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Disaster Adaptation Planning Team
NSW Reconstruction Authority

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Dear Disaster Adaptation Planning Team

Draft Guidelines of Disaster Adaptation Plan

The Southern Sydney Regional Organisation of Councils (SSROC) is an association of twelve local and municipal councils in the area south of Sydney harbour. SSROC provides a forum for the exchange of ideas between our member councils, and an interface between governments, other councils and key bodies on issues of common interest. The SSROC area covers central, inner west, eastern and southern Sydney, an area with a population of over 1.8 million and contributes much of Sydney's gross domestic product.

The SSROC Secretariat welcomes NSW Reconstruction Authority's call for submissions on Draft Guidelines for Disaster Adaptation Plan (DAP). SSROC welcomes NSW Reconstruction Authority's vision of NSW to be well-prepared to successfully manage natural hazard risks and reduce the costs and impacts of disasters on communities.

SSROC, in collaboration with 12-member Councils, other regional organisation of councils (ROCs), Waste industry and some NSW Government agencies have done extensive work on Sydney waste management risk, continuity and resilience plan, funded by NSW Reconstruction Authority. This submission will make considerable reference to that important study as it relates to regional based DAPs.

Our recommendations and detailed comments are offered below.

SUMMARY OF RECOMMENDATIONS

Regional Approach

1. Governance arrangement for developing DAPs needs to involve councils at every stage for effective involvement in articulating the natural hazard issues and mitigation actions.

DAP preparation and regional boundary

2. NSW Reconstruction Authority may consult with Regional Organisation of Councils and Joint Organisations on suitable boundaries for Disaster Adaptation Plans.

Implementation Plans

3. Councils should be effectively engaged at every stage in the establishment of NSW Mitigation Fund, including eligibility and priority for hazard mitigation and actions.

4. Implementation and reporting frameworks for DAPs and Implementation Plans should consider Reconstruction Authority funded officers embedded in Councils or ROCS and JOs.

DAP coordination and implementation

5. Solutions and resources to support resilience and mitigation in local communities should be flexible and innovative and not compartmentalised to requirements relevant Regulatory Acts, to meet complex natural hazards and impacts and the three tiers of government need to work together for good outcomes for community.

Waste Service as essential infrastructure

6. NSW Government should articulate legislative and regulatory roles and responsibilities for waste infrastructure planning and delivery.
7. The rail link to Woodlawn is a known vulnerability in the waste transfer infrastructure for metro Sydney and needs to be central to regional DAPs in Sydney.
8. Essential services such as waste are also impacted by man-made disasters. The DAP scope therefore needs to be expanded to include man-made disasters.
9. Transfer stations and emergency waste holding sites need to be planned in advanced to manage surges in waste volumes, for large scale disasters that disrupt waste transport chains.

DAP and Floods and NSW planning system response

10. Significant flood events, such as those experienced across NSW in 2021 and 2022 clearly show that it is important to consider flood risk up to and beyond the 1% annual exceedance probability (AEP) flood. DAPs need to re-emphasise this responsibility of Department of Planning, Housing and Infrastructure on this matter.
11. DAP should articulate actions to reinforce and further enhance the intent of the EIE will reduce the risk and cost of flooding in flood-prone regions.
12. A holistic resilience approach is necessary in NSW to adapt planning controls, conduct technical studies, plan and fund drainage related works for flood management.

Climate Change Impacts on Sydney Waste Systems, Infrastructure and Planning

13. Planning for regional disaster mitigation, in particular natural disasters that impact on waste services through DAPs needs to incorporate insights and evidence base from the research and projects Councils have done on this already.

Waste management system and logistics resilience and disaster mitigation

14. The Essential Service Act 1988 requires review to ensure the system of waste management, and other essential services infrastructure that enhance services and reduce impacts of natural disasters are appropriately addressed.
15. Waste infrastructure should be recognised as essential or priority service by NSW Reconstruction Authority. According waste and related hazards the needed importance in DAP would be a practical way of demonstrating this recognition.

