

# Shipping Container Storage

## Planning Practice Note 24

March 2022

International trade is growing and with it, the proportion of containerised goods. The demand for land on which to store shipping containers continues to grow with these trends.

Containerised trade and facilities that support this trade are critical to Victoria's economy. Shipping container storage and other facilities that handle shipping containers can have significant transport and environmental impacts where they adjoin sensitive uses or use transport routes in or near sensitive areas.

This practice note provides advice on:

- the location, use, design and operation of shipping container storage
- the information that should accompany a planning permit application for shipping container storage
- planning permit conditions for shipping container storage.

The advice in this practice note can inform planning decisions about shipping container storage as well as other land uses that involve shipping container handling, such as a transport terminal.

### What is a shipping container?

Shipping containers are large, usually rectangular-shaped, units that are used or are capable of being used to carry goods for transport by sea, road, rail or air. Shipping containers used in international trade are of standard sizes and dimensions to facilitate their easy transfer from one transport mode to another. The most common shipping container transported by sea, road or rail is either 6.1 or 12.2 metres (20 or 40 feet) long by 2.4 metres (8 feet) wide and 2.6 metres (8 feet 6 inches) high.

The industry commonly refers to a shipping container as either a TEU (if it is 20 feet long) or a 2TEU (if it is 40 feet long). TEU means Twenty Foot Equivalent Unit.



## What is shipping container storage?

'Shipping container storage' is a land use term in clause 73.03 of all Victorian planning schemes, which is defined as 'Land used to store shipping containers. It may include the cleaning, repair, servicing, painting or fumigation of the shipping containers'. The shipping containers may be empty or full.

The storage of shipping containers on a site does not necessarily mean that the land is being used for shipping container storage. The storage of shipping containers may be ancillary or incidental to another use of the land.

In deciding whether a proposal is defined as shipping container storage, it is important to establish the primary purpose for which the land is to be used. If the primary purpose of the use is to store shipping containers, the definition of shipping container storage applies. However, if the land is to be used primarily for some other purpose, such as to assemble or distribute containerised goods or to manufacture goods made from parts stored in shipping containers on the land, another definition in the planning scheme may apply (such as the definition for transport terminal or industry).

If the land is to be used for more than one purpose (for example, to store shipping containers and to assemble and distribute goods), and one use will not be more dominant than the other, it is possible that more than one land use term may apply. The use and development controls applying to each land use term must be met.

## What planning scheme provisions apply to shipping container storage?

The planning scheme provisions that apply to shipping container storage include:

- State planning policies for industry and ports in clauses 17.03, 18.02-5 and 18.02-6 of the Planning Policy Framework (PPF)
- Zone provisions
- Clause 53.07 (Shipping Container Storage)

Relevant provisions may also be included in the Municipal Planning Strategy (MPS) and local planning policies of the PPF.

### MPS

The MPS sets out the vision for the future development of the municipality; and may include strategic directions for industry and business that are relevant to a shipping container storage proposal.

### PPF

The PPF provides the broad policy framework for use and development in planning schemes. It includes state planning policies (both statewide and regional) and local planning policies (LPP).

The responsible authority (usually the council) must take into account and give effect to PPF policies when planning for shipping container storage.

### Zones

The wide discretion available in planning schemes means that a proposal for shipping container storage can be considered in many zones including in the Port Zone (PZ) and in general industrial areas or areas where a mixture of manufacturing industry and associated commercial or industrial uses are encouraged. These are the Industrial 1 Zone (IN1Z), Industrial 2 Zone (IN2Z), Industrial 3 Zone (IN3Z) and the Commercial 2 Zone (C2Z, sometimes shown on the planning scheme map as B3Z or B4Z).



## Land use

There are two types of zones where shipping container storage may be established or expanded:

- 1. Zones where a planning permit is not required** to use land for shipping container storage if a proposal meets certain conditions. The PZ and IN1Z fall into this category.

The conditions that must be met are set out in Section 1 of the Table of Uses in the zone.

If one or more of these conditions cannot be met, the use is a Section 2 use and requires a permit. The conditions seek to support shipping container storage by:

- facilitating adequate separation from sensitive uses, so uses such as dwellings, hospitals and schools are not affected by adverse environmental effects, nuisances or hazards
- encouraging the use on land that has access to the major road network
- ensuring that the height and setbacks of shipping container stacks on sites adjoining highly visible major roads:
  - are in keeping with the scale of development expected in the zone
  - provide sufficient space for an effective landscape treatment.
- ensuring that where the use may create adverse amenity impacts, a permit is required in order to assess the nature of those impacts.

