



# Build Over Consent Guidelines

November, 2016

# 1. Table of Contents

1. Table of Contents.....	i
2. Table of figures .....	ii
3. Definitions .....	3
4. Introduction.....	5
5. Impact of Section 148 – the <i>Water Act 1989</i> .....	6
6. Build Over Consent Policy .....	7
6.1 Policy statement.....	7
6.2 Policy details.....	7
7. What is a Build Over?.....	8
8. What is Build Over Consent? .....	8
8.1 Asset access, repair and replacement .....	8
8.2 Release and indemnity .....	8
8.3 Successors in title.....	8
9. Obtaining Build Over Consent.....	9
10. What happens after submission of a Build Over application?.....	10
11. Unapproved Build Over .....	11
12. Non-negotiables .....	11
13. Additional Information.....	12
14. Build Over guidelines.....	13
14.1 Residential structures.....	13
14.2 Dependent person’s unit.....	18
14.3 Commercial structures (including industrial, commercial, public and sporting buildings).....	20
14.4 Garages, sheds and carports (including pergolas, verandas, gazebos, sails and decking).....	24
14.5 Swimming pools, spas and saunas .....	29
14.6 Water tanks .....	32
14.7 Tennis courts, lawn bowling greens and all open surfaces.....	35
14.8 Posts, pool fences and wire fences.....	38
14.9 Masonry walls and fences with load bearing strips, masts and antennas .....	40
14.10 Commercial driveways and paving .....	43
14.11 Excavations and landfills .....	45
14.12 Eaves balconies and over hangings .....	48
14.13 Ground anchors .....	51
14.14 Utilities: Gas, electricity, telecommunications and property drains .....	54

## 2. Table of figures

Figure 1: Build Over Consent process .....	10
Figure 2: Footing requirements for residential property adjacent to a gravity sewer.....	15
Figure 3: Cantilevered habitable structure.....	16
Figure 4: Control zone of manholes, maintenance shafts and end of lines .....	17
Figure 5: Free standing vent shaft .....	17
Figure 6: Dependent Person Unit (DPU) traversing and adjacent to gravity sewer .....	19
Figure 7: Footing requirements for commercial property above gravity sewer .....	22
Figure 8: Footing requirements for commercial property adjacent gravity sewer .....	23
Figure 9: Shed: Demountable light weight structure.....	26
Figure 10: Decking over sewer .....	27
Figure 11: Garage over gravity sewer supporting a habitable structure .....	27
Figure 12: Garage with height clearance less than 2.7 m and over gravity sewer .....	28
Figure 13: Garage adjacent gravity sewer .....	28
Figure 14: Swimming pools: Clearance for above and below ground pools.....	31
Figure 15: Water tank: Above and below ground tank .....	34
Figure 16: Open space structure over sewer deeper than 3.0 metres .....	37
Figure 17: Wire fence/post .....	39
Figure 18: Masonry walls and fences with load bearing strips .....	42
Figure 19: Driveway over sewer .....	44
Figure 20: Excavation and landfill: Cut and Fill .....	47
Figure 21: Eaves height clearance (gravity sewers less than 3.0 m deep).....	50
Figure 22: Balconies and over hangings over sewers greater than 3.0 metres deep .....	50
Figure 23: Ground anchors.....	53
Figure 24: Utilities crossing sewers .....	55

### 3. Definitions

Access	Unrestricted 24 hour access to parts of a property where a Barwon Water asset is located.
Authorised Officer/ Build Over Officer	A person delegated with the responsibility to grant build over approvals in accordance with the Build Over Consent Policy and guidelines.
Authorised personnel	Personnel authorised by Barwon Water to access surface assets.
Angle of repose	The steepest angle at which a sloping surface formed of loose material is stable (generally an angle of 45 degrees taken from the invert level of the pipe).
Barwon Water asset	Any fixed asset or infrastructure that Barwon Water owns or has a responsibility to maintain and operate.
Build Over Consent	Barwon Water consent issued pursuant to Section 148 of the <i>Water Act 1989</i> for work within a control zone (that is affecting a Barwon Water asset or in a Barwon Water easement).
Cantilever	Structure or beam extended from a wall or foundation to independently support a structure above it.
CCTV	Closed-circuit television used to undertake a condition assessment of Barwon Water assets.
Control zone	An area where works are prohibited without Build Over Consent, including: <ul style="list-style-type: none"> <li>• a Barwon Water controlled easement; or</li> <li>• the area within 1.0 metre from the centre of a gravity sewer 225 mm in diameter or less; or</li> <li>• the area within 1.0 metre from the outside edge of all other Barwon Water assets.</li> </ul>
Contaminated soil	Soil that requires special consideration because it has been affected by previous land use or by direct or indirect infiltration of chemicals or other substances.
Easement	An easement recorded on the title to a property for access, pipeline, water supply or sewerage purposes where the beneficiary of such easement is: <ul style="list-style-type: none"> <li>• Barwon Water; or</li> <li>• other private property.</li> </ul>
End of line	Access point located at the end of a sewer.
Fill	Any soil, rock or other matter placed or intended to be placed laterally within 1.0 metre of a Barwon Water asset or on an easement.
Footings/foundation	Ground support structure. Includes pier and beam, strip and screw piles.
Gravity sewer	A pipeline (usually buried) designed to carry wastewater.
Ground anchor	System of tension rods/cables installed during construction used to support structures below ground. e.g. basement walls.
Habitable	Any structure constructed or that can be readily converted to be suitable or fit to live in.
Height clearance	Height of structure above finished ground level required to allow for unobstructed access to a gravity sewer.
Implied easement	A right derived from the existence of an asset that empowers Barwon Water to make use of land of another for certain purposes.
Maintenance shaft	A structure that allows equipment access but not human entry to a sewer.
Manhole	A structure that allows human and equipment access to a sewer.
Pressure sewer system	A complete system where wastewater is conveyed under pressure generated by pumping units located on each property to a sewage treatment facility or other sewerage system.

<b>Property connection sewer</b>	A short sewer connecting the main sewer and the customer sanitary drain. It includes a junction on the main sewer, a property connection fitting, in some cases a vertical riser and sufficient straight pipes to ensure the property connection fitting is within the lot to be serviced.
<b>Relocatable structure</b>	Any structure designed or capable of being removed or relocated.
<b>Sewer mains</b>	A pipeline and related infrastructure used to convey wastewater. This includes a gravity sewer, a sewer rising main and a pressure sewer system.
<b>Sewer rising mains</b>	A pipeline, usually buried, designed to carry wastewater under pressure.
<b>Structure</b>	Any permanent structure or relocatable structure in the nature of building or physical works, including, but not limited to, a residential building, non-residential building, garages, outbuildings, sheds, pergolas, verandas, decking, pools and spas, fencing, retaining walls, driveways and footpaths, tennis courts, posts, footings and water tanks.
<b>Surface assets</b>	Any asset designed to provide human access and/or for maintenance/operational equipment. e.g. a maintenance shaft or manhole.
<b>Unapproved works</b>	The conduct of works (as defined in these guidelines) without Build Over Consent.
<b>Vent shafts</b>	A conduit used for ventilation of the sewerage system.
<b>Wastewater</b>	Sewage, trade waste and/or any other wastewater conveyed through a sewer.
<b>Water main</b>	A pipeline including all fittings designed to transfer potable or recycled water.
<b>Works</b>	Any structure, the placement of any fill or the removal of any soil, rock or other matter that supports, protects or covers any Barwon Water asset within the control zone as defined in these guidelines.

## 4. Introduction

Barwon Water (Barwon Region Water Corporation) is Victoria's largest regional water corporation, providing high quality water and sewerage services to more than 298,000 permanent residents over 8,100 square kilometres.

Our region of responsibility stretches from Little River and the Bellarine Peninsula in the east, to Colac in the west, and from Meredith and Cressy in the north, to Apollo Bay on Victoria's south-west coast.

Barwon Water owns various water and sewerage assets, including pipelines and infrastructure, often located on non-Barwon Water owned or managed property.

Barwon Water operates as a statutory corporation under the *Water Act 1989*. Under this Act, Barwon Water:

- is entitled to own the abovementioned water and sewerage assets, even if they exist on or in other public and private property;
- is required to provide protection to these assets, prohibiting works (unless consent is first obtained) above, below or near to them.

The protection of current and future Barwon Water assets occurs through:

- Section 148 of the Water Act, which prohibits:
  - the placing of a structure or the conduct of works within 1.0 metre on either side (and anywhere above or below a metre either side) of a Barwon Water asset
  - the removal of any soil or other material which supports, protects or covers a Barwon Water asset.
- any structure or works within an easement:
  - in favour of Barwon Water; or
  - in favour of any other land for water supply, sewerage or drainage purposes.

It is an offence under the *Water Act 1989* to place a structure or carry out works above, below or near a Barwon Water asset in contravention of Section 148, unless consent has first been applied for and granted by Barwon Water.

These guidelines provide background and reasons for the need to protect Barwon Water assets. The guidelines explain why consent will only be provided in certain circumstances and upon particular conditions when an application for Build Over Consent is made.

## 5. Impact of Section 148 – the *Water Act 1989*

- Non-compliance with Section 148 of the *Water Act 1989* is an offence which may result in criminal proceedings and direction to remove a structure or repair any damage caused by works.
- Contravention of Section 148 is avoided if Build Over Consent is obtained prior to commencing any works.
- in some circumstances, Build Over Consent can be obtained after a structure is constructed. A property owner may be required to do this if Section 148 is already contravened, however, the provision of Build Over Consent is not guaranteed and the relevant structure may need to be removed or any damage caused by works repaired.
- Section 148 draws a distinction between structures, placement of fill and the removal of any soil, rock or other matter that supports or protects Barwon Water assets.
- It is not necessary for Barwon Water assets to be located within an easement registered in favour of Barwon Water or any other land for the prohibitions in Section 148 to apply.
- The prohibition of easements applies to easements registered on the title of the relevant property, registered in favour of Barwon Water, or, any other easement registered in favour of other land, for water supply, sewerage and drainage purposes.
- It is not necessary for Barwon Water assets to be located inside an easement. The relevant easement may be set aside for future works.
- Barwon Water may refuse consent or grant consent subject to specific terms and conditions for Build Over Consent applications.
- Importantly, Section 148 (5) states terms and conditions of Build Over Consent issued by Barwon Water are binding on the successors in title of the property owner at the time the consent is issued. This means any subsequent purchasers of the particular property are also controlled by the terms of Build Over Consent, even though this is not recorded on the title to the land.
- Finally, a Barwon Water issued Build Over Consent does not require the signature or written agreement of the person or property owner who applied for the consent. Once Build Over Consent is issued and the landowner undertakes relevant works, the terms and conditions of Build Over Consent apply. If Build Over Consent involves a structure which remains on the property, the terms and conditions continue to apply indefinitely, including for future owners.

# 6. Build Over Consent Policy

## 6.1 Policy Statement

Barwon Water is committed to providing a transparent and efficient Build Over Consent process that supports development, whilst ensuring adequate protection to Barwon Water's assets, employees, the community and the environment.

## 6.2 Policy details

In order to comply with the Build Over Consent policy Barwon Water will:

- Require a Build Over Consent application for structures or works to be located within Barwon Water easements or within 1.0 m of a Barwon Water asset.
- Ensure awareness and visibility of this policy, applicable rules and required processes to Barwon Water employees, contractors and customers.
- Grant a Build Over Consent provided Barwon Water determines that no unacceptable risk to its assets, employees, the community and the environment exist.
- Provide appropriate resources to perform their tasks in a timely and effective manner.
- Share an appropriate proportion of the cost for asset protection works.
- Regularly audit the Build Over Consent process, policy and guidelines.



## 7. What is a Build Over?

Any works within a Barwon Water easement or 1.0 metre of a Barwon Water asset is defined as a Build Over (please refer to definition of control zone for further information on offsets). In order for construction to proceed, Build Over Consent from Barwon Water must first be obtained.

## 8. What is Build Over Consent?

Build Over Consent is provided by Barwon Water in order for a person to place a structure or undertake works within a control zone, which is:

- a Barwon Water controlled easement; or
- within 1.0 metre from the centre of a gravity main 225 mm in diameter or less; or
- within 1.0 metre from the outside edge of all other Barwon Water assets.

Works outside the areas described above **do not** require Build Over Consent from Barwon Water.

### 8.1 Asset access, repair and replacement

If Build Over Consent has been issued and it is necessary for Barwon Water to carry out work on their assets:

- Barwon Water will use appropriate care, but it may be necessary for the works (including any structure) to be cut, removed or partially demolished; and
- Barwon Water has no obligation to repair, replace or reinstate any structure impacted by Barwon Water access for the purpose of repair or replacement of an asset.

### 8.2 Release and indemnity

The owner of the land accepts that no legal action will be taken nor any claim made against Barwon Water in respect of the actions made by Barwon Water to obtain access and/or undertake work on Barwon Water assets impacted by a Build Over Consent.

If a third party claim is made against Barwon Water in relation to Barwon Water assets and the presence of Build Over Consent, the owner of the land would indemnify Barwon Water in relation to such a claim.

### 8.3 Successors in title

Build Over Consent recognises the operation of Section 148 (5) of the *Water Act 1989* where future owners of a property are bound by the terms and conditions of Build Over Consent.