Waste Infrastructure - Constraints and opportunities for disaster mitigation

16. Waste transport and logistics are not matters for councils and private waste service providers only. The NSW Reconstruction Authority needs to recognise the complex waste management system and implications for disaster mitigation.
17. DAPs need to incorporate Transfer facilities as collaborative action that can help mitigate impact of disaster or major disruption, there are no organics processing facilities in the region

Waste processing and disposal and disaster mitigation

18. Alternative processing and disposal options in the Sydney metropolitan area could reduce reliance on transfer and transport.

Increasing waste generation and decreasing processing and disposal capacity

19. DAP Guidelines should be holistic and strategic, certainly in waste sector adaptation and mitigation. Long distance disposal options could be re-designed to improve accessibility in all weather conditions, for example by road and rail.

DETAILED SUBMISSION

The Guidelines' Regional Approach

Draft Guidelines for Disaster Adaptation Plan (The Guidelines) assertion that successful disaster adaptation planning “requires collaboration between all levels of government, the community and industry” is supported by SSROC.

The nature and process of the regional collaboration will need to be defined. The case for regional approach is robust. Natural disasters and hazards are often not limited to a local government area boundary and planning regionally for resilience and adaptation makes sense.

SSROC understands that NSW Reconstruction Authority will lead the regional Disaster Adaptation Plans (DAP). How would governance for the developing of the plan look? Will there be a multi-sector project team, a steering group and a truly collaborative process? Will the process be driven by consultants? What will be the level of involvement of councils or regional organisation of councils?

The more the council sector is effectively engaged in co-creating the regional DAPs, the more likely the plans and actions will better articulate natural hazard risks, resilience and mitigation solutions.

Recommendation 1:

Governance arrangement for developing DAPs needs to involve councils at every stage for effective involvement in articulating the natural hazard issues and mitigation actions.

DAP preparation and regional boundary

The draft Guideline states that the NSW Reconstruction Authority may prepare a DAP or require a relevant entity - government agencies, local councils or state-owned corporations to do so. As DAPs are regionally based, Councils will need to work collaboratively. Determining who will lead developing DAPs and whether this could differ in city and regional areas and what criteria for that, are important for clarity and buy-in by stakeholders.

The draft Guideline indicated that regional boundaries will be established collaboratively. That is good. Regional administrative and collaborative boundaries exist. Some research and disaster and natural hazard studies exist across regional organisation of councils' boundaries.

The regional organisations of councils (ROCs), the former District Plan regional boundaries and any other, such as floodplain catchment, after consultation with councils and other stakeholders could be suitable regions depending on the dominant natural hazard issues for a region. Councils work together within ROCs and Joint Organisations (JOs). ROCs within Greater Sydney work together on a few matters of interests, including waste and disaster waste risk and resilience.

Recommendation 2:

NSW Reconstruction Authority may consult with Regional Organisation of Councils and Joint Organisations on suitable boundaries for Disaster Adaptation Plans.

Implementation Plans

It is not clear the process and relationship of NSW Reconstruction Authority as lead for DAPs and Councils and other organisation develop implementation Plans. It is not clear if the Implementation Plans will be focused on matters identified in DAPs as actions for Councils or may also include matters natural hazard matters identified by Councils through their commissioned studies and hazards faced by local communities.

There are also a few matters to consider in developing the Implementation Plan. Would Reconstruction Authority be developing Implementation Plan template after consultation with Councils? A key aspect of Implementation Plan is resources. Councils may see this exercise as another cost-shift exercise by NSW Government unless there is clarity and well-defined process for funds for implementation of actions. The draft Guideline suggests that business case would be developed for a NSW Mitigation Fund and this fund would help to fund priority risk reduction actions in DAPs.

It is important the Council sector is effectively engaged in developing the NSW Mitigation Fund. A mismatch in targeting or requirements and eligibility could jeopardise resourcing of actions in Implementation Plans and push Councils to disengage. For example, grant match options may not work well if Councils are expected to fund actions identified in NSW Government led DAP planning process.

