



## **Guidelines**

# **Build Over or Adjacent to GWMWater Assets**

## TABLE OF CONTENTS

Definitions.....	3
1. Introduction .....	5
1.1 Key Responsibilities.....	5
2. Protecting pipe assets from construction plant loadings .....	7
2.1 Heavy plant.....	7
2.2 Shallow pipes.....	7
2.3 Deep pipes .....	7
3. Guidelines by Asset Type .....	10
3.1 Sewer Mains & Property Connection BranchesError! Bookmark not defined.	
3.2 Maintenance holes & Maintenance Shafts.....	10
3.3 Sewer rising mains, vacuum lines and pressure sewers.....	11
3.4 Water Mains.....	11
3.5 Easements reserved for sewerage / water purposes containing no assets..	11
4. Guidelines by Structure Type .....	12
4.1 Residences / Habitable Structures .....	12
4.2 Brick Garages and Brick Carports Greater Than 10 m <sup>2</sup> .....	15
4.3 Lightweight Garages, Carports, Pergolas, Verandas, Gazebos, Sails and Decking Greater Than 10m <sup>2</sup> .....	18
4.4 Carports and Sheds Less Than 10 M <sup>2</sup> .....	21
4.5 Brick Fences and Retaining Walls (Including Interlocking Block Walls) .	24
4.6 Excavation and Landscaping .....	27
4.7 Driveways and Paving (Plain Concrete Only).....	29
4.8 Swimming Pools, Spas and Saunas (Including Pumps and Pipework) .....	31
4.9 Above Ground Water Tanks - Lightweight (5,000 Litres Max).....	33
4.10 Tennis Courts, Lawn Bowling Greens, all Surfaces Including Posts / Light Poles and Fencing .....	35
4.11 Electrical Transmission Poles and Towers .....	38
4.12 Utilities - Gas, Electricity, Telecommunications and Drainage.....	40
4.13 Commercial, Industrial, Public and Sporting Buildings.....	42

## Definitions

<b>24 Hour Access</b>	Required for maintenance purposes. Unobstructed entry to the sewer is to be maintained at all times. When a structure is constructed boundary to boundary, access via a doorway or roller door is required.
<b>Adjacent</b>	Includes all works / foundations located within 1.5 m of an asset but not over the asset.
<b>All Works</b>	Includes but is not limited to: All types of building works / structures, site works, construction, demolitions, additions, garages, sheds, carports, outhouses, pergolas, verandas, gazebos, sails, decking, saunas, fences, retaining walls, swimming pools, driveways, paving, tennis courts, posts, light poles, excavations/landscaping, footings / foundations (including ground anchors), utilities, telecommunications, above ground water tanks.
<b>Angle of Repose</b>	Line of influence from pipe (Generally an angle of 45 degrees taken from the edge of pipe).
<b>Assets</b>	Includes but not limited to: Sewer mains, water mains, maintenance holes, maintenance shafts, property connection branches, vent shafts and pumping stations
<b>Cantilevering</b>	Structure or beam extended from a wall or foundation to support a balcony or wall.
<b>Demountable</b>	Any structure or roof that can be manually dismantled and removed from its current position. <b>Note:</b> A work instruction plan by a structural engineer supporting this will be required and must include an estimate of time required to complete demounting.
<b>Dependent Persons Unit (Relocatable Unit)</b>	Must be maintained / monitored by relevant Government Authority, e.g. Department of Human Services units. All other units will be treated as a permanent residence.
<b>Easement</b>	An area of land, or part of a lot reserved by law for a specific purpose, such as the containment of sewerage / water assets. <b>Note:</b> Corporation assets are not necessarily contained within an easement.
<b>Footings/Foundation</b>	Supporting part of structure below ground level. Includes pier and beam, strip, pad and screw piles.
<b>Ground Anchors</b>	System of tension rods / cables installed during construction which is used to support structures below ground, e.g. Basement walls.
<b>Habitable</b>	Any building that is constructed for or can be readily converted to be used for occupancy.
<b>Height Clearance</b>	Height of structure above ground level that is required to allow for unobstructed access to a sewer main. Is measured from ground level to the height of the structures wall. Applies to eaves, balconies, garages etc.

<b>Lightweight material</b>	PVC material, Steel Sheeting etc.
<b>Maintenance Hole</b>	An underground structure with a removable cover at ground level that allows for human and machine access to a sewer main.
<b>Maintenance Shafts</b>	An access shaft on the sewer main with a removable cover at ground level that allows for machine access only to a sewer main.
<b>Non-structural Infill Slab</b>	Concrete slab which if cut and removed will not compromise the structural integrity of the structure.
<b>Property Connection Branch (PCB)</b>	A short length of pipe owned and operated by GWMWater that services properties. It connects the properties sewer drain to the sewer main.
<b>Registered Contractor</b>	Trained / accredited personnel authorised to carry out specialist work on GWMWater assets.
<b>Sewer Rising Mains, Vacuum Lines and Pressure Sewers.</b>	A pipe that transfers sewerage under pressure from a pumping system.
<b>Zone of Influence</b>	The notional envelope within which an external vertical load would exert stress on the underground asset. The zone is defined by the lines from the bottom projection of the underground asset extending upwards at an angle of 45°.

## 1. Introduction

If any works are to be constructed over an easement vested in GWMWater or within 1.5 metres of a GWMWater asset, prior approval should be sought from GWMWater. A Build Over Easement (BOE) agreement is usually required and can involve the establishment of additional easements to maintain access. See also legislated requirements under Section 148 of the Water Act 1989.

