The Hon Paul Scully MP
Minister for Planning and Public Spaces
GPO Box 5341
Sydney NSW 2001

16th June 2025

Dear Minister Scully,

Re: SSD-77829461– Climate-related financial risk to NSW government of development in West-Roseville

I am writing to submit the attached document in response to SSD-77829461, which proposes residential development on Pockley Avenue, Roseville.

This submission outlines significant legal, financial, and reputational risks to NSW Government if development proceeds in the West-Roseville precinct without addressing known bushfire evacuation constraints. The area is already over capacity for safe evacuation, with only three viable exits and over 1,200 car spaces planned or existing—far exceeding the safe household threshold of 301–600 dwellings identified in peer-reviewed research.

The submission highlights that:

- The proposed development fails to meet requirements under the Environmental Planning and Assessment Regulation 2021 and SSD Guidelines, particularly regarding cumulative traffic impacts and bushfire risk.
- The precinct's evacuation infrastructure is inadequate and has not been independently assessed under future climate scenarios.
- Global trends in climate litigation show a sharp rise in "failure to adapt" cases, where governments are held liable for approving developments in known hazard zones.
- The financial consequences of such failures are real and growing. The bankruptcy of Pacific Gas and Electric (PG&E) in California—following over $30 billion in wildfire-related liabilities—demonstrates the scale of exposure governments and infrastructure providers may face when foreseeable risks are ignored.

Given these risks, we urge the NSW Government to:

1. Immediately pause all development approvals in the West-Roseville precinct until evacuation capacity is independently reviewed.
2. Commission a comprehensive assessment incorporating bushfire simulations, climate projections, and traffic modelling.
3. Align development with safe evacuation thresholds and enforce compliance with planning law.
4. This is not simply a matter of planning policy—it is a matter of legal responsibility and public safety. We respectfully request that you give this submission your full consideration and ensure that future decisions reflect both the scientific evidence and the Government's duty of care.

Yours sincerely,

Roseville resident

Executive summary

NSW Government faces legal, reputational, and human safety risks if it approves further development in West Roseville without addressing known and escalating bushfire evacuation vulnerabilities.

1. Escalating Bushfire Risk

Bushfire risk in West-Roseville is not hypothetical. Fire weather in southeast Australia is intensifying, with more frequent extreme fire days, longer fire seasons, and increasing temperatures. The precinct is surrounded by Blue Gum High Forest, has a history of destructive fires, and is constrained by limited evacuation routes. Scientific evidence and recent simulations show that future fires will be faster, more severe, and harder to escape. This places lives at risk if development continues beyond safe thresholds.

2. Key statistics

- Precinct: West Roseville (incorporating MacLaurin Parade, Larkin Street, Larkin Lane, Alexander Parade, Kings Avenue, Corona Avenue, Pockley Avenue, and Findlay Avenue)
- Existing dwellings: 362
- Proposed dwellings: 427
- Total dwellings: 766
- Existing car spaces: 553
- Proposed car spaces: 686
- Total car spaces: 1239
- Exits to Pacific Highway: 3 (MacLaurin Parade, Corona Avenue, Findlay Avenue)[1]
- Maximum safe household threshold for bushfire evacuation given 3 exits: 301-600 dwellings (Cova et al, 2005)

3. Legal and Planning Obligations

Under NSW Treasury's Internal Audit and Risk Management Policy, all NSW Government agencies must consider climate risk when identifying risks to their objectives. This includes the Housing Delivery Authority, which assesses State Significant Development proposals.

The SSD Guidelines and EP&A Regulation 2021 require developers to assess cumulative traffic impacts and risks to human safety, including from natural hazards such as bushfires.

4. Recommendations

1) Pause approvals until evacuation capacity is independently assessed.
2) Review evacuation capacity using climate projections and bushfire simulations.
3) Scale development to stay within safe evacuation thresholds.
4) Enforce planning laws requiring traffic and bushfire risk assessments.
5) Integrate climate risk into all planning decisions.

