



Corona Projects

Development Application
ENVIRONMENTAL IMPACT STATEMENT

Installation of a CO2 cylinder

49 Chard Road, Brookvale

April 2023

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PROJECT DETAILS

Client: Mr Peter Princi
 Subject land: 49 Chard Road, Brookvale
 Lot Description: Lot B of Deposited Plan 401454
 Proposed development: Installation of a CO2 cylinder




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 Planning Institute of Australia (Assoc.)

The report is reviewed by Mathew Fortunato
 Bachelor of Architecture and Environments (USYD)

I certify that the contents of the Environmental Impact Statement to the best of my knowledge, has been prepared as follows:

- In accordance with Section 4.12 of the Environmental Planning and Assessment Act 1979 and Clause 190 and 192 of the Environmental Planning and Assessment Regulation 2021;
- The statement contains all available information that is relevant to the environmental impact assessment of the proposed development;
- To the best of my knowledge the information contained in this report is neither false nor misleading.

Quality Management

	Name	Date	Signature
Prepared by	Emma Rogerson	18/04/2023	
Checked by	Madeline Maric	19/04/2023	
Approved for issue by	Mathew Fortunato	19/04/2023	

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1.0 INTRODUCTION AND SUMMARY

This Environmental Impact Statement has been prepared for Mr Peter Princi to accompany a Development Application (DA) to Northern Beaches Council for the installation of a CO2 cylinder at 49 Chard Road, Brookvale.

More specifically, the proposed development comprises the addition of a third chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas. The new storage cylinder will be located next to two existing ones.

The proposal is permissible with consent and is suitable for the site and the area. The proposal has been designed to relate to its site and to the streetscape in terms of appearance, envelope, setbacks, bulk and scale. The proposal will operate without any significant impact to the amenity of neighbouring properties.

The purpose of this EIS is to:

- Respond to the requirements outlined in SEAR #1742
- Describe the site to which the application applies and its context;
- Describe the proposed development;
- Describe the legislative framework against which the application is to be assessed and determined; and
- Provide an assessment of the environmental impacts in accordance with the 191, 192, and 193 of the Environmental Planning and Assessment Regulation 2021.

With regard to the requirements under the Environmental Planning and Assessment Regulation 2021, the benefits of the development and compliance with the relevant policies and plans, we conclude that the proposed development at 49 Chard Road, Brookvale as described in this application is reasonable and supportable, and worthy of approval by Northern Beaches Council.

This Statement has been prepared in reference to the following:

Document	Author	Date
Architectural Plans	Peter Princi Architects	September 2022
SEAR Letter	DPE	December 2022
Site Survey	Stutchbury Jacques Pty Ltd	May 2022

2.0 SITE ANALYSIS & CONTEXT

2.1 The Site

The site is located at 49 Chard Road, Brookvale and is legally described Lot B in Deposited Plan 401454. The site is located on the southern side of Chard Road, on the block bound by Chard Road, Mitchell Road, Sydenham Road and an unmarked vehicle accessway.

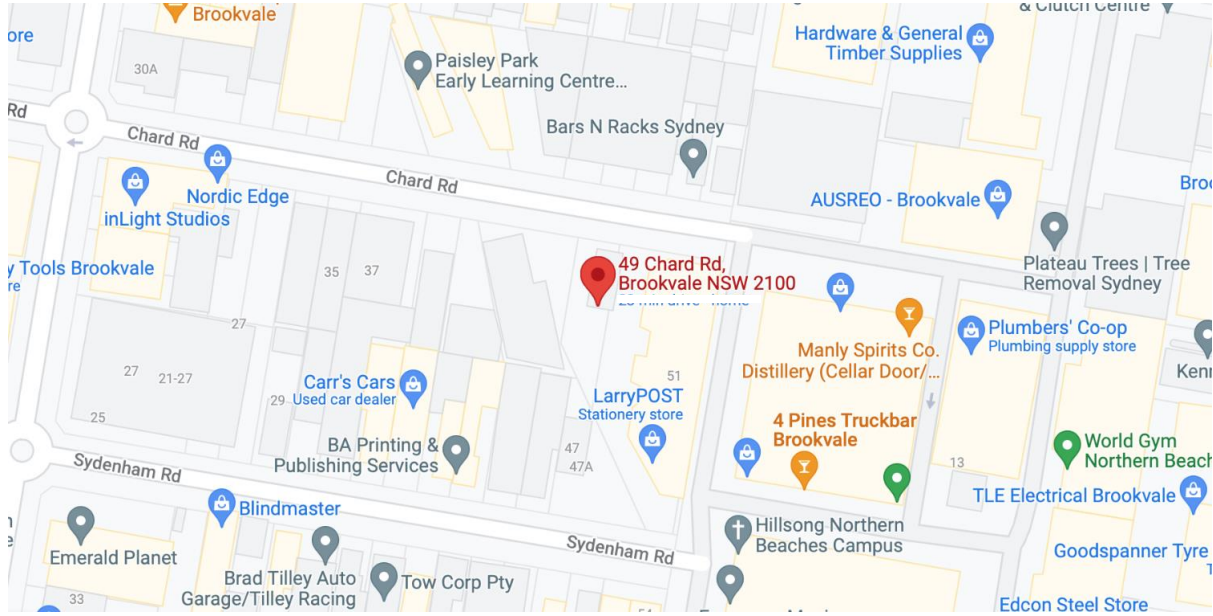


Figure 1 – Site locality map (Google Maps, 2022)



Figure 2 – Aerial map (NearMaps, 2022)

The site is irregular in shape with a total area of 762.3 square metres by survey, with a 15.24 metre street frontage to Chard Road. The eastern side boundary measures 61.155 metres and the western side boundary measures 38.765 metres. The rear boundary measures 27.085 metres. The site is relatively flat.

The site currently contains a brick and metal clad building towards the front of the site. The rear of the site contains other metal structures, including two existing CO2 cylinders. Vehicular access is available from Chard Road.

The land is zoned IN1 General Industrial under the provisions of Warringah Local Environmental Plan 2011 (LEP). The site is not identified as a Heritage Item, nor is it located within a Heritage Conservation Area (HCA). It is also not considered to be located within the close vicinity of any Item or HCA, or as a contributory item.



Figure 3 – Subject site as viewed from Chard Road (Google Maps, 2023)



Figure 4 – Subject site as viewed from the rear (NearMap, 2022)

2.2 The Locality

The site is located within the local industrial area of Brookvale. The locality comprises primarily of medium density industrial and commercial development of two to three storeys high. The area predominantly features buildings of a contemporary architectural style.

