Building requirements for Icon Water approval

A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

icon WATER

Disclaimer

This Guide was prepared for Icon Water. It is provided for general reference only and is not intended as a legal guide or substitute for legal or other professional advice. Each set of factual circumstances will vary and must be considered individually. The Guide content is correct as at 1 October 2014. Referenced source documents and industry practices will be amended or otherwise vary from time to time so care must be taken to confirm currency at the relevant time.

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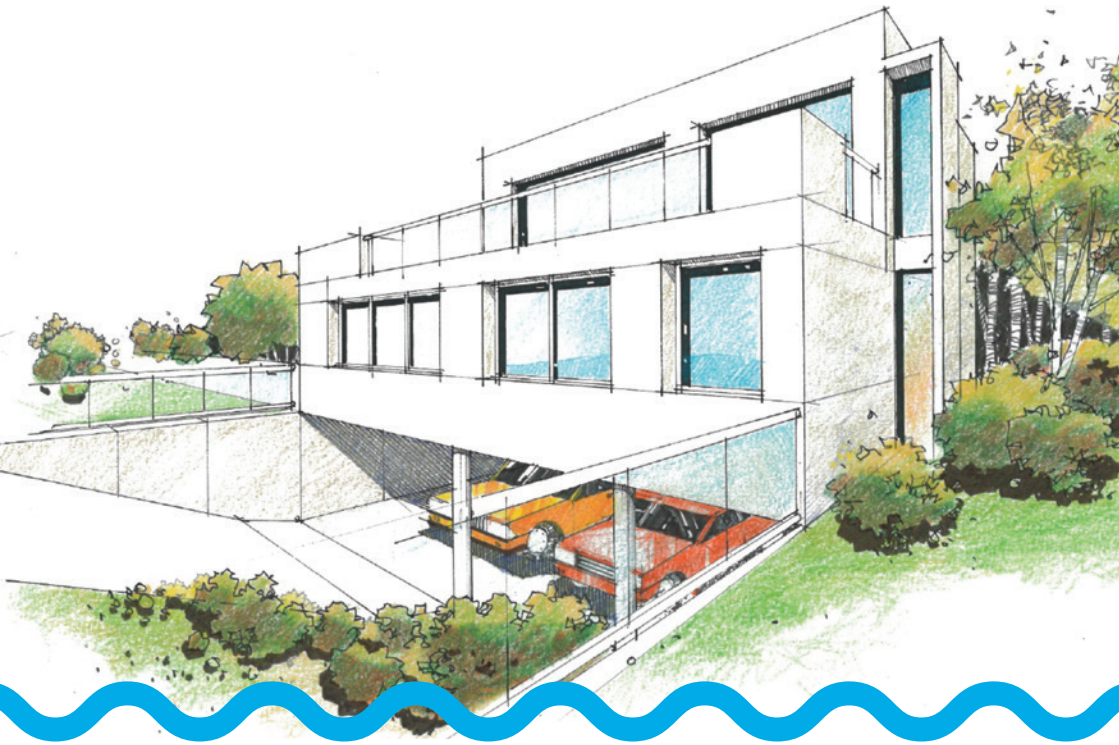


General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

Introduction

About this guide – General requirements

Icon Water maintain and operate the essential services of water and sewerage in accordance with the regulatory framework which sets out that these services are to be provided to the ACT community in a safe, reliable and efficient manner. To do this, adequate access as well as protection of the assets needs to be maintained.

This guide outlines the key principles to be applied when assessing proposals to build, alter or extend structures on a block, even if these structures are exempt from Development or Building Approval.

The landholder is to first determine if there are any Icon Water networks located on or in close proximity to the relevant land. Under the Planning and Development Regulation 2008, developments must not be located in an easement, proposed easement, utility access passage or protection space unless approved by the utility in writing.

For further broader planning issues not relating to water and sewer, refer to The *ACT Territory Plan*.

Locating water and sewerage networks

Customers can access utility network plans showing the approximate location of all utility assets from DIAL BEFORE YOU DIG (phone 1100). Approximate locations of water and sewer connections can also be found free of charge on the website for the ACT Government Environment and Planning Directorate. However these may not be sufficiently accurate for building design and construction purposes. If the proposed development is in close proximity to Icon Water assets, accurate survey plans of water and sewer network assets locations on or near the development are to be provided. To help you avoid any unnecessary and potentially substantial costs, Icon Water recommend you:

Contact us for information and advice.

Phone: 02 6248 3111

Address: 12 Hoskins Street, Mitchell ACT 2911

Website: iconwater.com.au/buildingandrenovation

Email: talktous@iconwater.com.au

* This guide consists of one master booklet called 'General requirements: A guide to building properties containing (or in close proximity to) Canberra's water and sewerage networks', and several subsequent booklets which relate to specific development types, The development specific booklets are designed to be read in conjunction with the 'General Requirements' booklet.

Compliance process

Figure 1 shows the process that is followed for all new building applications and development applications

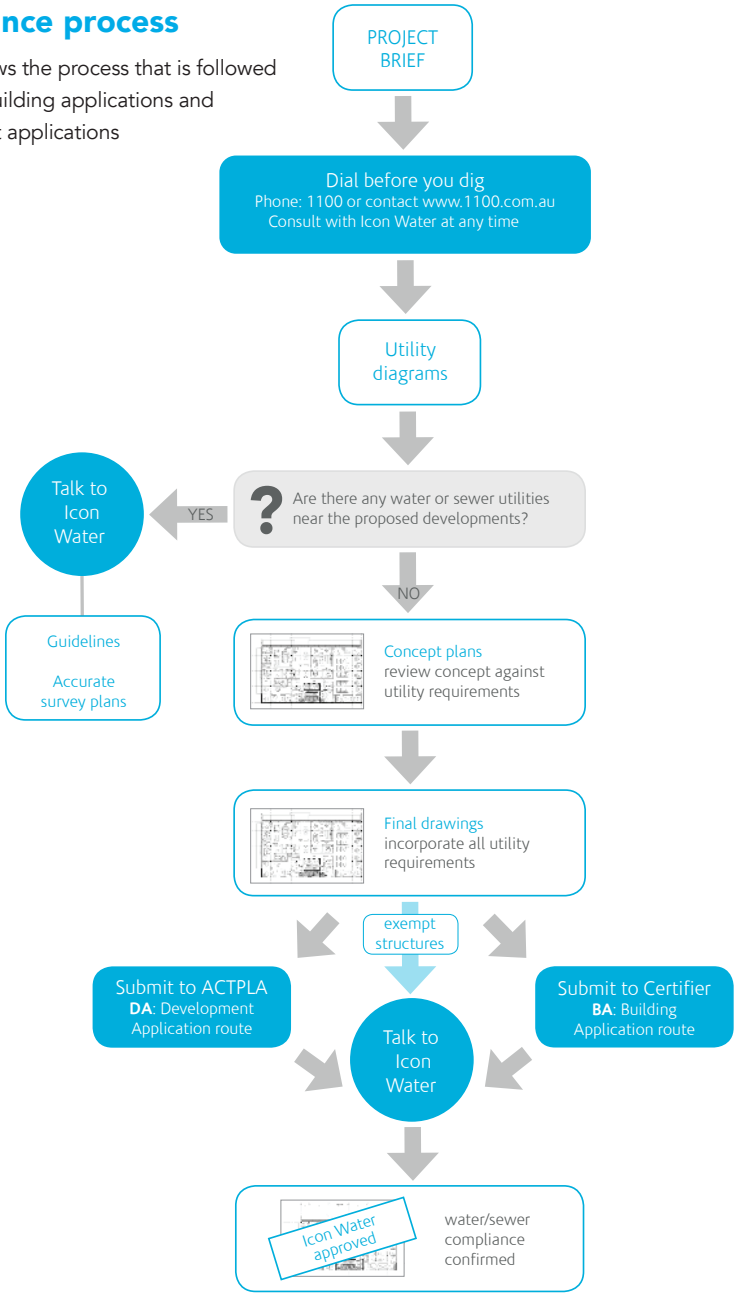


Figure 1 Icon Water BA/DA Compliance Process

Alternative solutions

Icon recognises that circumstances may arise where the standard guidelines contained in this booklet may not be practical or economically viable for the landholder.

If requested Icon Water will consider alternative solutions where:

- Icon Water's water and sewerage assets are adequately protected from potential damage
- public and workplace occupational health and safety hazards are eliminated or adequately controlled
- Icon Water's ability to access to operate, maintain or replace network infrastructure is not obstructed or hindered
- Icon Water's operating, maintenance and replacement costs are not increased
- adjacent structures and neighbouring properties are not put at risk or impacted unacceptably in any other way
- proposals comply with all relevant laws, regulations, codes and standards
- Engineering, landscaping, architectural or specialist consultant advice may be required to certify that any special proposals comply with Icon Water pipe protection principles.

Variations to the standard guidelines must be approved in writing by Icon Water.

Things to be aware of

The conditions illustrated in this document apply to all water and sewer networks located inside and outside the perimeter boundaries of a property. The landholder may be liable to pay for the removal of obstructions, damage to property or the repair of Icon Water infrastructure if they or their agents obstruct access or interfere with the safe and efficient operation of those networks.

Icon Water recommend that only appropriately qualified or licensed persons be engaged to undertake planning, design, construction or demolition work on private blocks.

Safe work

All works approved under these guidelines must permit Icon Water and its contractors to work safely when operating and maintaining the water and sewerage networks.

Network protection

It is the responsibility of the landholder to protect Icon Water infrastructure from damage during a building project. Please refer to the booklet titled "Demolition" for a description of essentials.

It is illegal to build structures or change ground levels contrary to the regulations which protect Icon Water's water and sewerage networks.

Compliance with utility requirements

Building or landscape works should not proceed without an Icon Water compliance statement or contrary to any condition of approval.

Icon Water is neither liable nor responsible for the inconvenience or costs associated with the rejection of non-compliant applications or the removal of non-compliant obstructions. Failure to obtain timely advice and approvals is the responsibility of the applicant.

Other utilities

This booklet deals only with water and sewerage network requirements in the Canberra region. Separate conditions apply to other utilities, including electricity, gas, stormwater and communications.

Easements are not a reliable guide

The presence of a service reservation or easement on the property title (or deposited plan) is not a reliable indicator of the presence of water mains or sewers. Utility assets traverse blocks without easements. Water and sewerage networks may exist outside the easement boundary. In all cases the 'pipe protection envelope' is the controlling requirement.

General requirements

Pipe protection envelopes (PPE)

A pipe protection envelope is the unhindered space required to ensure Icon Water's water and sewer networks can be safely accessed, operated, repaired and replaced.

A mandatory pipe protection envelope runs above, to both sides and the full length of all water and sewerage networks.

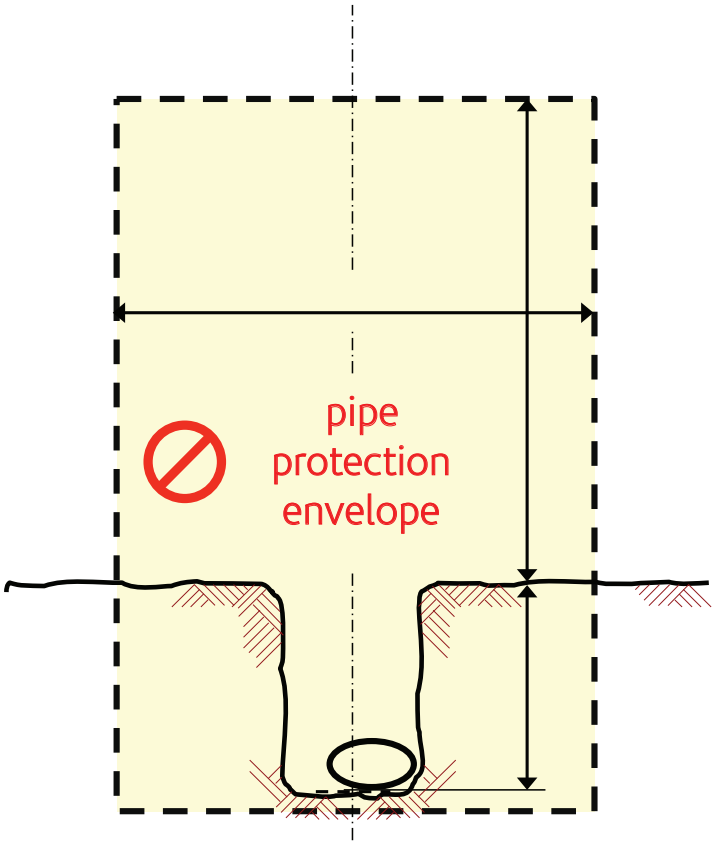


Figure 2 Pipe protection envelope

The width and height of a pipe protection envelope is typically determined according to the diameter, depth and category of asset. See Table 2 on pages 16-17.