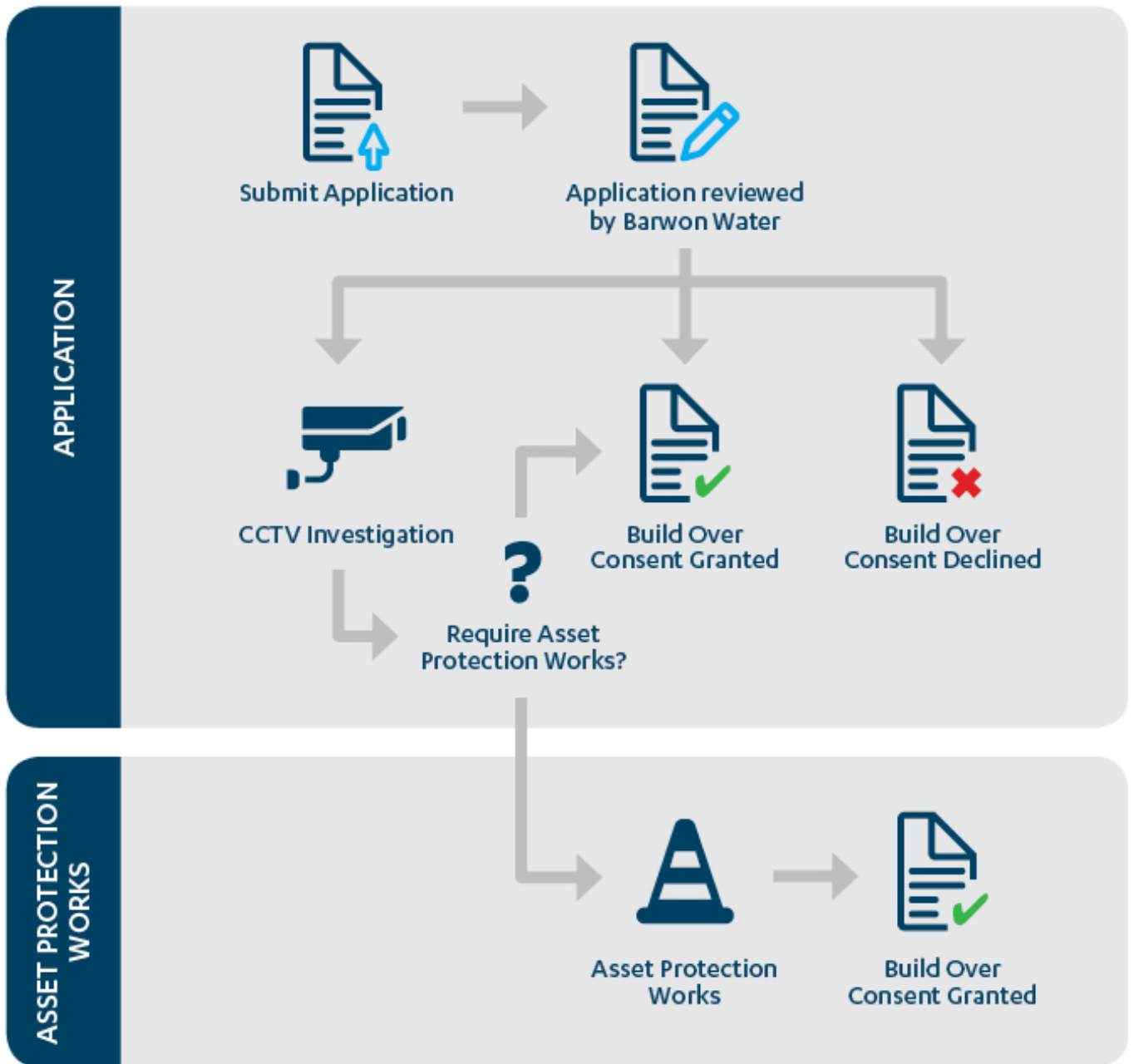
## 9. Obtaining Build Over Consent

Following the below steps will ensure your Build Over Consent application proceeds with minimal delay:

1. Check for Barwon Water assets and easements within the property prior to designing any structure or carrying out building work. A basic layout of assets can be found using the [Dial before you dig](#) service. Easements in favour of Barwon Water are shown on Property Titles or via plans, which can be sourced from Barwon Water.
2. If the proposed work is located within an easement or control zone, the *Build Over Consent guidelines* must be taken into account to ensure the application meets Barwon Water's requirements.
3. An application for a [Build Over Consent](#) should be lodged with the form Barwon Water provides. The form is also available in the Property Connections section of Barwon Water's website. The application form requires the following details:
  - property address and title details
  - an adequate description of the proposed work and/or structure
  - a plan of the proposed work and/or structure of a high standard
  - footing/foundation designs, site plan showing elevation and other documents described in the guidelines.
4. A Build Over Consent application will be reviewed by a Barwon Water Officer(s) in accordance with these guidelines. The decision may be:
  - Build Over Consent granted
  - Build Over Consent declined
  - In-principle Build Over Consent granted
  - Approved with conditions (when undergoing Asset Protection Works).

# 10. What happens after submission of a Build Over application?

Figure 1: Build Over Consent process



## 11. Unapproved Build Over

Any work, including structures of a permanent nature, carried out or located within the control zone in contravention of Section 148 of the *Water Act 1989*, is classified as unapproved work. Unapproved Build Overs contravene Section 148 of the *Water Act 1989* and are likely to result in:

- the provision of a notice under Section 151 of the *Water Act 1989* advising the owner of the contravention
- on occasion the owner will receive a notice requiring them to remove the relevant structure, reinstate or repair any damage to the property or Barwon Water asset caused by the particular works, including under Section 151 of the *Water Act 1989*
- Barwon Water will update the information statement to include details of any unapproved Build Overs in the property. This will be disclosed to any potential purchaser
- If the unapproved works have caused damage to Barwon Water assets or costs to be incurred by Barwon Water, action may be taken against the property owner or person who undertook the unapproved works to recover damages.

## 12. Non-negotiables

Build over consents will not be granted if:

- works are located within control zones containing water mains, sewer rising mains or gravity sewers greater than 225 mm in diameter
- works are located over a property connection sewer
- structures require driven piles
- works (including structures) are located within control zone fail to meet the guidelines set out in this document.

## 13. Additional Information

- An application form and details may be obtained from Barwon Water's [website](#).
- A standard fee is applicable to process the Build Over application.
- Refunds will only be given for declined applications where the works are not described in these guidelines.
- If further investigation involving a CCTV inspection is required to assess the condition of the asset, the customer will bear 50 per cent of the cost plus an administrative charge.
- All other investigations (e.g. surveys) will be completed at the customer's expense.
- If asset protection works are necessary, Barwon Water will provide a non-obligatory quote for the applicant's consideration. Barwon Water will also contribute a proportion towards the total cost of the asset protection works which is calculated based on the condition and age of the sewer.
- For consideration to relocate neighbouring property connection sewers, the applicant must provide written consent from the neighbouring property owner.
- Declined applicants will receive a letter outlining the reasons for the declined application.
- A Build Over Consent is valid for 12 months from the date of issue. The Build Over Consent will expire if the approved work has not commenced in that time and a new application is required.
- The design of structures within the vicinity of sewer assets must take soil conditions into consideration. e.g. disturbed soil.
- Sewer mains are measured by internal diameter.
- Depth of sewer and water mains are measured from underside of the asset level.
- Demountable sheds less than 9.0 m<sup>2</sup>, water tanks less than 20,000 litres, posts and wire fences, pool fences, wooden retaining walls less than 1.0 metre in height, eaves, balconies and over hangings do not require a condition assessment or asset protection works.
- A class 10 non-habitable structure with Build Over Consent must not be converted into a class 1-4 structure.
- Any structure supporting a different building class will be treated at the higher risk category unless specified otherwise. e.g. a class 5-9 shop with a class 1-4 on top will be assessed as a class 1-4 structure.
- Residential driveways, including cross overs, made of concrete or paved material above gravity sewers do not require Build Over Consent provided minimum a height clearance of 750 mm from the top of the gravity sewer is maintained.
- Residential driveways, including cross overs, made of concrete or paved material above water mains do not require Build Over Consent provided a minimum height clearance of 750 mm from the top of the water main is maintained and no vibration compaction (hand held vibration equipment excepted) is used in the construction. No fire plugs or valves are permitted within the driveway or cross over.
- Post and wire or boundary fences (constructed from timber or metal with footings less than 450 mm) do not require a Build Over Consent.
- In-principle Build Over Consent is granted to applicants who are in the planning stage of their proposal subject to compliance with the Build Over Consent Guidelines. The recipient of an in-principle is required to re-apply for Build Over Consent when required plans and designs are available and prior to submission of an Application to Connect.

## 14. Build Over guidelines

### 14.1 Residential structures (Building code, Class 1-4)

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria												
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over a gravity sewer is not permitted (Cantilevered structures considered)</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ The works to maintain a minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer. Refer to Figure 2.</li> <li>✓ 600 mm horizontal clearance from either side of the gravity sewer within the property concerned.</li> <li>✓ Footings must extend below the angle of repose to the invert level of the gravity sewer based on the gravity sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>Cantilevered structures require:</p> <ul style="list-style-type: none"> <li>✓ Load bearing footings to maintain 1.0 m horizontal clearance from the outside edge of the gravity sewer. Refer to Figure 3.</li> <li>✓ 1.0 m horizontal clearance from either side of the gravity sewer within the property concerned.</li> <li>✓ Minimum height clearance of 2.7 m from ground level to the base of the cantilevered structure.</li> <li>✓ That the footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on the gravity sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
B	Gravity sewer up to and including 225 mm diameter and deeper than 3.0 m	<p>Works over a gravity sewer is not permitted</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the gravity sewer or outside the easement (whichever is greater).</li> </ul>												
C	Decommissioned assets	Application considered.												
D	Property connection sewer (servicing either neighbouring or own property)	<p>Works over property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul>												

NOTE:

- ❖ With Barwon Water’s consent, property connection sewers within the property concerned can be relocated at the customer’s expense to achieve required clearances.
- ❖ Property connection sewers servicing neighbouring properties can be relocated at the customer’s expense to achieve required clearances with Barwon Water’s consent. This is subject to agreement by the neighbouring property owner(s).

**E Manhole**

Works over manholes is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover. Refer to
- ✓ Figure 4.

NOTE:

- ❖ To transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.
- ❖ Manholes can only be opened by authorised personnel.

**F Maintenance shaft/end of line**

Works over maintenance shafts and end of lines is not permitted.

Works adjacent require:

- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
- ✓ 600 mm horizontal clearance from either side of the maintenance shaft/end of line within the property concerned.
- ✓ That the footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.

Diameter	Foundation extension
150 mm	675 mm
225 mm	720 mm

NOTE:

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

**G Pressure sewer system**

Works over pressure sewer system (including components) is not permitted.

Works adjacent require:

- ✓ To be located outside the easement.

**H Water mains/ Sewer rising mains**

Works over water mains and sewer rising mains are not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

**I Barwon Water easements (not containing a Barwon Water asset)**

- ✓ Works to be located outside the easement.

NOTE:

- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

J Vent shafts

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer
- ✓ 5.
- ✓ Any structure opening (e.g. window) to be a minimum of 2.0 m below the top of the free standing vent shaft.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives, which achieve required ventilation.

Figure 2: Footing requirements for residential property adjacent to a gravity sewer

