

**Willoughby / Lane Cove
Local Emergency
Management Plan
November 2017**



Part 1 – Administration

Authority

The Willoughby / Lane Cove Local Emergency Management Plan (EMPLAN) has been prepared by the Willoughby / Lane Cove Local Emergency Management Committee in compliance with the State Emergency & Rescue Management Act 1989.

APPROVED

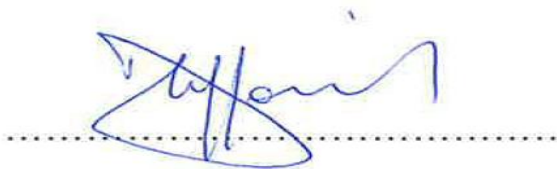


Chair

Willoughby / Lane Cove Local Emergency Management Committee

Dated: 10 November 2017

ENDORSED



Chair

North West Metropolitan Regional Emergency Management Committee



Dated:

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Purpose

Details arrangements for, prevention of, preparation for, response to and recovery from emergencies within the Local Government Area(s) covered by this plan.

It encompasses arrangements for:

- emergencies controlled by combat agencies;
- emergencies controlled by combat agencies and supported by the Local Emergency Operations Controller (LEOCON);
- emergency operations for which there is no combat agency; and
- circumstances where a combat agency has passed control to the LEOCON.

Objectives

The objectives of this plan are to:

- define participating organisation and Functional Area roles and responsibilities in preparation for, response to and recovery from emergencies;
- set out the control, co-ordination and liaison arrangements at the Local level;
- detail activation and alerting arrangements for involved agencies; and
- detail arrangements for the acquisition and co-ordination of resources.

Scope

The plan describes the arrangements at Local level to prevent, prepare for, respond to and recover from emergencies and also provides policy direction for the preparation of Sub Plans and Supporting Plans:

- Arrangements detailed in this plan are based on the assumption that the resources upon which the plan relies are available when required; and
- The effectiveness of arrangements detailed in this plan are dependent upon all involved agencies preparing, testing and maintaining appropriate internal instructions, and/or standing operating procedures.

Principles

The following principles are applied in this plan:

- a) The Emergency Risk Management (ERM) process is to be used as the basis for emergency planning in New South Wales. This methodical approach to the planning process is to be applied by Emergency Management Committees at all levels.
- b) Responsibility for preparation, response and recovery rests initially at Local level. If Local agencies and available resources are not sufficient they are augmented by those at Regional level.
- c) Control of emergency response and recovery operations is conducted at the lowest effective level.
- d) Agencies may deploy their own resources from their own service from outside the affected Local area or Region if they are needed.
- e) The Local Emergency Operations Controller (LEOCON) is responsible, when requested by a combat agency, to co-ordinate the provision of resources support. EOCs would not normally assume control from a combat agency unless the situation can no longer be contained. Where necessary, this should only be done after consultation with the Regional Emergency Operations Controller (REOCON) and agreement of the combat agency and the appropriate level of control.
- f) Emergency preparation, response and recovery operations should be conducted with all agencies carrying out their normal functions wherever possible.
- g) Prevention measures remain the responsibility of authorities/agencies charged by statute with the responsibility.

Test and Review Process

The Willoughby / Lane Cove Local Emergency Management Committee (LEMC) will review this Plan every three (3) years, or following any:

- activation of the Plan in response to an emergency;
- legislative changes affecting the Plan; and
- exercises conducted to test all or part of the Plan.

Part 2 – Community Context

Annexure A – Community Profile

General

The Willoughby / Lane Cove area comprises the LGA's of Willoughby City Council (approximately 22.55 sq. kilometres) and Lane Cove Council (approximately 10.56 sq. kilometres), a combined total of 33.1 sq. kilometres.