The development site adjoins other non-residential land uses along each shared property boundary.

Notable sites in the area include:

- Manly Spirits Co. Distillery
- “Carr’s Cars” Car Dealership
- Sunmaster Australia
- Hillsong Northern Beaches Campus
- Railsafe Balustrading and Pool Fencing

2.3 Connectivity and Public Transport

The site has good public transport access, with bus stops along Pittwater Road connecting 49 Chard Road with surrounding suburbs.

2.4 Development History and Community Consultation

A search on Council's DA Tracker returned the following results for development applications associated with the site:

[Development Application DA2022/1205](#)

Erection of Gas Storage Cylinder (Submitted: 29/07/2022)

[Construction Certificate CC2015/0123](#)

Demolition works and the construction of a Warehouse and Distribution Centre (Submitted: 16/03/2015)

[Principal Certifier PCA2015/0235](#)

Demolition works and the construction of a Warehouse and Distribution Centre (Submitted: 16/03/2015)

[Development Application DA2014/1027](#)

Demolition works and the construction of a Warehouse and Distribution Centre (Submitted: 22/09/2014)

[Complying Development Certificate CDC2014/0422](#)

Demolition of building (Submitted: 29/08/2014)

[Converted Fujitsu DA2000/4946](#)

Erect 4.2X9X2.4 Colorbond Garage & 4.2X6 Carport Application Withdrawn 5/5/2004 (Submitted: 21/09/2000)

[Converted Fujitsu BA5001/2215](#)

Add N DATE TYPE NOTE 22/11/1990 Final Inspected by: COM Notes: FENCE (Submitted: 11/04/1990)

On 5 December 2022 a letter was issued by the NSW Department of Planning and Environment (DPE) with requirements comprising of a SEARs.. This EIS has been prepared in response to this.

Letters were mailed to adjoining properties and the NSW DPE – Water Group on 12 December 2022 inviting them to provide feedback on the proposal and raise any issues if they have any. No response has been received to date (18 January 2023). Copies of these letters have been provided in Appendix A to this report.

Northern Beaches Council have been consulted with during the original DA lodgement stage.

2.5 Strategic Context

The subject site sits within a Brookvale industrial area, a location identified in the Northern Beaches Local Strategic Planning Statement ("Towards 2040") as an "employment and innovation centre" (Priority 24, NBLSPS). The Brookvale-Dee Why area is identified as the location for an additional 3,000 to 6,000 jobs from 2016 to 2036, of a primarily industrial, urban services and retail nature. Employment and industry-related priorities from the Greater Sydney Region Plan and District Plan also apply generally to Brookvale.

The subject proposal will assist to meet the strategic goals of the Brookvale locality, maintaining an industrial use and retaining employment opportunities within the existing business operating at 49 Chard Road, Brookvale. Further, the capability for neighbouring sites to also meet the local strategic goals is not impacted by the proposal.

3.0 PROJECT DESCRIPTION

3.1 Overview

The Development Application proposes the installation of a CO₂ cylinder at 49 Chard Road, Brookvale. More specifically, the proposed development comprises the addition of a third chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas. The new storage cylinder will be located next to two existing ones.

The proposal has been designed to relate to its site and to the streetscape in relation to appearance, envelope, setbacks, bulk and scale. The contemporary design utilises high quality materials and detailing to present an unobtrusive visual outcome for the locality, as the **new cylinder will be neatly concealed from view from the street by the existing building at the front of the site.**

Please refer to plans prepared by Peter Princi Architects.

The proposal is **Designated Development** as defined in Schedule 3 of the Environmental Planning and Assessment Regulation 2021. The relevant provisions for Designated Development that apply to the proposal are as follows:

Clause 13(2)(c) of Schedule 3 clearly defines that any “chemical storage facility” if located on a floodplain, is deemed as Designated Development. The subject site is located in a Medium Risk Flood Planning Precinct under Council’s flood mapping. Hence, any chemical storage facility, irrespective of the storage capacity, would trigger the Designated Development provisions of the EP& Act.

This Development Application meets the requirements of Designated Development with the preparation of this EIS in response to the 5 December 2022 SEARs letter.

3.2 Numerical Overview

A brief numerical overview of the development parameters for the proposed development is included in the following table

Table 1: Key development components

Component	Requirement	Proposal
Site area	-	762.3m ²
Height (new cylinder)	Maximum 11m	10.1m
Boundary setbacks (new cylinder)	Minimum	Approximately
• Front	4.5m	>15m
• Side (east)	Merit	3m
	Merit	>8m

<ul style="list-style-type: none"> • Side (west) • Rear 	Merit	>5m
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3.3 Mitigation Measures

The management and mitigation measures required to mitigate the impacts associated with the proposed works are detailed in the following table.

Table 2: Mitigation Measures

Aspect/Issue	Management/Mitigation Measure
Construction impacts	The construction/assembly stage will be limited to a short operation, occurring between reasonable working hours as to limit disruption for neighbouring sites.
Traffic impacts during construction	The short duration of construction/assembly of the cylinder will reduce traffic impacts.
Noise and vibration	Noise and vibration from the addition of the new cylinder will be limited by locating it upon an already paved area.
Contamination	Being located above ground, the cylinder is not expected to result in any contamination risk.
Acid sulfate soils	Minimal earthworks will be proposed.
Flood risk	The risk to loss of life due to flood, and risk of increasing the frequency or severity of a flood event is mitigated by the proposal due to the location of the new cylinder away from any accessways or evacuation routes, and the raised nature of the cylinder on an already paved area.
Leak risk	A leak can be reasonably mitigated by ongoing maintenance and safety checks to ensure that the cylinder is working, and thorough training for persons permitted to use the cylinders.
Visual unsightliness	Visual unsightliness will be mitigated by locating the cylinder behind existing structures, concealing it from clear view from the public domain.
Construction waste	The assigned builder will be responsible for responsibly disposing of any waste generated through the construction/assembly stage.
Risk to life	<p>To reduce the risk to life of the proposal, the following recommendations are proposed for the consent authority to consider implementing as conditions of consent:</p> <ul style="list-style-type: none"> • Provide CCTV (closed circuit television) coverage of the cylinders to the head office to allow for a fast address of any issues.