If a permit is not required, the applicant should demonstrate to the council's satisfaction that the proposal meets the zone requirements before a business is established or expanded on the land.

- 2. Zones where a planning permit is required** to use land for shipping container storage. These include the C2Z (B3Z, B4Z), IN2Z and IN3Z.

## Buildings and works

In industrial and commercial zones, and the Port Zone, a permit is required to construct a building or construct or carry out works. Shipping containers as well as some minor works and plant rearrangements are exempt from a permit in the Port Zone. See the zone provisions and clause 62.02 for details.

A stack of shipping containers is not a 'building' as defined in the *Planning and Environment Act 1987* (the Act). Therefore, unless a new building is proposed to be constructed on the site or an existing building is proposed to be extended, a requirement for a permit to construct a building would not apply. However, a permit may be required to construct or carry out works associated with shipping container storage. This includes levelling works or cut and fill that change the topography of the land.

### Clause 53.07

Clause 53.07 contains decision guidelines that highlight the key planning considerations about the location, use, design and operation of shipping container storage, including:

- suitability of the site for shipping container storage
- effect on the amenity and character of the neighbourhood
- whether the site layout is designed to avoid or reduce significant off-site effects
- need for landscaping to screen or soften the appearance of the site
- adequacy of traffic management measures.

An applicant should supply sufficient information to enable a responsible authority to consider these matters.

Clause 53.07 does not apply to land that is in a Port Zone or Special Use Zone that has been established for port and port-related activities. Special provisions apply to these areas, as set out in the zone or its schedule.

### Other provisions

The land may also be affected by other provisions in the planning scheme, such as an overlay. The council can advise which planning scheme provisions apply.



## Relevant planning considerations

### Location

Shipping containers used in international trade are unloaded at ports and moved through a series of steps in the transport chain for unpacking, cleaning, repair, servicing, storage, repacking and export. These activities can occur at dispersed sites and tend to generate high volumes and frequency of truck traffic.

The impacts of truck traffic on surrounding land uses may include:

- reduced traffic safety (due to conflicts between different types of traffic)
- noise from vehicles
- vehicular air pollution, particularly from older trucks
- vibrations due to moving or idling trucks or poorly secured vehicle loads
- road congestion due to trucks queuing on roads.

The severity of these impacts varies according to the sensitivity of the location, the volume and speed of vehicles, the type and standard of road surface and the time of day.

To avoid or minimise these impacts, a proposal for shipping container storage should be located to:

- have safe and convenient access to freeways or major roads that are designed to carry truck traffic or otherwise local roads that principally serve industrial areas
- ideally have access to rail services. Shipping containers that are transported by rail can significantly reduce the amount of truck traffic on the road network
- avoid truck traffic through residential areas and other areas where sensitive uses (such as schools) are located
- avoid congestion along roads and at road intersections.

Roads to the site should be of adequate dimensions and constructed to an appropriate standard to accommodate the type and volume of vehicle movements that will be generated by the proposal.

Land uses surrounding the site should be compatible industrial uses or other uses that will not be adversely affected by shipping container handling operations. Sites adjoining or near residential or other sensitive uses should be avoided.

### Site size

The site should be of an adequate size and dimensions to accommodate the proposed activities and any measures needed to avoid or minimise off-site impacts. A site should have capacity to:

- accommodate the expected maximum volume of shipping containers
- accommodate on-site access, queuing, setbacks, waste storage and work areas
- respond to the site layout and other considerations below.

### Site layout

The layout of the site should provide for safe and efficient vehicle manoeuvring, access and egress. All vehicles should be able to enter and exit the site in a forward direction.

Before a shipping container is unloaded or stored on the site, its details are recorded. This is usually the first stopping point for trucks entering the site. The office or 'gatehouse' where these details are recorded, and internal vehicle access lanes, should be located to maximise truck queuing on-site. The amount of truck-queuing space provided on-site should take into account the:

- maximum hourly rate of truck movements into and out of the site
- timing of peak delivery periods
- function, capacity and safety of roads to the site (particularly during peak periods).

Parking and queuing areas for trucks should be clearly defined and separated from car parking spaces.

Shipping container storage and outdoor waste storage and work areas should be set back from road boundaries and screened to avoid or minimise any adverse impacts on the streetscape and adjoining sensitive uses. This screening may be by buildings, landscaping or fencing.

Lighting should be carefully located and baffled to ensure that all public areas are well-lit at night without causing a nuisance to surrounding land uses.