Willoughby

Willoughby City is located in Sydney's northern suburbs about 9 kilometres from the Sydney GPO. The city is bounded by the Municipality of Ku-ring-gai in the north, Middle Harbour in the East, the Municipalities of North Sydney and Lane Cove in the south and the City of Ryde in the west. The City includes all or part of the suburbs of:

- Artarmon
- Castlecrag
- Castle Cove
- Chatswood
- Chatswood West
- Lane Cove North (part)
- Middle Cove
- Naremburn
- Northbridge
- North Willoughby
- Roseville (part)
- St Leonards (part)
- Willoughby
- Willoughby East

Major features of the City include Northern Sydney Institute of TAFE, University of Technology Sydney-St Leonards Campus, Royal North Shore Hospital, Chatswood Shopping Centre, Castle Cove Country Club, and Chatswood Golf Club, Northbridge Golf Club and various parks and reserves. The City is served by the Gore Hill Freeway, the Pacific Highway and the North Shore railway line with stations at Artarmon, Chatswood and St Leonards.

Lane Cove

Lane Cove Council area is located in Sydney's northern suburbs about 9 kilometres from the Sydney GPO. The Council area is bounded by Willoughby City in the north, North Sydney Council in the east and the Lane Cove River in the south and west. Lane Cove Council includes all or part of the suburbs of:

- Greenwich
- Lane Cove North (part)
- Lane Cove West
- Linley Point
- Longueville
- Northwood
- Riverview
- St Leonards (part)

Major features of the area include Lane Cove River, St Ignatius College, Greenwich Hospital, Lane Cove Shopping Centre, Lane Cove Aquatic Centre, Lane Cove Country Club, Blackman Park, Gore Creek Reserve, Lane Cove Bushland Park and Gore Bay Terminal.

Adjoining Areas

The following Local Government Areas adjoin or are located on the other side of waterways to the Willoughby / Lane Cove LEMC area:

- Northern Beaches
- Ku-ring-gai
- Ryde
- Mosman
- Hunters Hill
- North Sydney

Landform and Topography

Willoughby LGA is located on a coastal plateau orientated southeast to northwest. The maximum height is 108.5m, dropping steeply at the eastern side towards Middle Harbour and on the western side towards Lane Cove River. The area is drained by creeks that flow through covered drains in the upper reaches opening into gullies on the east at Castle Cove (Scotts Creek), Castlecrag (Sugarloaf Creek), and Northbridge (Sailors Bay Creek and Flat Rock Creek). To the west, Little Blue Gum Creek and Swain's Creek drop steeply to the Lane Cove River. The varied topography means that there is a range of microclimates fostering a wide variety native plants species.

Lane Cove LGA is located on the Northern side of Lane Cove River and extends to Mowbray Road in the North, Burns Bay Road in the West and the Pacific Highway in the East. Epping Road bisects the LGA from east to west and becomes the Gore Hill Freeway at Lane cove. The Lane Cove River boundary on the South is defined by five predominately north/south peninsulas. The Peninsulas are separated by bays and linked by areas of bushland. On the east are Lane Cove Bushland Park and the West the Warraroon Reserve extends from Lane Cove River to Northwood Centre.

The area's main waterways are the foreshores with Middle Harbour, the Lane Cove River and Sydney Harbour.

Climate

Willoughby and Lane Cove experience:

- A subtropical climate with hot humid summers and mild winters.
- Temperatures range from an average maximum of 26.7°C in January to 16.8°C in July. The highest temperature recorded is about 45°C and the lowest 2°C. Approximately two days exceed 35°C in summer and two days below 5°C in winter.
- Frost occurs only in isolated pockets. The humid summer is relieved by sea breezes. Rainfall may occur in all months with the average rainfall being 1130mm per year.

The LGA's are well ventilated with average wind velocities of 10-12 km/hr, predominately from east to northeast, except in winter when westerlies are more frequent.

