

SANDRA MOORE		OBJECT	Submission ID: 217091
Organisation:	N/A	Key issues:	Social impacts, Visual impacts, design and landscaping, Land use compatibility (surrounding land uses), Traffic, Other issues
Location:	New South Wales 2576		
Attachment:	Attached overleaf		

Submission date: 11/22/2024 2:32:14 PM

This proposal should be rejected until planning policies and legislation catch up with reality.

I object to Plasrefine at this site for planning reasons and every other reason that has already been submitted.

It is not the right site.

I emphatically object to the Plasrefine proposal.

This proposal is an excellent example of poor regional planning.

It is short-sighted, ignores the principles of planning and is a poor reflection on the industry.

Planning should improve outcomes, coordinate infrastructure, protect the environment, improve quality of life, be <u>accountable</u> and PROTECT PERSONAL RIGHTS.

PLANNING

Did not urban planning stem from Victorian London to stop factories building next to houses and killing people?

Don't lose sight of what planning is for!

"Consistent with the emerging aesthetic and technocratic ideals of planning, tools to classify and segment city functions took hold and land-use zoning emerged as one such powerful tool. Local zoning ordinances were often couched as both protecting public health and benefiting private landowners. For example, in the landmark 1926 Supreme Court case *Village of Euclid, Ohio, et al. v. Ambler Reality Company,* zoning was characterized as promoting health: 'the exclusion of buildings devoted to business, trade, etc., from residential districts, bears a rational relation to the **health and safety of the community...by excluding from residential areas the confusion and danger of fire, contagion and disorder**, which in greater or less degree attach to the location of stores, shops, and factories" (1)

PLANNING CONTROLS

The proposal does not fit in with the character or intention of the S.H.I.P. The proposal does not align with relevant strategic plans.

In DPHI's Assessment Report (2), they state on page 55 that "the development would:

• be consistent with the strategic planning directions of both State and local government"

199. Overall, the Department's assessment has concluded the development would:

- · be consistent with the strategic planning directions of both State and local government
- contribute to achieving the State's targets of recovering an average of 80% of all waste streams and tripling plastic recycling by 2030
- aid NSW's transition to a circular economy by diverting waste from landfill and transforming it into a
 useable product
- generate social and economic benefits through the provision of 140 operational jobs and a capital investment of over \$88 million

DHPI claim that "The assessment did consider those impacts in the context of government policy and guidelines." (3) P67/40, P68/5

Yet in the Department of Planning's publication, "South East and Tablelands Regional Plan 2036" (4) the plans are inconsistent with this proposal. In particular, with the priority growth sector including tourism, locating development away from areas of high bushfire risk, protecting the Sydney drinking water catchment.

(4) Page 15 - TOURISM

Priority growth sectors for the South East and Tablelands

This Regional Plan focuses on the following priority growth sectors to diversify the economy:

- tourism;
- · agriculture and aquaculture;
- · freight and logistics;
- · health, disability and aged care;
- public administration and defence;
- · education and training; and
- renewable energy.

The planning system needs to respond to the specific needs of these sectors to generate economic growth.

(4) Page 37 – BUSHFIRE RISK

Actions

16.1 Locate development, including new urban release areas, away from areas of known high bushfire risk, flooding hazards or high coastal erosion/inundation; contaminated land; and designated waterways to reduce the community's exposure to natural hazards.

(4) Page 40 – PROTECT SYDNEY DRINKING WATER

Protecting the Sydney Drinking Water Catchment

Part of the region is located in the Sydney Drinking Water Catchment, which supplies drinking water for almost 60 per cent of the State's population. Protecting water quality and quantity in this catchment is essential for the health and security of communities in the region and Greater Sydney.

Wingecarribee

Within easy reach of Canberra, Sydney and the Illawarra, Wingecarribee Local Government Area is home to national parks, rural landscapes and historic country villages and towns. The traditional owners of Wingecarribee are the Gundungurra and D'harawal people. This area is recognised for its impressive 19th and 20th Century buildings and streetscapes. Berrima was the second settlement in the region and is the last remaining, largely intact, Georgian-period town on mainland Australia.

Over 103,000 hectares of land is either national parks or nature reserves, representing 38 per cent of the Local Government Area. Almost the entire Shire is located within the Sydney Drinking Water Catchment.