Additional building set-backs or footing design may be required where proposed structures impede the movement of equipment, obstruct the placement of spoil, increase the likelihood of harm to Icon Water employees or the risk of damage to adjacent structures cannot be adequately controlled.

No permanent or temporary structure is permitted in the pipe protection envelope or the access passage without Icon Water's written approval.

Structures permitted inside a pipe protection envelope

No structure is permitted over or to encroach into the pipe protection envelope of a water or pressure sewer network.

At the discretion of Icon Water, carports and some open, unlockable, floorless structures may be permitted to be built adjacent to and above the pipe protection envelope of a network sewer. These will be assessed on a case by case basis and will require written approval from Icon Water to proceed. Figure 3 shows an example of a structure that would need written approval.

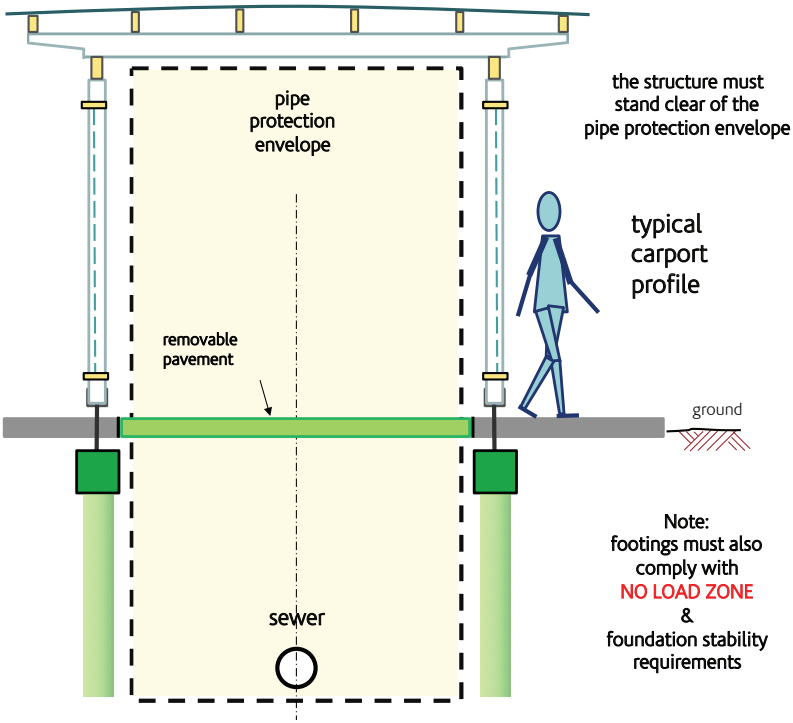


Figure 3 Structure built across pipe protection envelope

Sewer connection access

To prevent damage to property in the case of excavation, the landholder is to maintain a space (a tie protection envelope) as shown in Figure 4, free of obstruction where the property's sanitary drain connects to the network sewer. The ability to excavate the connection ('tie') or access the sewer 'inspection-shaft' (boundary riser) is essential for the rapid identification of faults and maintenance of the connection.

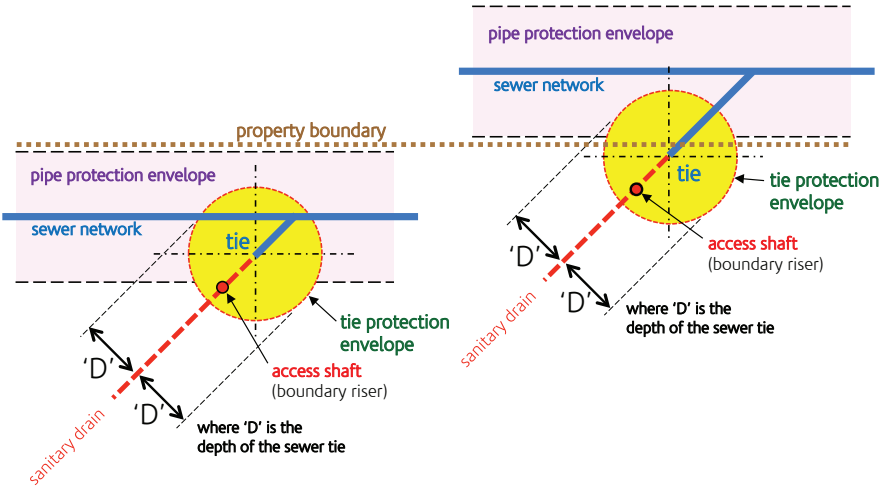


Figure 4 Tie protection envelope

In most instances, customers can access the sewer 'tie' location and depth from the ACT Government Environment and Planning Directorate website.

Private services

For safety reasons, privately owned underground pipes, cables and conduits or above ground aerials are not permitted inside the pipe protection envelope of water or sewerage networks.

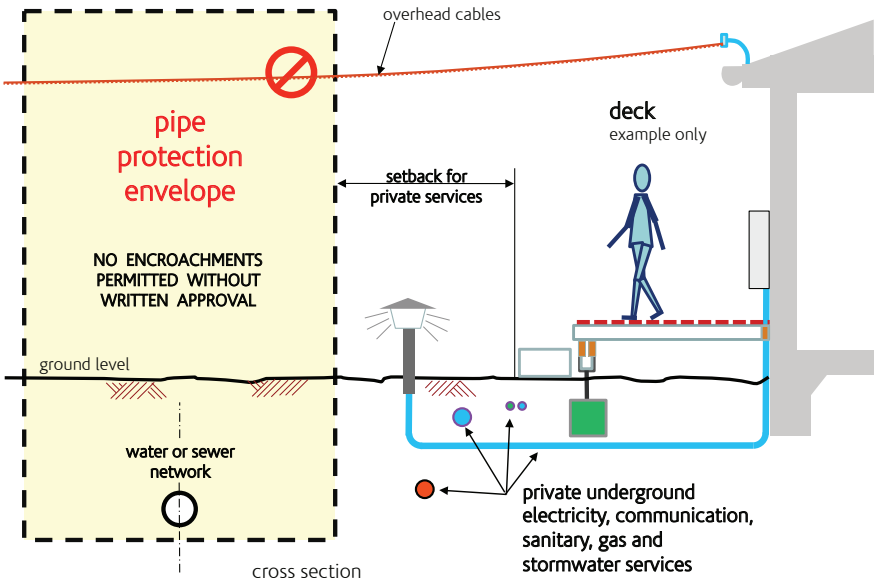


Figure 5 Private service zone setback

Adequate provision must be made outside the pipe protection envelope for the installation and maintenance of private electricity, gas, sanitary, stormwater, water, irrigation and communication services.

Additional setbacks as shown in Figure 5 may be required where private services impede access to the pipe protection envelope or safety hazards increase the likelihood of harm to maintenance personnel.

Emergency access passage

To facilitate rapid fault rectification, an unhindered emergency access passage as shown in Figure 6, is required from the roadway through all properties containing sewer maintenance structures (manholes) to provide Icon Water with 24 hour x 7 day access to clear sewage blockages. See Table 2 (on page 18-19) for access passage requirements.

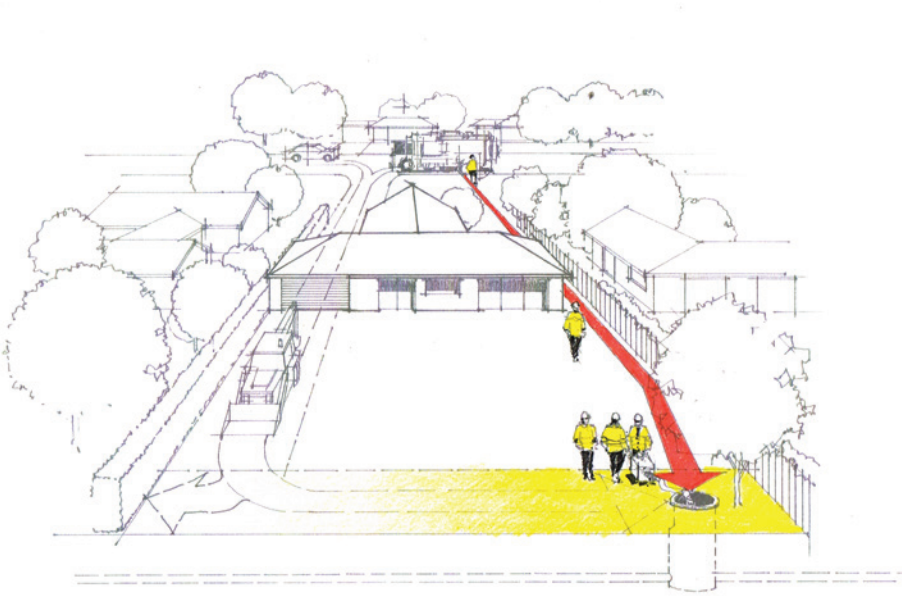


Figure 6 Examples of emergency access passages

Neighbouring properties must not be disadvantaged when access to the water and sewer networks is required. To do this access must be through the property or unit on which those assets are located.

Emergency and planned access can be combined along the same passage if the route is unobstructed and accessible at all times from a roadway and meets the maintenance access width and height requirements.

Note: emergency access through an enclosed or habitable structure is not permitted.

Maintenance access passage

Development of any type is not permitted in a maintenance access passage unless approved in writing by Icon Water. The width and height of a maintenance access passage is determined by the terrain, the depth of the pipeline and the size of excavation machinery employed by Icon Water. Deeper and larger pipes require larger machinery for maintenance or replacement.

Figure 7 shows where the pipe protection envelope of a sewer or water network pipeline is directly accessible from a roadway, the pipe protection envelope can also be used as a maintenance access passage to bring excavation machinery through the property to repair or replace the network.

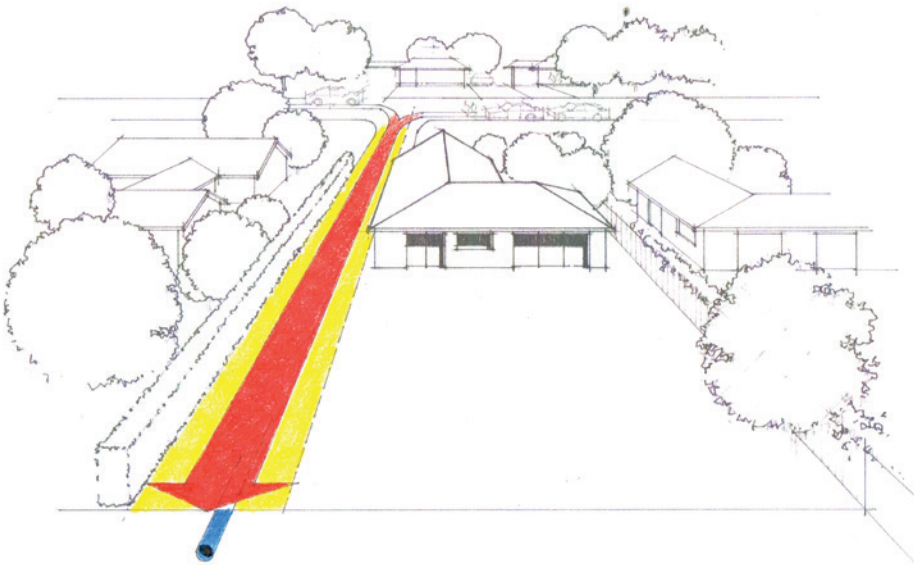


Figure 7 Access passage along the pipe protection envelope

Where a pipe protection envelope is not directly accessible from a roadway an unobstructed maintenance access passage is required to permit Icon Water to bring excavation machinery through the property to repair or replace water and sewer assets. Figure 8 shows an example of this.