Landscaping should be provided along road boundaries and be of a sufficient width to screen storage, waste and work areas from view.



## Buildings

The scale and height of new buildings should have regard to the scale and height of nearby buildings.

Buildings and car parking areas should be designed to address the street and minimise the use of the front part of the site for storage.

## Shipping container stacks

The scale and height of shipping container stacks should have regard to the scale and height of nearby buildings.

Shipping container stacks should be located at the rear of the site where possible, unless the rear of the site abuts a sensitive use.

Shipping containers stacked adjacent to landscaped areas or along property boundaries should be stacked in a tiered / pyramid formation to reduce their visual bulk.

The risk of falling shipping containers is a workplace safety issue that an applicant should consider when planning the height and layout of shipping container stacks and vehicle access arrangements. Potential causes of falling shipping containers include high wind speeds, ground surface subsidence, vibrations caused by vehicle movements and inadequate spacing between stacks for forklift operations. Suggested techniques for reducing the risk include:

- aligning the longitudinal axis of shipping containers with the predominant wind direction
- providing separation distances between shipping container stacks and vehicle access lanes, residential properties, on-site offices, amenities and work areas, and work areas on adjoining sites. The required separation distance will vary depending on the height of the stack
- stacking shipping containers in a tiered / pyramid formation where practicable
- providing sufficient space between stacks for forklifts, mobile cranes and other vehicles to manoeuvre safely
- ensuring that shipping container stacking areas are level, well-compacted and durable.

## Landscaping and fencing

The type of landscaping provided should have regard to the streetscape character, the size of the site, the height and scale of buildings on or near the site, and the conditions required for the planting to achieve optimum and healthy growth.

Landscape areas used to screen or soften the appearance of shipping container stacks or waste storage areas should be of sufficient dimensions to accommodate effective screen planting, such as combinations of dense shrubs and high branching taller trees.

Narrow landscape areas that are difficult to maintain should be avoided.

Perimeter fencing should be integrated into the landscape design for the site.

Buildings and car parking areas should be designed to minimise fencing on front boundaries. If front boundary fencing cannot be avoided, the fencing should complement the streetscape character.

## Emissions and waste

### Air

Airborne particles and fumes from activities such as shipping container cleaning, fumigation, repair and painting should be contained onsite and away from sensitive uses.

### Noise

Trucks, the use of mechanical equipment, the cleaning, repair and servicing of shipping containers and the loading and unloading of shipping containers can create noise.

Measures for reducing noise impacts should be employed, including locating noise-producing activities and refrigerated shipping containers well within the site and sound-baffling noisy equipment.

The *Environment Protection Regulations 2021* establishes noise limits for commercial, industrial and trade premises and requires noise assessments for the purpose of verifying compliance with the noise limits. The assessments are to be conducted in accordance with publication 1826.4: *Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* (Environment Protection Authority, July 2021).

### Dust and dirt

Areas used for truck and car vehicle movements and parking (such as access and queuing lanes) should be formed and constructed of concrete or some other durable material.



Crossovers should be constructed of concrete and wheel-wash equipment or wheel grates provided to reduce the transfer of dust and soil onto roads.

To minimise the creation of dust and mud, areas used to stack shipping containers should be constructed of an all-weather surface to withstand shipping container loads and lifting equipment. The site should also provide for on-site stormwater infiltration and water sensitive urban design within the site.

### **Waste**

Any industrial waste storage and handling must meet the requirements set out in the *Environment Protection Regulations 2021*. Information about measures to minimise the impact of these activities can be found online via the Environment Protection Authority (EPA) waste page: [www.epa.vic.gov.au/for-business/waste](http://www.epa.vic.gov.au/for-business/waste) and in the following publications:

- 1698: *Liquid Storage and Handling Guidelines* (EPA, June 2018)
- 1730: *Solid Storage and Handling Guidelines* (EPA, July 2019)
- 1667.3: *Management and Storage of Combustible Recyclable and Waste Materials* (EPA, July 2021)

### **Wastewater**

If shipping containers or vehicles are proposed to be washed on-site, an on-site wash bay constructed of concrete, or some other impervious and durable material, should be provided. Waste from wash bays must be filtered and drain into a public sewer via a settlement and oil separation system. The system must comply with the *Environment Protection Act 2017* and be installed to the satisfaction of the responsible authority.

Shipping containers and vehicles should be washed only in the wash bays.

### **Chemicals**

Any chemicals proposed to be used or stored on the site should be used and stored safely in accordance with the *Dangerous Goods Act 1985*.