	<ul style="list-style-type: none"> • Provide alternate emergency assembly areas given that a carbon dioxide plume can travel in any direction.
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4.0 Matters for Consideration

4.1 Environmental Planning & Assessment Regulations 2021

The requirements of the EP&A Regulations 2021 under Division 5 Environmental impact statements—the Act, ss 4.12(8), 5.7(1) and 5.16(2), and sections 190, 191 and 192 have been complied with as per the following table.

Table 3: EP&A Regulations 2021 compliance

Section	Section Content	Comment
190 Form of environmental impact statement		
(1) An environmental impact statement must contain the following information—		
a	the name, address and professional qualifications of the person who prepared the statement,	<p>Refer to Page 3 of this report for name and professional qualifications of the person who prepared the statement.</p> <ul style="list-style-type: none"> • Name: Ms Emma Rogerson • Qualifications: Master of Urbanism (Urban and Regional Planning) (USYD), and a Bachelor of Architecture and Environments (USYD). • Contact Address: Suite 106, Level 1, 35 Spring Street, Bondi Junction NSW 2022.
b	the name and address of the responsible person,	<p>The applicant is:</p> <p>Mr Peter P Princi of PO Box 615, Frenchs Forest NSW 1640</p>
c	the address of the land— (i) to which the development application relates, or (ii) on which the activity or infrastructure to which the statement relates will be carried out,	<p>Refer to Page 3 of this report for the address (street address and lot/DP number) to which the development application relates.</p>
d	a description of the development, activity or infrastructure,	<p>Refer to Part 3.1 on page 8 of this report.</p> <p>The proposed development comprises the addition of a third chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon</p>

		dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas.
e	an assessment by the person who prepared the statement of the environmental impact of the development, activity or infrastructure, dealing with the matters referred to in this Division.	Refer to Parts 4 and 5 for an assessment.

(2) The person preparing the statement must have regard to—

a	for State significant development—the State Significant Development Guidelines, or	N/A – the proposal is not State Significance Development
b	for State significant infrastructure—the State Significant Infrastructure Guidelines.	N/A – the proposal is not State Significance Infrastructure

(3) An environmental impact statement must also contain a declaration by a relevant person that—

a	the statement has been prepared in accordance with this Regulation, and	Refer to Appendix B of this report.
b	the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure, and	Refer to Appendix B of this report.
c	the information contained in the statement is not false or misleading, and	Refer to Appendix B of this report.
d	for State significant development or State significant infrastructure—the statement contains the information required under the Registered Environmental Assessment Practitioner Guidelines.	N/A – the proposal is not State Significance Infrastructure or Development.

191 Compliance with environmental assessment requirements

-	The environmental impact statement must comply with the environmental assessment requirements notified under section 176 or the Act, section 5.16(4).	Council advised in a letter dated 18 April that the proposal has been publicly notified and exhibited in accordance with the requirements for Designated development set out within the Act and Regulations between the period of 27 January and 4 March 2023.
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192 Content of environmental impact statement**(1) An environmental impact statement must contain the following—**

a	a summary of the environmental impact statement,	Refer to Part 1 and Part 6 of this EIS report for a summary.
b	a statement of the objectives of the development, activity or infrastructure,	Refer to Part 3.1 on page 8 of this report. The objectives of the proposed development are to add a third chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas. This is to meet growing demand for carbon dioxide.
c	an analysis of feasible alternatives to the carrying out of the development, activity or infrastructure, considering its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Feasible alternatives to adding an additional storage cylinder are to either: <ul style="list-style-type: none"> • Not make any physical changes and operate with the existing storage available. • Propose a smaller cylinder. Both of these options will not allow the business to meet growing customer demand for carbon dioxide, and subsequently not meeting the development objective. Further, operational expenses have increased and an increase in storage capacity will assist to offset these increased expenses, supporting the future viability of the business.
d	an analysis of the development, activity or infrastructure, including— (i) a full description of the development, activity or infrastructure, and (ii) a general description of the environment likely to be affected by the development, activity or	(i) The proposed development comprises the addition of a third chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas. Architectural drawings accompany this report, providing further visual description of the works.

	<p>infrastructure and a detailed description of the aspects of the environment that are likely to be significantly affected, and</p> <p>(iii) the likely impact on the environment of the development, activity or infrastructure, and</p> <p>(iv) a full description of the measures to mitigate adverse effects of the development, activity or infrastructure on the environment, and</p> <p>(v) a list of the approvals that must be obtained under another Act or law before the development, activity or infrastructure may lawfully be carried out,</p>	<p>(ii) an industrial context is likely to be affected by the proposal development, however, only the areas directly adjoining the area where the cylinder is proposed. Views of the new cylinder from the primary public domain will be unlikely as it is concealed behind existing buildings.</p> <p>(iii) the impact is likely to be negligible, as it proposed the expansion of an existing suitable business rather than the introduction of a brand new one in place of something else.</p> <p>(iv) Mitigation measures are as follows, and detailed in Table 2 of this report:</p> <p>The risk to loss of life due to flood, and risk of increasing the frequency or severity of a flood event is mitigated by the proposal due to the location of the new cylinder away from any accessways or evacuation routes, and the raised nature of the cylinder on an already paved area.</p> <p>A leak can be reasonably mitigated by ongoing maintenance and safety checks to ensure that the cylinder is working, and thorough training for persons permitted to use the cylinders.</p> <p>Visual unsightliness will be mitigated by locating the cylinder behind existing structures, concealing it from clear view from the public domain.</p> <p>(v) Further approvals will be carried out as conditioned, or as required by other Acts, laws or regulations.</p>
e	a compilation, in a single section of the environmental impact statement, of the measures referred to in paragraph (d)(iv),	See above box for compilation detail of mitigation measures.
f	the reasons justifying the carrying out of the development, activity or infrastructure,	The listed categories of consideration are applied throughout the assessment in this report.