[1] NB while a 4th exit is planned between Pockley Avenue and Shirley Rd, this does not eliminate bushfire evacuation risk given a) access to Findlay will be blocked in the event of a fire emergency; and b) Shirley Rd suffers from its own traffic problems

1 Introduction[2]

This submission is made in response to ongoing and proposed development in an area that is demonstrably vulnerable to bushfire risk and evacuation constraints.

NSW Government faces foreseeable legal and safety risks if it approves further development in West Roseville without addressing known and escalating bushfire evacuation constraints – a risk recognised in both policy and litigation.

The West-Roseville precinct is a bushfire-prone, land-locked area with limited evacuation routes, increasing residential density, and constrained emergency access. Despite these constraints, development proposals continue to be advanced under State Significant Development (SSD) and Council planning pathways, with a total of 766 dwellings and over 1,200 car spaces planned or existing. These figures far exceed safe thresholds for evacuation capacity, as established in peer-reviewed bushfire evacuation research.

This submission draws on scientific evidence, legal precedent, planning regulations, and lived community experience to demonstrate that the current and proposed scale of development in West-Roseville presents a foreseeable and escalating risk. It outlines the obligations of developers and government agencies under NSW planning law and climate risk policy and highlights the growing trend of climate litigation - particularly in cases where governments have failed to adapt to known risks.

NSW Government should fulfil its legal obligation to consider and report on climate risks in planning decisions. To do so, NSW Government should pause further development approvals in the West-Roseville precinct until evacuation capacity is independently assessed and addressed and ensure that all planning decisions reflect the realities of a changing climate.

2 Precinct Overview and Evacuation Constraints

The West-Roseville precinct is a bushfire-prone, land-locked area comprising MacLaurin Parade, Larkin Street, Larkin Lane, Alexander Parade, Kings Avenue, Corona Avenue, Pockley Avenue, and Findlay Avenue.

1. Exits from the precinct

There are only three existing exits to the Pacific Highway (See Figure 1):

- MacLaurin Parade (the sole southbound exit),
- Corona Avenue, and
- Findlay Avenue.

The MacLaurin Parade–Pacific Highway intersection is the only safe right-turn option for residents west of the precinct, including Findlay Avenue (Willoughby Council). This intersection is frequently blocked by southbound traffic, forcing vehicles to queue on the Highway (see Figure 2). U-turns at MacLaurin Parade further worsen congestion as drivers attempt to bypass delays at Boundary Street.

[2] Many thanks to Frank Walker for his detailed and insightful contributions to this submission