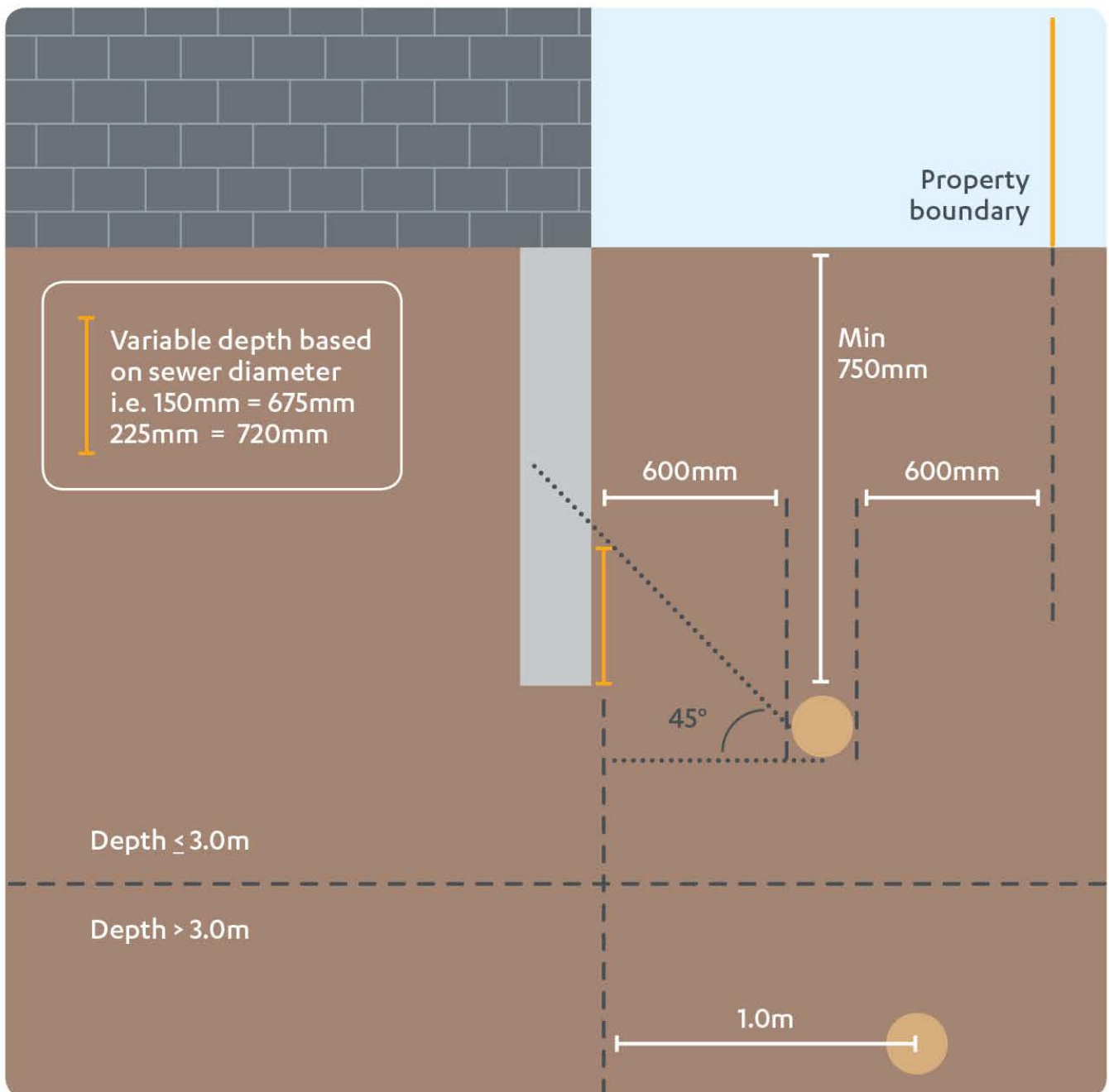




Figure 3: Cantilevered habitable structure

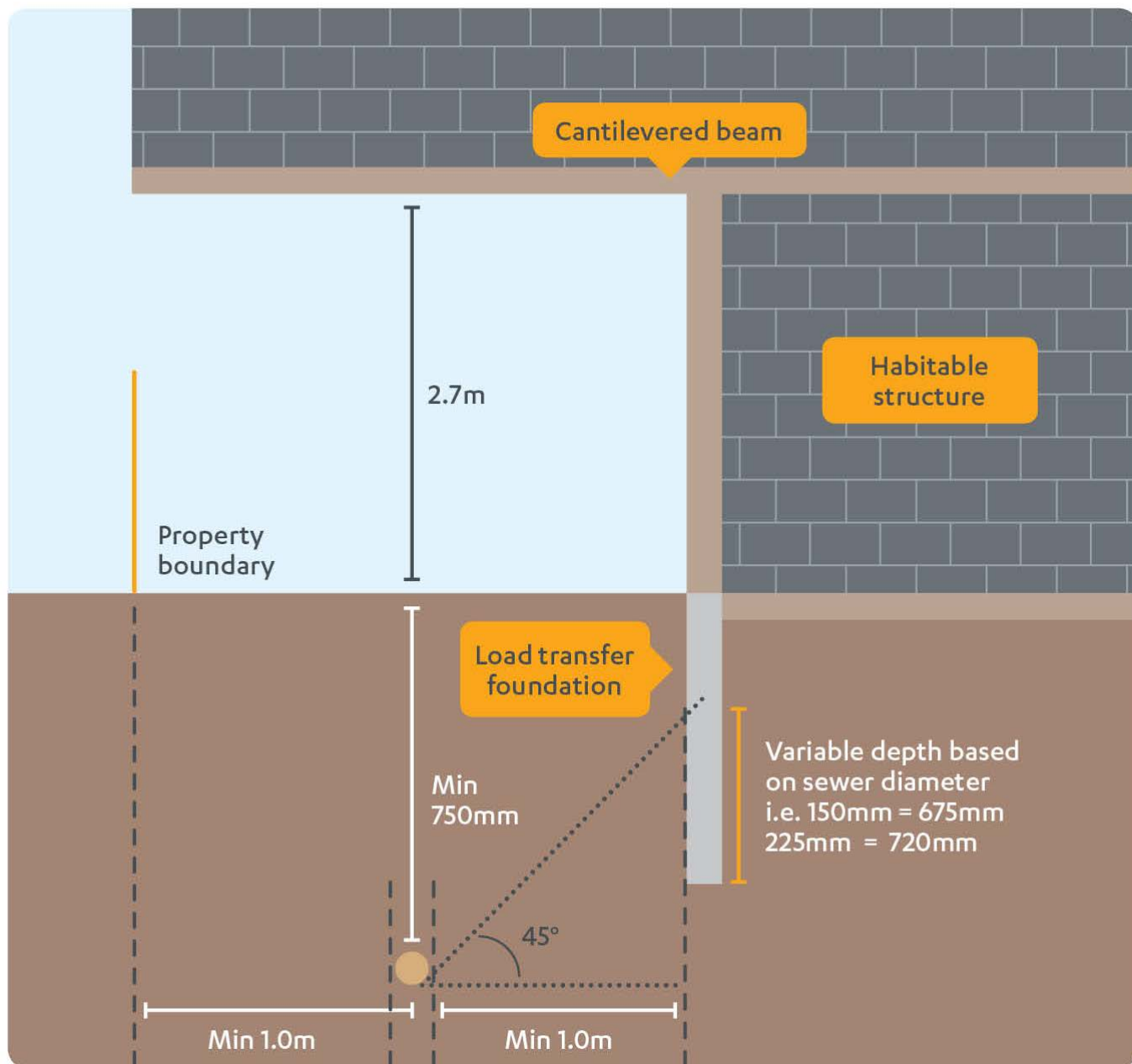


Figure 4: Control zone of manholes, maintenance shafts and end of lines

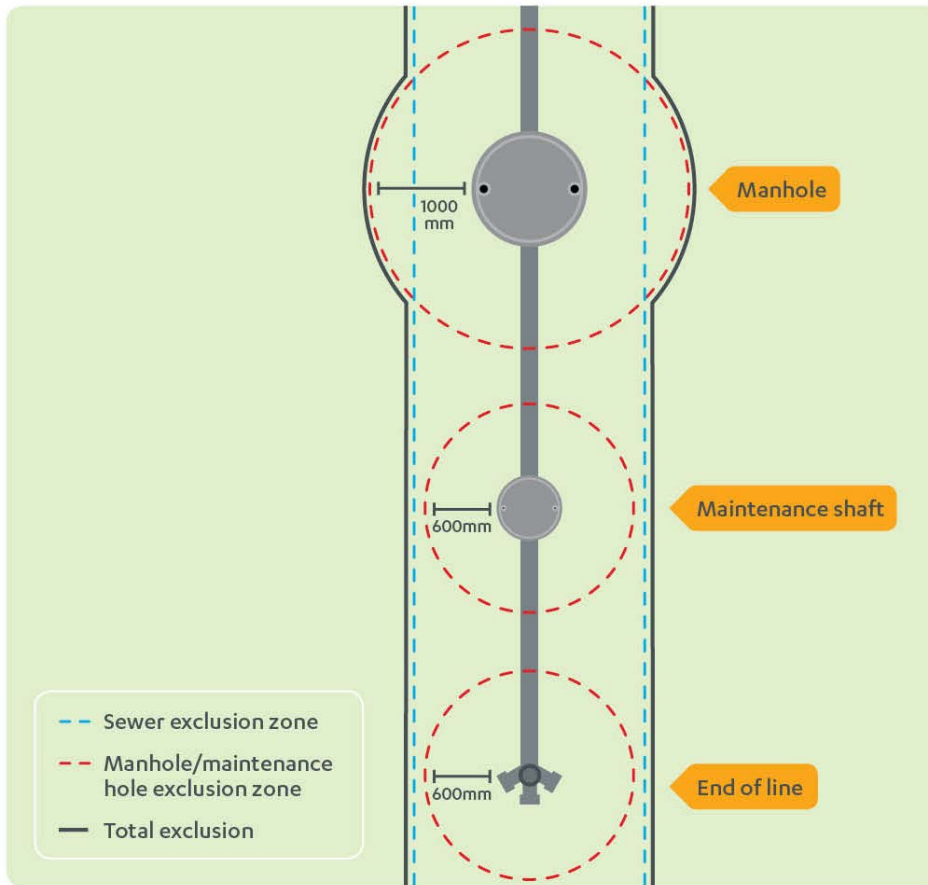
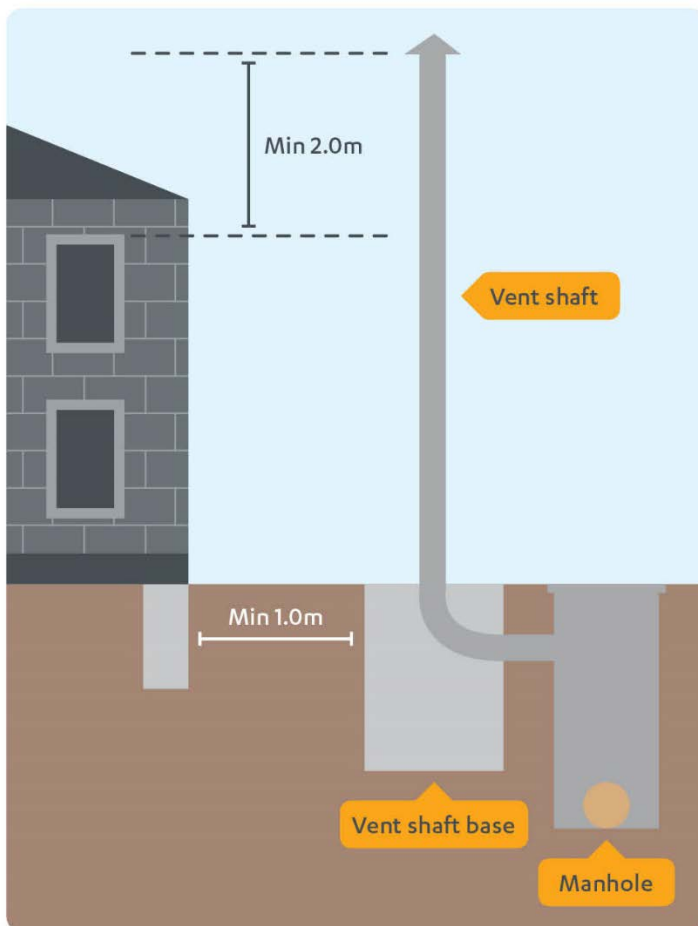


Figure 5: Free standing vent shaft



## 14.2 Dependent person's unit (DPU)

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over or adjacent require:</p> <ul style="list-style-type: none"> <li>✓ Footings to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer. Refer to</li> <li>✓ Figure 6.</li> <li>✓ Minimum of 750 mm vertical clearance between the top of the sewer and finished surface level.</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and deeper than 3.0 m	<p>Works over a gravity sewer is not permitted.</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the gravity sewer or outside the easement (whichever is greater).</li> </ul>
C	Decommissioned assets	Application considered.
D	Property connection sewer (servicing either neighbouring or own property)	<p>Works over property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
E	Manhole	<p>Works over manholes is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.</li> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>
F	Maintenance shaft/end of line	<p>Works over maintenance shafts and end of line is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.</li> <li>✓ 600 mm horizontal clearance from either side of the maintenance shaft / end of line within the property concerned.</li> </ul> <p>NOTE:</p>

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

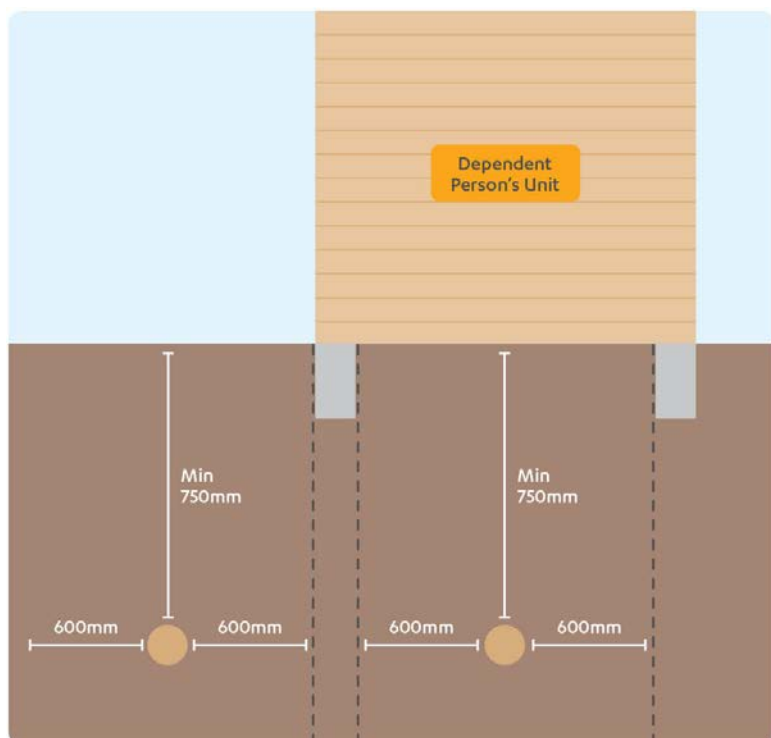
**G Pressure sewer system** Works over a pressure sewer system is not permitted.  
Works adjacent to pressure sewer systems are required:  
✓ To be located outside the easement.

**H Water mains/sewer rising mains** Works over water mains and sewer rising mains are not permitted.  
Works adjacent require:  
✓ A minimum of 1.0 m horizontal clearance from the outside edge of the main, or to be located outside of the easement (whichever is greater).

**I Barwon Water easements (not currently containing a Barwon Water asset)** ✓ Works to be located outside the easement.  
NOTE:  
❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

**J Vent shafts** Works adjacent require:  
✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5.  
✓ Any structure opening (eg. window) to be a minimum of 2.0 m below the top of the free standing vent shaft.  
NOTE:  
❖ Relocation of a vent shafts at the customer's expense will be considered.  
❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 6: Dependent Persons Unit (DPU) traversing and adjacent to gravity sewer



## 14.3 Commercial structures (including industrial, commercial, public and sporting buildings): Class 5-9

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria												
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ Concrete floor above control zone to be made of non-structural infill slab.</li> <li>✓ Bored pier or strip footing supporting the structure to maintain a minimum of 1.0 m horizontal clearance from the outside edge of the gravity sewer. Refer to Figure 7.</li> <li>✓ Minimum of 750 mm vertical clearance between the top of the sewer and finished surface level.</li> <li>✓ Engineering reports certifying structures will not compromise Barwon Water assets.</li> <li>✓ No permanent plumbing fixtures or house sewer drains to be located within the control zone.</li> <li>✓ Minimum internal height clearance of 2.7 m over the easement and access route.</li> <li>✓ 2.0 m wide trafficable access route to easement.</li> <li>✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ Availability of 600 mm horizontal clearance from either side of the sewer within the property concerned. Refer to Figure 8.</li> <li>✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Any structure that combines class of buildings will be treated at the higher risk category (e.g. class 5-9 shop with class 1-4 unit on top will be assessed as class 1-4 structure).</li> </ul>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
B	Gravity sewer up to and including 225 mm diameter and deeper than 3.0 m	<p>Works over gravity sewer is not permitted.</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the gravity sewer or be located outside the easement (whichever is greater).</li> </ul>												
C	Decommissioned assets	Application considered.												

<b>D</b> <b>Property connection sewer (servicing either neighbouring or own property)</b>	<p>Works over property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>						
<b>E</b> <b>Manhole</b>	<p>Works over manholes is not permitted.</p> <p>Works adjacent are required:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.</li> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>						
<b>F</b> <b>Maintenance shaft/end of line</b>	<p>Works over maintenance shafts and end of lines is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.</li> <li>✓ 600 mm horizontal clearance from either side of the maintenance shaft/end of line within the property concerned.</li> <li>✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Maintenance shafts/end of line can only be opened by authorised personnel.</li> </ul>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension						
150 mm	675 mm						
225 mm	720 mm						
<b>G</b> <b>Pressure sewer system</b>	<p>Works over a pressure sewer system is not permitted.</p> <p>Works adjacent are required:</p> <ul style="list-style-type: none"> <li>✓ To be located outside the easement.</li> </ul>						
<b>H</b> <b>Water mains/sewer rising mains</b>	<p>Works over water mains and sewer rising mains is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).</li> </ul>						
<b>I</b> <b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	<ul style="list-style-type: none"> <li>✓ Works to be located outside the easement.</li> </ul> <p>NOTE:</p>						

- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

**J Vent shafts**

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to
- ✓ .
- ✓ Any structure opening (eg. window) to be a minimum of 2.0 m below the top of the free standing vent shaft.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives, which achieve required ventilation.