These guidelines (subject to change) provide an outline of the requirements which need to be considered when planning to construct works over the GWMWater's easement or within 1.5 metres of sewer and/or water assets. The guidelines establish criteria which assist in protecting sewer and water assets from damage, and assist customers to avoid the cost and inconvenience of removing structures which may impede access to an asset.

By following the steps below, an application should proceed with minimal delay and inconvenience.

1. Prior to designing any structure or carrying out works, please seek to establish if the proposed structure/or works is to be located over an easement or within 1.5 metres of a sewer or water asset.
2. Request a detailed sewer asset location plan (Size, Depth & Offset) or water asset plan from GWMWater (a standard fee may be applicable).
3. Refer to the guidelines contained within this document to confirm if the proposed works comply with GWMWater requirements.
4. Lodge an application form with GWMWater along the applicable application fee and a set of building plans. Plans must include a site plan which clearly indicates the type of structure to be built, foundation details and relevant elevation plans.

A standard fee does not apply for the processing of applications. However, in the event that additional information is required to assess the condition/location of existing assets, the cost is to be borne by the applicant. Costs may include survey and/or Closed Circuit Television (CCTV) investigations.

### 1.1 Key Responsibilities

The developer is responsible for:

- All works carried out by the developer or their agents
- Confirming the actual location of GWMWater assets prior to commencing any works
- All costs, including GWMWater 'Guaranteed Service Level' payments, arising from damage to a GWMWater asset caused by actions of the developer or their agents

The owner is responsible for:

- All costs arising from obstruction of GWMWater access to GWMWater assets and easements
- All costs associated with removal of obstructions to GWMWater access

- All costs associated with demounting, demolishing, removing and/or reinstating any structures or works over GWMWater assets, subject to conditions of any written agreement between GWMWater and the Owner.

## 2. Protecting pipe assets from construction plant loadings

Buried pipe assets can be subjected to construction plant loading in construction sites. The pipe relies on the cover of soil above the crown to protect it from damage. You must locate and peg out the position and line of our pipe assets on-site before starting any site work. You must exercise extreme care during the construction period. If you have any doubt on the service or physical condition of any pipe asset, contact GWMWater as early as possible.

### 2.1 Heavy plant

Heavy construction plant must not traverse pipes or be positioned within the Zone of Influence.

Heavy construction plant includes piling rigs, cranes, rollers and the like (Figure 1).

If you need to place heavy construction plant above GWMWater pipe assets, you must prepare a specialist engineering assessment and a work method statement for acceptance by GWMWater.