The population is expected to grow by 4,050 people by 2036, requiring an additional 3,300 dwellings. By 2036, 27 per cent of the population will be aged over 65.

Moss Vale, Bowral and Mittagong service the needs of its residents for government administration, education, health and retail opportunities.

Direct links to the Hume Highway, the M7 and the main North-South rail line and dedicated freight line to Port Kembla provide access to Sydney's economic markets. Almost 16 per cent of the resident workforce commutes to Sydney.

Tourism offers an array of activities and attractions including wineries, the Bradman Museum, and the Tulip Time Festival. Each year Wingecarribee Local Government Area has an average of 1.3 million visitors staying 925,000 nights, and spending approximately \$220 million a year.

Priorities

- Protect high environmental value lands including regionally significant biodiversity corridors.
- Protect the Sydney Drinking Water Catchment.
- Protect important agricultural lands as a resource for food security.
- Protect the Shire's valued heritage assets.
- Provide ongoing access to high quality health and education services.

Economy and employment

- Capitalise on economic opportunities arising from the area's proximity to Sydney.
- Capitalise on the land availability in the Moss Vale Enterprise Corridor to attract industry and investment.
- Grow and diversify the area's agricultural base, including value-added activities, and capitalise on access to national and international markets in Sydney.
- Promote the Shire as a destination and encourage visitors to Canberra to also visit Wingecarribee Shire.

Housing

- Strategically plan for residential growth in existing urban areas and greenfield areas.
- Increase housing in Moss Vale, Bowral and Mittagong.
- Protect the unique character of the Shire's village and rural lifestyle.

The proposal may "technically" tick the boxes but planning should go beyond that,

step back and look at the big picture,

what is of benefit for the shire where tourism and country living are sought-after assets.

This proposal is a short-sighted opportunity only. It's zoned E4, that's on the list, "tick". We can ignore the S.H.I.P. as the proposal pre dates it, "tick". (5)

This proposal will and already has impact desired future land uses in the S.H.I.P.

Had the community not objected to trucks going through residential streets, would that still be part of the plan? Why would the experts have that in the plan in the first instance.

In the "STP Buffer Zone Land Use Planning Guidelines 2020" (6) prepared by GHD Pty Ltd, the following statements are made, yet they do not appear to stand by their own guidelines:

7.3 Commercial and Industrial

Industrial land uses are inherently related to commercial areas. These areas usually contain potentially offensive industries such as manufacturing, car repair facilities, factory units and other offensive industries. These areas are often located away from residential areas to protect amenity and reduce the potential for land use conflict.

Recycling can be done in a more suitable location and still achieve the desired benefit.

This location is not an essential part of the proposal given that feedstock is being transported to the site rather than being locally sourced.

ECONOMICS

This proposal does not make sense from an economic perspective.

The fundamental purpose of a business is to make a profit so why incur additional costs, particularly where government grants are funding costs, a blatant misuse of government funds for which I do not give consent.

What are the additional costs of mitigation and conditions that should be considered in reference to the viability of the proposal in this location:

- Costs of mitigation
- Costs of conditions
- Costs of "not operating" when the doors are open
- Costs of upgrading roads
- Costs of infrastructure improvements
- Costs of mature trees

In the "STP Buffer Zone Land Use Planning Guidelines 2020" (6) prepared by GHD Pty Ltd, the following statements are made, noted in reference to a STP example but principles are very relevant here:

10.5 Recommendations

The planning requirement for such a development should include the preparation of an environmental impact assessment with a detailed analysis of the scope and cost of works required to mitigate or reduce the likely impacts to an acceptable level at the site boundary for the Mudgee STP. The developer, planning consent authority and STP owner/water authority would then be in a better position to assess the merits, potential implications and the scope and cost of potential mitigation works prior to considering whether to proceed to the next stage of the development application process.

INSUFFICIENT OR LACKING DETAILS

Compare this proposal with the recent lodgment in Wollondilly Council:

https://www.wollondilly.nsw.gov.au/council/public-notices/development-proposal-285-finns-road-menangle

The detail is far more specific yet Plasrefine proposal specifies what should be done, not what will be done. At SSD level the detail should be greater and specific.

Given a major issue with the community are the potential health impacts is NSW Health's response adequate? Far from it:

We don't have any comments on this proposal.