Recommendation 3

Councils should be effectively engaged at every stage in the establishment of NSW Mitigation Fund, including eligibility and priority for hazard mitigation and actions.

The reporting framework on Implementation Plans and DAPs needs to be thought through. If Council development Implementation Plans are expected to report regularly to NSW Reconstruction Authority or any other state agency, Council may see this as cost-shifting exercise. The concept of Reconstruction Authority-funded positions, modelled to EPA funded positions in Councils or Regional Organisation of Councils are good model to consider. This will help resource coordination and reporting on the Implementation Plan and hence DAP reporting.

Recommendation 4

Implementation and reporting frameworks for DAPs and Implementation Plans should consider Reconstruction Authority funded officers embedded in Councils or ROCS and JOs.

DAP coordination and implementation

DAPs are regional based and are expected to be developed in line with the State Disaster Mitigation Plan. NSW Reconstruction Authority on behalf of State Government coordinates development and implementation of DAPs. Meanwhile, Councils are to develop Implementation Plans. Will there be regional Implementation Plans lead by NSW Reconstruction Authority and local Implementation Plans lead by Councils? This is not clear.

If NSW agency leads developing of developing of regional DAPs and implementation plans, would specific actions within the plan be led by stakeholders, including Councils? SSROC understand that Implementation Plan developed by Council will set out “how actions identified in the DAP will be implemented as part of their prescribed functions”. This includes how the actions identified in DAPs could be implemented in line with Council functions under the *Environmental Planning and Assessment Act 1979* or the *Local Government Act 1993*.

Based on SSROC’s experience with Sydney waste risk and resilience in natural disaster or major disruption settings, natural disasters and how it impacts on Councils and expectations of Councils by residents could be over and beyond requirements under the two Acts.

Solutions and resources to support resilience and mitigation should be flexible and innovative to meet complex problems and tiers of government working together for good outcomes for community. For example, post disaster waste includes waste streams that councils are not designed to manage at scale, example green waste and commercial and industrial waste that often ends up on kerbsides creating public health risks.

Recommendation 5:

Solutions and resources to support resilience and mitigation in local communities should be flexible and innovative and not compartmentalised to requirements relevant Regulatory Acts, to meet complex natural hazards and impacts and the three tiers of government need to work together for good outcomes for community.

Waste infrastructure as essential service

Waste service (collection, transport and disposal /processing) is essential service for communities. It should be included in DAP’s as an essential or priority service. The flood disaster in Sydney in 2022 disrupted waste services, with landslides damaging freight-rail lines used to transport containerised waste to Woodlawn Eco Precinct. Without systems to transfer waste by train or road, much was transported in collection trucks, limiting the daily tonnages collected. Had the disruption lasted longer, uncollected and over-flowing refuse bins on streets of Sydney could have presented a public health risk.

As Sydney grows and expands, and volumes of wastes generated increase, there is increasing concern that Sydney will run out of landfill by 2036. The current waste management processing capacity of Sydney will not meet future demand, and adequate improvements cannot be made without integrated strategic land use planning, waste management and logistics solutions by all stakeholders, including the State Government.

SSROC recognises the crucial importance of the need for strategic planning for waste (and other essential services), reserving land, and delivering the infrastructure for present and future growth. Resilient Sydney’s map of the functions of government agencies and councils in waste management highlights the lack of any clear responsibility for strategic land use planning for, or delivery of, waste infrastructure in NSW.

Infrastructure NSW in its State Infrastructure Strategy 2022-2042 noted that NSW Government ought to take more active role in strategic planning for waste infrastructure and “The location and timing of waste infrastructure should align with the Greater Sydney Region Plan and District Plans,

as well the Industrial Lands Policy Review, and may require preserving land in the near term for use in the long term.”¹

Clarity is needed about the responsibilities and roles in relation to waste systems and infrastructure. Councils, Department of Planning and Environment, Office of Energy and Climate Change, EPA, Infrastructure NSW and the NSW Reconstruction Authority are all stakeholders in waste management.