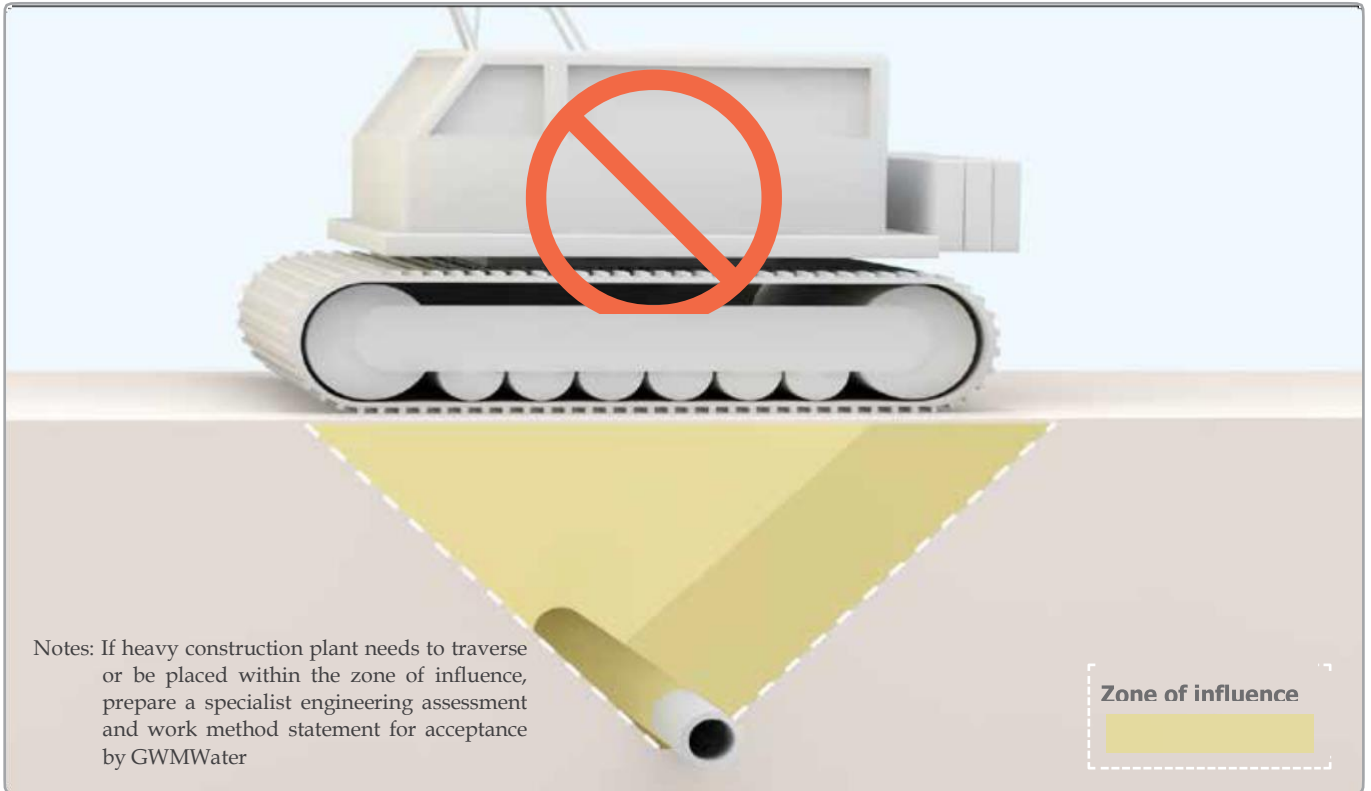
### 2.2 Shallow pipes

For pipes with less than 0.45 m cover, no construction plant may pass or be positioned within the Zone of Influence (Figure 2). If you need to traverse the pipe, you must put protection measures in place. You must complete a specialist assessment and prepare a work method statement for acceptance by GWMWater.

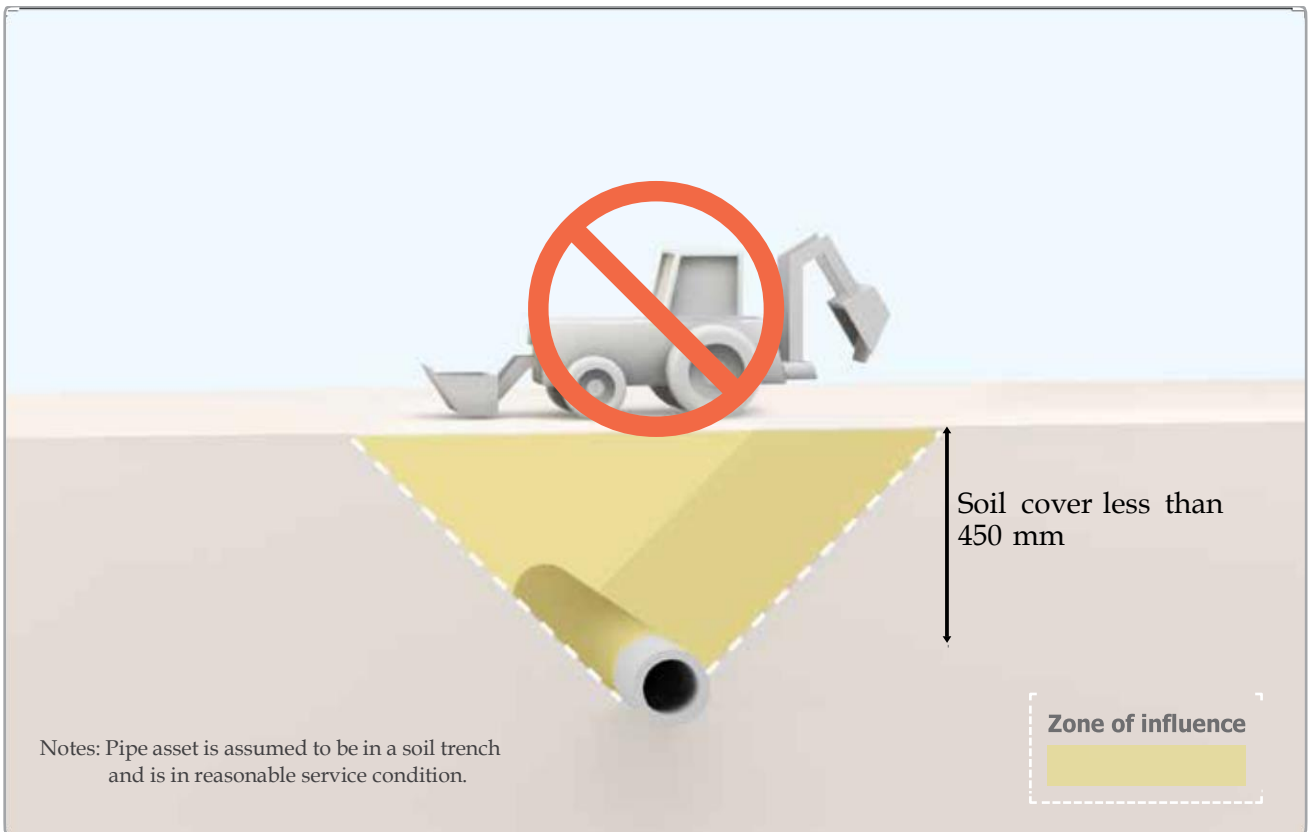
For pipes with soil cover more than 0.45 m, light construction plants such as forklifts, small excavators, wheel loaders and the like are usually allowed (Figure 3).

### 2.3 Deep pipes

As a general rule, construction plant is permitted to traverse pipes with soil cover more than 1.2 m. However, these plants are limited to those with individual wheel load not exceeding 80 kN, or axle load not exceeding 160 kN (Figure 4). Examples of these plants are registered vehicles permitted on public roads and construction plant under 25 tonnes.