Note the reply is not "we have no objection" but "no comment", what exactly does that mean? Do they recognise the potential for issues and do not want to be involved? They are supposed to be our "Health" Department and greater detail should be extracted from them.

How can this proposal be taken seriously with so many inconsistencies?

(3) P70/30

"...the facility is not permitted to be operating unless those doors are kept closed, except obviously when materials are coming in and out."

(3) P71/40

"...our conditioning will be saying that only while those doors are closed can the site be operating"

Is the facility operational whilst the doors are open?

In addition to the trucks and roller doors, <u>how are materials moved to building 2</u> and will that affect the negative air pressure and the estimated time per day of roller doors being open?

Are their fire exit doors that could be left open?

If the facility is truly negative are pressure, there has been no assessment on the working conditions for staff working in such an environment.

There has been no detail on the additional costs to achieve and maintain negative air pressure.

No detail on machinery that forms a major part of the operation of this facility to address how they operate, how much human intervention is required, known design faults and issues.

(3) P63/15

"So there will be tanks underneath the floor of the building where all this water will be collected..."

Where are these water tanks on the architectural plans?

(3) P59/35

"it will be stored in probably large bags....., Bulka bags. Because the material is quite fine at that point."

How are pellets bagged - by machine or human intervention - employee exposure?

How are pellets transported from building one to building two?

If a bag falls off the transport and breaks, how is that dealt with?

European Commission

https://ec.europa.eu/commission/presscorner/detail/en/ganda_23_4985

Questions and Answers on Measures to reduce microplastic pollution from plastic pellets

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What are plastic pellets and why are they of concern for the environment?

Plastic pellets are the raw material used for producing all plastics, also referred to as nurdles, nibs and resin pellets. Most pellets are microplastics (up to 5mm), while a minor part might be slightly bigger.

During manufacturing or other processes in the supply chain (e.g. transport), a fraction of those pellets can be spilled or lost to the environment. Once in the environment, these small particles of plastics do not biodegrade and cannot be removed. They accumulate in animals, including fish and shellfish, and are consequently also consumed by humans in food. They contribute to the pollution with microplastics, which have been found in marine, freshwater and terrestrial ecosystems as well as in food and drinking water. Their continued release contributes to permanent pollution of our ecosystems and food chains. Exposure to microplastics in laboratory studies has been linked to a range of negative (eco)toxic and physical effects on living organisms. It is also likely that microplastics are toxic to humans.

European Parliament

https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/760442/EPRS_BRI(2024)760442_EN.pdf Page 4

EPRS | European Parliamentary Research Service

Pellet losses can occur at various stages along the value chain: production (of virgin or recycled pellets), processing, distribution, storage and tank cleaning, waste management, etc. Losses can result from chronic, ongoing incidents during routine operations (with pellet loading and unloading presenting the highest risk of loss at all stages), or from acute, one-off incidents, such as accidents during transport or major equipment failures. Pellets lost at production, processing and recycling installations either end up in industrial or urban wastewater treatment facilities, where most are captured in sludge, or enter the environment directly. Pellets lost during logistic or shipping operations often enter the environment directly. Like all microplastics, pellets are readily transported from one geographical location to another. They are extremely mobile and can be dispersed by land surface waters, ocean currents, and through the air.

HUMAN INTERVENTION

In the professional world you can find "experts" to give you opposing views.

In accounting you can present a financial report for depreciation using either DVM (diminishing value method) or PC (prime cost), both acceptable methods but **can give vastly different results.**

The technical reports "tick the boxes" in an ideal world but they do not address the real world that includes human intervention. Everything looks fine in a hypothetical situation.

For example, the fast-opening roller doors are an issue relevant to how long they will be open during the day risking escape of microplastics etc. In an ideal world they may be open for a certain time, however no-one has factored in human intervention that may alter the "ideal" opening hours.

In an ideal world they may be great but what about in the real world?

https://tektauk.com/news/what-are-the-common-issues-with-high-speed-doors/

What are the common issues with high-speed doors?

1. Damage

Vehicle collision with high-speed doors is, <u>unfortunately</u>, a <u>common problem in busy factories</u>, particularly where forklifts and heavy machinery are in use. These kinds of impacts cause a headache for those in charge of health and safety, and they also have the potential to grind a factory to a halt if the doorway is essential for operation.