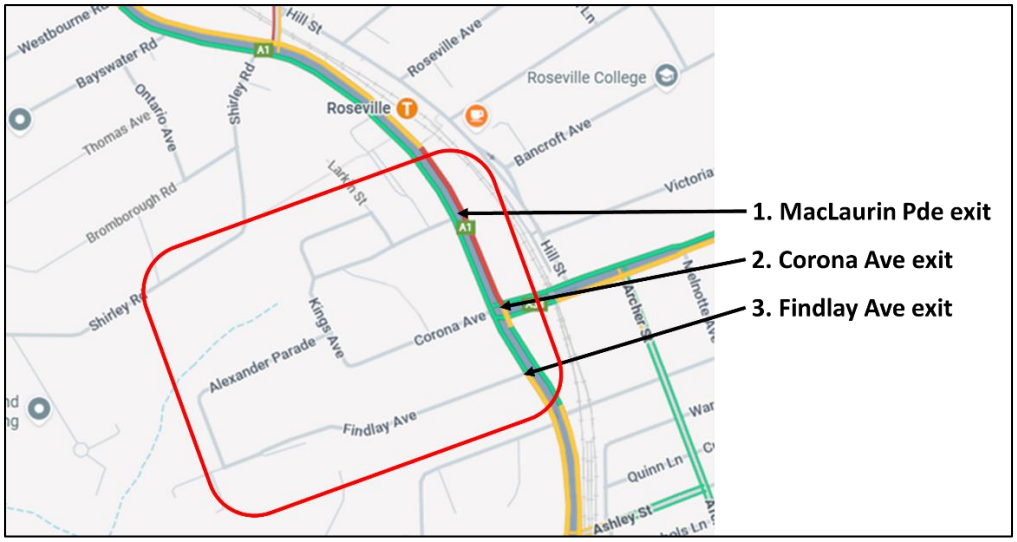

Figure 1: West-Roseville precinct enclosed by red, with three exits signposted

A fourth exit is proposed via a new road from Shirley Road to Pockley Avenue. However, this route is constrained by delays at the Shirley–Pacific Highway intersection, which often requires 2–3 traffic light cycles to clear. Moreover, in a fire emergency, access to Findlay Avenue would likely be blocked, as the lower end of Alexander Parade—providing access to Findlay—was closed by emergency services during the 1994 bushfire event. This would effectively reduce the number of viable exits back to three, even with the proposed new road.

Figure 2: Traffic from MacLaurin Parade blocked from entering Pacific Highway by southbound traffic[3]

2. Traffic flow

Traffic flow on both Corona Avenue and MacLaurin Parade is regularly impeded by parked cars, effectively reducing these roads to **one-way traffic** (see Figure 3). This presents a serious risk during bushfire evacuation, as emergency services entering the precinct would be forced

[3] Photo courtesy Frank Walker

to travel against the direction of evacuating residents, increasing the likelihood of congestion and delays.

3. Bushfire simulation

The Ku-ring-gai Council bushfire simulation for West-Roseville clearly demonstrates how a fire similar to the 1994 event could rapidly escalate into a disaster akin to recent fires in Los Angeles. Many residents still recall the 1994 fire, which resulted in the loss of 12 homes, evacuation orders for Alexander Parade, and extremely low water pressure—forcing residents to use buckets to fight ember attacks. The risk is not hypothetical; it is a matter of **when**, not **if**, another bushfire will occur. View the simulation here.

Figure 3: Effective one-way traffic flow on Corona Avenue[4]

4. Additional dwellings and vehicles beyond safe limits

Currently, the precinct contains 362 existing dwellings, with an additional 427 dwellings proposed through SSD and Council DAs—bringing the total to **766 dwellings** (see Appendix 1**)**. Existing dwellings account for 553 car spaces, while planned developments will add 686 more, not including second vehicles or increased on-street parking. This represents a **more than doubling of vehicle volume**, further straining evacuation routes and emergency access.

Existing road networks significantly limit safe and timely evacuation during bushfire emergencies.

3 Escalating Bushfire Risk in a Non-Stationary Climate

Bushfire risk in the West-Roseville precinct is not hypothetical—it is both present and escalating. While the area has a history of bushfire exposure, including the 1994 event that destroyed 12 homes, the nature of fire risk is changing due to a non-stationary climate—a climate that is no longer stable or predictable based on past patterns.[5]

[4] Photo courtesy Frank Walker

[5] Milly et al (2008). Stationarity Is Dead: Whither Water Management? *Science* 319. https://www.science.org/doi/epdf/10.1126/science.1151915?src=getftr&utm_source=wiley&getft_integrator=wiley

1. Historical Precedent and Urban Vulnerability

Australia has already experienced urban bushfire disasters comparable to those in Los Angeles, including **Hobart in 1967** and **Canberra in 2003**. Our cities are ringed by bushland, placing thousands of properties at risk.[6] The West-Roseville precinct, surrounded Blue Gum High Forest (through its connection to Lane Cove National Park),[7] including bushfire-prone land and limited by constrained evacuation routes, is a clear example of this vulnerability.

2. Scientific Evidence of Changing Fire Risk

Recent research by Jones et al. (2022)[8] in *Reviews of Geophysics* shows that **fire weather in southeast Australia is intensifying**, with longer fire seasons and more frequent extreme fire days.

3. The Non-Stationary Climate Challenge

The concept of a non-stationary climate—where past climate data no longer reliably predicts future conditions—is well established in climate science. Milly et al. (2008)[9] argue that infrastructure and planning decisions must adapt to this reality, as relying on historical averages is no longer sufficient. This has direct implications for bushfire planning: **future fire risk will be greater than today's**, and planning must reflect that.