**Figure 1: Heavy construction plant not permitted within zone of influence**



**Figure 2: Construction plant not permitted within Zone of Influence for shallow pipes**

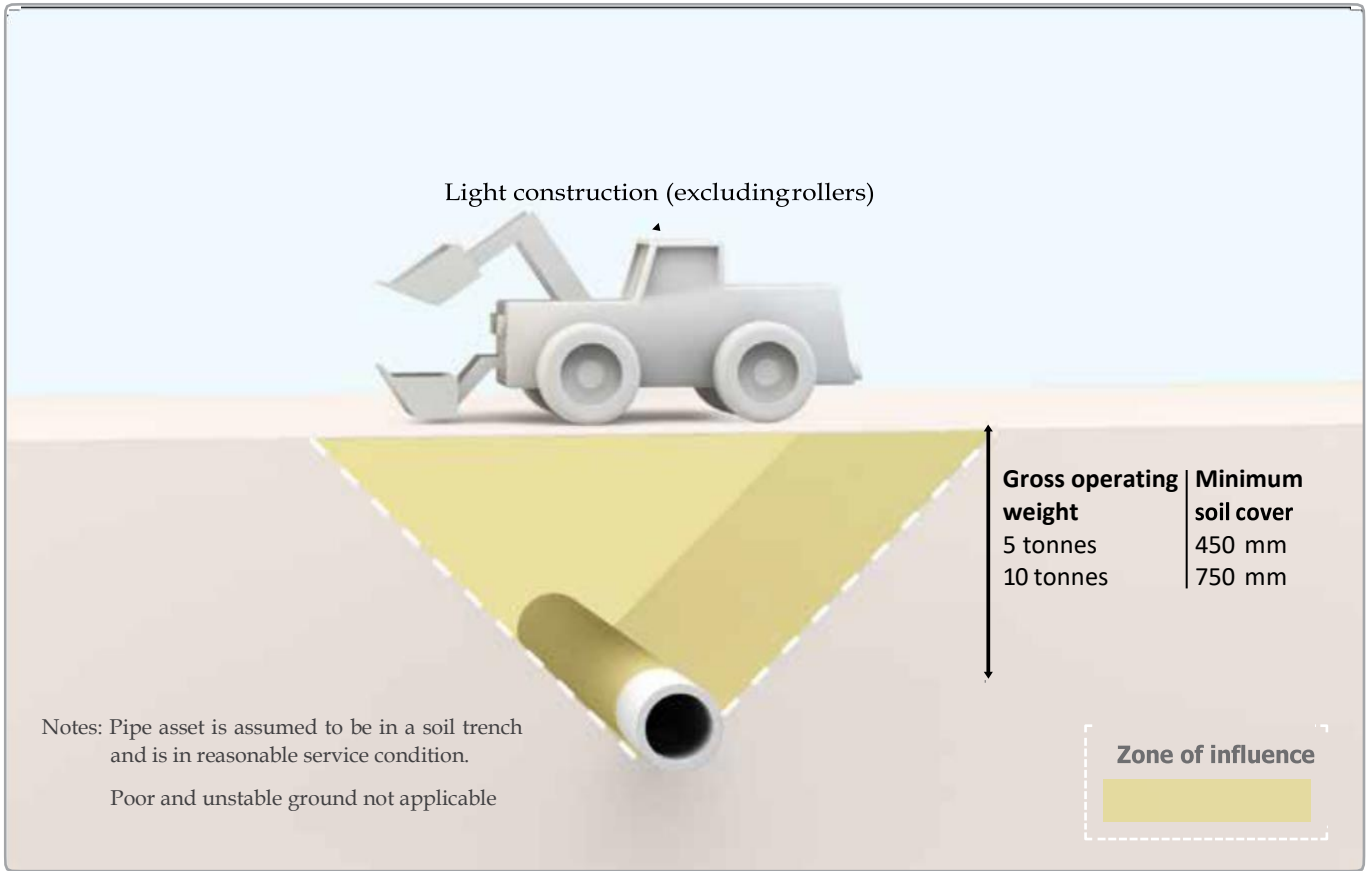


Figure 3: Light construction plant permitted within zone of influence

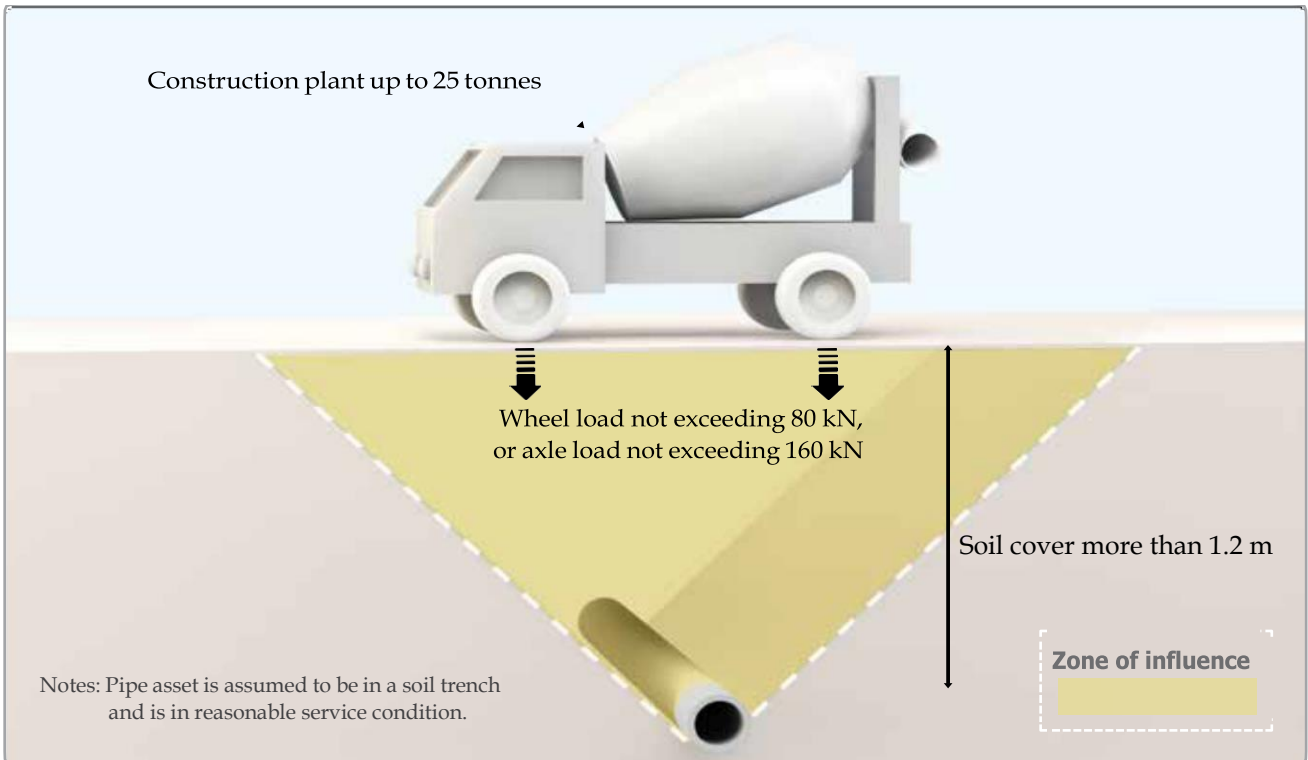


Figure 4: Construction plant permitted within Zone of Influence for deep pipes

### 3. Guidelines by Asset Type

This section details the requirements according to the assets present.

#### 3.1 Sewer Mains & Property Connection Branches (PCB)

##### 3.1.1. Residential, Industrial or Commercial Properties

Industrial / commercial buildings and/or residential structures are generally not permitted to be constructed over GWMWater sewer assets or easements. Applications may be considered on a case-by-case basis where sewer assets can be relined / replaced from maintenance hole to maintenance hole. All works will be at the owner's expense according to GWMWater policy *Third Party Obligations when Impacting on GWMWater Assets* ([CMS/776](#)). Details of this option will be investigated upon request.

Works over property connection branches<sup>1</sup> servicing adjoining properties are not permitted as it creates a risk to GWMWater's obligations in providing a service to a neighbouring customer.

Works **adjacent** to sewer mains and/or property connection branches require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**)
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the sewer.
- 24-hour access is required.
- Driven piles are not permitted.

#### 3.2 Maintenance holes & Maintenance Shafts

Works over maintenance holes is not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole require:

- 1.5m horizontal clearance from the outside edge of the cover surround.
- Footings required will depend on the type of structure.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.

---

<sup>1</sup> The property connection branch is owned and maintained by GWMWater and exists between the sewer main and the Acceptance Point (see [CMS/2464](#)).

- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 3.3 Sewer rising mains, vacuum lines and pressure sewers

Structures over rising mains, vacuum lines and pressure mains are not permitted.

GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 3.4 Water Mains

Works over water mains of any size are not permitted.

GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 3.5 Easements reserved for sewerage / water purposes containing no assets

#### 3.5.1. Residential Properties

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4. Guidelines by Structure Type

This section details the relevant permissible construction and requirements according to the structure type and assets present.

### 4.1 Residences / Habitable Structures

#### 4.1.1. Sewer Mains & Property Connection Branches (PCB)

Residences / habitable structures are not permitted to be constructed over sewer mains or property connection branches. The property connection branch is owned and maintained by GWMWater and exists between the sewer main and the Acceptance Point (see [CMS/2464](#)).