	<p>considering biophysical, economic and social factors, including the principles of ecologically sustainable development set out in section 193.</p>	<p>Section 193 states that the principles of ecologically sustainable development are the following—</p> <ul style="list-style-type: none"> (a) the precautionary principle, (b) inter-generational equity, (c) conservation of biological diversity and ecological integrity, (d) improved valuation, pricing and incentive mechanisms. <p>These principles are met in the following ways:</p> <ul style="list-style-type: none"> (a) the precautionary principle: scientific evidence including that quoted throughout this report demonstrates that there is no lack for full scientific certainty. (b) inter-generational equity: The new cylinder is not expected to impact on the ability for the health, diversity and productivity of the environment to be maintained or enhanced for the benefit of future generations. (c) conservation of biological diversity and ecological integrity: the reasonable scale of the proposal is not expected to have any biological or ecological impact as the works are located within an established industrial area away from sensitive fauna and flora. Due to past activities on the site, its biodiversity values are very low and site constraints limit opportunities in this regard. (d) improved valuation, pricing and incentive mechanisms: the expected impacts will not have a direct impact on valuation and pricing due to the relatively small scale of the new cylinder on an existing established business.
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4.2 Planning Secretary's Environmental Assessment Requirements

The SEARs letter dated 5 December 2022 outlines a number of matters for consideration and discussion within this EIS report. Compliance with each matter identified is explained in the following table:

Table 4: Response to SEARS

SEARS Item	Comment
strategic and statutory context	
detailed justification for the proposal and suitability of the site for the development	<p>The additional storage cylinder is required to allow the business to meet the demand for captured carbon dioxide gas. Without the third cylinder the operation is limited in scale and cannot adequately meet the market demand, affecting business feasibility.</p> <p>The subject site is suitable for the additional cylinder as it allows the new structure to be hidden from view from the public domain, aligned next to similar structures, and be located near the existing warehouse where operations run from. The existing paved nature of most of the site results in no impact on the natural environment by the proposal.</p>
demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies	Refer to Part 5.1 of this report.
list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out.	The author of this report is not aware of any approvals required under any other Act or law that need to be obtained prior to lawfully carrying out with the proposed development.
description of how the proposed expansion integrates with existing on-site operations	<p>The proposed expansion will integrate smoothly with existing on-site operations, as the proposed cylinder can be filled or emptied next to the current two, utilising identical safe techniques.</p> <p>Users of the cylinder will be trained in its safe and responsible operation, as currently achieved with the existing two cylinders.</p>

description of any amendments to and/ or additional licence(s) or approval(s) required to carry out the proposed development.	The author of this report is not aware of any amendment or additional licenses that is required.
suitability of the site	
a detailed justification that the site can accommodate the proposed storage capacity, having regard to the scope of the operations and its environmental impacts and relevant mitigation measures	Discussed throughout this report.
plans depicting the proposed layout.	Refer to Architectural Drawings prepared by Peter Princi Architects.
hazards and risk	
an assessment of flood risk on the site. The assessment should determine: the flood hazard in the area; address the impact of flooding on the proposed development, and the development's impact (including filling) on flood behaviour of the site and adjacent lands; and address adequate egress and safety in a flood event.	<p>The site is located within the Medium Risk Flood Planning Precinct on the Northern Beaches DCP flood mapping tool.</p> <p>The proposal is not expected to increase the risk of flood nor the loss of life in a flood event. The proposed cylinder is raised from the ground on stilt-like "legs" which allow water to pass through. The location of the cylinder has been carefully selected to ensure that evacuation routes and accessways are not obstructed.</p> <p>The proposal does not alter the impervious coverage of the site, nor introduce any residential uses to the property.</p> <p>Therefore, no flood-related risks are expected and further consideration is not required due to the reasonable nature and scale of this proposal.</p>
soil and water	
details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000	No change to the current water usage for the site is expected.

a detailed site water balance	Impervious coverage of the site is unchanged, as the new cylinder is proposed above an already paved area.
an assessment of potential impacts on the quality and quantity of surface and groundwater resources	Minimal excavation is required, upon an already paved area of the site so no impact is expected upon surface and groundwater resources.
details of any upgrades to existing stormwater and wastewater management systems (including sewage) and other measures to mitigate surface and groundwater impacts	No stormwater or wastewater systems are proposed to be impacted by this proposal.
traffic and transport	
details of road transport routes and access to the site	No change to the site access and transport provisions are expected. Whilst the storage capacity of the site is increasing, this improvement is unlikely to result in any change in the number of and size of vehicle entering and leaving the property.
road traffic predictions for the development during construction and operation, including cumulative impacts.	The construction process is relatively quick and can be undertaken entirely on site, resulting in minimal road/traffic impact. This improvement is unlikely to result in any change in the number of and size of vehicle entering and leaving the property.
waste management	
details of construction waste handling including transport, identification, receipt, stockpiling and quality control including off-site reuse and disposal	Suitably qualified professionals will undertake the installation process, following standard high quality waste collection, re-use and disposal methods.
air quality	
description of all potential sources of air and odour emissions during construction and operation, including cumulative impacts	The new cylinder will not result in any air or odour emission construction and operation as CO ₂ is odourless.
description and appraisal of air quality impact mitigation and monitoring measures.	The new cylinder will not result in any air or odour emission construction and operation as CO ₂ is odourless.
noise and vibration	
description of all potential noise and vibration sources during construction and operation, including road traffic noise and cumulative impacts	The new cylinder will not result in any noise or vibration during construction and operation as the cylinder is only being used for storage.

description and appraisal of noise and vibration mitigation and monitoring measures.	The new cylinder will not result in any noise or vibration during construction and operation as the cylinder is only being used for storage.
visual	
including an impact assessment at private receptors and public vantage points.	The new cylinder is not visible from the public domain as the existing building at the front of the site entirely shields it from view. Whilst visible from certain neighbours, no important views or vistas are impacted and the visual character of the site will remain unchanged as the new cylinder will be of similar appearance and scale to the existing two to avoid clutter.
heritage	
including Aboriginal and non-Aboriginal cultural heritage.	The site is not associated with any known Aboriginal and non-Aboriginal cultural heritage. Minimal excavation is proposed upon an existing paved area, resulting in a very unlikely chance of discovering any heritage fabric.

5.0 STATUTORY PLANNING FRAMEWORK AND ENVIRONMENTAL ASSESSMENT

This Chapter provides an environmental assessment in accordance with Section 4.15 of the Environmental Planning and Assessment Act 1979.

5.1 Statutory and Policy Compliance

The relevant matters for consideration under Section 4.15(a) of the EP&A Act, 1979, are identified as:

- State Environmental Planning Policy (Resilience and Hazards) 2021
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- Warringah Local Environmental Plan 2011
- Warringah Development Control Plan 2011

The primary statutory document that relates to the subject site and the proposed development is Warringah Local Environmental Plan 2011. The primary non-statutory plan relating to the subject site and the proposed development is Warringah Development Control Plan 2011.