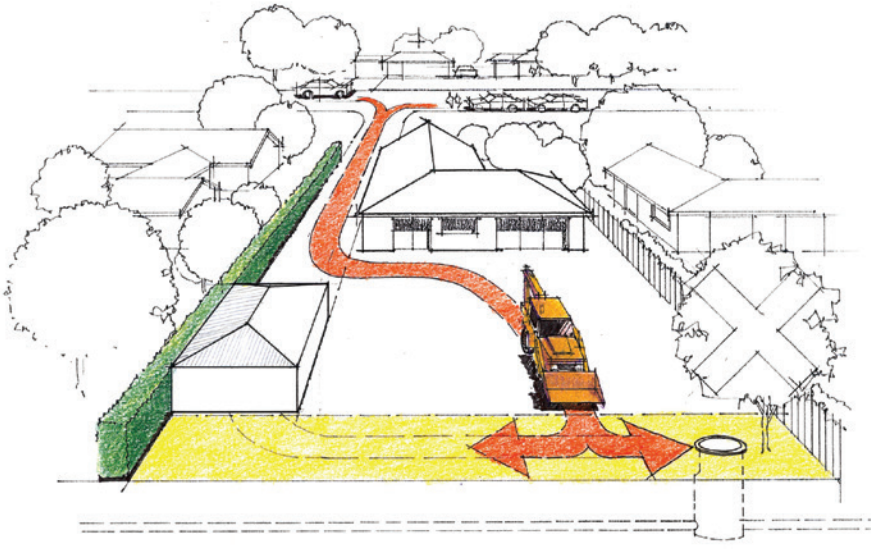


Figure 8 Maintenance access passage

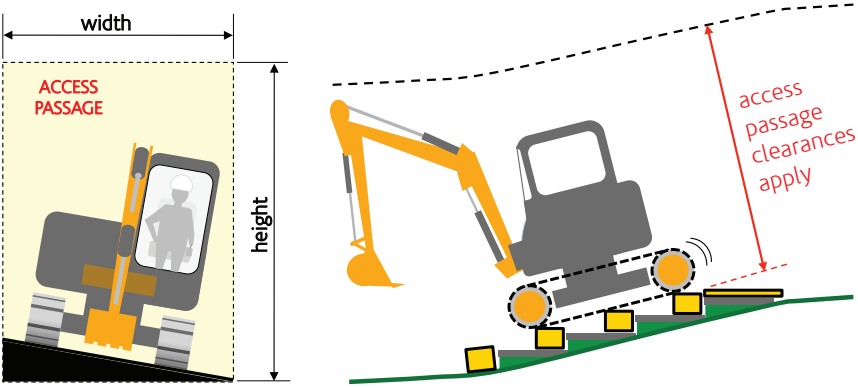
Icon Water will consider alternative arrangements for maintenance access passages if the height and width clearances specified in Table 2 (on page 18-19) are maintained. This is to be approved in writing by Icon Water.

This will not be permitted for emergency access passages.

Neighbouring properties must not be disadvantaged when access to the water and sewer networks is required. To do this access must be through the property or unit title on which the network is located.

Slope of the access passage

Pavement, stairs and ramps along the maintenance assess passage must be approved in writing by Icon Water. If approved, these are to be constructed of materials capable of bearing the weight of excavation machinery and built in a manner to provide safe and unobstructed access to the network. For safety reasons, the longitudinal slope of ramps or stairs should not be greater than 1:4 with a maximum side slope of 1:6. This is shown in Figure 9.



max **1 in 6** side-slope

a ramp or protected stair with a maximum **1 in 4** slope

Figure 9 Access passage slopes

Excavation – 'no go zone'

Figure 10 shows the excavation 'no go zone'. This is the space below a pipe protection envelope which must not be excavated without measures being taken to ensure the alignment of water or sewerage network assets will not move or compromise the integrity of the asset. The stability of the asset must be verified and confirmed in writing (with computations) by a licensed structural engineer and approved by Icon Water in writing.

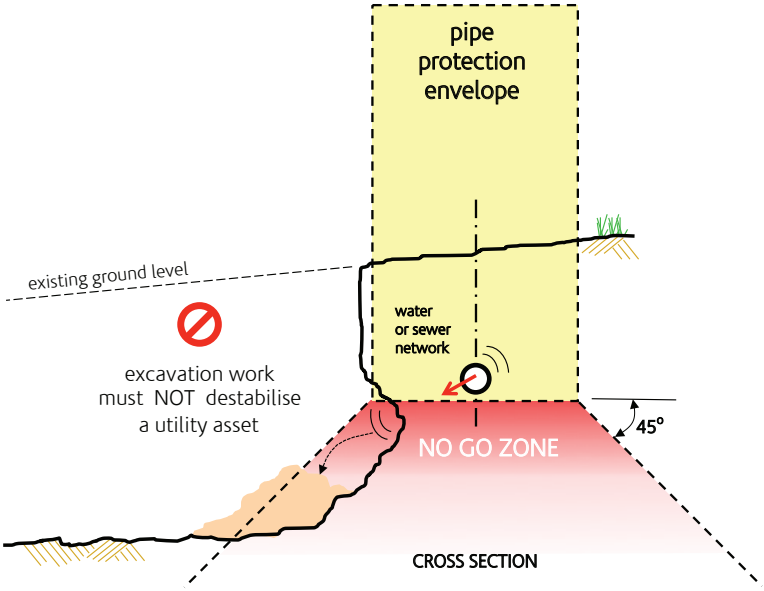


Figure 10 Excavation 'no go zone'

Retaining structures must be designed to ensure Icon Water's water and sewer mains can continue to be safely accessed, operated, repaired and replaced. Emergency and maintenance access passages must not be obstructed by any cut or fill earthworks or retaining walls.

If sewer or water network assets are damaged during construction, Icon Water repair costs are to be charged to the landholder in accordance with the conditions in the *Utilities Act 2000*.

No permanent or temporary structure is permitted in the 'no go zone' or pipe protection envelope without Icon Water's written approval.

Cut and fill

Cut and fill is not permitted inside the pipe protection envelope of a water or sewerage network without Icon Water's written approval.
If approved, adjustment to the level of affected surface fittings (e.g. sewer maintenance structures, valve boxes, fire hydrants, meter pits) may be required. These works are only to be undertaken by Icon Water and charged back to the developer.

Emergency and maintenance access passages must not be compromised by changes to ground levels. Extra depth added over the network may require a larger access passage to be provided on the block.

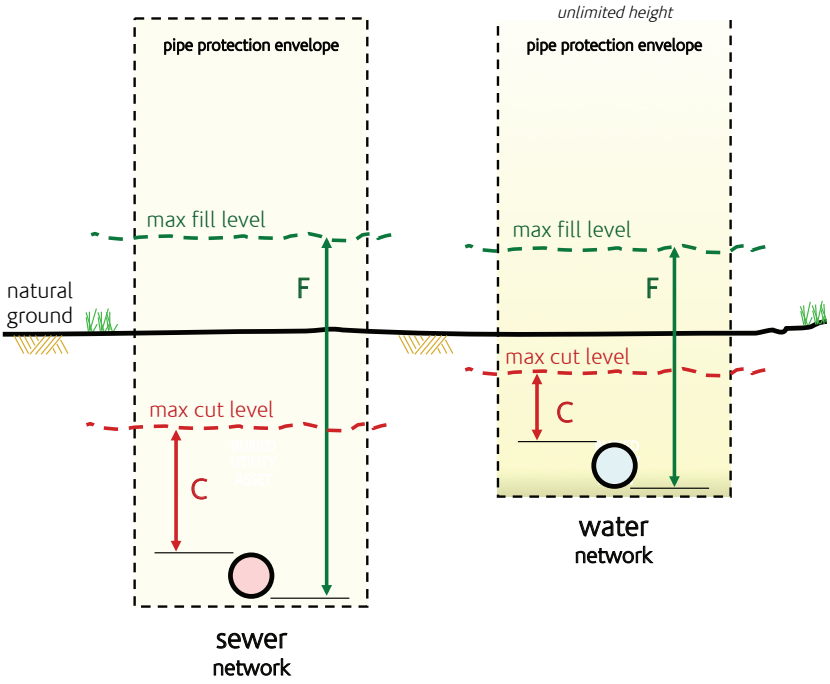


Figure 11 Cut and fill diagrams

Cut and fill in a pipe protection envelope is subject to a safety and operational assessment by Icon Water. The maximum cut and fill permitted inside the pipe protection envelope of water or sewer network is defined in Figure 11 and Table 1.

Gravity sewer network		Water mains & pressurised sewers	
C (cut)	F (fill)	C (cut)	F (fill)
Minimum cover from the top of the pipe: • non trafficable areas - 600mm • Road verges – 750mm • Minor Sealed roads – 900mm • Unsealed, future and arterial roads – 1200mm	Available maintenance access passage width determines permissible fill in accordance with Table 2. Sewer depth must not exceed 5000mm	Water mains: Minimum cover from the top of the pipe: • Non trafficable areas and verges – 600mm • Trafficable areas - 750mm	Maximum depth of 1500m from ground level to the bottom of trench
Sewer connection		**Water connection (water main to meter)**	
C (cut)	F (fill)	C (cut)	F (fill)
Not less than 600mm cover	Tie depth must not exceed 2500mm	Minimum cover from the top of the pipe: • Non trafficable areas 375mm • Trafficable areas and roadways – 450mm	Maximum depth of 1500m from ground level to the bottom of trench

Zone of influence

The zone of influence is the space around the asset where a structure can impact on it. A 45° angle of repose is the default angle used by Icon Water for soils common to the Canberra region.

Building structures and heavy construction equipment loads must NOT be applied to the Zone of influence of a water or sewerage network (irrespective of whether those assets are located inside or outside the lease or property boundary). Figure 12 shows an example of this.

Icon Water recognises it is not always practical to locate footings outside the zone of influence. Alternative engineering solutions will be considered if prepared and submitted in writing (with computations) by a licensed structural engineer. They will need to be approved in writing by Icon Water.

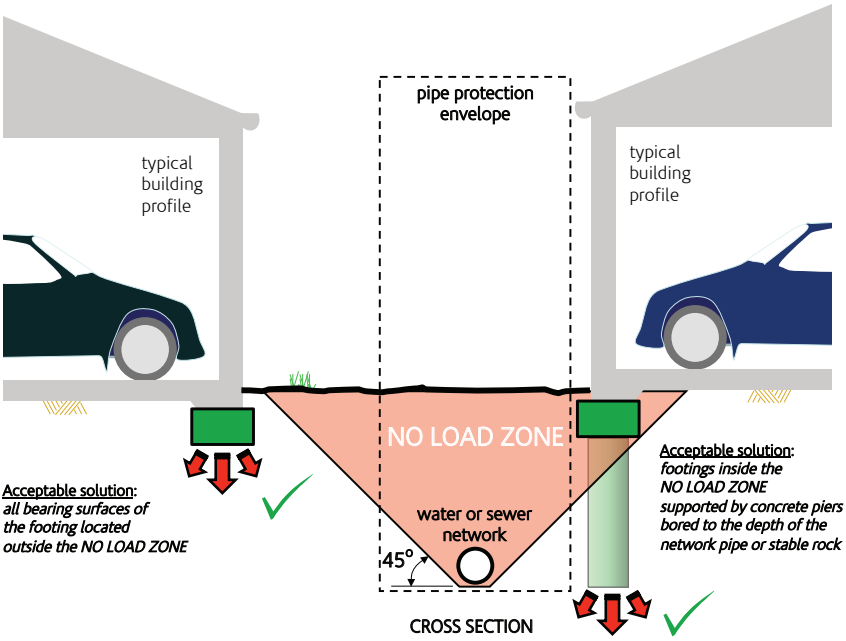


Figure 12 Footings within the zone of influence

Under heavy load, shallow assets under pressure are particularly vulnerable to damage and bursting. Bridging or special protection measures may be required to prevent damage and serious flooding to surrounding areas and structures.