Works adjacent to sewer mains and/or property connection branches require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**)
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

Confirmation of the sewer's actual location should be determined (this is recommended as existing fences, for example, may not be positioned as per title boundaries). If requested, GWMWater can perform this inspection. A standard fee applies.

#### 4.1.2. Maintenance holes & Maintenance Shafts

Works over maintenance holes is not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole chamber require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.1.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.1.4. *Water Mains*

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.1.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where an easement is no longer required for the provision of sewer / water purposes, GWMWater may consider an application to expunge or amend the easement.

#### 4.1.6. *Eaves*

- For easements greater than 3m wide, eaves may encroach into a GWMWater easement up to a maximum of 600mm.
- For easements less than 3m wide, GWMWater will consider on application granting permission for eaves to encroach on the easement subject to a BOE agreement.

#### 4.1.7. *Balcony / canopy*

- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished surface) are required:
  - 2.2m for mains up to 2.7m deep
  - 2.7m for mains deeper than 2.7m

#### 4.1.8. *Ground anchors*

Where ground anchors are to be used the following requirements are to be met:

- A plan showing the sewer main clearly plotted against the cross section and the long section and showing 1.5 m lateral clearance is being met between the ground anchors and the sewer main.
- 1.5 m lateral clearance being met will also need to be shown for any property connection branches, inspection shaft and maintenance holes.
- A site plan will be required showing the building in relation to the title boundaries.
- Care will need to be exercised when installing these tendons to ensure that these clearances are obtained between the owner's / developer's tendons and GWMWater's assets.
- CCTV inspections will be required, one prior to works commencing and a second inspection once works have been completed, both at owner's cost. This will allow the checking of the condition of any sewer assets before and after ground anchors are installed. The CCTV footage before and after works will also provide evidence should repair works be required on GWMWater's assets.

NOTE: Any rectification works required due to damage caused by ground anchors will be at owner / developer cost.

## 4.2 Brick Garages and Brick Carports Greater Than 10 m<sup>2</sup>

### 4.2.1. Sewer Mains & Property Connection Branches (PCB)

The property connection branch is owned and maintained by GWMWater and exists between the sewer main and the Acceptance Point (see [CMS/2464](#)).