**Figure 7: Footing requirements for commercial property above gravity sewer**

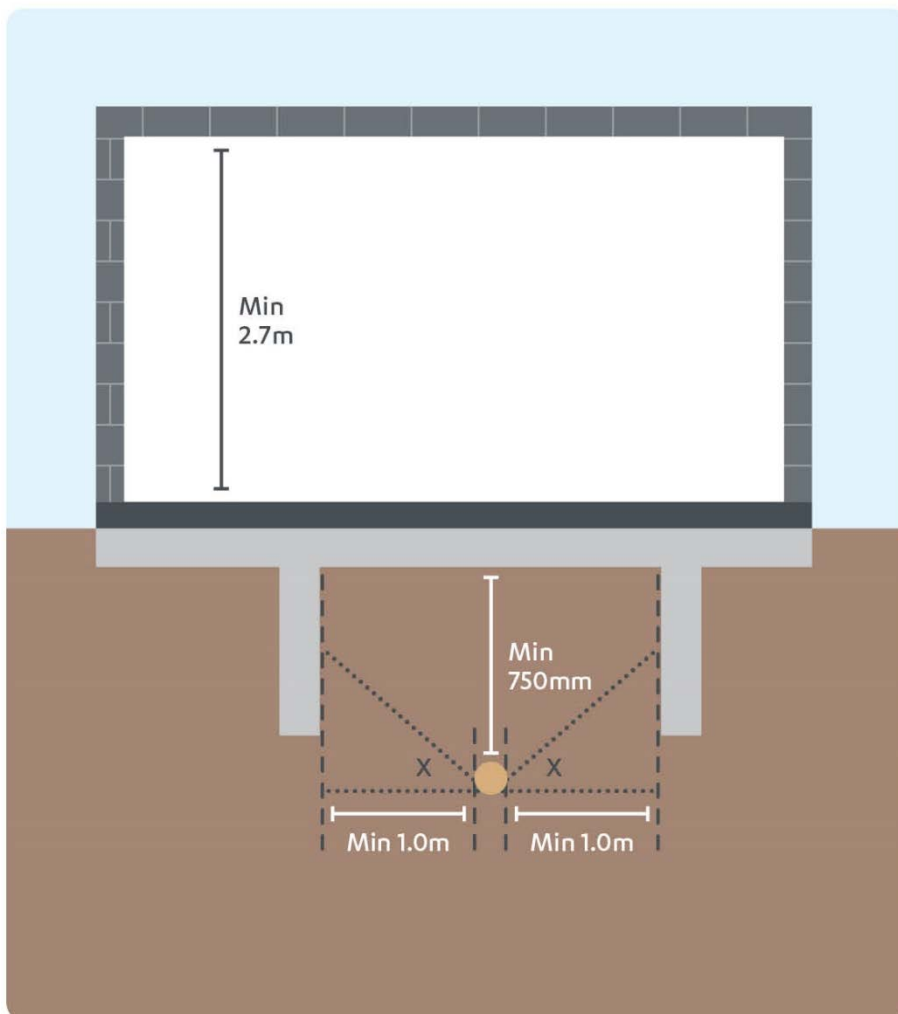
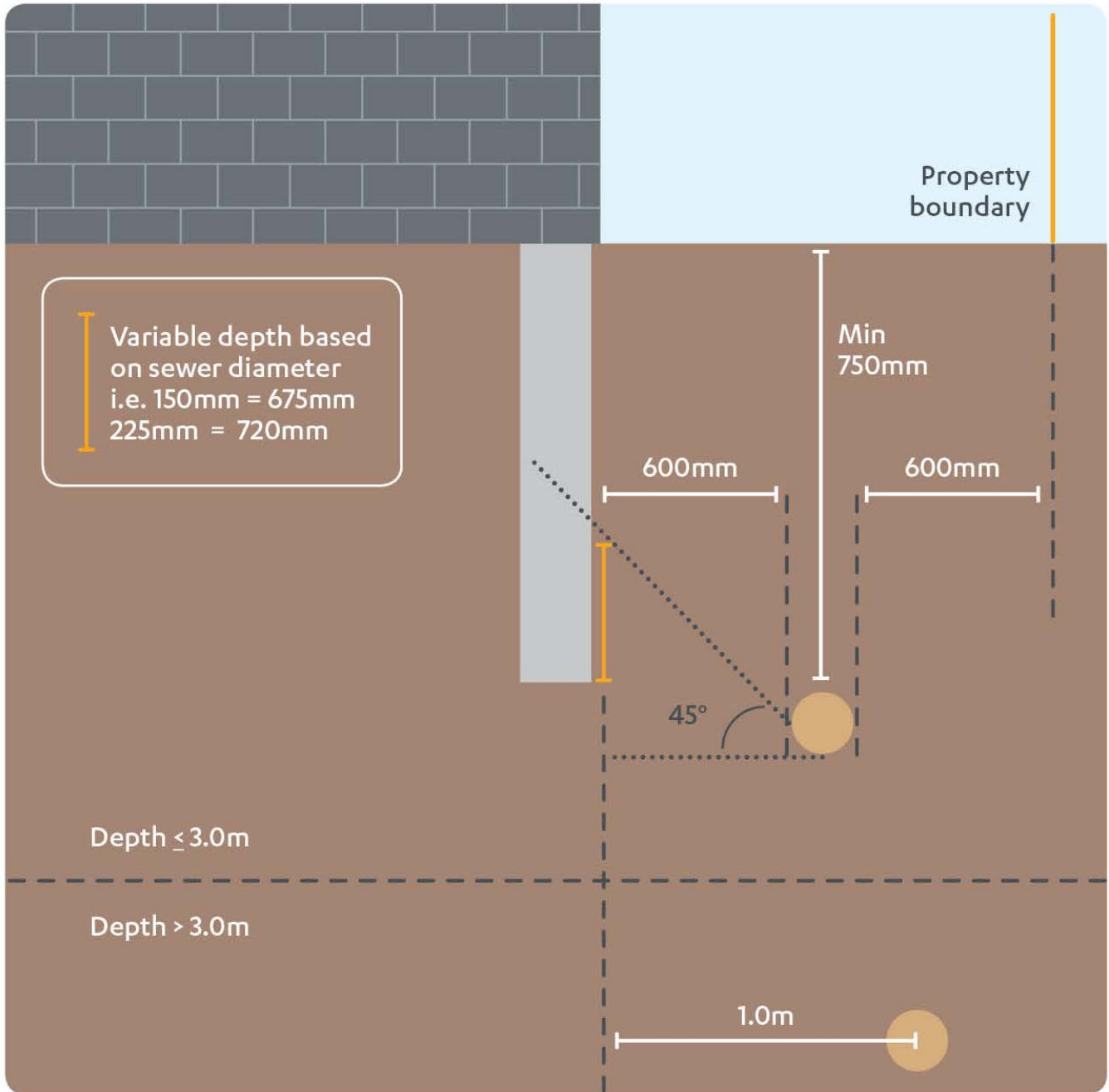


Figure 8: Footing requirements for commercial property adjacent gravity sewer





## 14.4 Garages, sheds and carports (including pergolas, verandas, gazebos, sails and decking): Class 10A

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria												
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ Concrete floor above control zone to be made of non-structural infill slab.</li> <li>✓ Footings to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer. Refer to Figure 9 and 10.</li> <li>✓ Bored pier or strip footings to maintain a minimum of 1.0 m horizontal clearance from the outside edge of the gravity sewer. Refer to</li> <li>✓ Figure 13.</li> <li>✓ Bored pier or strip footings must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> <li>✓ Works supporting a higher building class must maintain an internal height clearance of 2.7 m. Refer to</li> <li>✓ Figure 11.</li> <li>✓ Access route to easement to maintain 2.7 m height clearance and 2.0 m width</li> <li>✓ Works not meeting internal height clearance of 2.7 m to be structurally independent of adjacent structures. Refer to Figure 12.</li> <li>✓ No permanent plumbing fixtures or house sewer drains are to be located within the control zone.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>Works adjacent requires:</p> <ul style="list-style-type: none"> <li>✓ Footings to maintain a minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ 600 mm horizontal clearance from either side of the gravity sewer within the property concerned.</li> <li>✓ Non demountable structures to have 600 mm horizontal clearance from either side of the sewer within the property concerned. Refer to</li> <li>✓ Figure 13.</li> <li>✓ Footing/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ To access Barwon Water assets, structures in the control zone will be removed at a cost to customer.</li> </ul>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
Diameter	Foundation extension													
150 mm	675 mm													
225 mm	720 mm													
B	Gravity sewer deeper than 3.0 m (including gravity	Only demountable sheds less than 9.0 m <sup>2</sup> are permitted over a gravity sewer:												

sewers greater than 225 mm)

- ✓ All other works required to maintain a minimum 1.0m horizontal clearance from the edge of the gravity sewer or be located outside the easement (whichever is greater).

**C Decommissioned assets**

Application considered.

**D Property connection sewer (servicing either neighbouring or own property)**

Works over property connection sewer is not permitted.

Works adjacent requires:

- ✓ A minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).

NOTE:

- ❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water consent.
- ❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).

**E Manhole**

Works over manholes is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.

NOTE:

- ❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.
- ❖ Manholes can only be opened by authorised personnel.

**F Maintenance shaft/end of line**

Works over maintenance shafts and end of lines is not permitted.

Works adjacent require:

- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
- ✓ 600 mm horizontal clearance from either side of the maintenance shaft / end of line within the property concerned.
- ✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.

Diameter	Foundation extension
150 mm	675 mm
225 mm	720 mm

NOTE:

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

**G Pressure sewer system**

Works over a pressure sewer system is not permitted.

Works adjacent are required:

- ✓ To be located outside the easement.

**H Water mains/sewer rising mains**

Works over water mains and sewer rising mains is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

**I Barwon Water easements (not currently containing a Barwon Water asset)**

- ✓ Works to be located outside the easement.

NOTE:

- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

**J Vent shafts**

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft.
- ✓ Any structure opening (e.g. window) to be a minimum of 2.0 m below the top of the free standing vent shaft.

NOTE:

- ❖ Relocation of vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives that achieve required ventilation.