5.1.1 State Environmental Planning Policy (Resilience and Hazards) 2021

This Policy is to provide for a state-wide planning approach to the remediation of contaminated land. Subject to Clause 4.6, considerations should be given to the suitability of land in terms of contamination.

The subject site has a long history of being used for the industrial purpose. Thus, the land is not likely to be contaminated and, given that no change of use is proposed, no further consideration is required under Clause 4.6(1)(b) and (c) of the Resilience and Hazards SEPP.

The definition of a “Potentially Hazardous Industry” is prescribed by chapter 3 of State Environmental Planning Policy (Resilience and Hazards) 2021, as follows:

means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality—
(a) to human health, life or property, or
(b) to the biophysical environment, and includes a hazardous industry and a hazardous storage establishment.

The development as proposed would involve the storage of up to 13 tonnes of carbon dioxide gas (CO₂). Whilst a review of literature available to Council in relation to the safety risks in regard to the storage of CO₂ may reveal that storage of CO₂ can be associated with incidents of death and injury, this is only the case where mishandling is evidenced. Strict management protocols and staff training ensures that the use of the additional third cylinder proposed can be done safely and securely.

Despite this, Chapter 3 of the SEPP can be met as the proposal can meet the following criteria as demonstrated throughout this report:

In determining an application to carry out development to which this Part applies, the consent authority must consider (in addition to any other matters specified in the Act or in an environmental planning instrument applying to the development)—

- (a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and*
- (b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and*
- (c) in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant, and*
- (d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and*

(e) any likely future use of the land surrounding the development.

Preliminary Hazard Analysis (PHA)

The risk associated with the additional gas storage cylinder has been assessed in accordance with the DPE *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* and the *Hazardous Industry Planning Advisory Paper (HIPAP) No 6 (Ref 1)*, and have been found to be of an acceptable risk.

Specifically, societal risk, area cumulative risk, propagation risk, transport risk and environmental risk have been considered and the proposal is acceptable given the external location of the new cylinder, the substantial distances between the new cylinder and the nearest place of residence, and the fact that high levels of carbon dioxide typically in an enclosed space are required to cause fatality.

Carbon Dioxide

CO₂ is an odourless, colourless gas. It is not flammable or acutely toxic. It is a gas at standard temperature and pressure conditions, but is commonly compressed into a liquid for easier transportation, usage, and cost efficiency. It is commonly utilized in the beverage industry to carbonate and dispense soft drinks, beer, and wine, and to prevent fungal and bacterial growth.¹

At high concentrations, it can displace air and is therefore an asphyxiant. It has a sublimation point of -78oC. In either a liquid or solid form, it has the potential for cold burns. The gas is heavier than air and hence may accumulate in confined spaces and pose asphyxiation risks. The following information on the health impacts from carbon dioxide is from AS2885 (the Australian Standard for Pipelines—Gas and Liquid Petroleum).

CO ₂ Concentration	Health Impacts
0.5%	Long-term exposure limit in major jurisdictions
1%	Slightly increased breathing rate
2%	Doubled breathing rate, headache, tiredness
5%	Very rapid breathing, confusion, vision impairment
8 – 10%	Loss of consciousness after 5 to 10 minutes
>10%	More rapid loss of consciousness, death if not promptly rescued

¹ Carbon Dioxide Properties, Uses, Applications: CO₂ Gas and Liquid Carbon Dioxide”; Universal Industrial Gases, Inc.; 2008; available at <http://www.uigi.com/carbondioxide.html>; accessed 19 January 2023.

Hazardous Event Assessment

A hazardous event associated with the proposal could include the leak of the new storage cylinder, of which a large release could cause fatality as a worst case consequence.

Leaks generally occur when tanks are being refilled, or after high-usage periods, and may not be immediately recognized due to the lack of odour or other indicators. In poorly ventilated, enclosed areas such as basements or bathrooms, the gas can displace oxygen, posing an inhalation hazard to those nearby,² however, in external well ventilated environments the risk of asphyxiation is expected to decrease.

A leak can be reasonably mitigated by ongoing maintenance and safety checks to ensure that the cylinder is working, and thorough training for persons permitted to use the cylinders.

Recommendations

To reduce the risk to life of the proposal, the following recommendations are proposed for the consent authority to consider implementing as conditions of consent:

- Provide CCTV (closed circuit television) coverage of the cylinders to the head office to allow for a fast address of any issues.
- Provide alternate emergency assembly areas given that a carbon dioxide plume can travel in any direction.

5.1.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

The proposal is not located adjacent to any major infrastructure corridors or railways, and is not considered to be traffic generating in accordance with the definition under Schedule 3.

5.1.3 Warringah Local Environmental Plan 2011

The development complies with the provisions of Warringah Local Environmental Plan 2011 (LEP 2011).

Zoning and permissibility

The site is located in Zone IN1 General Industrial.

² Basic Information on Carbon Dioxide”; Canadian Center for Occupational Health and Safety; 19 February 1999; available at http://www.ccohs.ca/oshanswers/chemicals/chem_profiles/carbon_dioxide/basic_cd.html; accessed 19 January 2023.