Foundation stability

Foundation design must ensure the whole structure remains stable, damage free and protected from subsidence if a network pressure main fails (bursts or leaks) or a trench is excavated to the full width of the pipe protection envelope. Figure 13 shows the impact incorrect footings can have during maintenance.

When required by Icon Water, confirmation of the structural adequacy of the structure and stability of the foundations must be verified and confirmed in writing (with computations) by a licensed structural engineer.

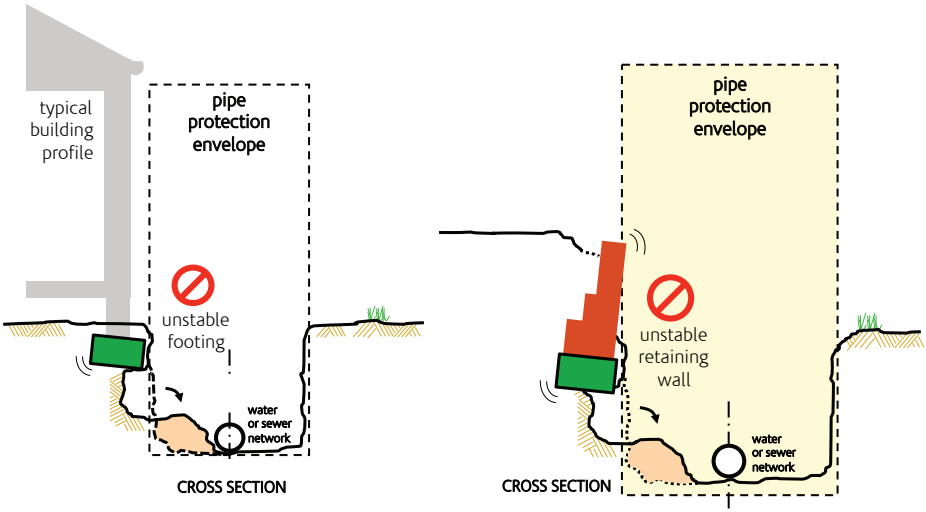


Figure 13 Incorrect footing design

Table 2: Pipe protection envelope, access passage and setback requirements Icon Water reserve the right to change these conditions where abnormal conditions or terrain obstruct reasonable access.

Access to sewerage and water network infrastructure	Minimum width of a 'pipe protection envelope' where a network main traverses a leased block	Minimum height of a 'pipe protection envelope' (or service reservation) above ground	Spoil setback and turning chamfer at 90° change of direction between side access passage and rear 'pipe protection envelope'
DN150 to DN225 gravity sewer pipe where the pipe invert is no deeper than 2.2 metres below finished ground level	2.5 metres	3.0 metres	2.0 metres
DN300 to DN375 gravity sewer pipe where the pipe invert is no deeper than 2.2 metres below finished ground level	3.5 metres	3.0 metres	3.0 metres
DN150 to DN225 gravity sewer pipe where the pipe invert is between 2.2 and 3.0 metres below finished ground level	2.5 metres	3.0 metres	3.0 metres
DN300 to DN375 gravity sewer pipe where the pipe invert is between 2.2 and 3.0 metres below finished ground level	3.5 metres	3.0 metres	3.0 metres
Combined sewerage and stormwater service reservation	Subject to Icon Water discretion (generally add 1.0 metre to categories above).	3.0 metres	As above, according to size and depth of network pipe.
Any trunk sewer or sewerage main larger than DN375 or deeper than 3.0 metres	Subject to Icon Water engineering review of site conditions and risk to property.		
DN100 to DN225 pressure pipe	4.0 metres	Infinite unless adequate damage control is approved.	
DN250 to DN450 pressure pipe	6.0 metres	Infinite unless adequate damage control is approved.	
> DN450 or any water bulk water supply main	Subject to Icon Water engineering review of site conditions and risk to property.		

Private service zone to lay private sanitary drains, stormwater drains, electrical cables/conduits (may be included in the spoil zone)	Maintenance access passage from a roadway through a property to a pipe protection envelope	Emergency access passage (24hr unobstructed access to a sewer manhole inside the property boundary)
1.0 metre recommended	"1.8 x 2.65 metres (width x height) Alternative access may be negotiated (e.g. through garage openings not less than 1.80 x 2.2 metres (width x height))"	1.5 x 2.2 metres (width x height)
1.0 metre recommended	"1.8 x 2.65 metres (width x height) Alternative access may be negotiated (e.g. through garage openings not less than 1.80 x 2.2 metres (width x height))"	1.5 x 2.2 (width x height)
1.0 metre recommended	"2.5 x 2.85 metres (width x height) Alternative access may be negotiated (e.g. through garage openings not less than 2.5 x 2.85 metres (width x height))"	1.5 x 2 2 (width x height)
2.0 metres recommended	"2.5 x 2.85 metres (width x height) Alternative access may be negotiated (e.g. through garage openings not less than 2.5 x 2.85 metres (width x height))"	2.5 x 2 2 (width x height)
As above, according to size and depth of network pipe	Subject to Icon Water discretion (generally add 1.0 metre to width of categories above)	As above, according to size and depth of network pipe
	2.5 x 2.85 metres (width x height)	2.5 x 2.85 metres (width x height)
	Subject to Icon Water engineering review of site conditions and risk to property	

How to submit drawings to Icon Water

Confirm compliance with water and sewerage network requirements:

Lodge your application electronically through the Icon Water website: www.iconwater.com.au (search for 'building and renovation').
Email your application to devapp@iconwater.com.au
All drawings submitted electronically MUST be A3 size and in PDF format

OR

Bring your drawings to Icon Water at: 12 Hoskins Street, Mitchell ACT 2911
Contact hours are from 9.00am to 4.00pm Monday to Friday
Where possible, hard copy application drawings should be A3 size

All drawings must include:

A designated scale (when drawings are submitted electronically at a scale different from the original, a 'bar-scale' must be included)

Site plans must include:

- the footprint of all proposed structures with dimensions from boundaries
- the footprint of all existing approved and unapproved structures (including minor structures such as sheds, rainwater tanks, fences and retaining walls) showing distances from boundaries
- all water mains and sewers (which traverse or are in close proximity to the property) with dimensioned off-sets from boundaries
- the extent of any cut or fill (change of natural ground levels)
- all proposed retaining walls
- the location and depth of the sewerage 'tie'
- the location of all sewer and stormwater maintenance holes (manholes), water meter pits, fire hydrants and water valves (if located inside the property boundaries, in driveways or the nature strip)
- all 'proposed easements' or 'service reservations' sourced from the current Land Title or 'Deposited Plan'
- the over-land flow path for water main burst or surcharge of wastewater from sewage overflow protection devices and maintenance holes (manholes).

General drawings must include:

- dimensioned floor plans of proposed structures (all levels including basements)
- general elevations indicating natural and proposed ground levels

- cross sections showing the location and depth of water mains and sewer pipes relative to proposed structures (i.e. footings, retaining walls, basements, landscape features, cut or fill) where those structures are within or in close proximity to a pipe protection envelope or zone of influence of the asset
- engineering instructions for the stabilisation and protection of water and sewerage network infrastructure where exposed to traffic loads or excavation works
- instructions for the protection of the water service, water meter assembly and sewer tie during construction activities;
- instructions for the temporary connection to sewerage or water networks to support construction activities;
- instructions for the provision of sullage pumps where sanitary fixtures cannot be protected from sewage surcharge by an approved overflow-relief gully or an adequate overland discharge flow-path cannot be provided (draining away from occupied areas)
- setbacks for private services (between the building and a pipe protection envelope to ensure private sanitary drains, stormwater drains, electricity cables and conduits do not obstruct the pipe protection envelope of a water or sewer asset. See Table 2 (on page 16-17).

Additional multi-residential and commercial requirements:

- a preliminary external services plan must be submitted (for the sizing and locating of water and sewerage network connections) complying with Icon Water Supply and Sewerage Standards and the Icon Water's water and Sewerage Service Installation Rules
- an 'off-site' works plan and sections for the installation of structures on adjacent public land (e.g. landscaping, temporary site offices, ramps, rock anchors, soil nails, etc.).

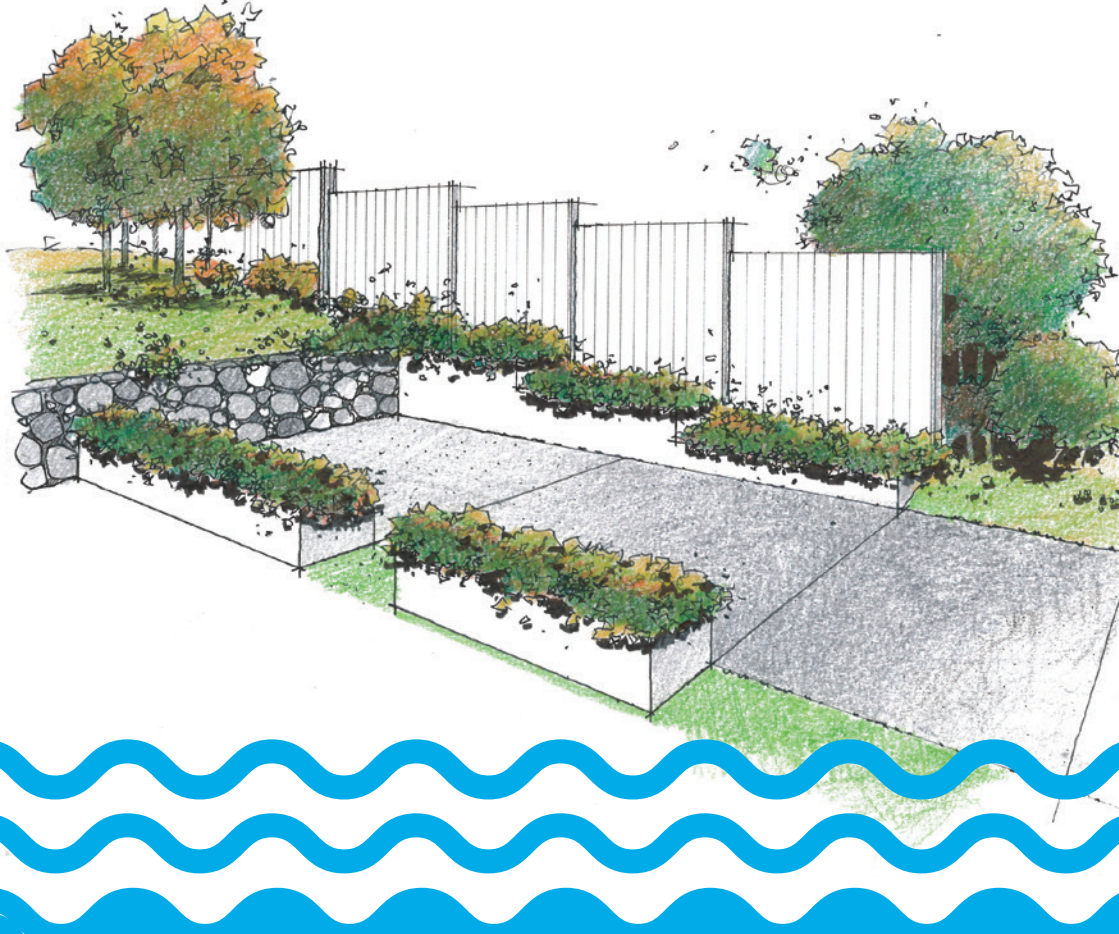
Landscape drawings to include

Where landscape works require development or building approval, the drawings must include:

- dimensioned plans of all existing and proposed buildings
- dimensioned plans of all existing and proposed landscape features
- elevations of existing and new structures indicating existing and proposed ground levels
- cross sections showing the location and depth of water mains and sewer pipes relative to proposed new works (i.e. footings, retaining walls, sheds, cut or fill) where those structures are within or in close proximity to a pipe protection envelope or zone of influence of the asset
- engineering instructions for the stabilisation and protection of water and sewerage network infrastructure where exposed to traffic loads or excavation works

- instructions for the protection of the water service, water meter assembly and sewer tie during construction activities
- setbacks for private service (between the building and a pipe protection envelope to ensure private sanitary drains, stormwater drains, electricity cables and conduits do not obstruct the pipe protection envelope of a water or sewer asset). See Table 2 (on page 16-17).