**Figure 9: Shed : Demountable light weight structure**



Figure 10: Decking over sewer



Figure 11: Garage over gravity sewer supporting a habitable structure

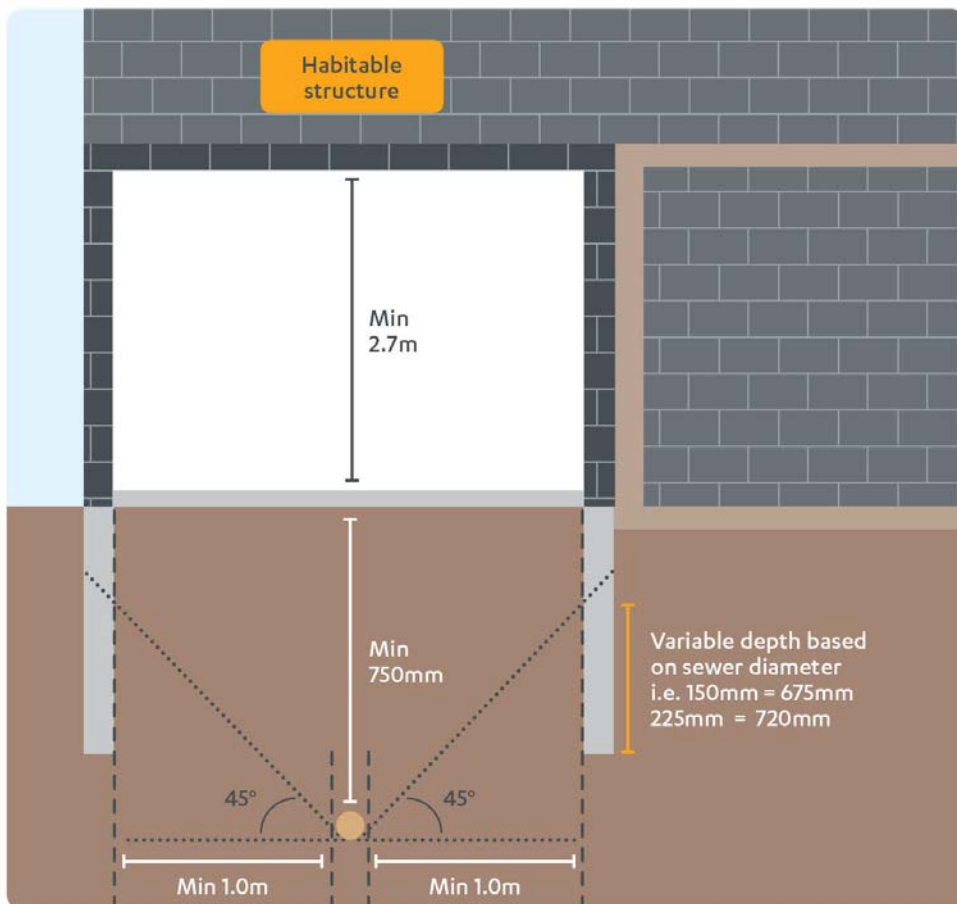


Figure 12: Garage with height clearance less than 2.7 m and over gravity sewer

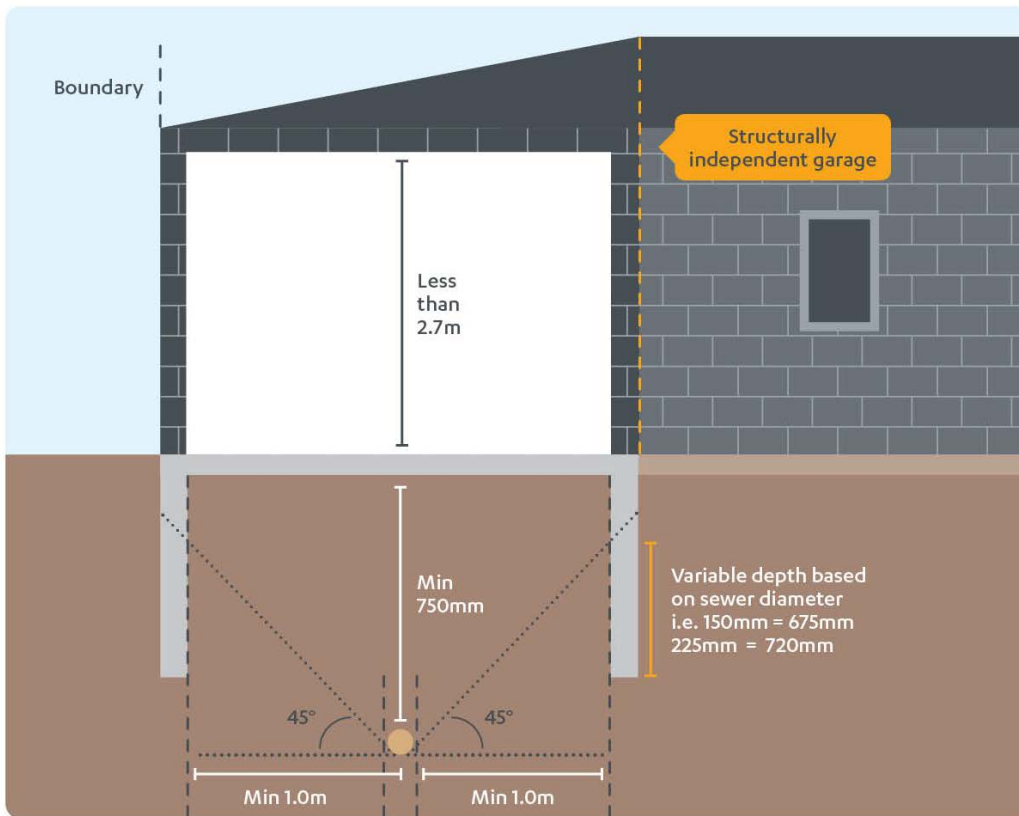
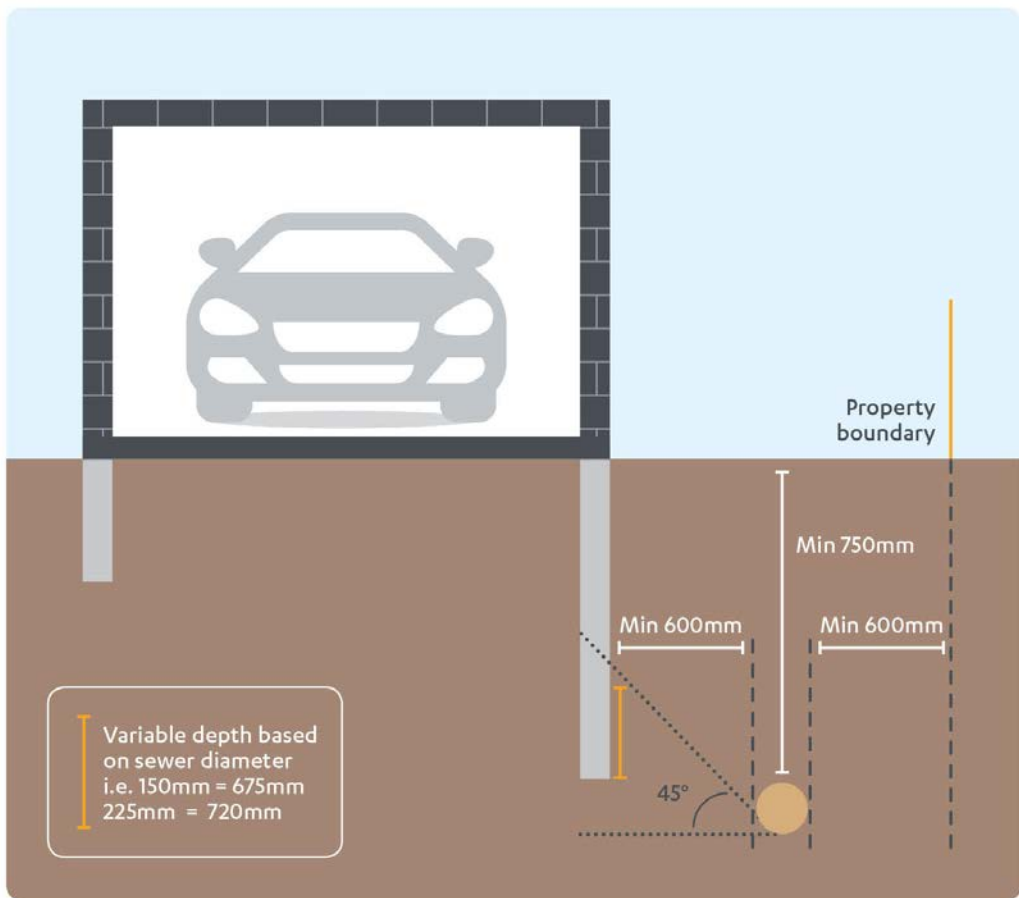


Figure 13: Garage adjacent gravity sewer



## 14.5 Swimming pools, spas and saunas

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria						
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Above ground demountable pools, spas and saunas only.</p> <p>Works over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ The works to maintain a minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ A minimum of 750 mm vertical clearance between the top of the gravity sewer and bottom of the structure. Refer to Figure 14.</li> <li>✓ Engineering reports certifying structures will not compromise Barwon Water assets.</li> <li>✓ Pool piping, pump and filtration equipment must be located outside control zone</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ The property owner is responsible for the dismantling and relocating of the structure.</li> </ul> <p>Below ground pools and spas over a gravity sewer are not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ The structure to maintain a minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ Availability of 600 mm horizontal clearance from either side of the sewer within the property concerned.</li> <li>✓ That the footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension							
150 mm	675 mm							
225 mm	720 mm							
B	Gravity sewer up to and including 225 mm diameter and deeper than 3.0 m	<p>Works over a gravity sewer is not permitted.</p> <p>Works adjacent to a gravity sewer require:</p> <ul style="list-style-type: none"> <li>• A minimum 1.0 m horizontal clearance from the centre of the gravity sewer or be located outside the easement (whichever is greater).</li> </ul>						
C	Decommissioned assets	Application considered						
D	Property connection sewer (servicing either neighbouring or own property)	<p>Works over property connection sewer are not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p>						

- ❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.
- ❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).

**E Manhole**

Works over manholes is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.

NOTE:

- ❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is required.
- ❖ Manholes can only be opened by authorised personnel.

**F Maintenance shaft/end of line**

Works over maintenance shafts and end of lines are not permitted.

Works adjacent require:

- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
- ✓ 600 mm horizontal clearance from either side of the maintenance shaft / end of line within the property concerned.
- ✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.

Diameter	Foundation extension
150 mm	675 mm
225 mm	720 mm

- NOTE:
- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

**G Pressure sewer system**

Works over a pressure sewer system is not permitted.

Works adjacent are required:

- ✓ To be located outside the easement.

**H Water mains/sewer rising mains**

Works over water mains and sewer rising mains is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

**I Barwon Water easements (not currently containing a Barwon Water asset)**

- ✓ Works to be located outside the easement.

NOTE:

- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

**J Vent shafts**

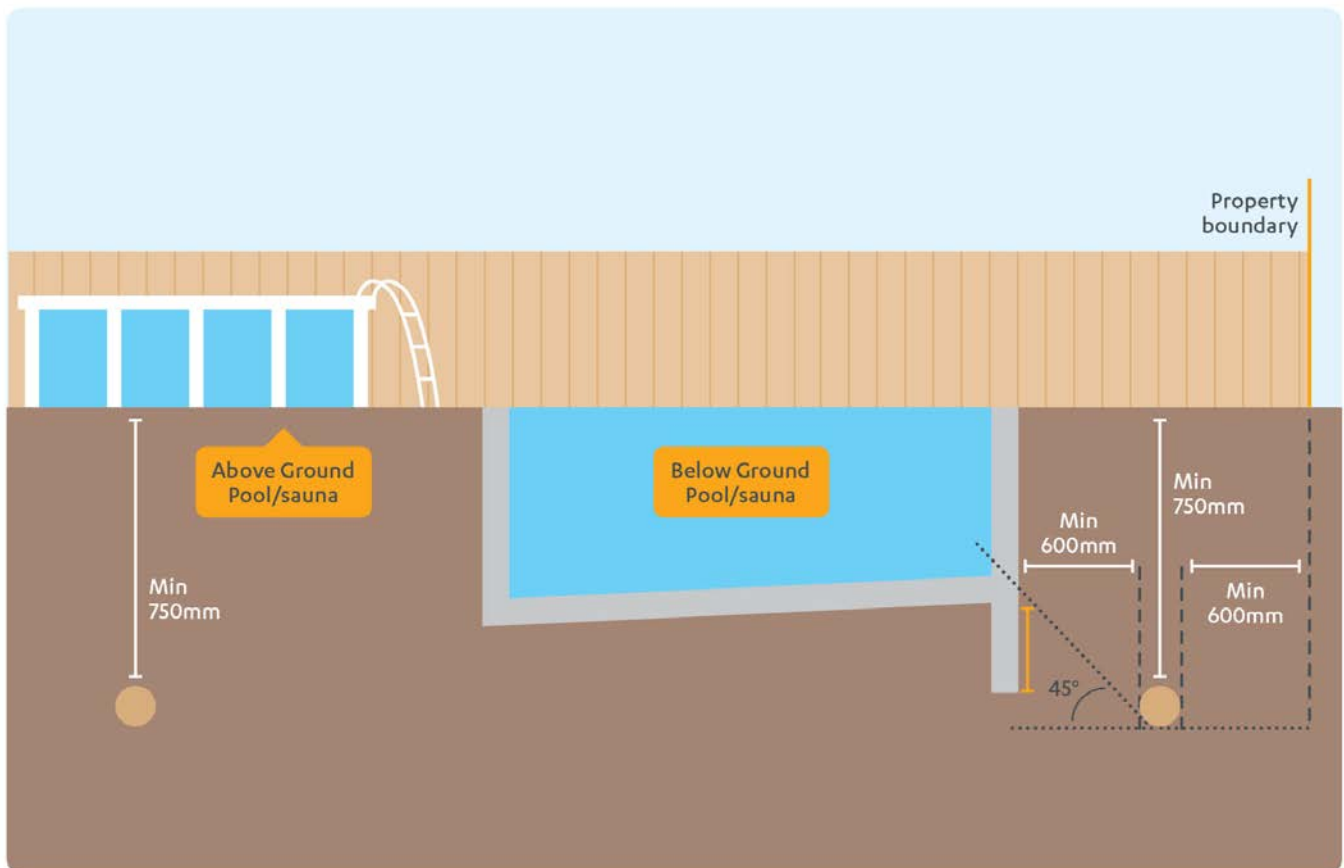
Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 14: Swimming pools: Clearance for above/ below ground pools





## 14.6 Water tanks

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria						
A.	<b>Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less</b>	<p>Works over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ The tank to be relocatable without dismantling. e.g. constructed of prefabricated and lightweight material.</li> <li>✓ A minimum of 750 mm vertical clearance between the top of the gravity sewer and bottom of the structure. Refer to Figure 15.</li> <li>✓ To be supported on a retained compact base as per AS3500.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Tanks constructed from materials other than prefabricated and lightweight material will be considered as a commercial structure and reviewed on a case by case basis.</li> <li>❖ Property owner is responsible for the relocating of the tank.</li> </ul> <p>Below ground tanks over a gravity sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ To maintain a minimum of 600 mm horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ Availability of 600 mm horizontal clearance from either side of the sewer within the property concerned. Refer to Figure 15.</li> <li>✓ Footing/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Diameter</th> <th>Foundation extension</th> </tr> </thead> <tbody> <tr> <td>150 mm</td> <td>675 mm</td> </tr> <tr> <td>225 mm</td> <td>720 mm</td> </tr> </tbody> </table>	Diameter	Foundation extension	150 mm	675 mm	225 mm	720 mm
Diameter	Foundation extension							
150 mm	675 mm							
225 mm	720 mm							
B	<b>Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep</b>	<p>Works over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ Tank to be relocatable without dismantling. e.g. constructed of prefabricated and lightweight material.</li> <li>✓ A minimum of 750 mm vertical clearance between the top of the gravity sewer and bottom of the structure. Refer to Figure 15.</li> <li>✓ To be supported on a retained compact base as per AS3500.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Tanks constructed from materials other than prefabricated and lightweight material will be considered as a commercial structure and reviewed on a case by case basis.</li> <li>❖ Property owner is responsible for the relocating of the tank.</li> </ul> <p>Below ground tanks over a gravity sewer is not permitted.</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the edge of the gravity sewer or be located outside the easement (whichever is greater).</li> </ul>						
C	<b>Decommissioned assets</b>	Application considered.						

**D Property connection sewer (servicing either neighbouring or own property)** Works over property connection sewer are not permitted.  
Works adjacent require:

- ✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).

NOTE:

- ❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.
- ❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).

**E Manhole** Works over manholes is not permitted.  
Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.

NOTE:

- ❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.
- ❖ Manholes can only be opened by authorised personnel.

**F Maintenance shaft/end of line** Works over maintenance shafts and end of lines are not permitted.  
Works adjacent require:

- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
- ✓ 600 mm horizontal clearance from either side of the maintenance shaft / end of line within the property concerned.
- ✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.

Diameter	Foundation extension
150 mm	675 mm
225 mm	720 mm

NOTE:

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

**G Pressure sewer system** Works over a pressure sewer system is not permitted.  
Works adjacent require:

- ✓ To be located outside the easement.

**H Water mains/sewer rising mains** Works over water mains and sewer rising mains is not permitted.  
Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

**I Barwon Water easements (not currently containing a Barwon Water asset)** ✓ Works to be located outside the easement.  
NOTE:

- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

## J Vent shafts

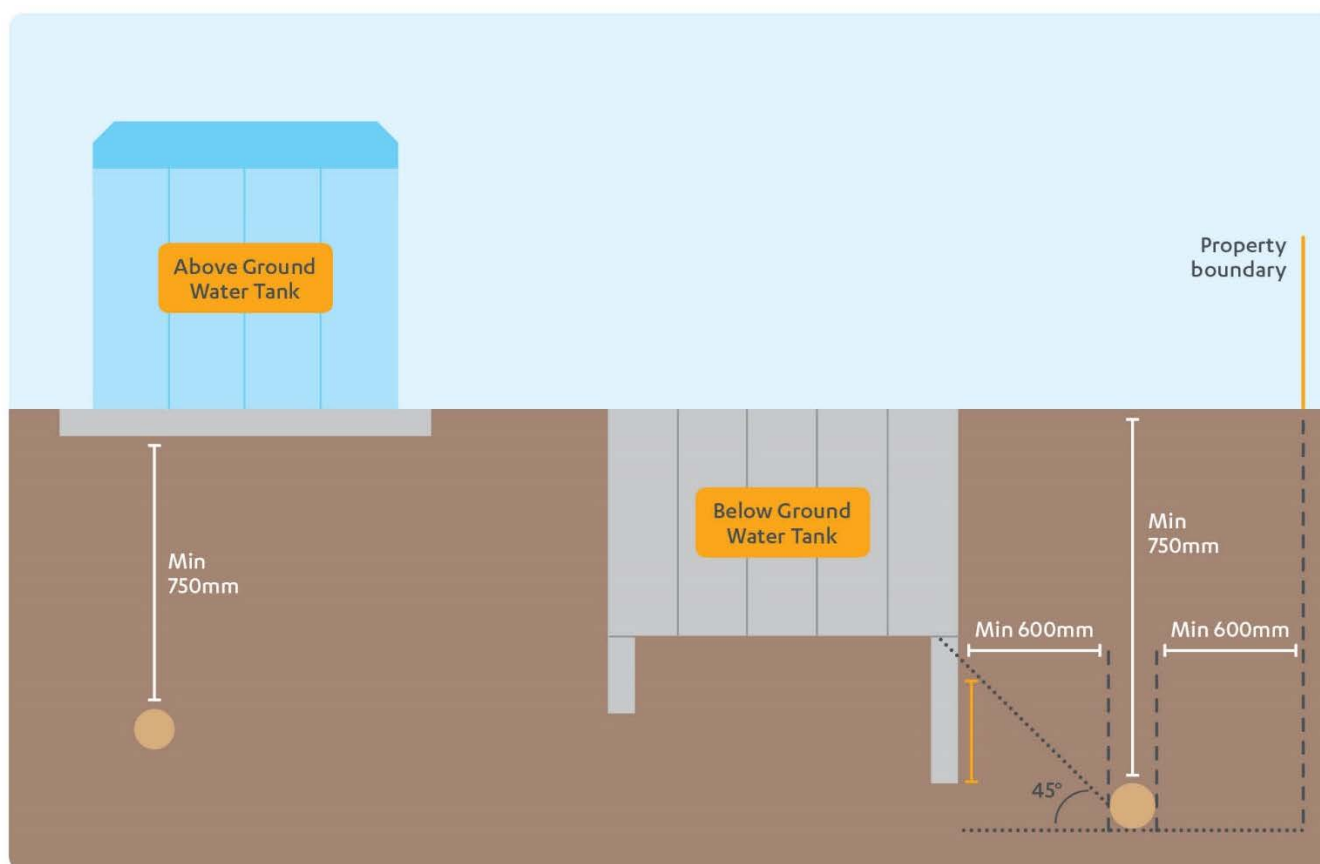
Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5.
- ✓ Any structure opening to be a minimum of 2.0 m below the top of the free standing vent shaft.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 15: Water tank: Above and below ground water tank