Recommendation 6:

NSW Government should articulate legislative and regulatory roles and responsibilities for waste infrastructure planning and delivery.

Recommendation 7:

The rail link to Woodlawn is a known vulnerability in the waste transfer infrastructure for metro Sydney and needs to be central to regional DAPs in Sydney.

Recommendation 8:

Essential services such as waste are also impacted by man-made disasters. The DAP scope therefore needs to be expanded to include man-made disasters.

Recommendation 9:

Transfer stations and emergency waste holding sites need to be planned in advanced to manage surges in waste volumes, for large scale disasters that disrupt waste transport chains.

DAP and Floods and NSW planning system response

Floods and planning response needs to be picked up in guides and priorities for DAPs. In 2021 NSW Government attempted to establish a framework to address serious deficiencies with earlier state-wide policy that did not fully encourage a risk-based approach to land use planning in floodplains. The previous approach relied heavily on a 1% Annual Exceedance Probability (AEP) and with insufficient focus on safe evacuation capacity, cost-effective mitigation and the changing risk due to climate change.

The NSW Flood Inquiry Report made recommendations to simplify the planning system disaster provisions. It includes ensuring there is a clear line of sight directing councils and planning authorities to include disaster response and resilient outcomes in long term strategic plans.

This will require more prominence to be given to Planning for a more Resilient NSW: A Strategic Guide to Planning for Natural Hazards (Department of Planning and Environment) and in DAPs as well as a clear link to the risk-based approach to hazard identification and the disaster adaptation plans.

The Flood Report also included that Ministerial Directions on hazard and natural disasters be updated to reflect the new risk-based approach to flood planning levels. The updated Direction will require that strategic land use frameworks enable higher density flood resilient precincts to have more development at a higher flood planning level. This will reduce or eliminate the risk of catastrophic costs from extreme flooding.

¹ [State Infrastructure Strategy 2022-2042](#), p124

DAPs need to emphasise strengthening planning rules that would lead to better managed development in areas that are prone to floods (clause 5.22 of the Standard Instrument – Principal Local Environmental Plan).

Recommendation 10:

Significant flood events, such as those experienced across NSW in 2021 and 2022 clearly show that it is important to consider flood risk up to and beyond the 1% annual exceedance probability (AEP) flood. DAPs need to re-emphasise this responsibility of Department of Planning, Housing and Infrastructure on this matter.

Floodplain planning sits within a hierarchy of plans and should both respond to and inform the contents of other plans to ensure that floodplain risk management is integrated. DAP needs to recognise and reinforce this. This is why SSROC supported the EIE clause proposed by the Department of Planning, Housing and Infrastructure that will help promote at LEP level, floodplain studies, management plans, policies and development control plans. This could result in reduced risk to life and fewer development applications for inappropriate development.

Recommendation 11:

DAP should articulate actions to reinforce and further enhance the intent of the EIE will reduce the risk and cost of flooding in flood-prone regions.

SSROC acknowledges that awareness and information about flooding is continuing to evolve as climate change happens. Commonwealth and State agencies are key holders of this changing knowledge and evidence base. With a changing climate, properties and people in established areas such as that covered by SSROC with its many riverine environments, locations previously not at risk may become threatened.

Councils will face an ongoing challenge as state agencies progressively adapt and change controls to mitigate this emerging risk. Councils with areas previously at low-risk may face unexpected liabilities in the future, as developing flood risks are identified and better understood.

Councils will need additional resources to enable them to:

- adapt their planning controls quickly,
- conduct local technical studies for evidence-based planning
- plan, fund and undertake drainage-related civil works to meet the new expectations for adaptive flood management.

It is reasonable that DAP emphasise this and possibly support with grants to enable local councils to make these changes as quickly as possible, where the risks are now deemed to be high and significant.

While the EIE special flood considerations clause changes are focussed on flooding, other climate related events and risks like fires and rising sea levels intersect and exacerbate flooding risks.