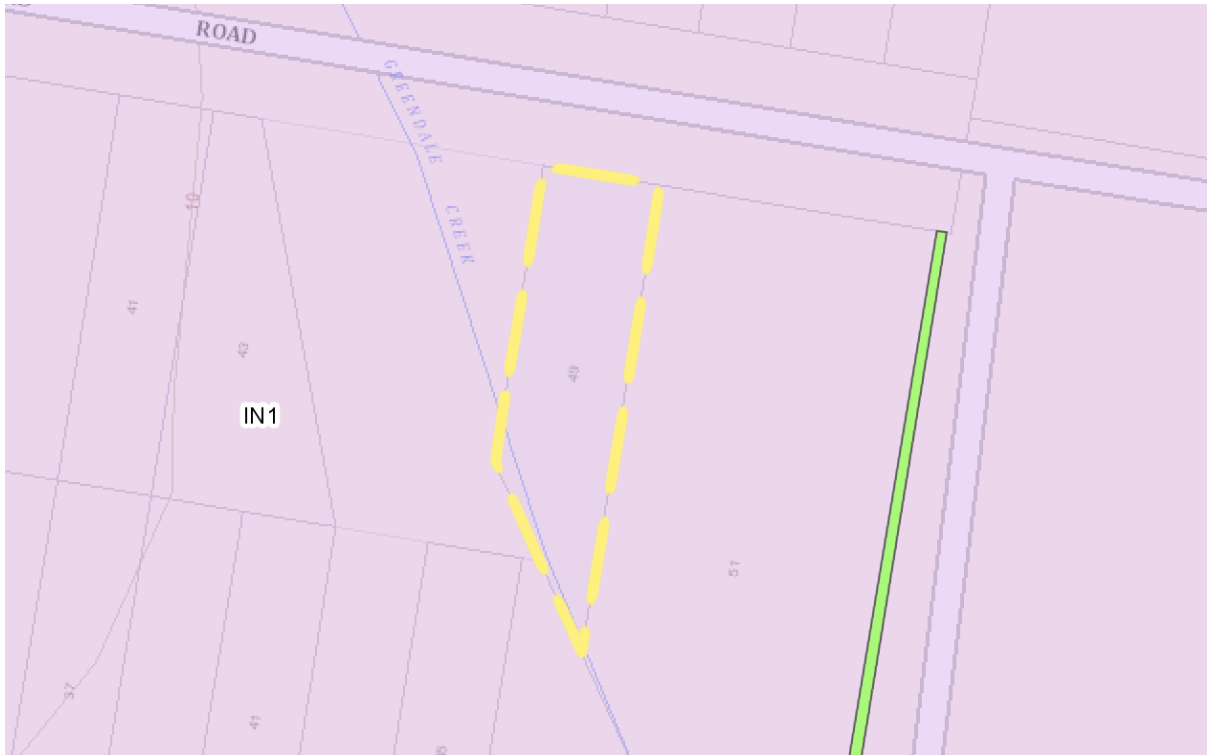


Figure 4 – Land Zoning Map (NSW Planning Portal)

The development is identified to be works associated with an existing *industrial premises*, which is permitted with consent in the IN1 General Industrial zone.

The objectives of the zone are:

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*
- *To enable a range of compatible community and leisure uses.*
- *To maintain the industrial character of the land in landscaped settings.*

The proposed installation of a CO2 cylinder meets the relevant land use zone objectives. The development will not be visible from the public domain, being entirely concealed from view by the existing building at the front of the site. The new cylinder will complement the existing two, allowing the existing successful and safe operations of the site and business to reasonably increase their storage capacity and meet the demand for product.

The proposal protects the industrial and employment-generating nature of the site and business. No landscaping is impacted, as the cylinder will sit upon an already paved area. The proposal will not prevent other sites from hosting land uses that provide facilities or services to meet the day to day needs of workers in the area.

Clause 4.3 Height of buildings

The LEP Height of Building Map stipulates that the maximum building height permitted for the site is 11 metres. The proposed height of the development is less than 11 metres, measuring 10.1 metres to align with the scale of the other two existing cylinders.

Clause 5.10 Heritage Conservation

The site is not identified as a Heritage Item, nor is it located within a Heritage Conservation Area (HCA). It is also not considered to be located within the close vicinity of any Item or HCA, or as a contributory item.

Clause 6.1 Acid sulphate soils

The Acid Sulphate Soils Map stipulates that the site is Class 4 and 5. The proposed works will not be below 5 metres Australian Height Datum, and are unlikely to lower the water table below 1 metre Australian Height Datum on adjacent Class 1,2,3 or 4 land.

Clause 6.2 Earthworks

The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.

The proposal is considered to be consistent with the requirements of this clause as the development is not expected to disrupt or have a detrimental effect on the drainage patterns and soil stability of the locality. Nor is it likely to disturb relics and have an adverse impact on any waterway, drinking water catchment or environmentally sensitive area. This is due to the minor extent of cut and fill included within the proposal, which will not drastically alter the existing terrain and environmental functions and processes.

Clause 6.4 Development on Sloping Land

This clause applies to sites identified on the WLEP Landslip Risk Map and requires that:

- The application for development has been assessed for the risk associated with landslides in relation to both property and life; and
- The development will not cause significant detrimental impacts because of stormwater discharge from the development site; and
- The development will not impact on or affect the existing subsurface flow conditions.

The subject site is located in *Area A – Slope <5* on the WLEP Landslip Risk Map. Due to the reasonable scale of works on a relatively flat and already paved portion of land, the proposal is considered to satisfy the aforementioned requirements and should not require the submission of any geotechnical assessment. Part E10 of the WDCP 2011 agrees that an assessment is not required for every property marked as *Area A*.

Clause 5.21 Flood planning

This clause applies to flood prone land and states that:

- (2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—*
- (a) is compatible with the flood function and behaviour on the land, and*
 - (b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and*
 - (c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and*
 - (d) incorporates appropriate measures to manage risk to life in the event of a flood, and*
 - (e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.*

The proposal is considered to meet the requirements of this clause as the new cylinder is located upon stilt-like “legs”, which will allow water to flow beneath it. Further, no reduction in landscaping is proposed. The proposal does not introduce sensitive residential uses to the site, nor obstruct any evacuation routes or key accessways.

5.1.4 Warringah Development Control Plan 2011

The development achieves a high level of compliance with the provisions of Warringah Development Control Plan 2011.

Table 5: DCP Compliance

Control	Comment	Compliance
PART B – BUILT FORM CONTROLS		
B2 Number of Storeys		
1	The DCP Map Number of Storeys does not stipulate a maximum for this site.	N/A
B3 Side Boundary Envelope		
1	The DCP Map Side Boundary Envelope does not stipulate a maximum site coverage for this site.	N/A
B4 Site Coverage		
1	The DCP Map Site Coverage does not stipulate a maximum site coverage for this site.	N/A
B5 Side Boundary Setbacks		
1	The DCP Map Side Boundary Setbacks identifies a merit assessment necessary to determine the suitable side setback.	The new cylinder exhibits side setbacks in line with the other two existing cylinders. This provides Yes

Control		Comment	Compliance
		visual consistency and symmetry, reduces clutter, and ensures that adequate distancing between neighbouring properties is achieved.	
B7 Front Boundary Setbacks			
1	Minimum front setback of 4.5m.	No changes to the existing front setback are proposed.	N/A
B9 Rear Boundary Setbacks			
1	The DCP Map Rear Boundary Setbacks identifies a merit assessment necessary to determine the suitable rear setback.	The new cylinder exhibits a generous rear setback which ensures that adequate distancing between neighbouring properties is achieved.	Yes