2. Poor quality components & lack of servicing

Another common cause of issues with speed doors stem from poor-quality components, often combined with inadequate servicing. High-speed doors are complex machines and see frequent use. Like any machine of this nature, regular and thorough servicing is needed to avoid future breakdowns. Proper planned maintenance is vital for the safety features and mechanisms that operate the doors, especially if they work around the clock.

- 3. Long wait times for replacement or spare parts
- 5. Wash down in hygiene areas

For some factories, the strict hygiene measures in place can interfere with the operation of doors.

6. Insufficient wind resistance

Strong draughts and air pressure can occur both internally and externally

BUFFER ZONES

NSW Planning do not address "buffer" zones

(3) P73/35

"In terms of buffer zones, it's sort of something that is only really required if there are going to be impacts that would actually impact people within those buffer zones, for instance."

(3) P74/0

"So, I suppose, I mean, I don't know if the Commissioner would like to elaborate further on what a buffer zone, what the community considers to be a buffer zone, or what they considered would be necessary there."

As a member of the community, I consider a "buffer zone" in a planning concept, to be a space in between, to minimise impact and does not contain people within, people are exterior to the buffer zone.

As "experts" in the industry, GHD Pty Ltd prepared the guidelines STP Buffer Zone and Land Use Planning. (6)

Whilst the following comments apply to sewerage treatment plants, the principles are very relevant in this proposal.

In the "STP Buffer Zone Land Use Planning Guidelines 2020" (6) the following statements are made:

"2.1 A risk-based method has been developed to provide decision makers with a logical and structured approach for assessing and determining appropriate land uses within buffer zones, for identifying an effective strategy for mitigating off-site impacts."

This proposal does not use a risk-based method as it ignores HUMAN INTERVENTION. With so many processes requiring human intervention the risk increases. Most technical reports are potentially correct in an ideal world, but this facility will not operate in a bubble.

"4.7 **Management of a buffer zone is influenced by the size** of the sewage treatment plant it surrounds. In assessing the size of a plant,"

This proposal is large, very large and there should be greater consideration to the surrounds in case of negative events occurring.

"5.2 In addition to resulting in nuisance odours, these gases may also have a toxic affect. Other gaseous emissions from sewage treatment plants include carbon monoxide (e.g. from combustion type processes), leaks of chlorine, ozone and chlorine dioxide (e.g. from disinfection), which may also have adverse health impacts. Hence, any consideration of odour will generally include consideration of airborne toxic contaminants."

We are yet to see any analysis of the patented disinfect that is proposed to be used (refer toxins discussion below).

"5.3 Aerosols are small airborne droplets less than 20 micrometers in diameter that have the **potential to be** transported much further than the larger droplets discharged from conventional sprinkler systems. Sewage treatment plants have been known to generate aerosols, particularly in unit processes that involve open agitation, aeration, splashing or spraying of the wastewater. The units and components most likely to generate aerosols include activated sludge reactors, trickling filters, aerated grit chambers and weirs. Aerosols may also be generated through spray irrigation of effluent. In general, lower energy processes are considered less likely to produce aerosols.

Aerosols may compromise public health in the area surrounding sewage treatment plants. Aerosols may contain the same pathogenic microorganisms that are present in the sewage and so may compromise public health in the area surrounding sewage treatment plants. Once generated, they disperse in a pattern dependent on meteorological conditions and topography and may enter humans and animals through the exposure pathways of inhalation and ingestion. Inhalation of pathogen containing aerosols can lead to respiratory infections while ingestion may result in infections of the gastrointestinal tract.

The actual threat posed to the community by aerosols is **not well understood.** This is largely due to the number and variability of factors that influences their generation, transportation and reception. For example, biological decay occurs at a rate dependent on sunlight, temperature and humidity and will directly affect the potency of an aerosol. A number of occupational and community studies have been undertaken on the impact of aerosols on human health in communities adjacent to sewage infrastructure. However, these studies are generally considered limited and inconclusive. **Hence there is no recognised buffer distances specifically applicable to aerosol impacts within Australia.**"

(Refer toxins discussion below re PAC and PAM.)

- "5.3.2 For effluent irrigation additional mitigation measures include:
- For sprinkler systems the use of downward directed, low pressure systems (or subsurface or drip irrigation)
- Adequate or additional disinfection of effluent
- High wind velocity shutoff devices."