## 14.7 Tennis courts, lawn bowling greens and all open surfaces

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 750 mm vertical clearance between the top of the gravity sewer and bottom of the surface.</li> <li>✓ Footings to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer.</li> <li>✓ Bored pier or strip footings to maintain a minimum of 1.0 m horizontal clearance from the outside edge of the gravity sewer.</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep	<p>Works over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 750 mm vertical clearance between the top of the gravity sewer and bottom of the surface.</li> <li>✓ Footings to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer.</li> <li>✓ Bored pier or strip footings to maintain a minimum of 1.0 m horizontal clearance from the outside edge of the gravity sewer.</li> <li>✓ 7.5 x 7.5 m of open area across the sewer and access to manoeuvre machinery as wide as 3 m. Refer to Figure 16.</li> </ul>
C	Decommissioned assets	Application considered.
D	Property connection sewer (servicing either neighbouring or own property)	<p>Works over a property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
E	Manhole	<p>Works over manholes is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.</li> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>
F	Maintenance shaft/end of line	<p>Works over maintenance shafts and end of lines is not permitted.</p> <p>Works adjacent require:</p>

- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
- ✓ 600 mm horizontal clearance from either side of the maintenance shaft / end of line within the property concerned.
- ✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.

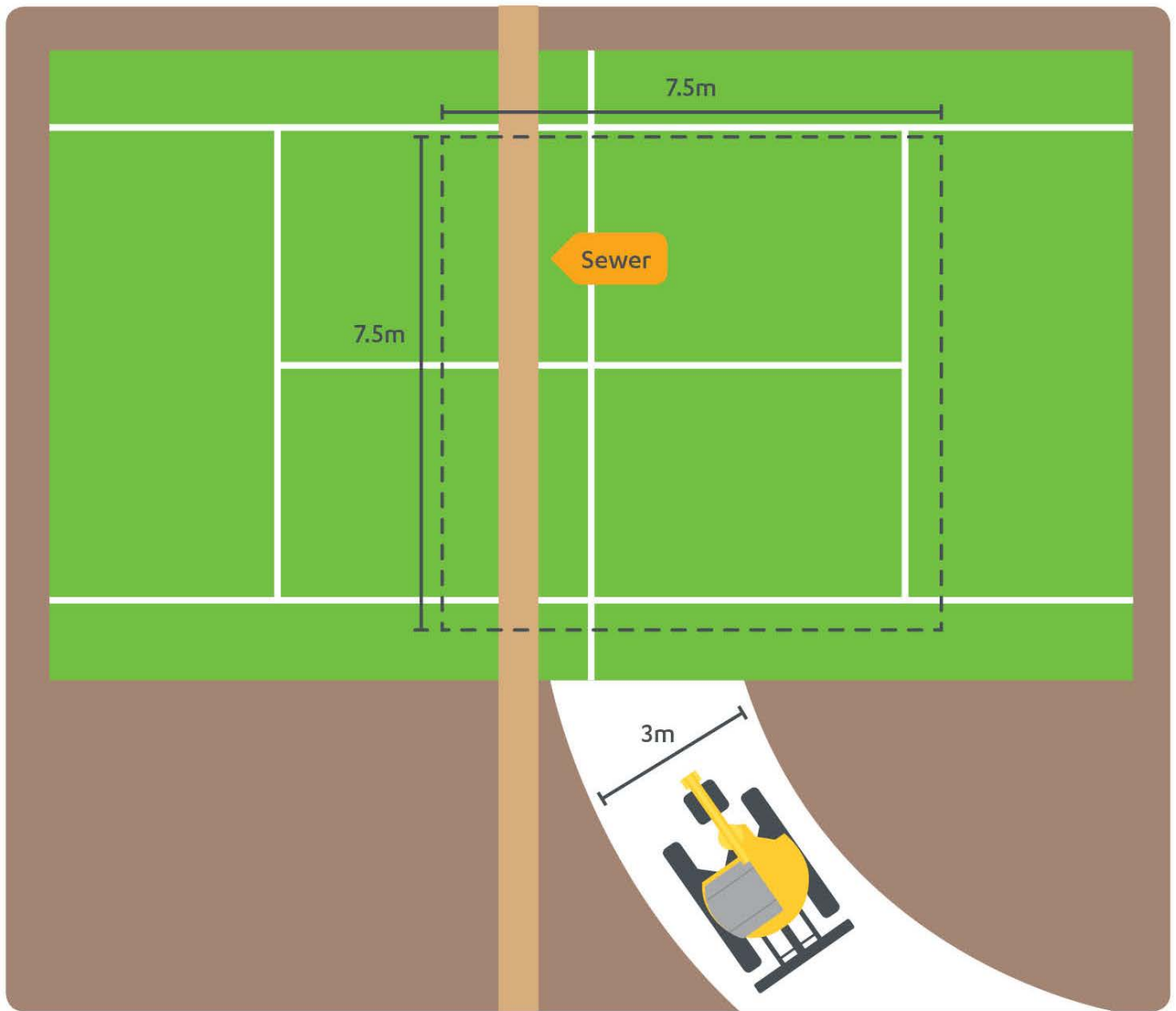
Diameter	Foundation extension
150 mm	675 mm
225 mm	720 mm

NOTE:

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

<b>G</b>	<b>Pressure sewer system</b>	Works over a pressure sewer system is not permitted. Works adjacent are required: ✓ To be located outside the easement.
<b>H</b>	<b>Water mains/sewer rising mains</b>	Works over water mains and sewer rising mains is not permitted. Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).
<b>I</b>	<b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	✓ Works to be located outside the easement. NOTE: ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.
<b>J</b>	<b>Vent shafts</b>	Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5. NOTE: ❖ Relocation of a vent shafts at the customer's expense will be considered. ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 16: Open space structure over sewer deeper than 3.0 metres



## 14.8 Posts, pool fences and wire fences

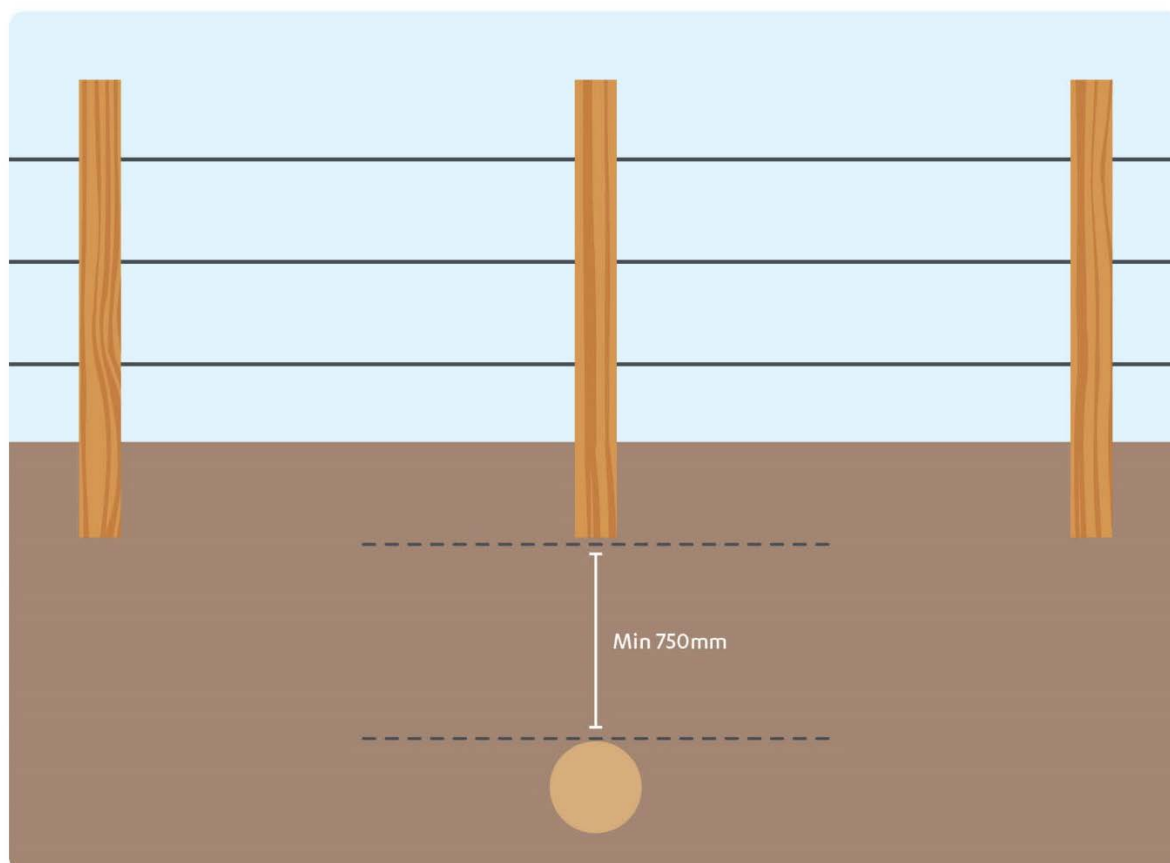
**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

*\*Post and wire or boundary fences (constructed from timber or metal with footings less than 450 mm) do not require a Build Over Consent.*

Item	Asset	Criteria
A.	Gravity sewers 3.0 m or less in depth (including sewers greater than 225 mm)	Works over require: <ul style="list-style-type: none"> <li>✓ Base of footings to maintain a minimum of 750 mm vertical clearance from the outside edge of gravity sewer. Refer Figure 17.</li> </ul>
B	Gravity sewer greater than 3.0 m deep (including sewers greater than 225 mm)	Works over require: <ul style="list-style-type: none"> <li>✓ Base of footings to maintain a minimum of 750 mm vertical clearance from the outside edge of gravity sewer.</li> </ul>
C	Decommissioned assets	Application considered.
D	Property connection sewer (servicing either neighbouring or own property)	Works over a property connection sewer is not permitted. Works adjacent require: <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> NOTE: <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
E	Manhole	Works over manholes is not permitted Works adjacent require: <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.</li> </ul> NOTE: <ul style="list-style-type: none"> <li>❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is required.</li> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>
F	Maintenance shaft/end of line	Works over maintenance shafts and end of lines is not permitted. Works adjacent require: <ul style="list-style-type: none"> <li>✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.</li> <li>✓ 600 mm horizontal clearance from either side of the maintenance shaft/end of line within the property concerned.</li> </ul> NOTE: <ul style="list-style-type: none"> <li>❖ Maintenance shafts/end of line can only be opened by authorised personnel.</li> </ul>

G	<b>Pressure sewer system</b>	Works over a pressure sewer system is not permitted. Works adjacent are required: ✓ To be located outside the easement.
H	<b>Water mains/sewer rising mains</b>	Works over water mains and sewer rising mains is not permitted. Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).
I	<b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	✓ Works to be located outside the easement. NOTE: ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.
J	<b>Vent shafts</b>	Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5. NOTE: ❖ Relocation of a vent shafts at the customer's expense will be considered. ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 17: Wire fence/post





## 14.9 Masonry walls and fences with load bearing strips, retaining walls, masts and antennas

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works over require:</p> <ul style="list-style-type: none"> <li>✓ Footings/foundations to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer.</li> <li>✓ Base of the wall to maintain a minimum of 750 mm vertical clearance from the outside edge of gravity sewer. Refer to Figure 18.</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep	<p>Works over require:</p> <ul style="list-style-type: none"> <li>✓ Footings/foundations to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer.</li> <li>✓ Pier and beam footing/foundation must have a minimum of 1.0 m horizontal clearance from the outside edge of the sewer.</li> </ul>
C	Gravity sewer greater than 225 mm	<p>Works over gravity sewer is not permitted</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0 m horizontal clearance from the edge of the gravity sewer or be located outside the easement (whichever is greater).</li> </ul>
D	Decommissioned assets	Application considered.
E	Property connection sewer (servicing either neighbouring or own property)	<p>Retaining walls over require:</p> <ul style="list-style-type: none"> <li>✓ Footings/foundations to maintain a minimum of 600 mm horizontal clearance from the outside edge of gravity sewer.</li> <li>✓ Trench containing asset to be backfilled with cement stabilised crushed rock to 600 mm either side of the edge of the foundation.</li> <li>✓ Property connection sewer to extend a minimum of 2.0 m beyond the retaining wall.</li> <li>✓ Depth of property connection sewer must be 3.0 m or less.</li> </ul> <p>All other works over property connection sewer are not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ 150 mm property connection sewer is preferred and may be included as a condition for Build Over Consent.</li> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is</li> </ul>

subject to agreement by the neighbouring property owner(s).

- F Manhole**
- Works over manholes is not permitted.
- Works adjacent require:
- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the manhole cover.
- NOTE:
- ❖ In order to transport personnel and equipment to the manhole, access through a non-habitable structure via a standard sized door (820 mm in width) is recommended.
  - ❖ Manholes can only be opened by authorised personnel.

- G Maintenance shaft/end of line**
- Works over maintenance shafts and end of lines is not permitted.
- Works adjacent require:
- ✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.
  - ✓ 600 mm horizontal clearance from either side of the maintenance shaft/end of line within the property concerned.
  - ✓ Footings/foundation must extend below the angle of repose to the invert level of the gravity sewer based on sewer diameter.
- | Diameter | Foundation extension |
|----------|----------------------|
| 150 mm   | 675 mm               |
| 225 mm   | 720 mm               |
- NOTE:
- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

- H Pressure sewer system**
- Works over a pressure sewer system is not permitted.
- Works adjacent are required:
- ✓ To be located outside the easement.