Control		Comment	Compliance
PART E – THE NATURAL ENVIRONMENT			
E10 Landslip Risk			
1	<p>The applicant must demonstrate that:</p> <ul style="list-style-type: none"> • The proposed development is justified in terms of geotechnical stability; and • The proposed development will be carried out in accordance with good engineering practice. <p>For land identified as being in Area A: Council may decide that a preliminary assessment of site conditions is required.</p>	<p>The reasonable works on a relatively flat site are not considered to threaten the geotechnical stability of the site and will not produce any increase in landslide risk.</p> <p>If Council requests a preliminary assessment, the applicant can provide one.</p>	Yes
E11 Flood Prone Land			
1	Development on flood prone land requires the preparation of a Flood Management Report by a suitably qualified professional.	The proposal is not considered to require the submission of a FMR as the risk to loss of life and risk of increasing the frequency or severity of a flood event is mitigated by the proposal due to the location of the new cylinder away from any accessways or evacuation routes, and the raised nature of the cylinder on an already paved area.	Acceptable upon merit

5.1.5 Contribution Plans – 7.11 and 7.12

Council officers may choose to impose contributions in accordance with adopted contribution policies.

5.2 Impacts of the Development

As noted in the above assessment against the provisions of the relevant Environmental Planning Instruments and Development Control Plan, the development is of a minor scale and nature, and does not present unreasonable environmental, social and economic impacts.

5.2.1 Natural and Built Environment Impacts

The development does not impact upon native vegetation, soil conditions, foreshore environment or air quality.

The proposed built form allows the neighbouring sites to retain their access to privacy, solar access, pleasant outlook and overall amenity. The location of all proposed works to the rear ensures that the aesthetic quality of the streetscape is preserved as is.

5.2.2 Social and Economic Impacts

The development will not have any noticeable social impact, as the existing land use will remain the same and changes to the character of the surrounding area will not be caused.

The short term economic impacts are positive, with the generation of employment opportunity through the physical construction stages. The use of high quality materials will ensure a durable final built outcome, reducing the need to rebuild in the near future, resulting in a positive long term financial and sustainability outcome.

The long term economic impacts are also positive, allowing the business to meet demand for greater storage.

5.3 Suitability of the Site

The subject site is considered suitable in size and shape to accommodate the development. The proposal does not introduce any incompatible uses to the site. The works are permissible under the IN1 General Industrial zone.

5.3.1 Access to Services

The site is located within an established industrial area with excellent access to services and public transport. As the site is within an established urban area, electricity, sewer, telephone, and water services are readily available to the subject site.

5.3.2 Parking and Access

The proposal does not impact on the availability of or existing provision of parking.

5.3.3 Hazards

The site is in an area recognised by Council as being subject to landslip and flood. The proposed development is not likely to increase the likelihood of such hazards occurring and is considered appropriate in this instance.

5.3.4 Stormwater Management

The proposal is suitable on stormwater management grounds. The development seeks to utilise the existing stormwater system in place currently on site, which is considered to be capable of accommodating the additional stormwater captured by built works under the proposal. The new works do not increase the impervious surface of the site, as the cylinder is located upon already paved space.

5.3.5 Waste Management

The proposal will not alter the existing ongoing waste management operation on site. Waste storage and collection will not change.

5.4 The Public Interest

The proposal is considered to be in the public interest as it produces nominal environmental, social and economic impacts. Furthermore, it improves the storage capacity of the site with the additional CO2 cylinder without altering the character of the wider area or preventing neighbouring sites from operating successfully.

The proposed development has been designed to relate to the size, shape and context of the site and has been designed in accordance with the desired future character for development in the area.

The proposal seeks to provide an industrial development that makes efficient use of space on the site in a prime location that is in high demand for such a service. In addition, the proposal has been designed to minimise as far as practical any adverse effects on existing and future neighbouring properties. The proposal is consistent with the applicable LEP and DCP provisions except where identified and justified in this Environmental Impact Statement. Accordingly, the proposed development is considered to be in the public interest.

6.0 CONCLUSION

The Environmental Impact Statement (SEE) has been prepared to consider the environmental, social and economic impacts of the new CO2 cylinder at 49 Chard Road, Brookvale. The report has addressed the applicable policies and plans, and has provided an environmental assessment in accordance with Section 4.15 of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2021.

The application proposes a permissible development within the subject site locality. The proposal incorporates appropriate design considerations to minimise any adverse impacts on the natural and built environment, and the amenity of the surrounding neighbourhood.

With regard to the requirements under the Environmental Planning and Assessment Regulation 2021, the benefits of the development and compliance with the relevant policies and plans, we conclude that the proposed development at 49 Chard Road, Brookvale as described in this application is reasonable and supportable, and worthy of approval by Northern Beaches Council.

7.0 APPENDIX A – CONSULTATION LETTERS

See over page.



ABN: 33 122 390 023
Suite 106, Level 1, 35 Spring Street, Bondi Junction, 2022
PO Box 1749 Bondi Junction NSW 1355
Ph: 0419 438 956
Email: info@coronaprojects.com.au

12th December 2022

Department of Planning and Environment – Water
Locked Bag 5022
Parramatta NSW 2124

Re: Preparation of an Environmental Impact Statement (EIS) for the Proposed Integrated Development at 49 Chard Road, Brookvale.

Dear Property Owner,

Corona Projects are assisting our clients at 49 Chard Road, Brookvale with the preparation of an Environmental Impact Statement to accompany a Development Application for the;

'Addition of a 3rd chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas.'

As part of the Planning Secretary's Environmental Assessment Requirements (SEARS), the provided EIS is required to consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular the EIS is to consult with the surrounding landowners and occupiers that are likely to be impacted by the proposal.

As the owner of the property adjacent to the subject site, your input and feedback, if any, regarding the proposed development is sought. See attached to this letter the statement of environmental effects and architectural plans submitted with the Development Application detailing the subject works. Note, that the proposed storage cylinder is identical to the two existing storage cylinders on site. Accordingly, the impact of this new cylinder, or lack thereof, is anticipated to remain consistent.