Moss Vale is known for its high winds, are there shut off devices, if required?

"5.5 Soil and groundwater contamination

Sewage treatment plants may store and use a variety of chemicals for the unit processes outlined in Section

4. These chemicals, as well as raw or partially treated sewage may be inadvertently released to the environment (e.g. following **equipment malfunction or operator error**). Sewage discharge (overflows) may also occur if periods of heavy rain cause hydraulic overload. Chemical and sewage discharges could cause the contamination of nearby soil, groundwater or local waterways."

Human error is a major concern in this proposal.

"5.8 Other impacts

As a result of the environment factors discussed in the previous sections, there may be secondary impacts on land values and wildlife. These are discussed as follows.

5.8.1 Land Values

In addition to environmental impacts (as discussed above), an STP might have an influence on the **land value of surrounding property**. It is not considered possible to quantify the potential impacts that the presence of an

STP and its environmental impacts might have on the land value without assessing it on a case-by-case basis and on the basis of local demand for land and other external factors."

Land value impact has already occurred in several instances including a local resident and a potential purchaser in the S.H.I.P. This cannot be ignored as a detrimental outcome of this proposal.

"6 LOCATION FACTORS

Each STP location has unique features such as topography, vegetation and meteorological conditions that have the potential to significantly influence the severity of many of the environmental impacts described in the previous section. Consideration of these local factors is of key importance when considering the appropriateness (or otherwise) or surrounding land uses. "

Has GHD seriously considered the appropriateness as recommended in their own guidelines?

"6.1.3 Soil and groundwater contamination

Spills, leaks, discharges and overflows could cause chemicals or sewage to contaminate the soil or groundwater in the surrounding land. The fate of a material in the subsurface will be partly dictated by the nature of the material itself. Materials may degrade, sorb to soil, contaminate groundwater or remain on the surface and travel over land with surface runoff. Topography determines the movement of soil and groundwater contamination. Important factors include the location of the water table, the direction and rate of groundwater flow, the nature of materials in the soil profile and the direction of surface slope. **Generally, areas downstream of treatment plants would be at a greater risk of contamination.**"

Given this proposal is in the Sydney Drinking Water Catchment and errors could occur due to human intervention, is the risk worth taking where a more suitable location would not have this risk, just does not make sense?

8.7.3 Review of STP Impact Mitigation Procedures

Councils may also use the tool to undertake a preliminary review of the effectiveness and adequacy of a STPs impact mitigation procedure. It provides relatively simple means of identifying the key offsite impacts for the particular STP, if these are being addressed, how they could be better addressed, and the likely effects of further mitigation procedures.

Has GHD addressed the above items in this proposal from their own guidelines?

METEOROLOGY

In the "STP Buffer Zone Land Use Planning Guidelines 2020" (6) prepared by GHD Pty Ltd, the following statements are made:

6.3 Meteorology

Temperature inversions occur where the temperature of the atmosphere increases with altitude
in contrast to the normal decrease with altitude. When temperature inversion occurs, cold air
underlies warmer air at higher altitudes. This can lead to very poor dispersive conditions and can
significantly increase the potential for air quality impacts.

https://agriculture.vic.gov.au/farm-management/chemicals/spraying-agricultural-chemicals/managing-spray-drift/recognising-surface-temperature-inversions

A surface temperature inversion is likely to be present if:

· mist, fog, dew or a frost have occurred

Has temperature inversion been considered in the application given that the location experiences mist, fog, dew and frost? Remember London's deadly smog in 1952.

TOXINS

In another decade when we know more about forever chemicals will we reflect back and agree this was the wrong site, why not think about the future now?

Why not be more risk aversive now, just in case?

The EPA is "investigating to better understand" forever chemicals (7) surely that confirms that planning lags behind the science.

Page 207 of EIS Main Document - "PAM and PAC are two types of water flocculants and neither are classified as dangerous goods under the Australian Code for the Transport of Dangerous Goods by Road & Rail"

From this article, page 179: https://pubmed.ncbi.nlm.nih.gov/26914994/

"Furthermore, several studies have reported that PAC contains aluminum which could contaminate drinking water, and lead to serious health problems for consumers (Banks et al. 2006)."

Has the potential contamination from PAC been addressed?