Works adjacent to sewer main or property connection branch require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**)
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven Piles are not permitted.

Residences / habitable structures are not permitted to be constructed over sewer mains.

A single storey, structurally independent garage/carport is permitted to traverse the sewer main/PCB on the following conditions:

- Section of sewer main within structure footprint must not exceed 8 m in length.
- Horizontal clearance to connection points between PCBs and sewer mains of 1.5m for connections up to 4m deep, and 2m for connections deeper than 4m.
- Horizontal clearance to Acceptance Point (see [CMS/2464](#)) of 1.5m.
- Pier and beam footings / foundations will be required to extend a minimum depth to the angle of repose to the invert level of the trench of the sewer.
- Pier and beam footings / foundations traversing the sewer main must be a minimum 600 mm away but no further than 1.0 m to the outside edge of the sewer.
- Foundations traversing the sewer main must maintain a minimum 600 mm vertical clearance and a minimum 600 mm horizontal clearance to the sewer main.
- Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure.
- Construction joints / saw cuts incorporated into the design must be provided at maximum centres of 1.2m, and be centrally located over the sewer to identify the removable section.
- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished floor surface) are required:
  - 2.2m for mains up to 2.7m deep

- 2.7m for mains deeper than 2.7m
- A structurally independent roof must be provided when attached to another structure (an engineer's plans must be submitted showing the independence of the roof).
- An inspection of the pipes condition, via CCTV, may be required at owner's / applicant's expense prior to final approval. An inspection is required if the pipe was constructed greater than 10 years prior to application and the material is other than UPVC or Polyethylene. If the CCTV inspection confirms that repair work is required on the sewer main, GWMWater will contact the applicant to notify them of any potential delays in approving their application. If any rectification works are required delay may occur prior to formal approval being given.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

### *Cantilevered first storey over a garage*

If a first storey is to encroach over a garage, the following additional information will also be required:

- No loading from the first storey area can be supported or transferred to the outside ground floor footing or foundation of the garage.
- A structural engineer's report / plans must be provided confirming the above.
- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished floor surface) are required:
  - 2.2m for mains up to 2.7m deep
  - 2.7m for mains deeper than 2.7m
- No plumbing fixtures, fixed storage, fixed shelving or internal walls that restrict access will be allowed within garage over sewer main or easement.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

### *4.2.2. Maintenance holes & Maintenance Shafts*

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5m horizontal clearance from the outside edge of the cover surround.
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.

- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.2.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.2.4. *Water Mains*

Structures over water mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.2.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

#### 4.2.6. *Eaves*

- For easements greater than 3m wide, eaves may encroach into a GWMWater easement up to a maximum of 600mm.
- For easements less than 3m wide, GWMWater will consider on application granting permission for eaves to encroach on the easement subject to a BOE agreement.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

### 4.3 Lightweight Garages, Carports, Pergolas, Verandas, Gazebos, Sails and Decking Greater Than 10m<sup>2</sup>

#### 4.3.1 Sewer Mains & Property Connection Branches (PCB)

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

Works traversing require:

- Section of structure must not exceed 8 m in length.
- Horizontal clearance to connection points between PCBs and sewer mains of 1.5m for connections up to 4m deep, and 2m for connections deeper than 4m.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Foundations traversing the sewer main must maintain a minimum 600 mm vertical clearance and a minimum 600 mm horizontal clearance to the sewer main.
- Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure.
- A structurally independent roof must be provided when attached to another structure. (Engineers plans must be submitted showing the independence of the roof.)
- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished floor surface) are required:
  - 2.2m for mains up to 2.7m deep
  - 2.7m for mains deeper than 2.7m

- Driven piles are not permitted.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

For decking that traverses a sewer main, a 1.2 m square removable panel must be formed within the decking where it traverses the property connection branch for access. The inspection opening/ boundary trap must be accessible through the removable panel.

#### 4.3.2. *Maintenance Holes & Maintenance Shafts*

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.3.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.3.4. *Water Mains*

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.3.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

#### 4.3.6. *Eaves*

- For easements greater than 3m wide, eaves may encroach into a GWMWater easement up to a maximum of 600mm.
- For easements less than 3m wide, GWMWater will consider on application granting permission for eaves to encroach on the easement subject to a BOE agreement.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

## 4.4 Carports and Sheds Less Than 10 M<sup>2</sup>

### 4.4.1 Sewer Mains & Property Connection Branches (PCB)

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).
- Pad footings / foundations are permitted;
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure;
- 24-hour access is required; and
- Driven piles are not permitted.

Works traversing require:

- Horizontal clearance to connection points between PCBs and sewer mains of 1.5m for connections up to 4m deep, and 2m for connections deeper than 4m.
- Horizontal clearance to Acceptance Point (see [CMS/2464](#)) of 1.5m.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by structure.
- Foundations traversing the sewer main must maintain a minimum 600mm vertical clearance and a minimum 600 mm horizontal clearance to the sewer main.
- Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure.
- A structurally independent roof must be provided when attached to another structure. (Engineer's plans must be submitted showing the independence of the roof.)
- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished floor surface) are required:
  - 2.2m for mains up to 2.7m deep
  - 2.7m for mains deeper than 2.7m
- Driven piles are not permitted.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

#### 4.4.2. *Maintenance Holes & Maintenance Shafts*

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.4.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over sewer rising mains, vacuum lines / pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.4.4. *Water Mains*

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.4.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.



NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.5 Brick Fences and Retaining Walls (Including Interlocking Block Walls)

### 4.5.1. Sewer Mains & Property Connection Branches (PCB)

Maximum fill allowed over sewer main is 1.0 m.

A minimum vertical cover of 600 mm over the sewer main is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)

Plans for site cuts need to show finished surface levels.

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers than 4m, or to be outside of easement (**whichever is greater**).
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

Works traversing require:

- Horizontal clearance to connection points between PCBs and sewer mains of 1.5m for connections up to 4m deep, and 2m for connections deeper than 4m.
- Horizontal clearance to Acceptance Point (see [CMS/2464](#)) of 1.5m.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by structure.
- Pier and beam footings / foundation traversing the sewer main must be a minimum 600mm away but no further than 1.0 m.
- Foundations traversing the sewer main must maintain a minimum 600 mm vertical clearance and a minimum 600 mm horizontal clearance to the sewer main.
- Retaining walls are to traverse the sewer main between a 45 degree angle and a 90 degree angle.
- No additional load to be placed on sewer
- Driven piles are not permitted.

- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

#### 4.5.2. *Maintenance Holes & Maintenance Shafts*

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.5.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.5.4. *Water Mains*

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.5.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.

- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.6 Excavation and Landscaping

### 4.6.1. Sewer Mains & Property Connection Branches (PCB)

Maximum fill allowed over sewer main is 1.0 m.

A minimum vertical cover of 600 mm over the sewer main is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)

Plans for site cuts need to show finished surface levels.

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Driven piles are not permitted.

Works traversing require:

- Consent for the placement of rockeries and other garden ornamentation.
- Feature works must be easily relocatable.
- Below ground ponds are not permitted.
- Pier and beam foundations traversing the property connection branch must be a minimum of 600mm from the property connection branch but no further away than 1.0m.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

NOTE: The owner will be responsible for the emptying and refilling of water features. This must comply with the current water restrictions in place.

### 4.6.2. Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of

the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.

- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.6.3. Sewer rising mains, vacuum lines and pressure sewers

Works over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.6.4. Water Mains

Works over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.6.5. Easements reserved for sewerage / water purposes containing no assets

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.7 Driveways (Plain Concrete Only) and Paving

NOTE: Ramps over sewer mains will not be allowed.

### 4.7.1. Sewer Mains & Property Connection Branches (PCB)

#### *Residential*

- A minimum 750 mm vertical cover is to be maintained over the property connection branch.
- No additional load is to be placed on the sewer main by the works.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

#### *Commercial*

- A minimum 900 mm vertical cover is to be maintained over the sewer main.
- No additional load is to be placed on the sewer main by the works.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

### 4.7.2. Maintenance Holes & Maintenance Shafts

Paving not allowed over maintenance holes or maintenance shafts.

Driveways over a maintenance holes or maintenance shafts require:

- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Where heavy covers are required to be fitted to comply with GWMWater requirements, works must be carried out by GWMWater at the owner's expense.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 4.7.3. Sewer rising mains, vacuum lines and pressure sewers

Applications for driveways will be assessed on a case-by-case basis.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 4.7.4. Water Mains

Applications for driveways will be assessed on a case-by-case basis.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

4.7.5. *Easements reserved for sewerage / water purposes containing no assets*

Applications for driveways will be assessed on a case-by-case basis.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.8 Swimming Pools, Spas and Saunas (Including Pumps and Pipework)

### 4.8.1 Sewer Mains & Property Connection Branches (PCB)

NOTE: Owner will be responsible for the emptying and refilling of swimming pool. This must comply with the current water restrictions in place.

Below ground swimming pools / spas over any sewer asset are not permitted.

Works adjacent require:

- Horizontal clearance between the proposed swimming pool / spa (including coping) and the outside edge of the sewer main of 1.5m for mains up to 4m deep and 2m for mains deeper than 4m, or to be outside of easement (**whichever is greater**).
- Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by structure or
- For below ground swimming pools and spas, an Engineer's report must be provided stating: "No additional load will be placed on the sewer main by the structure".
- Driven piles are not permitted.
- 24-hour access is required.

Works traversing require:

- Must be above ground and demountable
- A minimum 600 mm vertical clearance and a minimum 600 mm horizontal clearance to the sewer main is to be maintained
- 24-hour access is required.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

### 4.8.2 Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted (not for below ground pools)
- Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.

- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.8.3. *Sewer rising mains, vacuum lines and pressure sewers*

Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.8.4. *Water Mains*

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.8.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.9 Above Ground Water Tanks – Lightweight (5,000 Litres Max)

### 4.9.1. Sewer Mains & Property Connection Branches (PCB)

- A minimum 600 mm vertical clearance over the sewer main is to be maintained.
- Must be supported on the existing ground or plain concrete only.
- Tanks are to be movable, i.e. constructed of prefabricated and lightweight material.
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

NOTE: Owner will be responsible for the emptying and refilling of water tank. This must comply with the current water restrictions in place.

### 4.9.2. Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Must be supported on the existing ground or plain concrete only.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 4.9.3. Sewer rising mains, vacuum lines and pressure sewers

Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 4.9.4. Water Mains

Structures over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 4.9.5. Easements reserved for sewerage / water purposes containing no assets

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.

- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.10 Tennis Courts, Lawn Bowling Greens, all Surfaces Including Posts / Light Poles and Fencing

### 4.10.1. Sewer Mains & Property Connection Branches (PCB)

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

Works traversing require:

- Details for reinforced concrete slab
- Slab plan to scale indicating the location of full depth saw cuts / breakup slab sections or construction / expansion joint sections where traversing a sewer main.
- Construction joints must have a minimum clearance of 600 mm offset on each side of sewer main.
- A cross section plan showing a minimum 600 mm vertical clearance from underside of foundation to the top of sewer main.
- Tennis Company to provide a detailed work method for accessing sewer main if maintenance work is required.
- A minimum horizontal clearance of 1.5 m between the posts / light poles and the outside edge of the sewer main is to be maintained.
- Footings / foundations must extend a minimum depth to invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- An inspection of the pipes condition, via CCTV, will be required at owner's / applicant's expense prior to final approval.
- Artificial tennis court surfaces must have a separate removable / roll off section with a minimum 1.5 m offset on each side of the sewer.
- Driven piles are not permitted.

- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

#### 4.10.2. *Maintenance Holes & Maintenance Shafts*

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Pad footings / foundations are permitted.
- Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

#### 4.10.3. *Sewer rising mains, vacuum lines and pressure sewers*

Works over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.10.4. *Water Mains*

Works over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.10.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.

- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.11 Electrical Transmission Poles and Towers

### 4.11.1. Sewer Mains & Property Connection Branches (PCB)

Works over sewer assets are not permitted.

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).
- Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

### 4.11.2. Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 4.11.3. Sewer rising mains, vacuum lines and pressure sewers

Works over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances

greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.11.4. *Water Mains*

Works over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.11.5. *Easements reserved for sewerage / water purposes containing no assets*

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or to be outside of easement (whichever is greater). This will be assessed on a case- by-case basis.
- Footings / foundation must extend a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.

Driven piles are not permitted.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.12 Utilities – Gas, Electricity, Telecommunications and Drainage

### 4.12.1. Sewer Mains & Property Connection Branches (PCB)

#### *Residential Properties*

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).

#### *Industrial/ Commercial Properties*

Works adjacent require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (**whichever is greater**).

Works traversing require:

- Services traversing the sewer main must maintain a minimum vertical clearance of 150 mm.
- Services are to traverse the sewer main at between a 45 degree angle and a 90 degree angle.
- No additional load is to be placed on the sewer main by the services.

### 4.12.2. Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 4.12.3. Sewer rising mains, vacuum lines and pressure sewers

Works over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

### 4.12.4. Water Mains

Works over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

4.12.5. *Easements reserved for sewerage / water purposes containing no assets*

***Residential***

- Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.
- Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

## 4.13 Commercial, Industrial, Public and Sporting Buildings

### 4.13.1. Sewer Mains & Property Connection Branches (PCB)

Works over sewer assets are not permitted.

Works adjacent to sewer assets main require:

- Horizontal clearance from the outside edge of the sewer of 1.5m for sewers up to 4m deep and 2m for sewers deeper than 4m, or to be outside of easement (whichever is greater).
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- 24-hour access is required.
- Driven piles are not permitted.

### 4.13.2. Maintenance Holes & Maintenance Shafts

Works over maintenance holes and/or maintenance shafts are not permitted as 24-hour unobstructed access is required.

Works adjacent to a maintenance hole or maintenance shaft require:

- 1.5 m horizontal clearance from the outside edge of the cover surround.
- Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the trench of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Upon request, developer must demonstrate that no external load is applied to the main.
- Maintenance hole cover levels and maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by GWMWater at the owner's expense.
- Suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times.
- Driven piles are not permitted.

NOTE: Maintenance holes and maintenance shafts can only be opened by GWMWater's authorised personnel.

### 4.13.3. Sewer rising mains, vacuum lines and pressure sewers

Works over rising mains, vacuum lines and pressure mains are not permitted.

NOTE: GWMWater will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.13.4. Water Mains

Works over water mains of any size are not permitted.

NOTE: GWMWater will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.5 m. The applicant is required to contact GWMWater at the design stage to obtain requirements.

#### 4.13.5. Easements reserved for sewerage / water purposes containing no assets

Approval will not be given where there is an easement in favour of GWMWater to provide sewer / water for future development.

- A minimum 1.5 m horizontal clearance from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis.
- 24-hour access is required.

NOTE: Where this easement is no longer required for the provision of sewer / water purposes GWMWater may consider an application to expunge or amend the easement.

#### 4.13.6. Balcony / Canopy

- May be permitted where height clearance is achieved
- Unless demountable (the engineer's plan must show work method for demounting), the following height clearances (measured from the finished floor surface) are required:
  - 2.2m for mains up to 2.7m deep
  - 2.7m for mains deeper than 2.7m
- GWMWater will partially or fully remove the structure at the owners cost as necessary to access assets. This arrangement will be detailed in a build over easement agreement.

#### 4.13.7. Ground anchors

Where ground anchors are to be used the following requirements are to be met:

- A plan showing the sewer main clearly plotted against the cross section and the long section showing 1.5 m lateral clearance is being met between the ground anchors and the sewer main
- 1.5 m lateral clearance being met will also need to be shown for any property connection branches, inspection shaft and maintenance holes.
- A site plan will be required showing the building in relation to the title boundaries.
- Care will need to be taken when installing these tendons to ensure that these clearances are obtained between the owner's tendons and GWMWater's assets.
- CCTV inspections will be required, one prior to works commencing and a second inspection once works have been completed both at owners cost. This will allow the checking of the condition of any sewer assets before ground anchors are installed and one

after installation. The CCTV footage before and after works will also provide evidence should repair works be required on GWMWater's assets.

NOTE: Any rectification works required due to damage caused by ground anchors will be at owner / developer cost.