Under the Planning and Development Regulation 2008 – Criterion 1 landscape works proposed to be located on or over a Utility easement, pipe protection envelope or access passage, require Icon Water approval. The landholder may be liable to pay for the removal of obstructions, damage to property or the repair of Icon Water's infrastructure if they or their agents obstruct access or interfere with the safe and efficient operation of those networks.



Landscaping and Fencing

Fences, driveways, paving, retaining walls, landscaping & other garden features

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

This guide is designed to be used in conjunction with the information contained in the guide *General Building Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks*.

Contact us for information and advice.

Phone: 02 6248 3111

Address: 12 Hoskins Street, Mitchell ACT 2911

Web: iconwater.com.au/buildingandrenovation

Protection of water and sewer fittings – garden areas

Icon Water require access to operate and maintain essential water and sewerage equipment located on the verge and inside the boundaries of most Canberra properties. Fire hydrants, meter boxes, water valves, maintenance holes (manholes) and sanitary drainage (boundary) access shafts need to be accessible (day and night). A one metre radius safe work area must be kept free of obstruction (fences, retaining walls, trees, shrubs and debris).

Maintenance access through retaining walls

Retaining structures must be designed to ensure Icon Water's water and sewer networks can continue to be safely accessed, operated, repaired and replaced. Emergency and maintenance access passages must not be obstructed.

Where a retaining wall obstructs maintenance or emergency access to the pipe protection envelope of a sewer or water network, a ramp or stair constructed of materials capable of bearing the weight of excavation machinery is required over or through the wall. Figure 14 shows an example of this.

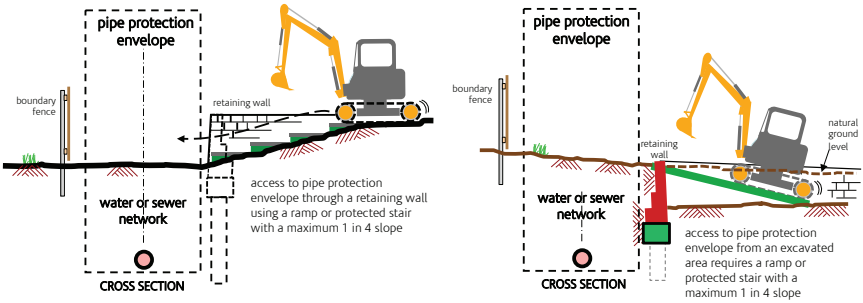


Figure 14 Ramped access

Lightweight fences

Lightweight timber paling or sheet metal boundary fences are generally permitted to cross the zone of influence of a sewer or water network where maintenance access to the pipe protection envelope is guaranteed from both sides of the fence. Posts are not to be located directly over a network asset. Figure 15 shows an example of this.

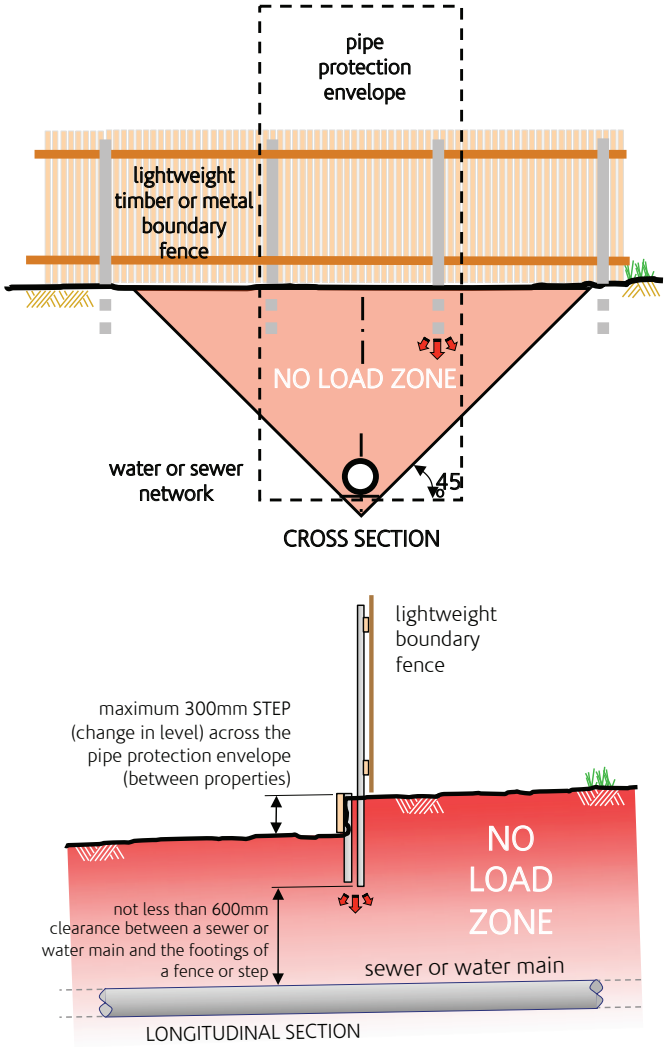


Figure 15 Lightweight fence requirements

Masonry fences

Heavyweight (masonry) fences or barriers may be approved to cross a pipe protection envelope of a sewer or water network when, in the opinion of Icon Water, the structure complies with pipe protection envelope, zone of influence, maintenance access, foundation stability and spoil setback requirements. Gates, bridging beams or special footing designs may be required. Figures 16 and 17 show examples of this.

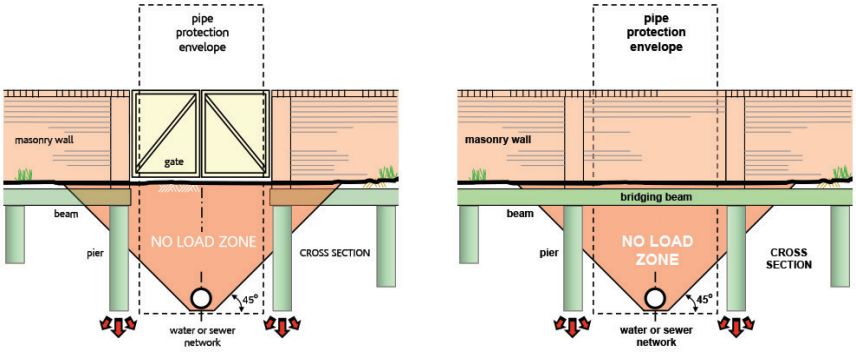


Figure 16 Masonry fence footings design

Bridging is usually only acceptable where maintenance access to the pipe protection envelope is guaranteed from both sides of the fence.

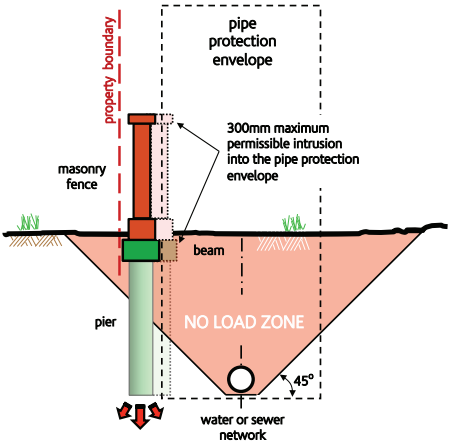


Figure 17 Masonry fence footings outside PPE

Some minor intrusion into the pipe protection envelope may be permitted where the pipe protection envelope abuts the property boundary. This is to be approved in writing, by, and at the discretion of Icon Water.

Retaining wall

Retaining structures may be approved in writing by Icon Water to run in close proximity or bridge across a pipe protection envelope of a sewer or water network where in the opinion of Icon Water, the structure complies with pipe protection envelope, zone of Influence, maintenance access, foundation stability and spoil setback requirements. Figure 18 shows an example of this.

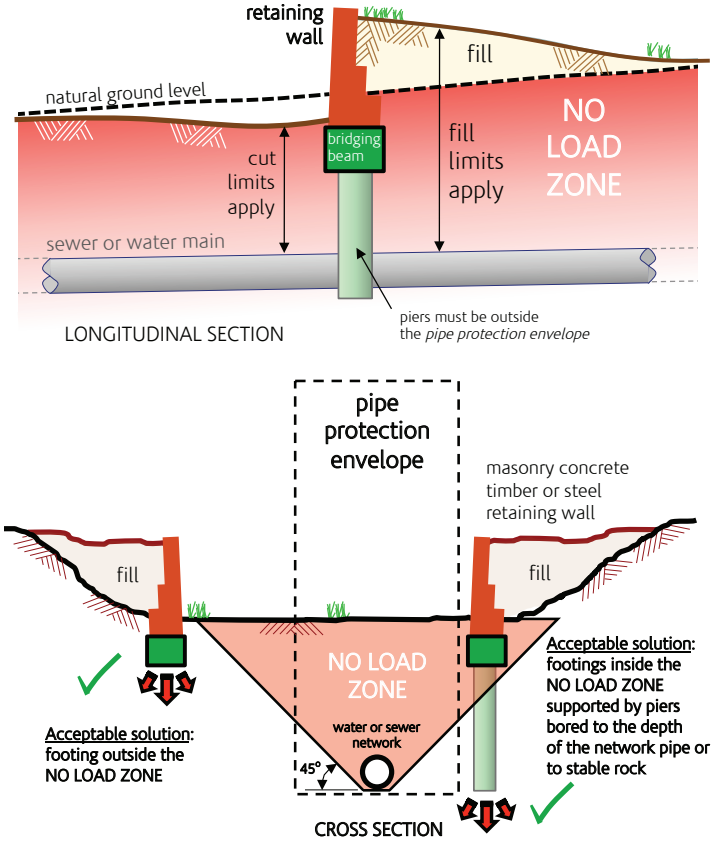


Figure 18 Retaining wall footing design

Paving

Icon Water will generally approve pedestrian and trafficable pavements such as cobble stone, brick or concrete pavers (laid on sand or scalpings) and bituminous pavement (laid on compacted road base) inside the pipe protection envelope of a water or sewer network, subject to the following conditions:

- Reinforced concrete slabs no thicker than 100mm must be laid with grooved joints along the longitudinal edge of the pipe protection envelope and a maximum spacing of 3m along the envelope to facilitate ease of replacement
- Reinforced concrete slabs greater than 100mm in thickness must be designed (in consultation with Icon Water) in panels which bridge across the pipe protection envelope and are fitted with lugs to facilitate the lifting of these panels when access is required. Weight limits will apply
- Concrete slabs and permanent structures must be separated by joints to permit the removal of slabs without damage to adjacent structures.

Icon Water will generally replace pavements, removed for the purpose of repairing or replacing water or sewer infrastructure, where:

- Pavements are made from concrete cobble-stones, brick, bituminous cement, reinforced concrete or other similarly priced materials readily available from local suppliers
- Concrete slabs are no more than 100mm thick
- Damaged pavement panels are reinstated up to but not beyond the construction joint of the adjoining undamaged panel or 3 metres beyond a damaged edge, whichever is the lesser dimension
- Ornamental finishes are mandated by planning authorities (e.g. stamped, stencilled, exposed aggregate or acid-etched, driveways, etc.) however material, colour or pattern matching is not guaranteed for superseded products
- The landholder may be required to contribute to replacement costs which exceed these conditions. When given reasonable notice, the landholder is responsible to remove, or pay Icon Water to remove, pavement which fails to comply with the conditions listed above.

Ponding over surface fittings

Alterations to surface levels is to be undertaken in a manner to prevent stormwater run-off ponding around sewer maintenance holes (manholes), water valves, hydrants and meters. The ingress of stormwater into the sewer network is not permitted as it significantly increases Icon Water operational costs which in turn are passed onto consumers. Figure 19 gives an example of how to prevent this.