The following table provides a summary of key weather statistics for the area:

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature													
Mean maximum temperature (°C)	26.7	26.4	25.3	22.8	19.7	17.2	16.8	18.4	20.8	22.8	24.3	25.8	22.3
Mean minimum temperature (°C)	17.6	17.7	16.1	12.9	9.9	7.8	6.4	7.2	9.4	12	14.3	16.3	12.3
Rainfall													
Mean rainfall (mm)	107.3	110.7	126.7	109.2	104.7	118.5	84.1	71.2	61.6	75.9	79.8	84	1129.9
Decile 5 (median) rainfall (mm)	82.7	85.9	101.2	89.2	72	87.5	58.9	44.6	51.5	55	68	64.8	1107.1
Mean number of days of rain ≥ 1 mm	8.9	9	9.9	8.7	8.1	8.7	6.7	6.8	7	7.9	8.3	8	98
Other daily elements													
Mean number of clear days	4.5	3.6	5.2	6.6	5.9	5.6	8.5	8.6	7.5	5.7	3.6	4.2	69.5
Mean number of cloudy days	11.3	9.5	10.5	6.7	8.8	8.1	5.7	6.1	6.7	9	10.3	10	102.7
9 am conditions													
Mean 9am temperature (°C)	22.8	22.5	20.7	17.5	14	11.6	10.6	12.2	15.5	18.6	20.5	22.1	17.4
Mean 9am relative humidity (%)	69	73	76	77	79	78	76	71	66	63	64	66	71
Mean 9am wind speed (km/h)	8.6	7.7	6.8	7	7.3	7.8	7.9	8.7	9.4	9.1	9.7	8.6	8.2
3 pm conditions													
Mean 3pm temperature (°C)	24.4	24.6	23.5	21	18.4	16	15.6	16.8	18.8	20.6	21.9	23.5	20.4
Mean 3pm relative humidity (%)	62	64	63	61	62	62	57	52	53	55	58	60	59
Mean 3pm wind speed (km/h)	18.7	16.4	15.2	13.9	11.6	11.7	12.7	13.7	16.5	17	18.7	18.2	15.4

Land Use

Willoughby / Lane Cove LGA's are predominantly a residential area but also have substantial industrial and commercial areas. Significant bushland areas are located along the Lane Cove River and the foreshore of Middle Harbour.

Industry throughout Willoughby and Lane Cove varies significantly between suburbs which are zoned for heavy, medium and light industry, Special Business and high and low density residential properties.

There are five identified major pieces of critical infrastructure within the area and these are listed in the restricted section of this document.

In addition to the one major hospital there are 10 public and private hospitals, in excess of 9 aged care facilities and a significant number of retirement villages and over 55 developments.

Significant Shopping Centres are located at Chatswood and Lane Cove with other smaller shopping centres located at Artarmon, Willoughby and Northbridge. Significant business hubs are located at Chatswood and St Leonards. Railway stations for the North Shore line are located at Chatswood, Artarmon and St Leonards with a major transport interchange located at Chatswood.

Land Use Zone / Type / Classification	Area (m ²)	% of LGA
Willoughby		
B1 Neighbourhood Centres	59,003	0.27%
B2 Local Centres	169,075	0.76%
B3 Commercial Core	363,374	1.64%
B4 Mixed Use	138,635	0.63%
B5 Business Development	84,771	0.38%
B7 Business Parks	32,920	0.15%
E1 National Parks and Nature Reserves	81,409	0.37%
E2 Environmental Conservation	2,599,362	11.72%
E4 Environmental Living	3,219,807	14.52%
IN1 General Industrial	551,769	2.49%
IN2 Light Industrial	579,094	2.61%
R2 Low Density Residential	9,296,593	41.92%
R3 Medium Density Residential	1,383,284	6.24%
R4 High Density Residential	232,117	1.05%
RE1 Public Recreation	1,604,651	7.24%
RE2 Private Recreation	384,244	1.73%
SP1 Special Activities	5,6870	0.26%
SP2 Infrastructure	1,337,968	6.03%