ABN: 33 122 390 023
 Suite 106, Level 1, 35 Spring Street, Bondi Junction, 2022
 PO Box 1749 Bondi Junction NSW 1355
 Ph: 0419 438 956
 Email: info@coronaprojects.com.au

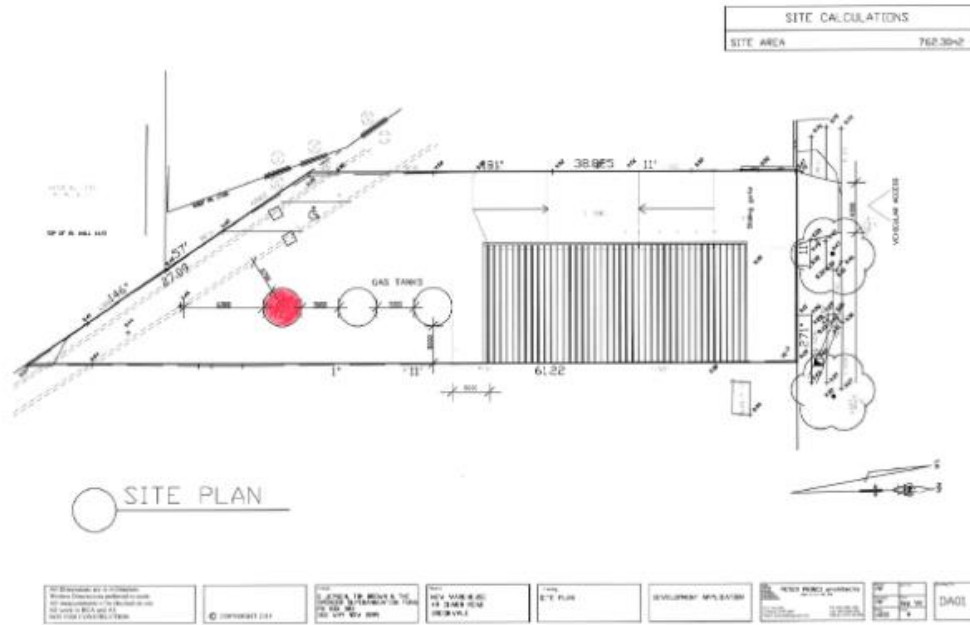


Figure 1: Site Plan (Peter Princi Architects, 2022)

Should you have any concerns regarding the proposed development, please direct all correspondence to team@coronaprojects.com.au. Should you have no questions or concerns, no action is required from you. Any concerns identified will be addressed in the submitted EIS to be submitted to Northern Beaches Council.

Kind Regards,

Matt Fortunato,
 Town Planner
 Corona Projects



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Suite 106, Level 1, 35 Spring Street, Bondi Junction, 2022
PO Box 1749 Bondi Junction NSW 1355
Ph: 0419 438 956
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12th December 2022

Department of Planning and Environment – Water
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Parramatta NSW 2124

Re: Preparation of an Environmental Impact Statement (EIS) for the Proposed Integrated Development at 49 Chard Road, Brookvale.

Dear Sir / Madam,

Corona Projects are assisting our clients at 49 Chard Road, Brookvale with the preparation of an Environmental Impact Statement to accompany a Development Application for the;

'Addition of a 3rd chemical storage cylinder to store up to 13 tonnes of pressurised gaseous or liquefied carbon dioxide at an existing facility that captures, stores, and distributes carbon dioxide gas.'

As part of the Planning Secretary's Environmental Assessment Requirements (SEARS), the provided EIS is required to consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular the EIS is to consult with the Department of Planning and Environment, specifically the Water Group.

Accordingly, the Water Group's input and feedback, if any, regarding the proposed development is sought. See attached to this letter the statement of environmental effects and architectural plans submitted with the Development Application detailing the subject works. Note, that the proposed storage cylinder is identical to the two existing storage cylinders on site. Accordingly, the impact of this new cylinder, or lack thereof, is anticipated to remain consistent.



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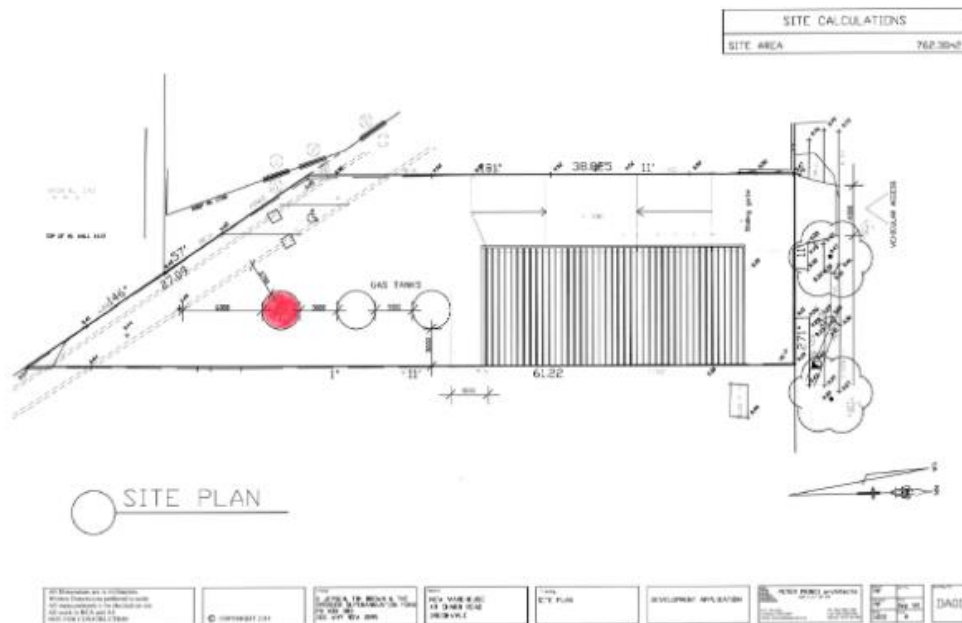


Figure 1: Site Plan (Peter Princi Architects, 2022)

Should the Water Group have any concerns regarding the proposed development, please direct all correspondence to team@coronaprojects.com.au. Should no questions or concerns arise, no action is required. Any concerns identified will be addressed in the submitted EIS to be submitted to Northern Beaches Council.

Kind Regards,

Matt Fortunato,
 Town Planner
 Corona Projects

8.0 APPENDIX B – AUTHOR DECLARATION

In accordance with section 190 of the Environmental Planning and Assessment Regulations 2021, I certify that the contents of the Environmental Impact Statement to the best of my knowledge,

- this statement has been prepared in accordance with this Regulation, and
- this statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure, and
- the information contained in this statement is not false or misleading,

Kind regards,



Emma Rogerson

Master of Urbanism (Urban and Regional Planning) (USYD)

Bachelor of Architecture and Environments (USYD)

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