Recommendation 12:

A holistic resilience approach is necessary in NSW to adapt planning controls, conduct technical studies, plan and fund drainage related works for flood management.

Climate Change Impacts on Sydney Waste Systems, Infrastructure and Planning

Waste management processes in Sydney are vulnerable to natural disaster events. These events have become increasingly frequent. Severe storms and floods hinder waste collection trucks,

impede logistics, cause contamination and prevent resource recovery. Due recognition of the impact of climatic changes and related natural occurrences and the implications for planning for waste and related infrastructure need to be prioritised in DAP.

Major floods in Sydney disrupt waste services. Landslides damage freight-rail lines due to long period of heavy rain. The same effects could result from extreme heat or bushfire causing rail lines to buckle, bushfires preventing the operation of transport, or extreme heat necessitating workforce relief.

SSROC's waste risk and resilience project has exposed the complexity and extent of the responses necessary, just to maintain one essential service.

SSROC Waste Risk and Resilience Initiatives

SSROC is collaborating with member councils, other ROCs, waste industry and state agencies to improve the resilience of Sydney's waste management services. Between November 2022 and June 2024, SSROC lead a project funded by NSW Reconstruction Authority on *Sydney Waste Management Continuity Risk Reduction and Resilience Plan* (Waste Risk and Resilience Project). The Local Government collaboration partners include SSROC's 12-member councils, Western Sydney Regional Organisation of Councils (WSROC), the Northern Sydney Regional Organisation of Councils (NSROC), Macarthur Strategic Waste Alliance.

Since May 2024, cross sector Waste Resilience Liaison Group was established to build on the successes of the waste risk and resilience project. The group will review the Sydney waste disaster and resilience regional report and determine key waste stream risk issues and mitigation actions of regional significance and the necessary follow up. It promotes collaboration between councils, NSW Government and industry on contingency planning and regulatory review.

Key industry partners in the waste risk and resilience project and Waste Resilience Liaison Group include Veolia, Visy, Bingo, Re.Group, Waste Contractors and Recyclers Association of NSW and Cleanaway. State agencies such as NSW Environment Protection Authority, NSW Reconstruction Authority and Department of Planning, Housing and Infrastructure are involved.

The SSROC waste risk and resilience project involved a comprehensive analysis of household waste flows and how they would be affected in the case of a natural disaster (household residual, recycling, organics, bulky, illegal dumping, and other such as e-waste and mattresses). Any of the project partners could be affected by a disaster. The project developed mitigation strategies to reduce waste risks and improve resilience during disasters and related events that disrupt waste services delivery.

The findings and recommendations of SSROC's waste risk and resilience project and earlier studies inform the need for the NSW Government to identify and act on the recognition that waste services are essential, and therefore waste systems and facilities are essential infrastructure.

Recommendation 13:

Planning for regional disaster mitigation, in particular natural disasters that impact on waste services through DAPs needs to incorporate insights and evidence base from the research and projects Councils have done on this already.

The SSROC's project has developed Risk Mitigation and Action Plan (RMAP) to proactively address the impacts from the range of hazards that effect waste management systems. It is expected that through **resilient infrastructure investment**, risk assessment, collaboration, continuous monitoring, public awareness and advocacy, the waste management sector can adapt and mitigate the effects of disaster events and contribute to a more resilient city.

As climate changes and impacts on occurrence of natural disaster become more frequent and with extensive regional impacts, this raises the crucial question and urgency of viewing the impact of climate change and natural disasters on municipal waste collection, transport and logistics, disposal and resource recovery beyond the conventional role of local government.

Waste management system and logistics resilience and disaster mitigation

Under the Essential Services Act 1988, waste barely features except:

“(1) For the purposes of this Act, a service is an essential service if it consists of any of the following:

...
 (g) the provision of **garbage**, sanitary cleaning ...”

Clearly this reflects a very outdated concept of waste management and does not acknowledge the complex network of interconnected systems and infrastructure of today’s services. Waste management systems rely on the utilisation of transport systems and availability of suitable infrastructure to function effectively.