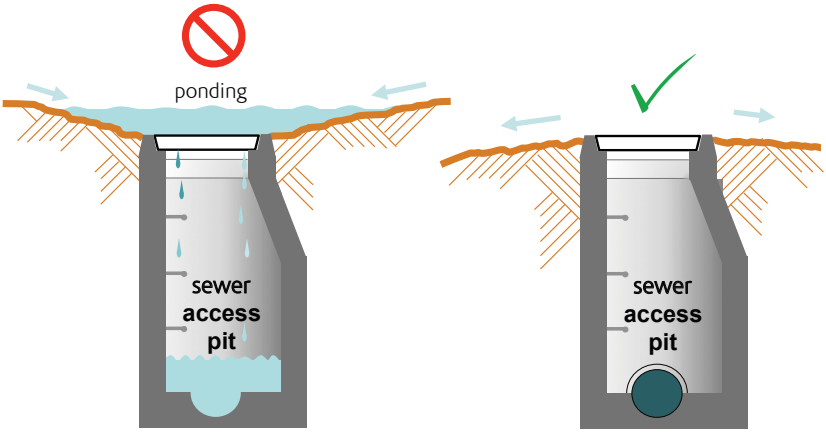


Figure 19 Prevention of ponding over sewer maintenance hole (manhole)

Trip hazards

Care must be taken to prevent the creation of trip hazards when removing topsoil around surface fittings. Figure 20 shows an example of a trip hazard.

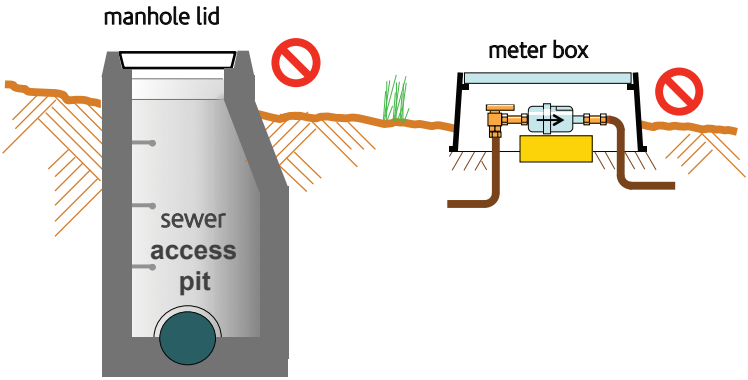


Figure 20 Potential trip hazards involving sewer and water assets

Protection of surface fittings in driveways

Sewer manholes and water meter pits are not permitted to be located in driveways, unless authorised in writing by Icon Water, when permitted, they must be fitted with trafficable lids fitted by Icon Water at the landholders cost. The rim and lid must be flush with the surface (trip-free) as shown in Figure 21.

Water valves and fire hydrants are not permitted in driveways or trafficable areas where vehicles may park.

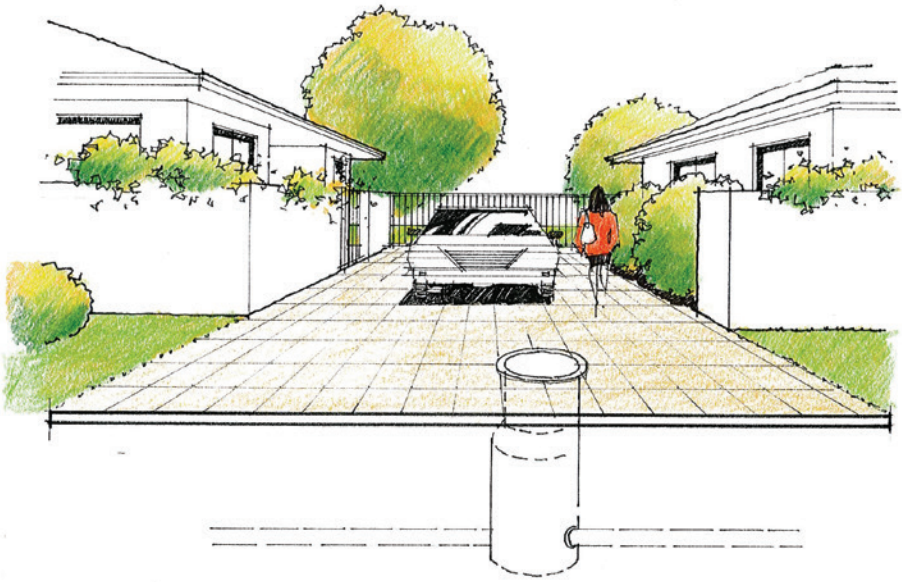


Figure 21 Sewer maintenance hole (manhole) in driveway

Trees and shrubs near water and sewer pipes

Trees and large shrubs should be planted so that the mature canopy does not encroach into or over the pipe protection envelope of a sewer or water network as shown in Figure 22.

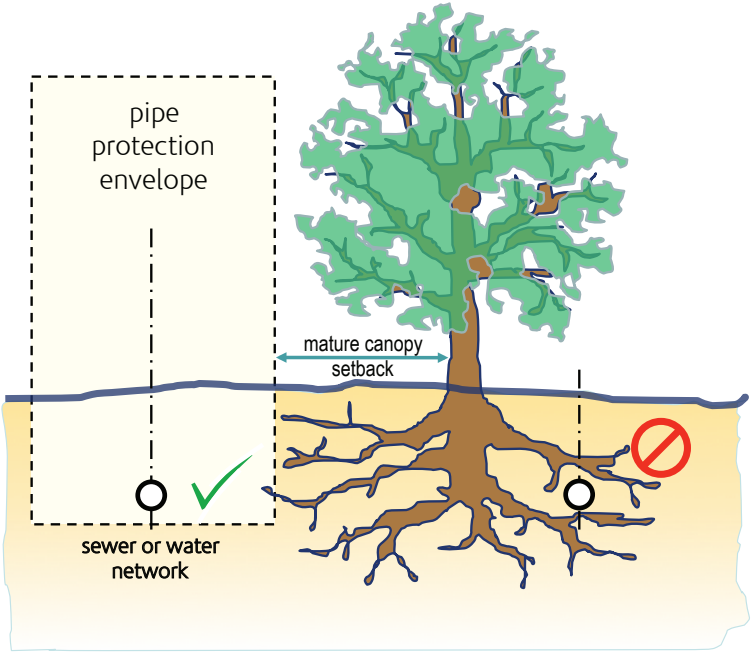


Figure 22 Tree canopy clear of pipe protection envelope

Consultation with a plant nursery may be necessary when choosing trees and shrubs. Some plant species have very invasive and wide spreading root systems. These varieties should not be planted in close proximity to water or sewer networks. The land holder may be required to remove trees and plants which obstruct access to Icon Water's assets.

Sewage surcharges – overland flow

As shown in Figure 23, utility sewer networks and private sanitary drainage systems are designed to relieve the buildup of sewage surcharge via utility maintenance holes (manholes) or discharging from private overflow relief gullies (ORG). These relief mechanisms decrease the likelihood of sewage flooding the interior of buildings if properly built and maintained.

The fall of land and placement of landscape features within a property must also be designed to ensure the overland flow path of sewage discharged from a sewer manhole or ORG does not pond in confined spaces, spill into habitable rooms, pools/ponds or flow into below ground carparks or basements. The overland flow path of a sewage discharge should be directed towards open spaces or roadways.

It is the landholder's responsibility to ensure sewer manhole covers and ORG are not obstructed or made inaccessible.

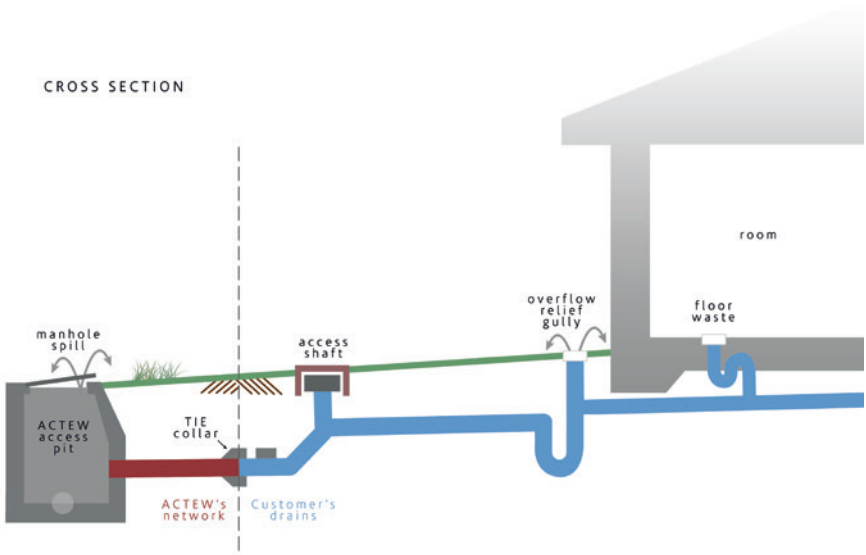
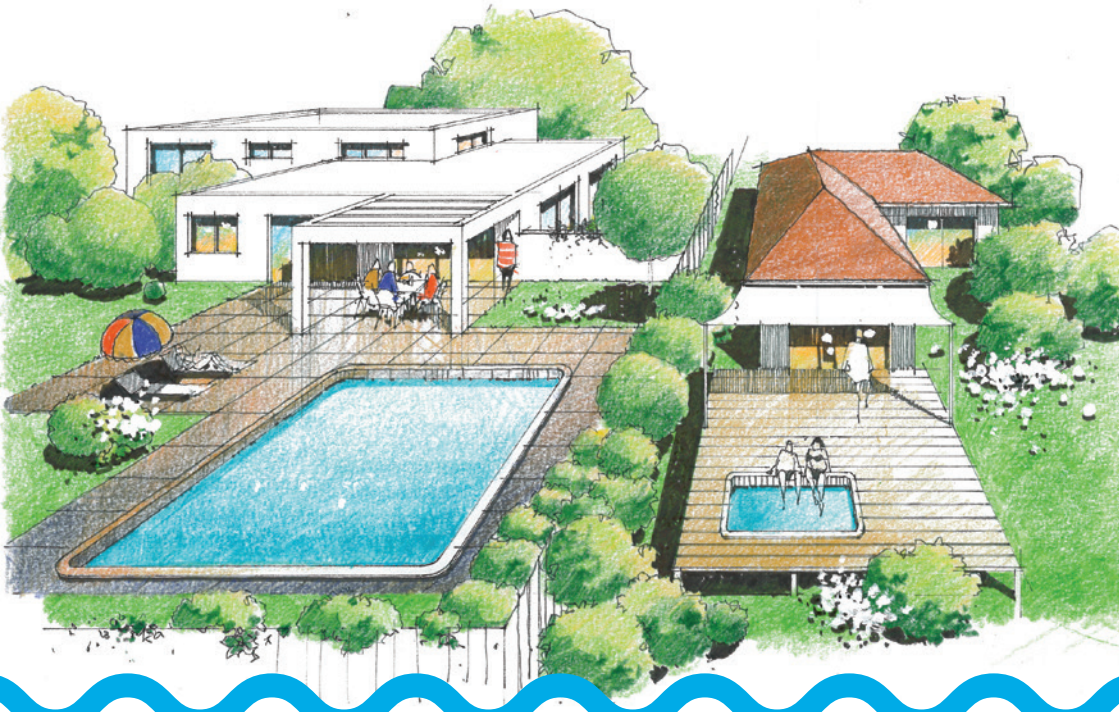


Figure 23 Discharge points for sewer surcharges



Pools and spas

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

This guide is designed to be used in conjunction with the information contained in the guide *General Building Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks.*

Pool equipment

Private underground pipes, cables and conduits or above ground aerials are not permitted inside the pipe protection envelope of water or sewerage networks. Figure 24 shows how adequate provision must be made for the installation and maintenance of pool equipment, outside the pipe protection envelope and access passage.