- I Water mains/sewer rising mains**
- Works over water mains and sewer rising mains is not permitted.
- Works adjacent require:
- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

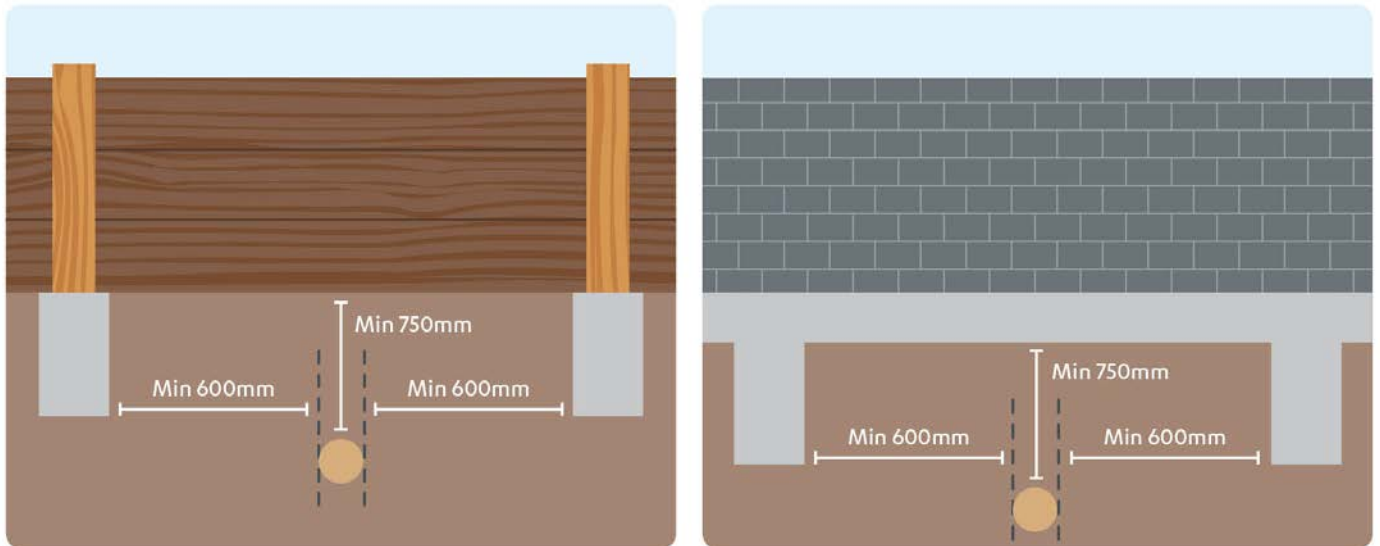
- J Barwon Water easements (not currently containing a Barwon Water asset)**
- ✓ Works to be located outside the easement.
- NOTE:
- ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

- K Vent shafts**
- Works adjacent require:
- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. Refer to Figure 5.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 18: Masonry walls and fences with load bearing strips



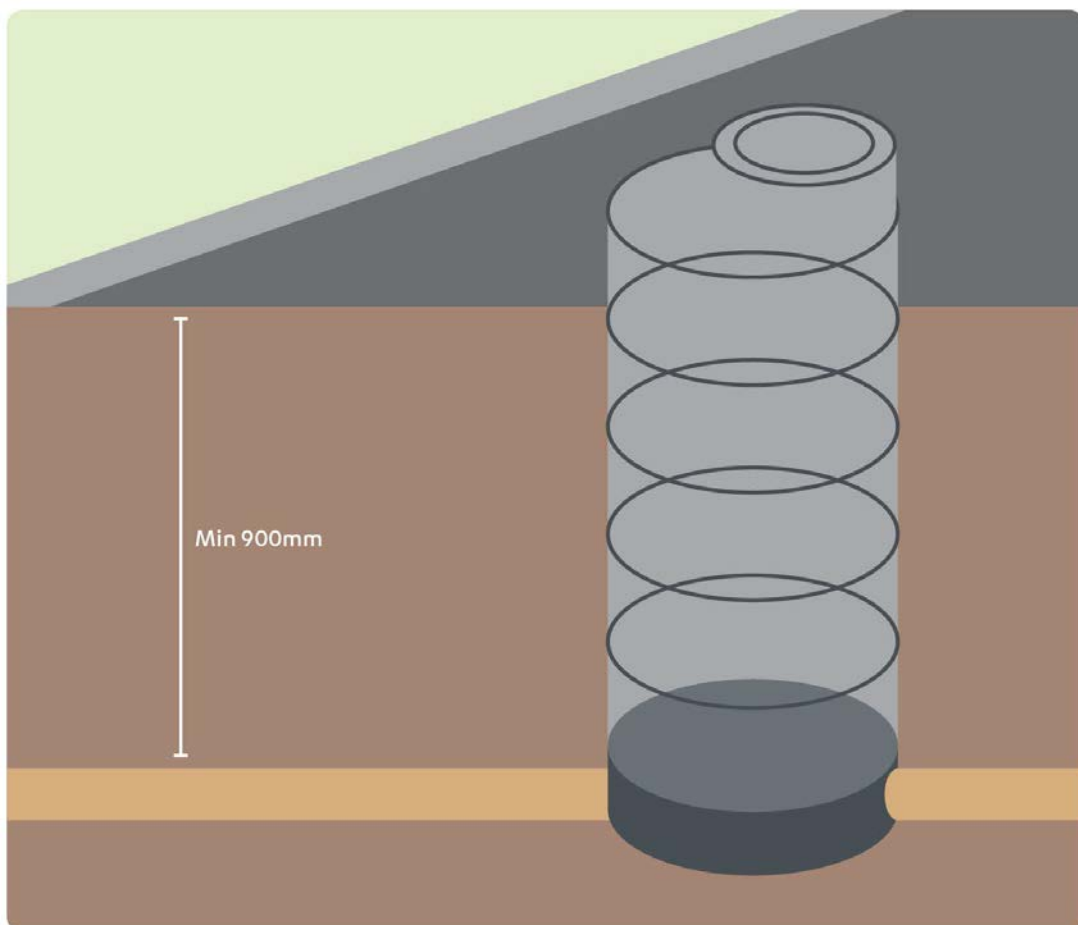
## 14.10 Commercial driveways and paving

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	Works over are required: <ul style="list-style-type: none"> <li>✓ Maintain a minimum clearance of 750 mm between the top of the surface and top of the sewer.</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep	Application considered.
C	Gravity sewer greater than 225 mm	Application considered.
D	Decommissioned assets	Application considered.
E	Property connection sewer (servicing either neighbouring or own property)	Works over a property connection sewer of depth 3.0 m or less is permitted. <ul style="list-style-type: none"> <li>✓ Works over a property connection sewer greater than 3.0 m require to maintain a minimum 1.0 m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connections sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
F	Manhole	Works over manholes require: <ul style="list-style-type: none"> <li>✓ A minimum of 900 mm vertical clearance from the top of the sewer connected to the manhole. Refer to Figure 19.</li> <li>✓ The cover of the manhole to be at same level as new surface.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Barwon Water will provide components and authorise contractors for height adjustments. The customer will incur all labour costs.</li> <li>❖ Manholes can only be opened by Barwon Water authorised personnel.</li> </ul>
G	Maintenance shaft/end of line	Works require: <ul style="list-style-type: none"> <li>✓ The cover of the maintenance shaft to be at same level as the new surface.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Barwon Water will provide components and authorise contractors for height adjustments. The customer will incur all labour costs.</li> <li>❖ Maintenance shafts greater than 3.0 m must be replaced by a manhole at the customer's expense.</li> </ul>

		❖ Maintenance shafts/end of line can only be opened by Barwon Water authorised personnel.
I	<b>Water mains/sewer rising mains</b>	Works over water mains and sewer rising mains is not permitted. Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).
J	<b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	✓ Works to be located outside the easement. NOTE: ❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.
K	<b>Vent shafts</b>	Works adjacent require: ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft. NOTE: ❖ Relocation of a vent shafts at the customer's expense will be considered. ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 19: Driveway over sewer



## 14.11 Excavations and landfills

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Excavations over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum vertical clearance of 750 mm between the cut surface and top of the sewer.</li> </ul> <p>Landfills over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A maximum fill of 1.0 m from the top of the finished surface level. Refer to Figure 20.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Build over will not be considered if the increased depth of sewer causes an unauthorised build over of existing structures.</li> <li>❖ Ensure erosion protection is in place.</li> <li>❖ Use non-contaminated soil for landfills.</li> <li>❖ Applicant is responsible for disposing removed soil.</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep	<p>Excavations over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum clearance of 750 mm between the cut surface and top of the sewer. Refer to Figure 20.</li> </ul> <p>Landfill over a gravity sewer is not permitted.</p>
C	Gravity sewer greater than 225 mm	Application considered.
D	Decommissioned assets	Application considered.
E	Property connection sewer (servicing either neighbouring or own property)	<p>Excavations over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum vertical clearance of 750 mm between the cut surface and top of the sewer.</li> </ul> <p>Landfills over a gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A maximum fill of 1.0 m from the top of the finished surface level.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Build over will not be considered if the increased depth of sewer causes an unauthorised build over of existing structures.</li> <li>❖ Ensure erosion protection is in place.</li> <li>❖ Use non-contaminated soil for landfills.</li> <li>❖ Applicant is responsible for disposing removed soil.</li> </ul>
F	Manhole	<p>Height adjustments for excavations and landfills require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 750 mm vertical clearance from the outside edge of the sewer connected to the manhole.</li> <li>✓ Manhole cover to be at same level as new surface level.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ For residential properties, Barwon Water will coordinate and bear the cost of the first height adjustment less than and including 450 mm for each property owner.</li> </ul>

- ❖ For residential properties, Barwon Water will provide components and authorise contractors for the first height adjustment greater than 450 mm. The customer will incur all labour costs.
- ❖ For residential properties, any subsequent height adjustments are at full expense to the customer.
- ❖ For commercial properties, Barwon Water will provide components and authorise contractors for manhole height adjustments. The customer will incur all labour costs.
- ❖ Manholes can only be opened by authorised personnel.

<b>G</b>	<b>Maintenance shaft/end of line</b>	<p>Height adjustments for excavations and landfills around mains require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 750 mm vertical clearance from the outside edge of the sewer connected to the maintenance shaft.</li> <li>✓ The maintenance shaft and end of line cover to be at same level as new surface level.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ For residential properties, Barwon Water will bear the cost of the first height adjustment up to a max final depth of 3.0 m for each property owner.</li> <li>❖ Barwon Water will provide material and authorise contractors to complete for subsequent height adjustments.</li> <li>❖ Maintenance shafts greater than 3.0 m must be replaced by a manhole at the customer's cost.</li> <li>❖ Maintenance shafts can only be opened by Barwon Water authorised personnel.</li> </ul>
<b>H</b>	<b>Pressure sewer system</b>	<p>Works over a pressure sewer system is not permitted.</p> <p>Works adjacent are required:</p> <ul style="list-style-type: none"> <li>✓ To be located outside the easement.</li> </ul>
<b>I</b>	<b>Water mains/sewer rising mains</b>	<p>Works over water mains and sewer rising mains is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).</li> </ul>
<b>J</b>	<b>Barwon Water easements</b>	<p>Excavations over an easement is not permitted.</p> <p>Landfills over an easement require:</p> <ul style="list-style-type: none"> <li>✓ A maximum fill of 1.0m from the top of the finished surface level.</li> <li>✓ The outside edge of the retaining wall to be located outside the easement.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Where an easement is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.</li> <li>❖ Ensure erosion protection is in place.</li> <li>❖ Use non-contaminated soil for landfills.</li> </ul>

## K Vent shafts

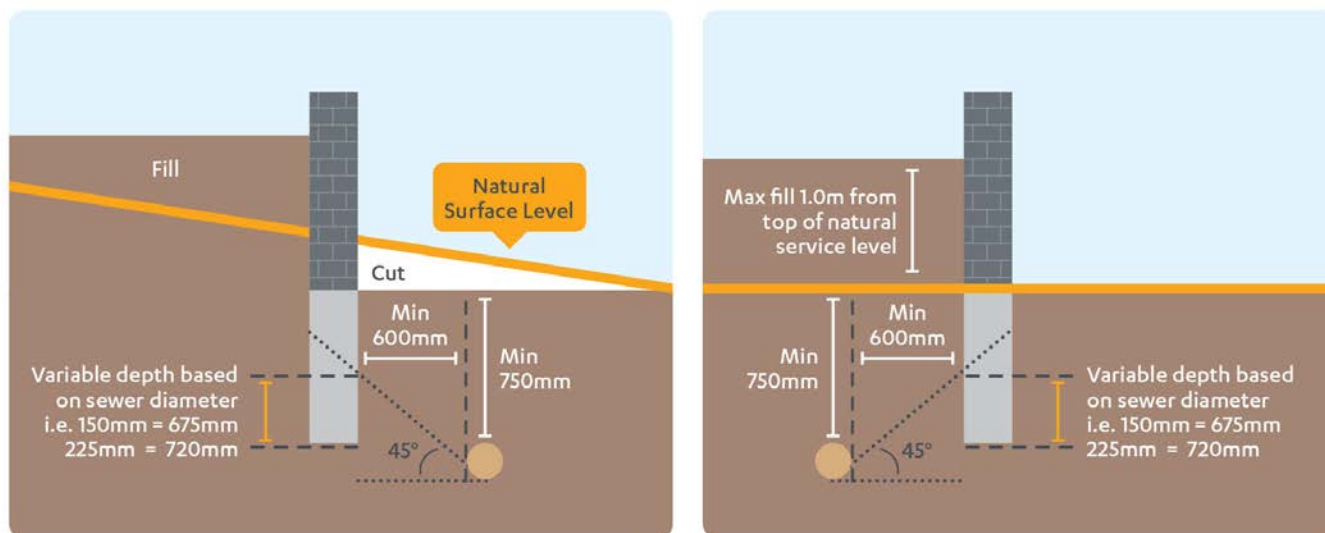
Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft.

NOTE:

- ❖ Relocation of a vent shafts at the customer's expense will be considered.
- ❖ Barwon Water will consider alternatives, which achieve required ventilation.