Land Use Zone / Type / Classification	Area (m ²)	% of LGA
Lane Cove		
B1 Neighbourhood Centres	32,604	0.31%
B2 Local Centres	94,566	0.91%
B3 Commercial Core	93,246	0.89%
B4 Mixed Use	32,428	0.31%
E2 Environmental Conservation	934,746	8.96%
E4 Environmental Living	33,031	0.32%
IN2 Light Industrial	602,744	5.78%
IN4 Working Waterfront	81,814	0.78%
R2 Low Density Residential	5,830,048	55.88%
R3 Medium Density Residential	252,432	2.42%
R4 High Density Residential	936,492	8.98%
RE1 Public Recreation	649,483	6.22%
SP2 Infrastructure	853,346	8.18%

Population and People

The Census population of Willoughby City in 2011 was 67,355, living in 28,049 dwellings with an average household size of 2.57.

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

Willoughby LGA	2011			2006			Change
Population	Number	%	NSW %	Number	%	NSW %	2006 to 2011
Population (excluding O/S visitors)	67,355	100	100	63,605	100	100	3,750
Males	32,463	48.2	49.3	30,614	48.1	49.3	1,849
Females	34,892	51.8	50.7	32,991	51.9	50.7	1,901
Australian citizens	52,201	77.5	85.5	49,631	78	85.8	2,570

The Census population of Lane Cove Council area in 2011 was 31,510, living in 13,301 dwellings with an average household size of 2.49.

Lane Cove LGA	2011			2006			Change
Population	Number	%	NSW %	Number	%	NSW %	2006 to 2011
Population (excluding O/S visitors)	31,510	100.0	100.0	30,426	100.0	100.0	+1,084
Males	15,258	48.4	49.3	14,884	48.9	49.3	+374
Females	16,252	51.6	50.7	15,542	51.1	50.7	+710
Australian citizens	26,524	84.2	85.5	25,253	83.0	85.8	+1,271

The past and projected population of Willoughby and Lane Cove LGA's 1996-2036 are:

Year	Total Population	
	Willoughby	Lane Cove
Past		
1996	56,500	31,300
2001	61,800	32,100
2006	66,900	31,700
2011	67,355	31,510
Projected		
2016	73,700	33,200
2021	75,900	34,400
2026	77,600	35,400
2031	79,400	36,500
2036	81,500	37,800

Age Profile

The median age of people in Willoughby LGA was 37 years. Children aged 0 -14 years made up 19.1% of the population and people aged 65 years and over made up 12.6% of the population.

The median age of people in Lane Cove LGA was 37 years. Children aged 0 -14 years made up 18.9% of the population and people aged 65 years and over made up 13.4% of the population.

The age profile for each area in 2011 was:

Willoughby	Males	Females	Persons
Total persons	32,464	34,892	67,356
Age groups:			
0-4 years	2,522	2,343	4,865
5-14 years	4,163	3,833	7,996
15-19 years	1,708	1,828	3,536
20-24 years	2,078	2,176	4,254
25-34 years	5,098	5,594	10,692
35-44 years	5,429	5,807	11,236
45-54 years	4,361	4,784	9,145
55-64 years	3,366	3,779	7,145
65-74 years	1,975	2,182	4,157
75-84 years	1,285	1,536	2,821
85 years and over	478	1,031	1,509

Lane Cove	Males	Females	Persons
Total persons	15,258	16,252	31,510
Age groups:			
0-4 years	1,107	1,049	2,156
5-14 years	1,995	1,818	3,813
15-19 years	978	750	1,728
20-24 years	882	929	1,811
25-34 years	2,371	2,507	4,878
35-44 years	2,449	2,631	5,080
45-54 years	2,064	2,236	4,300
55-64 years	1,642	1,866	3,508
65-74 years	1,022	1,154	2,176
75-84 years	514	781	1,295
85 years and over	234	530	764

Family Type

Family composition	Willoughby / Lane Cove	%	NSW	%	Australia	%
Couple family without children	6,357	35.1	669,019	36.6	2,150,301	37.8
Couple family with children	9,085	50.1	831,850	45.5	2,534,399	44.6
One parent family	2,218	12.2	297,904	16.3	901,637	15.9
Other family	458	2.5	30,780	1.7	97,722	1.7