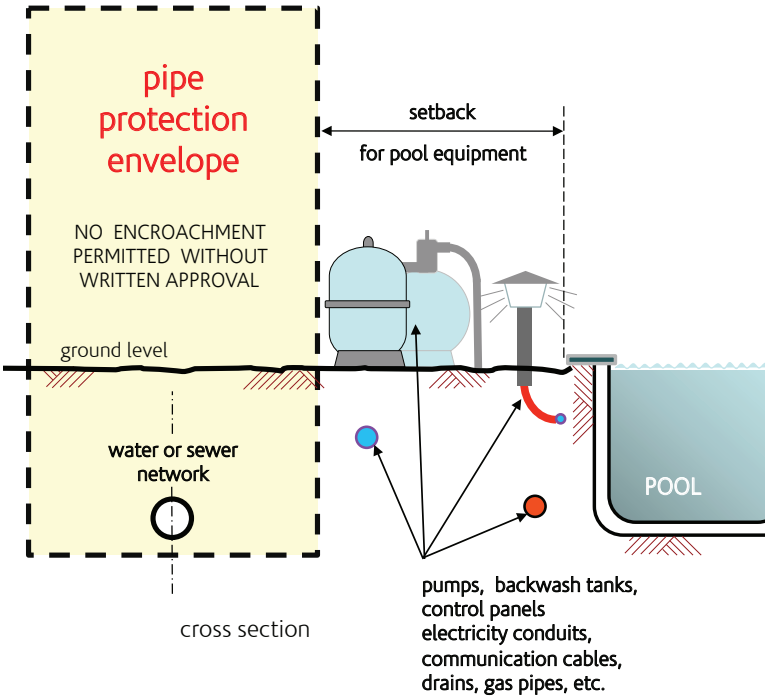


Figure 24 Pool equipment clear of pipe protection envelope

Additional setbacks may be required where private services impede access to the pipe protection envelope or increase the likelihood of harm to Icon Water employees.

Structural integrity and providing a safe work environment

To provide a safe work environment and protect the pool's structural integrity during maintenance, pool walls must be either structurally adequate or at least beyond the zone of influence of the pipe protection envelope to avoid distortion or failure when excavation work extends to the full width of the pipe protection envelope.

Figure 25 and 26 show an example of unsafe setback for a pool and a safe setback and foundations for a pool.

When required by Icon Water, confirmation of the structural adequacy of the pool in relation to a fully excavated pipe protection envelope must be verified and confirmed in writing (with computations) by a licensed structural engineer.

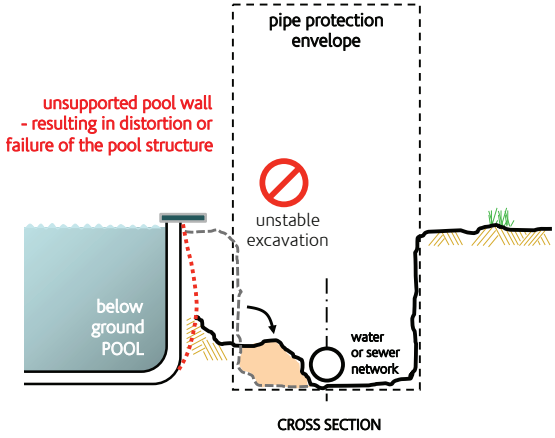


Figure 25 Unsafe setback and foundations for a pool

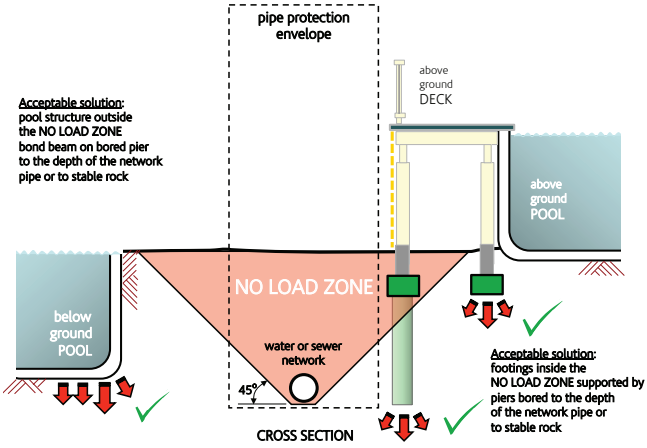


Figure 26 Safe setback and foundations for a pool

Pool fences

As shown in Figure 27, pool fences must not obstruct access to water or sewer networks, however if required, pool safety fences are permitted to cross a pipe protection envelope, emergency access passage or maintenance access passage subject to compliance with the following requirements:

- Unlocked gates are installed to permit emergency access to sewer maintenance holes (manholes) at all times. These gates must provide a clear opening equal to the emergency access passage dimensions specified in Table 2 (on page 16-17)
- Gates or removable panels are installed to permit maintenance access to sewer and water assets when requested by Icon Water. Openings must provide unobstructed access equal to the passage widths specified in Table 2 (on page 16-17)
- Removable panels should be in segments less than 40kg in weight. Panels and posts must be removable without the use of specialist tools or lifting equipment.

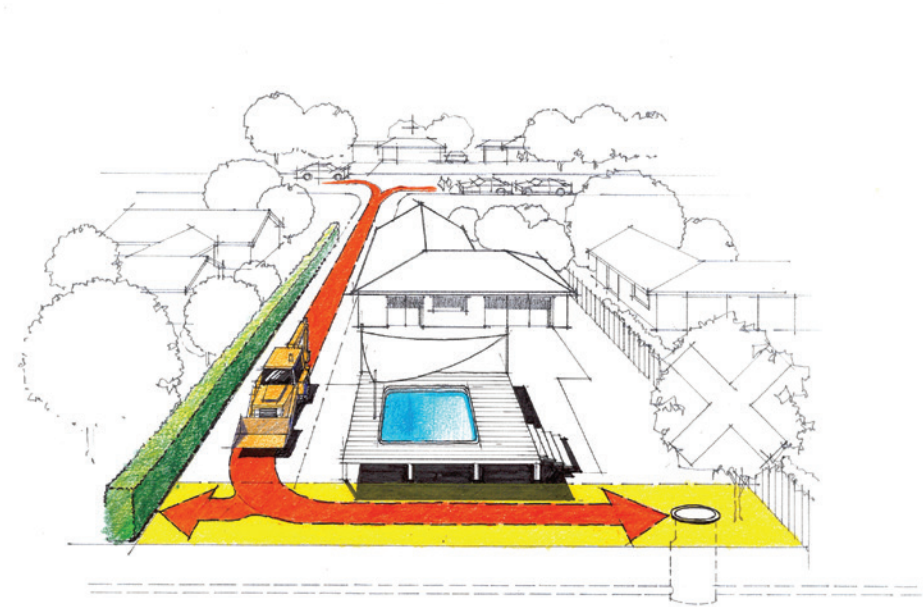
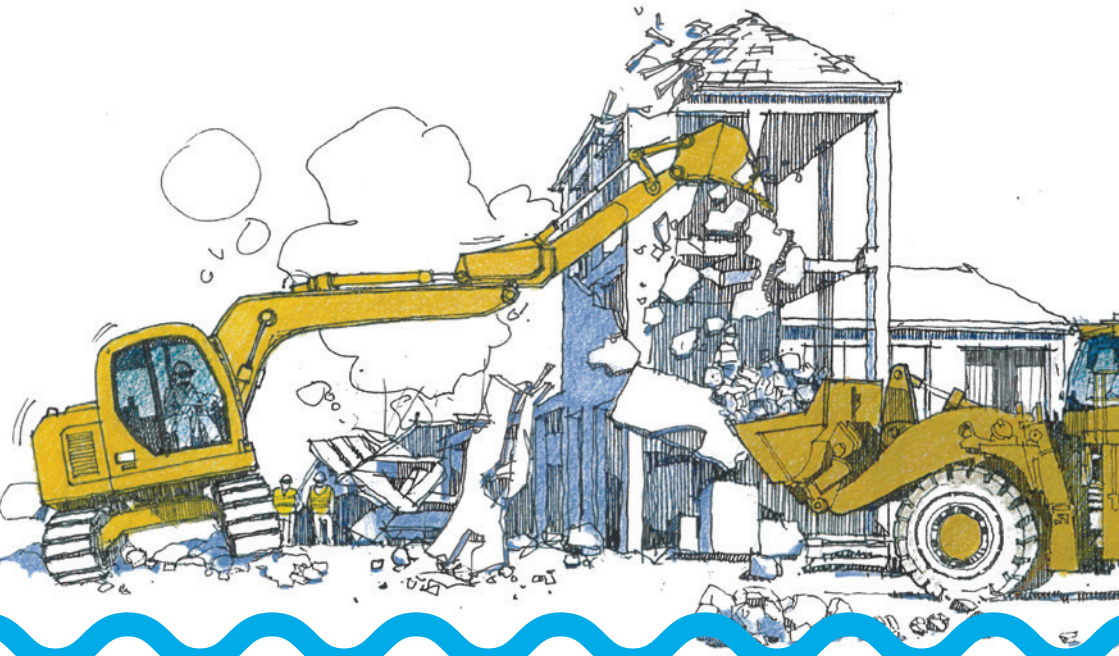


Figure 27 Access around pools



Demolition

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

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Compliance with utility requirements

Demolition works are not to damage water or sewer network assets and are not to proceed without Icon Water approval or contrary to any conditions of approval. Figure 28 shows minimum requirements to protect assets during construction.

Pre-demolition asset inspection

It is the responsibility of the landholder or their agents to undertake an inspection, recording the condition of Icon Water assets (maintenance hole [manhole] lid(s), meter assembly, hydrants and valve covers) before demolition works commence. A failure to identify faults prior to the commencement of demolition works may result in Icon Water attributing the cost of repairs to the landholder. Any faults found should be reported to Icon Water on 02 6248 3111 prior to works commencing.

Icon Water may inspect the site upon completion of the demolition, or prior to redevelopment to ensure all conditions of the demolition approval are adhered to. Any costs associated with damage to assets may be borne by the responsible persons as outlined in the *Utilities Act 2000*.

Disconnection policy

If a property remains undeveloped or unoccupied for more than 12 months after a demolition, the landholder may be required to permanently disconnect the sewer and water services from the network in accordance with Icon Water Service and Installation Rules. This work is to be undertaken by Icon Water at the landholder's expense.

Water supply

Unauthorised removal of a water meter is an offence under the *Utilities Act 2000*.

Before demolition works commence, a licensed plumber must disconnect the internal plumbing from the downstream side of the meter. If a water supply is required for subsequent building works, a temporary hose cock (affixed to a sturdy post) must be installed downstream of the meter. The Icon Water service and meter assembly must be staked and para-webbed to protect the assembly from damage.

Instructions detailing the method of protection of the service and meter assembly (complying with Icon Water requirements) must be included on demolition plans.

To avoid water wastage, Icon Water recommend the meter isolation valve be turned off when the site is unoccupied.

The water meter must be accessible for maintenance and reading at all times.

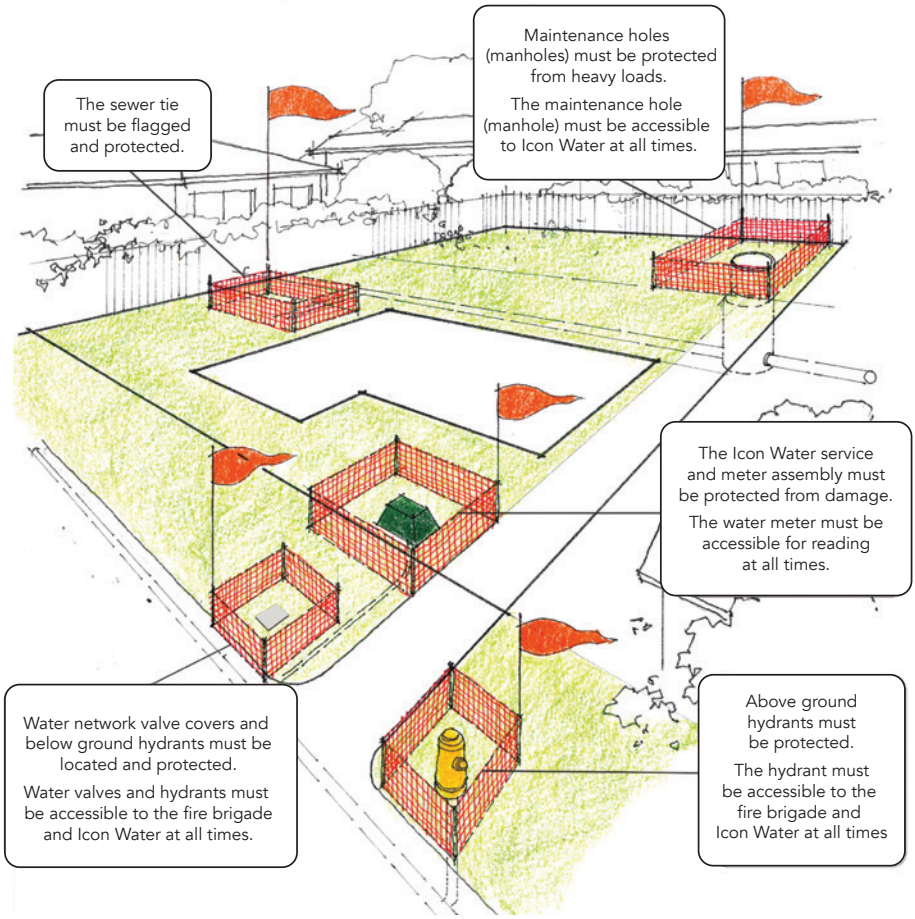


Figure 28 Protection of assets during construction

Water valves and fire hydrants

Water network valve covers, above ground hydrants and below ground hydrants must be located and staked and para-webbed to protect these assemblies from damage.