## **Preparing a planning permit application for shipping container storage**

Delays in the planning permit application process can be avoided if accurate and clear information about the proposal is provided. The information

helps council to understand what is proposed and provide accurate advice about whether a permit is required, what a permit is required for and the planning scheme provisions that apply.

The application may need to include some or all of the following information. This will depend on the nature of the proposal and what the permit is required for. To check what information should be provided, talk to a planner at the council.

### **Location plan**

The location plan should be to a scale not less than 1:500 and show:

- the full site area
- the boundaries and dimensions of the site
- adjoining roads
- rail access, if relevant
- surrounding land uses
- distance from sensitive uses, such as housing.

### **Development plans**

The plans for the development should comprise:

- detailed plans at a scale of 1:100, 1:200 or 1:250 showing:
  - relevant ground levels
  - the layout of existing and proposed buildings and works
  - proposed landscape areas
  - crossovers, driveways and vehicle parking, truck queuing and loading areas
  - shipping container storage areas and proposed stack heights
  - any repair and servicing areas
  - any wash bays and waste treatment areas
  - goods delivery and waste storage areas
- elevation drawings, especially for buildings, shipping container stacks and fencing visible from public roads and nearby sensitive uses
- details of building materials, colours and finishes
- a landscape layout that shows the vegetation to be planted and any stormwater management and treatment infrastructure, paving and site works



- construction details of all drainage works, driveways, vehicle parking, goods delivery, truck queuing and loading areas
- location and design of lighting.

The plans should be drawn to scale, be of a reasonable drafting standard and include a north point and relevant dimensions.

### A short report

The report should provide:

- a general description of the proposal, including:
  - a description of the type and quantity of shipping containers to be stored
  - the expected volume and type of vehicle movements to and from the site per day
  - the routes (over an agreed distance) proposed or likely to be used by trucks to and from the site
  - the hours of operation
- an explanation of how any land not required for immediate use is to be maintained
- the landscape response, including the proposed method of preparing, watering and maintaining the landscape area
- an explanation of why the site is suitable for the use:
  - how the proposal supports the PPF (including any relevant industrial development LPP)
  - the capacity and suitability of the surrounding road network to accommodate the type and volume of traffic to be generated by the proposal
  - the capacity and suitability of the site to accommodate the intended use (including the maximum number of shipping containers that can be stored and processed on-site) and contain significant off-site impacts
  - likely environmental and amenity effects on the neighbourhood
  - how the proposal has been designed to avoid or minimise any adverse off-site impacts (for example, due to noise, fumes, dust, light, stormwater run-off, vibration or appearance)
  - how the proposal responds to the purpose and decision guidelines of the zone and clause 53.07 and any overlays.

### Planning permit conditions

If the responsible authority decides to grant a permit to use or develop land for shipping container storage, it may include specific conditions on the permit. The conditions must be reasonable, relate to the planning permission being granted, fulfil a planning purpose and be in plain English.

The chapter on planning permits in the *Using Victoria's Planning System* manual provides more information about drafting planning permit conditions.

Matters relevant to shipping container storage that the council may seek to address in planning permit conditions include:

#### Use

- location and heights of shipping container stacks
- maximum volume of shipping containers to be stored
- noise emissions
- dust emissions
- waste disposal
- repairs and servicing
- hours of operation.

#### Development

- site layout
- building design
- landscape provision and maintenance
- drainage and associated stormwater infrastructure
- construction details
- surface treatment
- vehicle access arrangements
- lighting.



© The State of Victoria Department of Environment, Land, Water and Planning March 2022



This work is licensed under a Creative Commons Attribution 4.0 International licence. You are free to re-use the work under that licence, on the condition that you credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, the Victorian Government logo and the Department of Environment, Land, Water and Planning (DELWP) logo.

To view a copy of this licence, visit [creativecommons.org/licenses/by/4.0/](https://creativecommons.org/licenses/by/4.0/)

First published 2003, revised October 2015, March 2022

ISBN 978-1-74146-709-3 (pdf)

#### Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

#### Accessibility

If you would like to receive this publication in an alternative format, please telephone DELWP Customer Service Centre 136 186, email [planning.systems@delwp.vic.gov.au](mailto:planning.systems@delwp.vic.gov.au),

via the National Relay Service on 133 677 [www.relayservice.com.au](http://www.relayservice.com.au).

This document is also available in accessible Word format at [www.planning.vic.gov.au](http://www.planning.vic.gov.au)