4. Projections and Compounding Extremes

Bushfires are driven by the compounding of temperature and dry extremes, which are difficult to project with confidence due to their dependence on multiple interacting variables. However, what can be said with confidence is that **the number of hot days (above 35°C)**—a key driver of bushfire danger—is projected to increase significantly.[10] Under a high emissions scenario (consistent with current observed trends), southeast Australia could experience **9.5 to 37.2 more hot days per year**, dramatically increasing fire risk.[11]

Approving further development in West-Roseville without addressing bushfire evacuation risk has the potential for life-threatening consequences

4 Evacuation Capacity and Infrastructure Deficits

1. Safe evacuation thresholds

A foundational study on bushfire evacuation by Cova (2005)[12] concluded that precincts with

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[6] Natural Hazards Research Australia (2025). The big questions posed by the LA wildfires. https://naturalhazards.com.au/news-and-events/news-and-views/big-questions-posed-la-wildfires#:~:text=Could%20a%20Los%20Angeles%2Dstyle,1967%20and%20Canberra%20in%202003 .

[7] Cth DCCEEW (2005) Blue Gum High Forest of the Sydney Basin Bioregion https://www.dcceew.gov.au/environment/biodiversity/threatened/conservation-advices/blue-gum-high-forest-sydney-region#:~:text=The%20five%20largest%20high%2Dquality,Mt%20Pleasant%20and%20Browns%20Road).

[8] Jones et al (2022). Global and Regional Trends and Drivers of Fire Under Climate Change. *Reviews of Geophysics* 60 (3) https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020RG000726

[9] Ibid

[10] NSW DCCEEW (2024). Metropolitan Sydney Climate Change Snapshot. https://www.climatechange.environment.nsw.gov.au/sites/default/files/2024-08/NARCliM2-Snapshot-Sydney.pdf

[11] Ibid

[12] Cova (2005). Public Safety in the Urban–Wildland Interface: Should Fire-Prone Communities Have a

only **three exit roads** should accommodate a **maximum of 301–600 households** to ensure safe evacuation. The West-Roseville precinct currently has **766 homes** planned and existing—well above this threshold (see Figure 4)—and an additional **686 car spaces** are proposed, more than doubling the number of vehicles in the area. This figure does not include overflow street parking, which is expected to increase significantly.

Importantly, the Cova study focused on egress capacity but **did not account for several critical real-world factors**, including:

1. **A non-stationary climate** – Fire behaviour is intensifying due to climate change, with more frequent and severe bushfire events.
2. **Changes in fire dynamics** – Warmer temperatures and drier conditions are accelerating fire spread and reducing evacuation windows.
3. **Human behaviour under stress** – Residents may delay evacuation to retrieve pets, valuables, or family members, increasing congestion and risk.
4. **Emergency services access** – Streets such as Larkin Lane, Larkin Street, Pockley Avenue, MacLaurin Parade, and Corona Avenue are effectively **one-way** due to parked cars. This severely limits the ability of emergency vehicles to enter while residents are evacuating.