Recommendation 14:

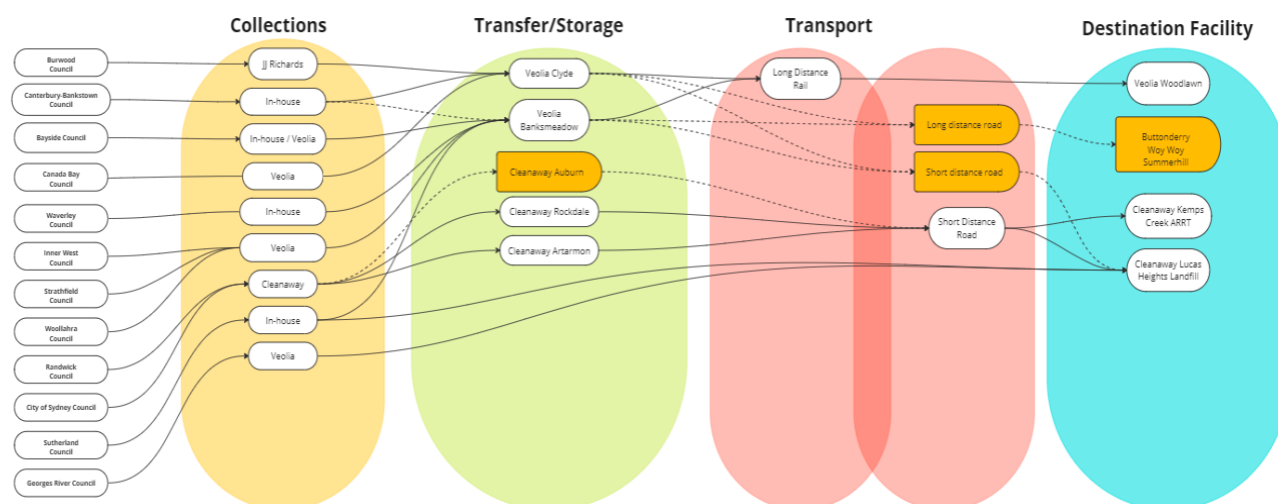
The Essential Service Act 1988 requires review to ensure the system of waste management, and other essential services infrastructure that enhance services and reduce impacts of natural disasters are appropriately addressed.

Recommendation 15:

Waste infrastructure should be recognised as essential or priority service by NSW Reconstruction Authority. According waste and related hazards the needed importance in DAP would be a practical way of demonstrating this recognition.

Waste has different streams: residual waste, co-mingled waste, organics waste and clean-up waste. (In the near future a food organics waste stream will also feature.) The following figure illustrates the current waste system and logistics for residual waste.

