn	Heli
Hospital Name	Address	Phone	Road	Air	Unit	Pad	
Christchurch Public Hospital	Hagley Park	[REDACTED]	1 hr	20 min			
Burwood Hospital	300 Burwood Road	[REDACTED]	1.5 hr	30 min			
CDHB HPO Matt Willoughby	DD [REDACTED]						
6. Special Emergency Procedures							
Notify line supervisor immediately in the event of injury or emergency call being made,							
7. Prepared By: Patrik Eschenmoser		Date/Time:					
8. Reviewed by Safety Officer:		Date/Time					

6 am to 6 pm Saturday

- Sustained wind: NE 10-20 km/h, possibly becoming E and increasing to 15-25 km/h during the afternoon.
- Wind gusts 35-45 km/h (highest in the afternoon)
- Minimum relative humidity: 80-90%.
- Precipitation: Occasional light showers and drizzle likely. Rainfall of 5 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

6 pm Saturday to 6 am Sunday

- Sustained wind: East to Northeast 15-25 km/h, decreasing to 10-20 km/h after 2-3 am.
- Wind gusts 35-45 km/h, decreasing to 30-40 km/h after midnight.
- Maximum relative humidity: 95-100%
- Precipitation: A couple showers possible in the evening, then drying. Any rainfall 2 mm or less.
- Note: **High** risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Sunday

- Sustained wind: Northeast 10-20 km/h with gusts 30-45 km/h (highest in the afternoon).
- Minimum relative humidity: 65-75%.
- Slight chance of a passing light shower or two. Any rainfall 1 mm or less.
- Note: Risk for low cloud and fog reducing visibility, particularly over the higher terrain.

Outlook for Monday

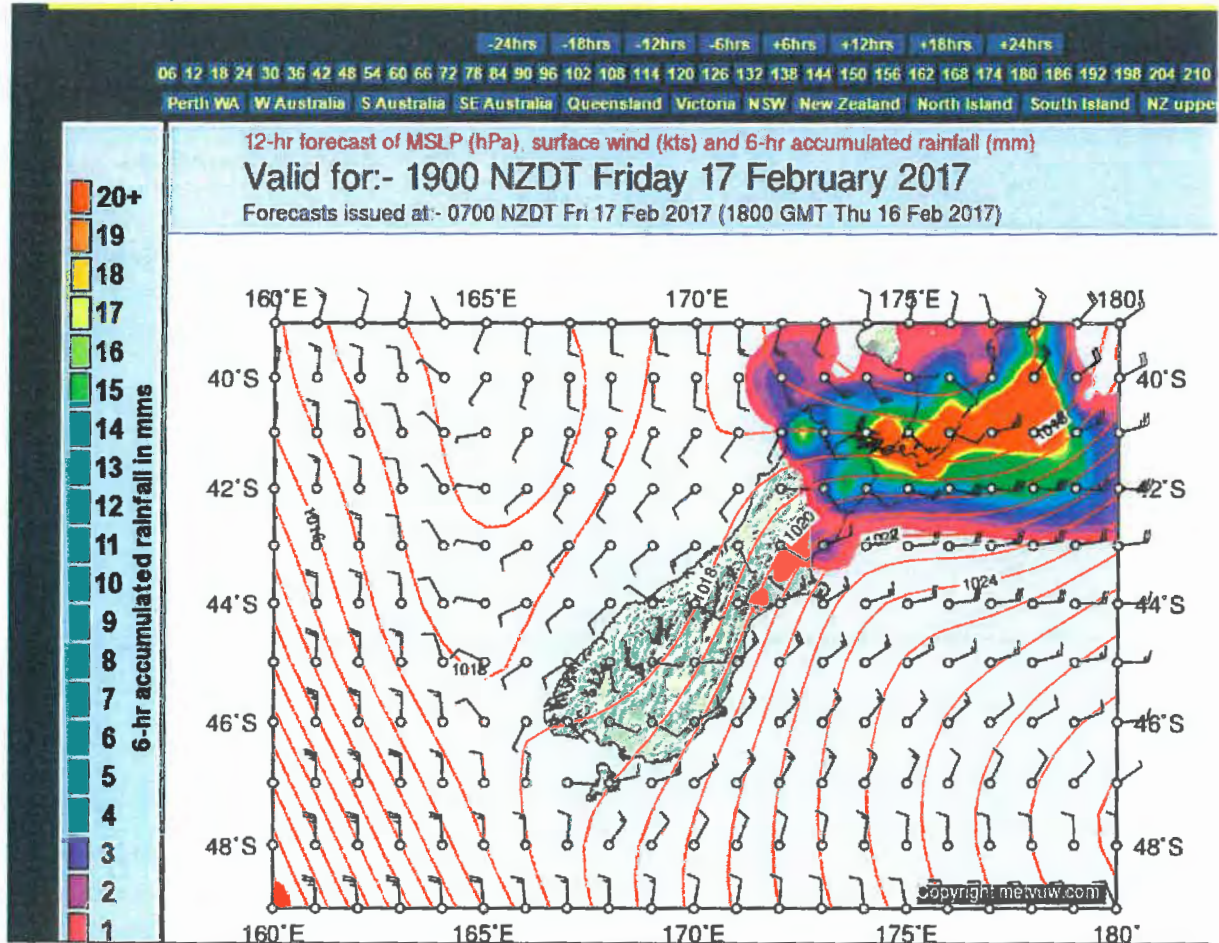
- Sustained wind: Northeast 15-30 km/h with gusts 40-50 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 65-75%.
- No precipitation expected at this time.