Has the patented disinfection solution been investigated; is it being manufactured on site? (8)

This product includes:

- (a) Saponin also selectively referred to as triterpene glycosides, are bitter-tasting usually **toxic** plant-derived organic chemicals (9)
- (b) Sophora Flavescens "However, an increasing number of reports indicate that the administration of *Sophora flavescens* has serious <u>adverse effects</u>. Its main **toxic** effects are <u>neurotoxicity</u> and <u>acute toxicity</u>, which have caused widespread concern worldwide." (10)
- (c..) Tea Tree Essential Oil classified as Class 3 <u>flammable liquid</u> in material data sheets (11)

Implementation case 4

The product is a plant-derived germicidal and deodorant for environmental treatment, including the following raw materials by weight: 35 parts saponin, 18 parts sophora flavescens, 9 parts turpentine, 20 parts arborvitae, 6 parts licorice, 8 parts tea tree essential oil and 12 parts lemon mint essential oil.

A preparation method of a plant-derived germicidal deodorant for environmental treatment, which is characterized in the following steps:

- 1). Weigh saponin, sophora sophora, turpentine, platycladus platycladis and liquorice by weight, and then mechanically crush and mix them.
- 2) in accordance with the quality, will be the first mixture volume ratio is 1 kg, the ratio of 10 l mixed with the volume percentage of 80% ethanol, avoid light (32 h, then under the condition of 20 °C and 60 hz ultrasonic extraction, vacuum suction filter, collecting filtrate A;

COMPARABLE FACILITIES

Where existing facilities may not be located in ideal locations, they are generally a lot smaller than this proposal. New facilities coming on line generally are located in areas that are more suited including better infrastructure, purpose-built design, away from residential areas and water catchment areas.

This is a new facility, it should be located in the most appropriate site, this is not that site. For example:

Brightmark Circularity Centre, Parkes NSW 200,000 tonnes per annum



IQRenew Taree NSW 15,000 tonnes per annum



In conclusion,

the proposal should address the "worst case scenario" and if that is acceptable the proposal could have merit, but IT IS NOT ACCEPTABLE.

The stated benefits do not outweigh the negative impacts.

This is not the right site.

Sources

1. Jason Corburn, "Reconnecting Urban Planning and Public Health"; in Weber & Crane (2012), p. 398:

- 2. https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef= SSD-9409987%2120241010T041046.799%20GMT
- 3. https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/transcripts-and-material/2024/moss-vale-plastics-recycling-facility/day-3-public-meeting-transcript-moss-vale-plastics-redacted.pdf
- 4. https://www.planning.nsw.gov.au/sites/default/files/2023-03/south-east-and-tablelands-regional-plan-2036.pdf
- https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/transcripts-and-material/2024/mossvale-plastics-recycling-facility/department-meeting-transcript.pdf Department meeting presentation 25/10/24 P5/25
 - "...the application that's the subject of this discussion was lodged in early 2022 and as such this SHIP masterplan does not apply because it predated that." P67/40, P68/5
 - "Now, the first thing the Department really does look at in terms of land use conflict, is consider that the zoning and permissibility of the proposal, noting that the site itself is **located in an E4 General Industrial Zone**, and the proposal would be permissible with consent."
 - "In terms of some of those issues, one of the first things to note is the facility itself will be enclosed. So, around air, noise and border, there are probably some key issues that being enclosed allow a better form of management of these types of issues in terms of impacts on a community. The assessment did consider those impacts in the context of government policy and guidelines."
- 6. https://www.waterdirectorate.asn.au/Bookshop/Guidelines.aspx
- 7. https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program/pfas-investigation-pfas-invest

Why is the NSW EPA conducting an investigation of the legacy of PFAS use across NSW?

PFOS and PFOA are both very stable chemicals that do not break down in the environment and can persist for a long time in the environment.

The EPA is investigating to better understand the extent of PFAS use and contamination in NSW. This way the EPA will be better prepared to respond if any health and environmental impacts become known.

- 8. PATENT https://ipsearch.ipaustralia.gov.au/patents/
- 9. https://www.chemicalbook.com/article/toxicity-and-extraction-of-saponin.htm
- 10. https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/sophoraflavescens#:~:text=However%2C%20an%20increasing%20number%20of,have%20caused%20widespread%20concern%20worldwide.
- 11. https://aidgc.org.au/what-are-dangerous-goods/class-3-flammable-liquids/