Residual waste system map

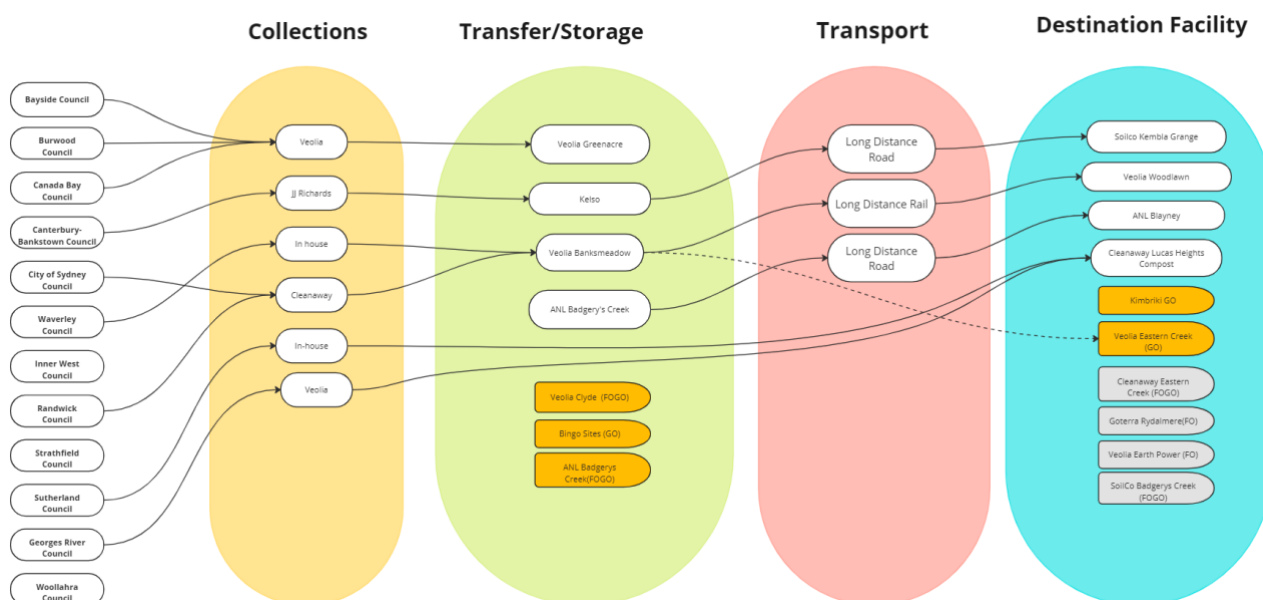


Source: Stakeholder Engagement Report - Sydney Waste Management Risk Reduction and Resilience Project, p.12

The diagram above shows where common pathways exist, either through specific contractors or facilities, which helps to highlight concentration risks for SSROC councils in the Greater Sydney waste management system.

For example, 9 of the 12 SSROC member councils use two Veolia transfer stations, which together rely on one transport option (long distance rail) and related facility for processing/disposal (Woodlawn). Three councils use Lucas Heights landfill which has limited access and capacity. When the one transport option is affected for example by bush fire, flood, storm or landslide, the whole waste management system and logistics are impacted.

Organics System Map



Source: Stakeholder Engagement Report - Sydney Waste Management Risk Reduction and Resilience Project, p.17

Four organics processing facilities are currently used and more are needed. Meanwhile, long-distance transfer is necessary, and risk mitigation or avoidance opportunities are dangerously few. The risks will increase as the food organics waste stream is introduced throughout NSW by 2030.

Waste Infrastructure - Constraints and opportunities for disaster mitigation

The SSROC waste risk and resilience project has unpacked some constraints and opportunities of waste management system, including logistics for Sydney.

Collection systems

- Collection routes are well planned and structured. Normally, collection systems are designed to align with transfer facilities or direct delivery. Long-range haulage usually impacts turnaround times.

Transfer stations

- Most councils in Sydney require a transfer station due to limited directly accessible processing and disposal capacity.
- Transfer facilities are primarily intermodal, moving waste from collection vehicle to container for onward transport by road or rail. The locations of intermodal transfer stations are limited by constraints such as traffic controls, zoning and proximity to residential development.
- Capacity of transfer stations are capped by licence limits, and have very limited storage capacity.
- Storage of waste at transfer stations requires additional environmental controls.
- Temporary storage capacity at transfer stations can buffer any inflow and outflow constraints. (If there is room this may be permitted by the EPA in an emergency.)
- Transfer stations provide a consistent and controlled interface with collection vehicles mitigating upstream impacts to service.
- Modification of loading systems and technologies might in some cases facilitate transfer to bulk road haulage.

Transport

- Rail transport is used for long range transfer to Woodlawn, and the contingency plan diverts the load to different rail line. But it cannot be diverted to road as rail containers are not of suitable size and weight for road use.
- Rail routing and scheduling are pre-planned and any deviation from these can be costly and are often impacted by rail maintenance or operational issues.
- There are only very limited alternative available routes for use when climate events cause major disruption.

There are opportunities for:

- Alternative rail destinations to relieve pressures on paths and schedules.
- Modulating between rail and road transport options to provide greater flexibility to manage downtime.
- Bulk road transport offers greater flexibility with timing, routes and tonnages - but at financial, social and environmental cost.