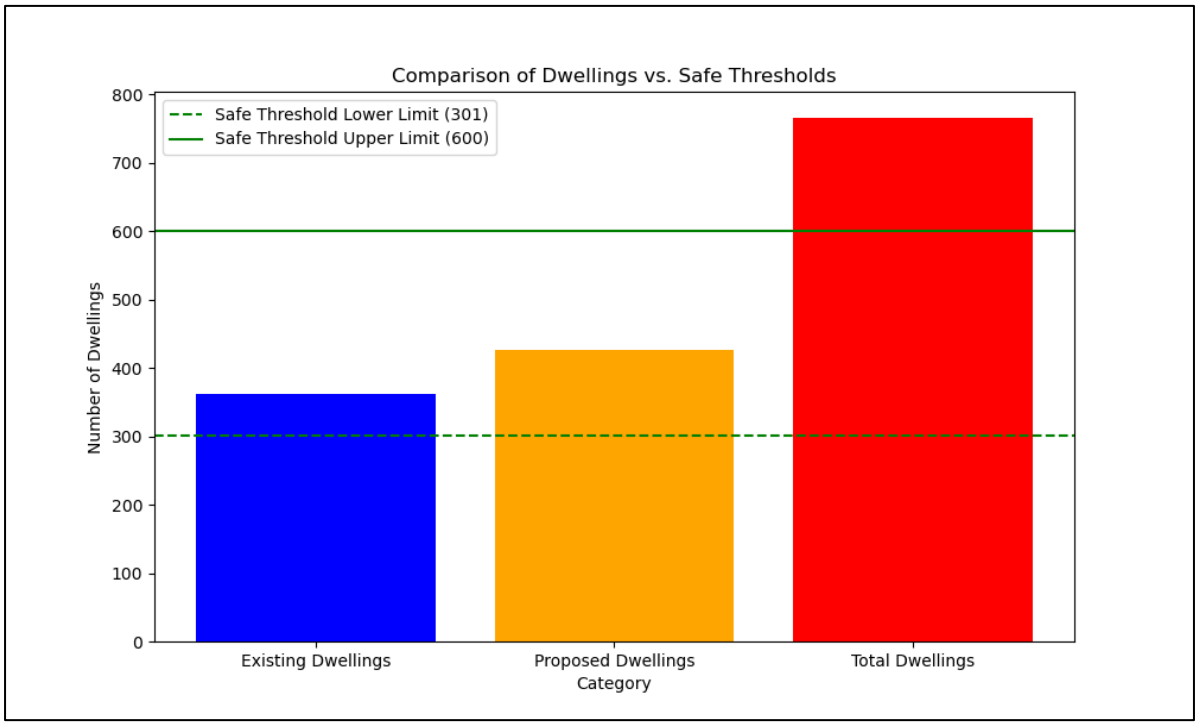

Figure 4: Comparison of existing and proposed dwellings with safe evacuation thresholds

2. Congestion reduction measures near fire impact zones

Further, a 2022 study from the University of California[13] recommends that congestion reduction measures be deployed closer to the fire impact zone, particularly in high-risk neighbourhoods and along arterial roads. In Roseville, the Pacific Highway is the only arterial

Maximum Occupancy? *Natural Hazards Review*. 6 (3) https://ascelibrary.org/doi/full/10.1061/%28ASCE%291527-6988%282005%296%3A3%2899%29

[13] Wong et al (2020). Review of California Wildfire Evacuations from 2017 to 2019. *University of California Institute of Transportation Studies*. https://escholarship.org/uc/item/5w85z07g

route, and it is already prone to congestion under normal conditions.

3. Increases in traffic volume must be matched by increases in exit capacity or time

Another study by Woflshon and Marchive (2007)[14] found that increases in traffic volume must be matched by increases in egress capacity or time. It also showed that modifying the road network—such as adding or relocating exits—can significantly reduce evacuation times. However, the proposed Pockley–Shirley Road connection may not improve evacuation efficiency and could even increase local traffic volume without resolving the core bottlenecks.

In summary, the current and planned development in the West-Roseville precinct **exceeds safe evacuation thresholds**, fails to account for modern bushfire dynamics, and lacks the infrastructure to support a safe and timely evacuation. This presents a serious risk to life and property, and should be a central consideration in any planning or development approval process.

West-Roseville's road network was never designed for mass evacuation—yet planning continues as if it were

5 Developer Obligations and Planning Gaps

1. Environmental Planning and Assessment Regulation 2021 requirements

Under the Environmental Planning and Assessment Regulation 2021, developers preparing an Environmental Impact Statement (EIS) for a State Significant Development (SSD) must do so **"having regard to" the SSD Guidelines** issued by the NSW Planning Secretary. [15] These guidelines set out the expectations for assessing environmental and social impacts of proposed developments.