Figure 19: Excavation and landfill: Cut and Fill





## 14.12 Eaves balconies and over hangings

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	<p>Works within the control zone are required:</p> <ul style="list-style-type: none"> <li>✓ To maintain a minimum vertical clearance of 2.7 m between the finished surface level and the bottom of works within control zone. Refer to Figure 21.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Eaves that do not meet the height clearance must maintain a minimum 600mm horizontal clearance from either side of the gravity sewer from within the property concerned. Refer to Figure 21.</li> <li>❖ Balconies and over hangings that do not meet the height clearance must maintain a minimum of 1.0 m horizontal clearance from the centre of the gravity sewer. Refer to Figure 22.</li> </ul>
B	Gravity sewer up to and including 225mm diameter and greater than 3.0 m deep	<p>Works within control zone require:</p> <ul style="list-style-type: none"> <li>✓ To maintain a minimum vertical clearance of 5.0 m between finished surface level and bottom of works within control zone. Refer to Figure 22.</li> </ul>
C	Gravity sewer greater than 225 mm	<p>Works within a control zone is not permitted.</p> <p>Works adjacent to gravity sewer require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the outside edge of the gravity sewer or be located outside the easement (whichever is greater).</li> </ul>
D	Decommissioned assets	Works over asset permitted.
E	Property connection sewer (servicing either neighbouring or own property)	<p>Works over a property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>

### F Manhole

Works within the control zone require a minimum vertical clearance between the structure and the manhole as per the table below.

Depth of manhole	Minimum height clearance
Less than 3.0 metres	2.7 metres
Greater than 3.0 metres	5.0 metres

**G Maintenance shaft/end of line** Works within the control zone require a minimum vertical clearance between the structure and the maintenance shaft/end of line as per the table below.

Depth of maintenance shaft	Minimum height clearance
Less than 3.0 metres	2.7 metres
Greater than 3.0 metres	5.0 metres

**H Pressure sewer system**

- ✓ Eaves over easements are required to maintain a minimum vertical clearance of 2.7 m from the finished surface level.
- ✓ Balconies and over hangings over easements are required to maintain a minimum vertical clearance of 5.0 m.

**I Water mains/sewer rising mains** Works over water mains and sewer rising mains is not permitted.

Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the mains, or to be outside of the easement (whichever is greater).

**J Barwon Water easements**

- ✓ Eaves are required to maintain a minimum vertical clearance of 2.7 m between the finished surface level and bottom of the eaves.
- ✓ Balconies and over hangings are required to maintain a minimum vertical clearance of 5.0 m between the finished surface level and invert level of works.

NOTE:

- ❖ Where an easement is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.

**K Vent shafts** Works adjacent require:

- ✓ A minimum of 1.0 m horizontal clearance from the outside edge of the base of the vent shaft.

NOTE:

- ❖ Relocation of a vent shafts at the customer’s expense will be considered.
- ❖ Barwon Water will consider alternatives that achieve required ventilation.

Figure 21: Eaves height clearance (gravity sewers less than 3.0m deep)

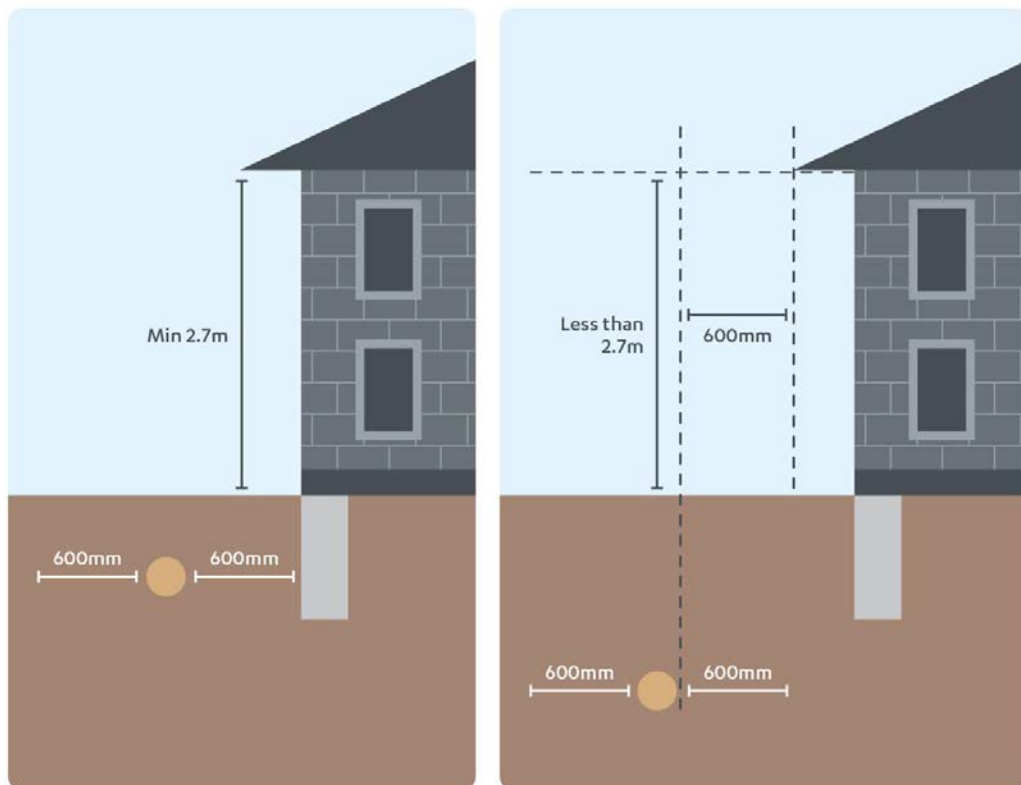


Figure 22: Balconies and over hangings over sewers greater than 3.0 metres deep



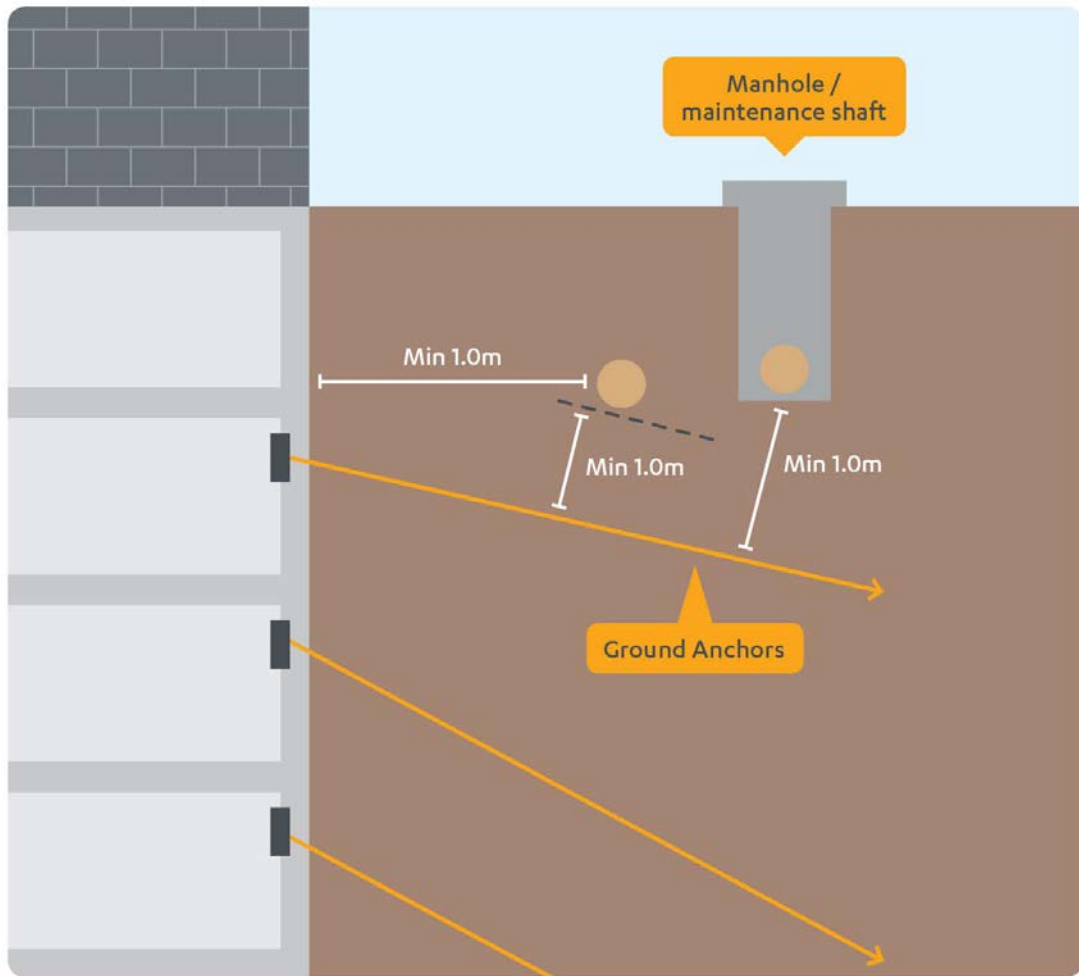
## 14.13 Ground anchors

**NOTE:** The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	Ground anchors are required: <ul style="list-style-type: none"> <li>✓ To maintain a minimum of 1.0 m clearance from the outside edge below the gravity sewer. Refer to</li> </ul>
B	Gravity sewer up to and including 225 mm diameter and greater than 3.0 m deep	<ul style="list-style-type: none"> <li>✓ Figure .</li> </ul> <p>NOTE:</p>
C	Gravity sewer greater than 225 mm	<ul style="list-style-type: none"> <li>❖ Survey of sewer must be conducted at cost to customer to confirm location.</li> </ul>
D	Decommissioned assets	Application considered.
E	Property connection sewer (servicing either neighbouring or own property)	<p>Works over property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
F	Manhole	<p>Only ground anchors with a minimum clearance of 1.0 m below the bottom of the manhole is permitted. Refer to Figure .</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Survey of sewer must be conducted at the customer's cost to confirm location.</li> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>
G	Maintenance shaft/end of line	<p>Only ground anchors with a minimum clearance of 1.0 m below the bottom of the maintenance shafts and end of line are permitted. Refer to Figure 23.</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Survey of sewer must be conducted at cost to customer to confirm location.</li> <li>❖ Maintenance shafts can only be opened by Barwon Water authorised personnel.</li> </ul>
H	Pressure sewer system	<p>Only ground anchors with a minimum clearance of 1.0 m below the bottom of the pressure sewer system are permitted.</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Survey of sewer must be conducted at the customer's cost.</li> </ul>

I	<b>Water mains/sewer rising mains</b>	<p>Ground anchors are required:</p> <ul style="list-style-type: none"> <li>✓ To be a minimum of 3.0 m away from the outside edge.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Barwon water must review works being constructed near a sewer rising mains or pressure sewers on a case by case basis. Applicant is required to contact Barwon Water to obtain requirements at design stage.</li> <li>❖ Survey of sewer must be conducted at the customer's cost to confirm location.</li> </ul>
J	<b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	<ul style="list-style-type: none"> <li>✓ Works to be located outside the easement.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Where an easement still exists but is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.</li> </ul>
K	<b>Vent shafts/free standing vent shafts</b>	<p>Ground anchors are required:</p> <ul style="list-style-type: none"> <li>• To maintain a minimum clearance of 1.0 m below the bottom of the gravity sewer connected to the vent shaft.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Survey of sewer must be conducted at cost to customer to confirm location.</li> </ul>

Figure 23: Ground anchors



## 14.14 Utilities: Gas, electricity, telecommunications and property drains

**NOTE: The criteria defined may change due to topography, soil conditions and ground water table, therefore final approval is at Barwon Water's discretion.**

Other utility requirements may also need to be considered.

Item	Asset	Criteria
A.	Gravity sewer up to and including 225 mm diameter and depth 3.0 m or less	Utilities crossing gravity sewer must cross at a 90° degree angle. Utilities are required:
B	Gravity sewer up to and including 225mm diameter and greater than 3.0m deep	<ul style="list-style-type: none"> <li>✓ Gas mains, telecommunications and drains maintain a minimum horizontal clearance of 300 mm and vertical clearance of 150 mm from the outside edge of the sewer.</li> <li>✓ Electricity conduits and cables maintain a minimum horizontal clearance 500 mm and vertical clearance of 225mm from the outside edge of the sewer. Refer to Figure 24.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Use underground marking tape.</li> </ul>
C	Gravity sewer greater than 225 mm	<p>Utilities crossing gravity sewer must cross at a 90° degree angle.</p> <p>Utilities adjacent are required:</p> <ul style="list-style-type: none"> <li>✓ Gas mains, telecommunications and drains to maintain a minimum horizontal clearance of 600 mm from the outside edge of the sewer.</li> <li>✓ Electricity conduits and cables to maintain a minimum horizontal clearance 1.0 m from the outside edge of the sewer.</li> <li>✓ To maintain a minimum vertical clearance of 300 mm when crossing over a sewer.</li> </ul>
D	Property connection sewer (servicing either neighbouring or own property)	<p>Works over property connection sewer is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum 1.0m horizontal clearance from the centre of the property branch or be located outside the easement (whichever is greater).</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Property connection sewers within the property concerned can be relocated at customer's expense to achieve required clearances with Barwon Water's consent.</li> <li>❖ Property connection sewers servicing neighbouring properties can be relocated at customer's expense to achieve required clearances with Barwon Water's consent. This is subject to agreement by the neighbouring property owner(s).</li> </ul>
E	Manhole	<p>Utilities must maintain a minimum horizontal clearance of 1.0 m from the outside edge of a manhole cover.</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>❖ Manholes can only be opened by authorised personnel.</li> </ul>
F	Maintenance shaft/end of line	<p>Works over maintenance shafts and end of line is not permitted.</p> <p>Works adjacent require:</p> <ul style="list-style-type: none"> <li>✓ A minimum of 600 mm horizontal clearance from the outside edge of the cover.</li> </ul>

NOTE:

- ❖ Maintenance shafts/end of line can only be opened by authorised personnel.

<b>G</b>	<b>Pressure sewer system</b>	Works over a pressure sewer system is not permitted. Works adjacent to gravity sewers are required: ✓ To be located outside the easement.
<b>H</b>	<b>Water mains/sewer rising mains</b>	Application considered.
<b>I</b>	<b>Barwon Water easements (not currently containing a Barwon Water asset)</b>	Utilities crossing easements must cross at a 90° degree angle. Utilities adjacent to easements are required to be located outside the easement.  NOTE: <ul style="list-style-type: none"><li>❖ Where an easement is no longer required for the provision of sewer/water assets, Barwon Water may approve a build over and consider an application to expunge or amend the easement.</li></ul>
<b>J</b>	<b>Vent shafts/free standing vent shafts</b>	Works adjacent to gravity sewer require: ✓ A minimum of 1.2 m horizontal clearance from the outside edge of a free standing vent shaft/vent shaft.  NOTE: <ul style="list-style-type: none"><li>❖ Vent shafts/free standing vent shafts can be relocated at the customer's cost.</li><li>❖ Barwon Water will also consider suitable alternatives at a cost to the customer. e.g. filters</li></ul>

Figure 20: Utilities crossing sewers