Outlook for Tuesday

- Sustained wind: Northeast 15-25 km/h with gusts 35-45 km/h (highest in the afternoon).
- High temperature: 24-25 degrees.
- Minimum relative humidity: 60-70%.
- No precipitation expected at this time.



To ensure compliance with legal requirements and to maintain cyber security standards, NIWA's IT systems are subject to ongoing monitoring, activity logging and auditing. This monitoring and auditing service may be provided by third parties. Such third parties can access information transmitted to, processed by and stored on NIWA's IT systems.



FIRE BEHAVIOUR FORECAST

Fire name: Port Hills Complex				Prediction for: 0800-0800 18/19 Feb-17					
Prepared by: N Keoghan				Time and date issued: 1800 17-02-17					
Forecast no. 6									
Assumptions:				Yesterdays or today's forecast – circle one					
Temp	RH	Wind	Slope *	FFMC	DMC	DC	ISI	BUI	FWI
17	80	30	20	68	57	494	2.8	88	11.5

Rates of spread are the equilibrium rate of spread, not the build-up phase, and continuous fuel and similar fuel type.

Fire Weather Forecast:

Forecast is for a moderate wind, with low air temp and high fuel moisture.

20170218 Port Hills Complex IAP 0700 to 1930 18 Feb 2017 (bp)
 4/05/2017 7:51 a.m.

Fire Behaviour General:

Expected fire behaviour (no slope)	Forecast extreme 1400-1800
<i>Fuel type:</i> Mature Pine – 5m pruned	<i>Fuel type:</i> Mature Pine – 5m pruned
Expect HF rate of spread of 13m/hr HF Intensity 153kw/m Flame lengths 0.8m	Expect HF rate of spread of 38m/hr HF Intensity 438kw/m Flame lengths 1.3m
<i>Fuel type:</i> Scrub/gorse	<i>Fuel type:</i> Scrub/ gorse
Expect HF rate of spread of 555m/hr HF Intensity 9875kw/m Flame lengths 5.3m	Expect HF rate of spread of 1586m/hr HF Intensity >10000kw/m Flame lengths 8.6m
<i>Fuel type:</i> Grass-70% GC, 100% cover, 0.1m height	<i>Fuel type:</i> Grass -70% GC, 100% cover, 0.1m height
Expect HF rate of spread of 131m/hr HF Intensity 128kw/m Flame lengths 0.7m	Expect HF rate of spread of 374m/hr HF Intensity 316kw/m Flame lengths 1.1m
Safety Considerations:	
Head Fire intensity within threshold for direct attack in all fuels.	Scrub fuels exceed head fire intensity for safe threshold for direct attack in all fuels.
Lookouts must have trigger points pre-set for tactical withdrawal to safety zones, when conditions exceed assumptions.	

[illegible]