Recommendation 16:

Waste transport and logistics are not matters for councils and private waste service providers only. The NSW Reconstruction Authority needs to recognise the complex waste management system and implications for disaster mitigation.

Recommendation 17:

DAPs need to incorporate Transfer facilities as collaborative action that can help mitigate impact of disaster or major disruption, there are no organics processing facilities in the region

Collaboration between NSW Government, Councils and waste industry would be necessary as a way of ensuring that infrastructure need to ensure services and mitigate or prevent waste services shut down and the inevitable environment and health impacts when floods, bushfires or storms disasters occur.

Waste processing and disposal and disaster mitigation

There is limited processing and disposal capacity in Sydney the metropolitan area. This has led to reliance on more distant facilities. Woodlawn is a long-distance disposal option but is only routinely accessible from Sydney by rail and has constrained route capacity.

Demand for local landfill capacity reduces the operational life and increases the value of that capacity. There is usually increased demand for local capacity during disaster events as accessibility to distant disposal option is impeded or reduced.

Recommendation 18:

Alternative processing and disposal options in the Sydney metropolitan area could reduce reliance on transfer and transport.

The State Emergency and Rescue Management Act 1989 (as amended), Local Government Act 1993 and the Essential Services Act 1988 (as amended) require councils to identify and evaluate risk and risk controls and timeframes. However, regional waste risk review and impact mapping and regional risk mitigation measures are not covered, leaving a critical gap that the SSROC project is seeking to bridge through establishing Waste Resilience Liaison Group, involving state and local government, waste industry and regional organisation of councils.

Increasing waste generation and decreasing processing and disposal capacity

Sydney's increasing waste and diminishing capacity will worsen as climate change impacts take effect. Greater Sydney's waste generation is increasing: as of 2018/19, putrescible waste was 1.6 million tonnes per annum (tpa) and forecast to increase to 2.5 million tpa by 2040. Non-putrescible waste was 2.5 million tpa as of 2018/19 and estimated to increase to 4.7 million tpa by 2040².

Greater Sydney relies heavily on two putrescible landfills, Woodlawn bioreactor, near Goulburn (900,000 tpa) and Lucas Heights (850,000 tpa). Lucas Heights facilities will close around 2036. Future putrescible facility proposals are two Energy from Waste proposals for Woodlawn and Parkes and total only 700,000 tpa, not enough to replace lost capacity when Lucas Heights closes. And this does not consider the increased need for capacity as the Sydney population and households increase. The urgency for residual waste for Greater Sydney cannot be over-emphasised.

The urgency is exacerbated as worsening risks and impacts driven by climate-driven events, and once-in-a-century and once-in-a-generation natural disasters become more frequent.

Recommendation 19:

DAP Guidelines should be holistic and strategic, certainly in waste sector adaptation and mitigation. Long distance disposal options could be re-designed to improve accessibility in all weather conditions, for example by road and rail.

Conclusion

Thank you for the opportunity to contribute this submission in response to NSW Reconstruction Authority's call for submissions on Draft Guidelines for Disaster Adaptation Plan. The DAP regional plans have the potential to move NSW from piecemeal efforts at individual climate change impacts at a small scale into a coherent, strategic overarching approach to planning for the extensive and complex adaptation and mitigation actions that will be required.

² Source: DPE, NSW Waste Infrastructure Needs Assessment, 2021 (unpublished)



SSROC and its member councils will welcome opportunities for collaboration and integration in the development of DAPs. We are willing to engage and share our experience and findings of the Sydney waste risk and Resilience Project and how it may inform Disaster Adaptation Plans in metropolitan Sydney.

In order to make this submission within the timeframe for receiving comments, it has not been possible for it to be formally reviewed by councils or to be endorsed by the SSROC. I will contact you further if any issues arise as it is reviewed. If you have any queries, please do not hesitate to contact me on 8396 3800.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Vincent Ogu', written over a faint, illegible background.

Dr Vincent Ogu

Program Manager

Southern Sydney Regional Organisation of Councils (SSROC)