Country of Birth

Country of birth	Willoughby	%	Lane Cove	%	NSW	%	Australia	%
Australia	35,587	52.8	19,900	63.2	4,747,372	68.6	15,017,847	69.8
Other top responses:								
China (excludes SARs and Taiwan)	4,716	7	870	2.8	156,035	2.3	318,969	1.5
England	2,866	4.3	1,664	5.3	227,524	3.3	911,593	4.2
Korea, Republic of (South)	2,226	3.3			41,819	0.6	74,538	0.3
Hong Kong (SAR of China)	2,218	3.3	404	1.3	38,568	0.6	74,956	0.3
New Zealand	1,505	2.2	759	2.4	114,232	1.7	483,398	2.2

Aboriginality

For the 2011 Census in Willoughby LGA there were 134 Aboriginal and Torres Strait Islander people. Of these, 66 (or 49.3%) were male and 68 (or 50.7%) were female. The median age was 30 years.

For the 2011 Census in Lane Cove LGA, there were 80 Aboriginal and Torres Strait Islander people. Of these, 32 (or 40.0%) were male and 48 (or 60.0%) were female. The median age was 27 years.

People characteristics	Willoughby	%	Lane Cove	%	NSW	%	Aust.	%
Aboriginal and Torres Strait Islander	134	--	80		172,620	--	548,368	--
Male	66	49.3	32	40	85,080	49.3	270,331	49.3
Female	68	50.7	48	60	87,540	50.7	278,037	50.7
Median age	30	--	27	--	21	--	21	--

Transport Routes and Facilities

The main transport routes through the area are:

- Boundary Street
- Pacific Highway
- Warringah / Gore Hill Freeways
- Lane Cove Tunnel
- Epping Road
- Eastern Valley Way / Strathallen Avenue
- Centennial Avenue
- The North Shore and Northern Rail Lines including St Leonards, Chatswood and Artarmon Stations
- Chatswood rail/bus interchange
- Major aircraft routes traverse the area

Economy and Industry

Industry throughout Willoughby and Lane Cove varies significantly between suburbs which are zoned for heavy, medium and light industry, Special Business and high and low density residential properties.

There are five identified major pieces of critical infrastructure within the area and these are listed in the restricted section of this document.

In addition to the one major hospital there are 10 public and private hospitals, in excess of 9 aged care facilities and a significant number of retirement villages and over 55 developments.

Significant Shopping Centres are located at Chatswood and Lane Cove with other smaller shopping centres located at Artarmon, Willoughby and Northbridge. Significant business hubs are located at Chatswood and St Leonards. Railway stations for the North Shore line are located at Chatswood, Artarmon and St Leonards with a major transport interchange located at Chatswood.

Annexure B – Hazards and Risks Summary

A Local Emergency Risk Management (ERM) Study has been undertaken by the Willoughby / Lane Cove Local Emergency Management Committee identifying the following hazards as having risk of causing loss of life, property, utilities, services and/or the community's ability to function within its normal capacity. These hazards have been identified as having the potential to create an emergency. The Willoughby/Lane Cove Emergency Risk Management Study should be referenced to identify the complete list of consequences and risk descriptions.

Hazard	Risk Description	Likelihood Rating	Consequence Rating	Risk Priority	Combat / Responsible Agency
Agricultural Disease (Animal/Animal)	An agriculture/horticulture incident that results, or has potential to result, in the spread of a communicable disease or infestation.	Rare	Minor	Low	Department of Primary Industries
Bridge Collapse	Failure of a major bridge structure with or without warning owing to structural failure or as a result of external/ internal events or other hazards/ incidents.	Unlikely	Major	High	LEOCON
Building Collapse	Collapse of building owing to structural failure or impact from external/internal event of other hazards /incidents.	Unlikely	Catastrophic	Extreme	FRNSW (USAR) LEOCON
Communicable Disease (Human)	Pandemic illness that affects, or has potential to affect, large portions of the human population	Unlikely	Major	High	Department of Health