The current SSD proposals in the West-Roseville precinct fail to meet key expectations outlined in the **SSD Guidelines for Preparing an Environmental Impact Statement**,[16] including:

1. **Cumulative traffic impacts** – Section 3.7 of the Guidelines requires proponents to assess the cumulative effects of their project in combination with other developments. SSD-77829461 does not account for the combined impact on traffic flow and evacuation capacity.
2. **Risks to human safety** – Section 3.7 also requires identification and mitigation of risks to people and property, including from natural hazards such as bushfires. This includes consideration of vulnerable populations and indirect risks such as:
    - **Ember attack**, which are the most common cause of building damage or destruction from bushfires and can travel well in advance of the fire front.[17]

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[14] Wolfshon & Marchive (2007). Emergency Planning in the Urban-Wildland Interface: Subdivision-Level Analysis of Wildfire Evacuations. *Journal of Urban Planning and Development*, 133 (1). https://ascelibrary.org/doi/full/10.1061/%28ASCE%290733-9488%282007%29133%3A1%2873%29

[15] NSW Environmental Planning and Assessment Regulation 2021 https://legislation.nsw.gov.au/view/html/inforce/current/sl-2021-0759

[16] NSW Department of Planning and Environment (2021). State significant development guidelines – preparing an environmental impact statement Appendix B to the state significant development guidelines. State significant development guidelines – preparing an environmental impact statement

[17] Commonwealth Department of Climate Change, Energy Efficiency and Water (DCCEEW, 2020). 'Bushfire protection', in *Your home. Australia's guide to environmentally friendly homes*. https://www.yourhome.gov.au/live-adapt/bushfire-

- **Inability to evacuate**, due to limited road access and congestion.

SSD-77829461 does not account for the risk to human safety on non-bushfire-prone land from both ember attack and an inability to evacute.

These omissions represent a failure to adequately consider the guidelines, as required under Clause 6 of the Environmental Planning and Assessment Regulation 2021.[18]

Developers are ignoring bushfire and cumulative traffic risk assessments as required under Environmental Planning and Assessment Regulation 2021

6 Legal, Financial, and Reputational Risk to Government

1. Requirements of NSW government agencies

Under the NSW Treasury's Internal Audit and Risk Management Policy (TPP20-08),[19] all NSW Government agencies must consider climate risk when identifying risks to their objectives. This includes the **Housing Delivery Authority**, which assesses State Significant Development proposals.

2. Global trends in climate risk litigation

Approving development in areas with known bushfire evacuation constraints may expose the government to climate risk litigation, which is increasing globally. The 2024 Global Trends in Climate Change Litigation report (Grantham Research Institute and Columbia Law School)[20] notes a sharp rise in **"failure to adapt" cases**—legal actions against governments or companies for not addressing foreseeable climate risks. Since 2015, 64 such cases have been filed, including 8 in 2023.

3. Reputational and financial risk

There are also reputational and financial risks. Perceived negligence in planning decisions can erode public trust, attract media scrutiny, and damage the credibility of planning authorities. Financial consequences may include litigation costs, compensation, and delays or reversals of approvals.

The financial consequences of failing to address bushfire risk are not theoretical. In 2019, Pacific Gas and Electric (PG&E), California's largest utility, filed for Chapter 11 bankruptcy after facing **over $30 billion in liabilities from catastrophic wildfires** linked to its infrastructure. PG&E's collapse underscores the scale of financial exposure governments and developers may face when known evacuation and fire risks are ignored.

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protection#:~:text=Ember%20attack%20is%20the%20most%20common%20cause,gutters%20and%20windows ills%20or%20under%20raised%20floors.

[18] NSW Environmental Planning and Assessment Regulation 2021 https://legislation.nsw.gov.au/view/html/inforce/current/sl-2021-0759

[19] NSW Treasury (2020). Internal Audit and Risk Management Policy for the General Government Sector. https://www.nsw.gov.au/sites/default/files/noindex/2025-03/tpp20-08_internal-audit-and-risk-management-policy_rev1-2.pdf

[20] Setzer & Higham (2024). Global trends in climate change litigation: 2024 snapshot. *The Grantham Research Institute on Climate Change and the Environment. London School of Economics and Political Science.* https://eprints.lse.ac.uk/124306/1/Global-trends-in-climate-change-litigation-2024-snapshot.pdf

4. Legal precedent

Legal precedent in NSW reinforces this risk. In 2024, the Land and Environment Court ruled a development consent invalid due to failure to properly consider flood risk under clause 5.21 of the Standard Instrument LEP. The Court found the authority had not formed the required "positive state of satisfaction" regarding flood safety and evacuation.[21] This precedent underscores the legal expectation that planning authorities must actively and transparently assess climate-related hazards—including bushfire risk—when making development decisions.