Hazard	Risk Description	Likelihood Rating	Consequence Rating	Risk Priority	Combat / Responsible Agency
Dam Failure	A dam is compromised that results in localised or widespread flooding.	Rare	Insignificant	Low	Dam Owners NSW SES
Earthquake	Earthquake of significant strength that results in localised or widespread damage.	Unlikely	Catastrophic	Extreme	LEOCON
Fire (Bush or Grass)	Major fires in areas of bush or grasslands.	Possible	Major	Extreme	NSW RFS FRNSW
Fire (Industrial)	Serious industrial fire in office complexes and/or warehouses within industrial estates.	Unlikely	Major	High	FRNSW NSW RFS
Fire (Commercial)	Serious commercial fires in shopping centres, aged persons units, nursing homes and hospitals.	Unlikely	Major	High	FRNSW NSW RFS
Fire (Residential)	Serious residential fire in medium/high rise apartments.	Unlikely	Major	High	FRNSW NSW RFS
Flood (Flash)	Heavy rainfall causes excessive localised flooding with minimal warning time	Unlikely	Minor	Low	NSW SES

Hazard	Risk Description	Likelihood Rating	Consequence Rating	Risk Priority	Combat / Responsible Agency
Flood (Riverine)	River flows exceed the capacity of normal river systems resulting in flood waters escaping and inundating river plains	Unlikely	Minor	Low	NSW SES
Hazardous Release	Hazardous material released as a result of an incident or accident.	Likely	Major	Extreme	FRNSW
Heatwave	A sequence of abnormally hot conditions having the potential to affect a community adversely.	Possible	Moderate	High	SEOCN
Landslip	Landslip/landslide resulting in localised or widespread damage.	Rare	Moderate	Medium	LEOCON
Storm	Severe storm with accompanying lightning, hail, wind, and/or rain that causes severe damage and/or localised flooding.(includes tornado)	Possible	Moderate	High	NSW SES
Transport Emergency (Air)	Aircraft crashes in LGA resulting in large number of fatalities, injuries and/or damage to property.	Unlikely	Catastrophic	Extreme	LEOCON

Hazard	Risk Description	Likelihood Rating	Consequence Rating	Risk Priority	Combat / Responsible Agency
Transport Emergency (Road)	A major vehicle accident that disrupts one or more major transport routes that can result in risk to people trapped in traffic jams, restrict supply routes and/or protracted loss of access to or from the area.	Likely	Major	Extreme	LEOCON
Transport Emergency (Sea)	A major accident that results in environmental damage and major recovery operation	Unlikely	Major	High	Relevant Port / Maritime
Tsunami	A tsunami wave of magnitude that presents a risk to land and marine elements.	Rare	Major	High	NSW SES
Utilities Failure	Major failure of essential utility for unreasonable periods of time as a result of a natural or man-made occurrence.	Possible	Moderate	High	LEOCON

Annexure C – Local Sub Plans, Supporting Plans and Policies

Responsibility for the preparation and maintenance of appropriate sub and supporting plans rest with the relevant Combat Agency Controller or the relevant Functional Area Coordinator.

The sub/supporting plans are developed in consultation with the Willoughby / Lane Cove LEMC and the relevant Combat Agencies.

The plans listed below are supplementary to this EMPLAN. The sub/supporting plans have been endorsed by the LEMC and are determined as compliant and complimentary to the arrangements listed in this EMPLAN.

These plans are retained by the LEMO on behalf of the LEMC.

Plan/Policy	Purpose	Combat / Responsible Agency
Concept of Operations Contingency Planning for Greenwich Peninsula	Viva Energy Gore Bay Terminal	LECON

Part 3 – Restricted Operational Information

This section of the document has been intentionally removed.