5. Climate risks governed by physical systems, not political cycles

While political sentiment may currently downplay climate regulation, climate risks are governed by physical systems, not political cycles. As warming continues, bushfire risk will increase—regardless of political will—making it essential that planning decisions are based on scientific risk, not short-term trends.

Approving development without addressing known bushfire evacuation risk exposes Government to foreseeable legal action.

7 Conclusion and Recommendations

The West-Roseville precinct faces escalating bushfire risk, constrained evacuation capacity, and a development pipeline that exceeds safe thresholds. Approving further development without addressing these issues exposes NSW Government to foreseeable legal, financial, and reputational consequences—risks that are amplified by a changing climate and growing litigation trends.

To uphold its obligations and protect public safety, the NSW Government should:

1. Immediately pause all development approvals in the West-Roseville precinct until evacuation capacity is independently reviewed and addressed.
2. Commission an independent evacuation capacity assessment that incorporates future climate scenarios, bushfire simulations, and traffic modelling.
3. Align development scale with safe evacuation thresholds, as established in peer-reviewed research.
4. Enforce compliance with SSD Guidelines and the EP&A Regulation 2021, ensuring developers assess cumulative traffic impacts and bushfire risks.
5. Integrate climate risk into all planning decisions, recognising that physical risks—not political cycles—will determine future safety and liability.

Failure to act now risks not only lives, but also legal accountability and public trust.

[21] Simington (2024). Failure to give proper regard to the standard instrument flood clause 5.21 leads to invalidity of consent. *Lindsay Taylor lawers* https://www.lindsaytaylorlawyers.com.au/in_focus/failure-to-give-proper-regard-to-the-standard-instrument-flood-clause-5-21-leads-to-invalidity-of-consent/

8 Appendix 1: West-Roseville dwellings – SSDs and DAs, under construction and existing[22]

SUMMARY OF ADDITIONAL DWELLINGS – APPROVAL, UNDER CONSTRUCTION				
Location	Units in Development	Less Demolished	Equals Additional Units	Car Spaces
2,4,6,8,10,12,14,16 Pockley Ave	178	8	170	285
2,4 Larkin St & 1, 3 5 Pockley Ave	111	5	106	150
7,9,11 Pockley Ave	42	3	39	84
4A, 6A, 6, 8, 10 Maclaurin Pde	40	5	35	68
Roseville Memorial Club	33	0	33	57
1 – 3 Corona Avenue (just finished)	23	2	21	42
TOTAL ADDITIONAL DWELLINGS	427	23	404	686

SUMMARY OF EXISTING SINGLE DWELLINGS & UNITS			
Precinct	Single Dwellings & Units	Unit Car Spaces	Single Dwelling Cars
Nola Road Precinct excluding Nola Lane	56	93	6
Kings Avenue Precinct	26	41	10
MacLaurin Parade Precinct	7	0	8
Alexander Parade Precinct	37	0	72
Corona Avenue including Nola Lane Precinct	46	42	29
Pockley Avenue Precinct	2	0	4
Larkin Street Precinct (Car Spaces Estimated from Unit Numbers)	83	78	6
Findlay Avenue Precinct (Car Spaces Estimated from Unit Numbers)	105	30	134
TOTAL EXISTING DWELLINGS & UNITS	362	284	269

GRAND TOTALS				
	Dwellings	Unit Car Spaces	Single Dwelling Cars	Car Spaces + Cars
ADDITIONAL DWELLINGS UNDER CONSTRUCTION AND APROVAL	404	686	0	686
EXISTING DWELLINGS & UNITS	362	284	269	553
GRAND TOTALS	**766**	**970**	**269**	**1,239**

[22] Many thanks to Frank Walker for compiling these figures