Water valves and hydrants must be accessible to the fire brigade and Icon Water at all times.

Maintenance Structures

Sewer maintenance structures must be located, made visible, staked and para-webbed to protect them from damage. These are to be protected from heavy loads and be accessible to Icon Water at all times.

Sewer connection

Before demolition works commence, a licensed drainer must cap the internal sanitary drain (approximately 3 metres from the sewer tie) to ACT Government Environment and Planning Directorate requirements, at the landholder's expense.

Specification clauses detailing the method of disconnection of sanitary drainage (in accordance with Icon Water requirements) must be included on demolition plans.

Icon Water may inspect the disconnection before the demolition works commence.

The sewer tie must be flagged and protected from damage.

Future reconnection must be at the tie and comply with ACT Government Environment and Planning Directorate requirements.

Damage to Icon Water assets

If sewer or water network assets are damaged by demolition related activities, Icon Water repair costs will be charged to the person(s) responsible for that damage in accordance with the conditions in the *Utilities Act 2000*. Damage occurring inside the property boundaries will be attributed to the landholder. Costs to repair damage occurring outside the property boundary are commonly assigned to the responsible party causing the damage.

Dual occupancy and secondary residences

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

This guide is designed to be used in conjunction with the information contained in the guide *General Building Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks.*

Water supply and sewer connection

Each leased premises (residence and land) must be separately serviced with dedicated connections to the Icon Water networks in accordance with the principles shown in Figure 29.

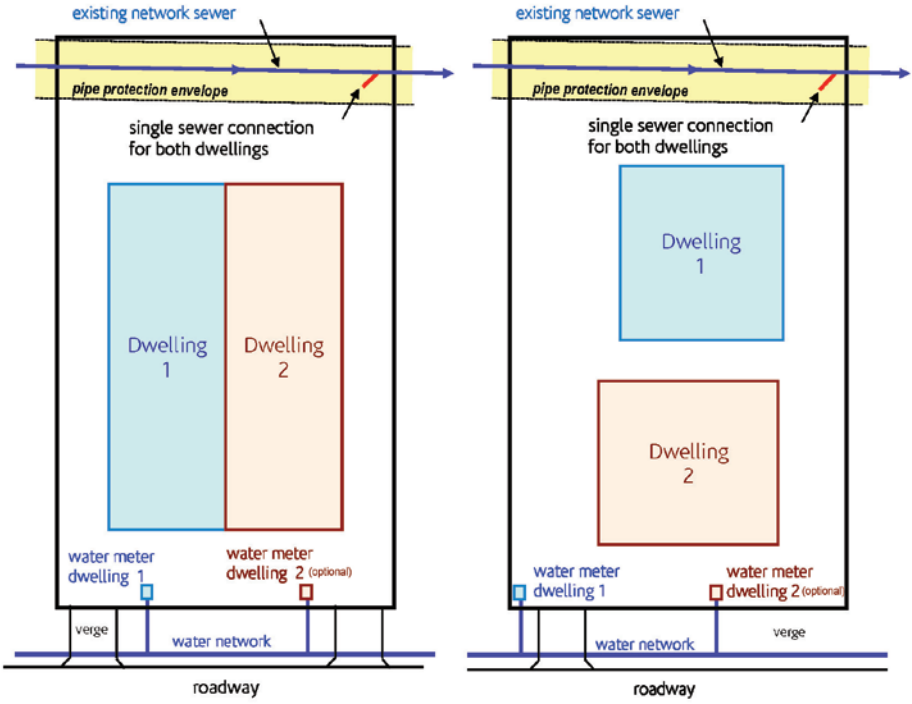


Figure 29 Water and sewer servicing of dual occupancies and secondary residences only

Single lease, dual occupancy properties must be serviced with:

- For dual occupancy (if subdivided), there must be
  - two independent connections to the water network (one for each dwelling). Each connection must be fitted with an Icon Water meter; and
  - one shared connection to the sewer network.

Figure 30 shows an example of this.

- Secondary residences are deemed to be on a single lease, therefore separate servicing is not required. A separate water meter can be provided at the owner's expense, on request.

Subdivided properties must be serviced with:

- Independent connections to the water network (one for each lease). Connections to the Icon Water network must be made to each lease, directly from Territory Land. Connection pipes will not be approved to traverse common property or another leased property. Connections made through private easements or utility service reservations (utility easements) will not be approved.

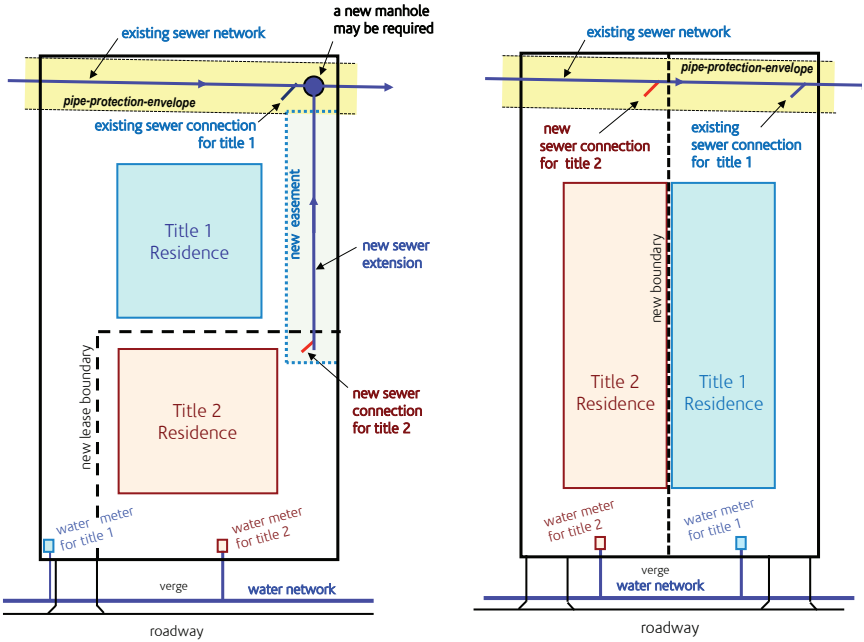


Figure 30 Water and sewer servicing of subdivided leases (dual occupancy only)

- Independent connections to the sewer network (one for each lease). Connections to the Icon Water sewer network must be made to each lease, directly from Territory Land or from an Icon Water sewer located in a service reservation (easement) in close proximity. Augmentation of the sewer network may be required and additional sewerage reservations (sewer easements) created on adjoining leases. Sanitary drains traversing common property or another leased property will not be approved.

Access passages

An unobstructed emergency access passage is required from the roadway through all properties containing sewer maintenance structures (manholes) to provide Icon Water with 24 hour x 7 day access to clear sewage blockages. Figure 31 shows examples of this.

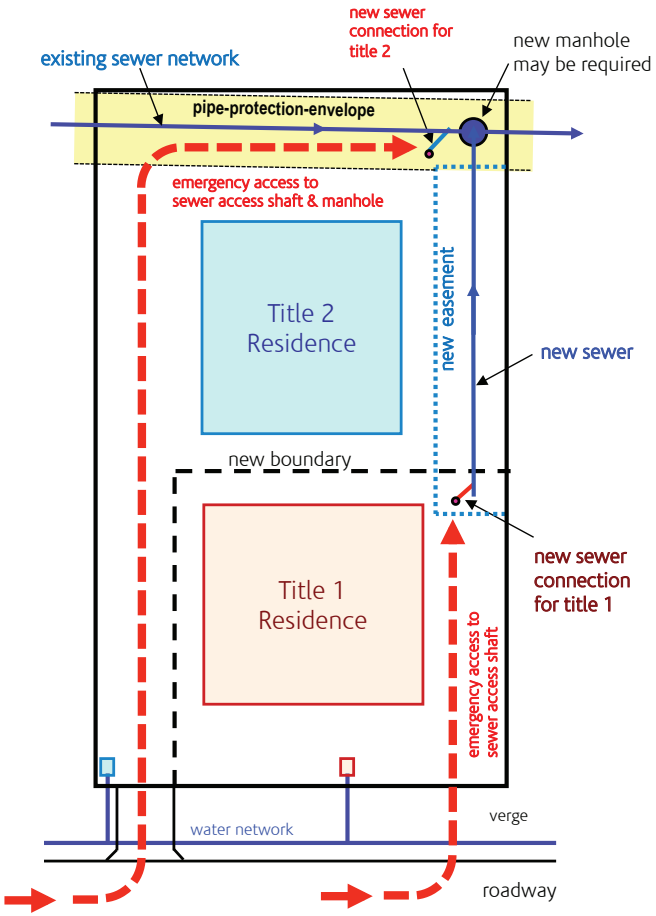


Figure 31 Emergency access passages

Where Icon Water sewer or water networks are located inside the boundaries of a property, an unobstructed maintenance access passage is required from the roadway and along the full length of the pipe protection envelope of those assets.

Figure 32 shows an example of this.

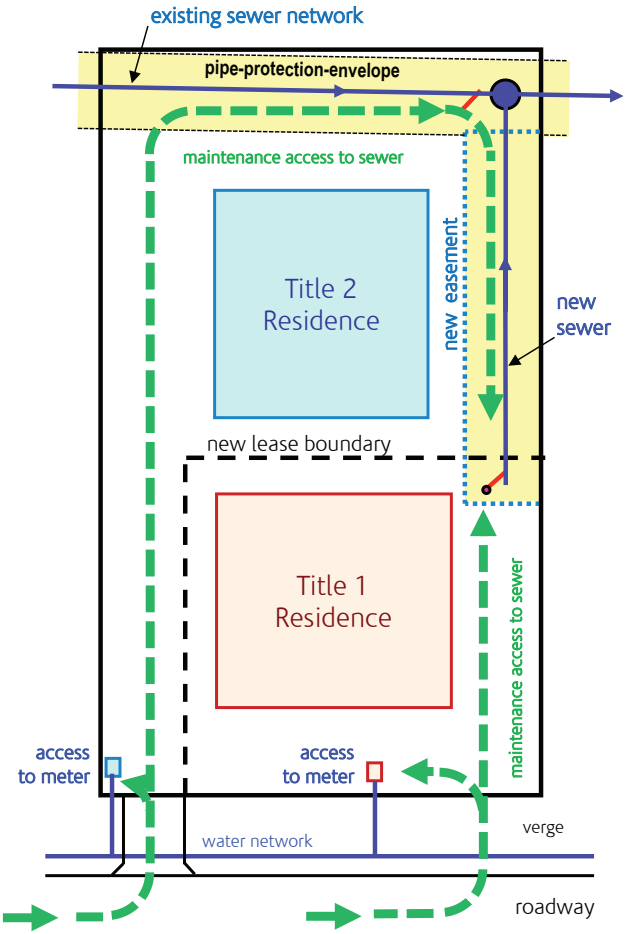
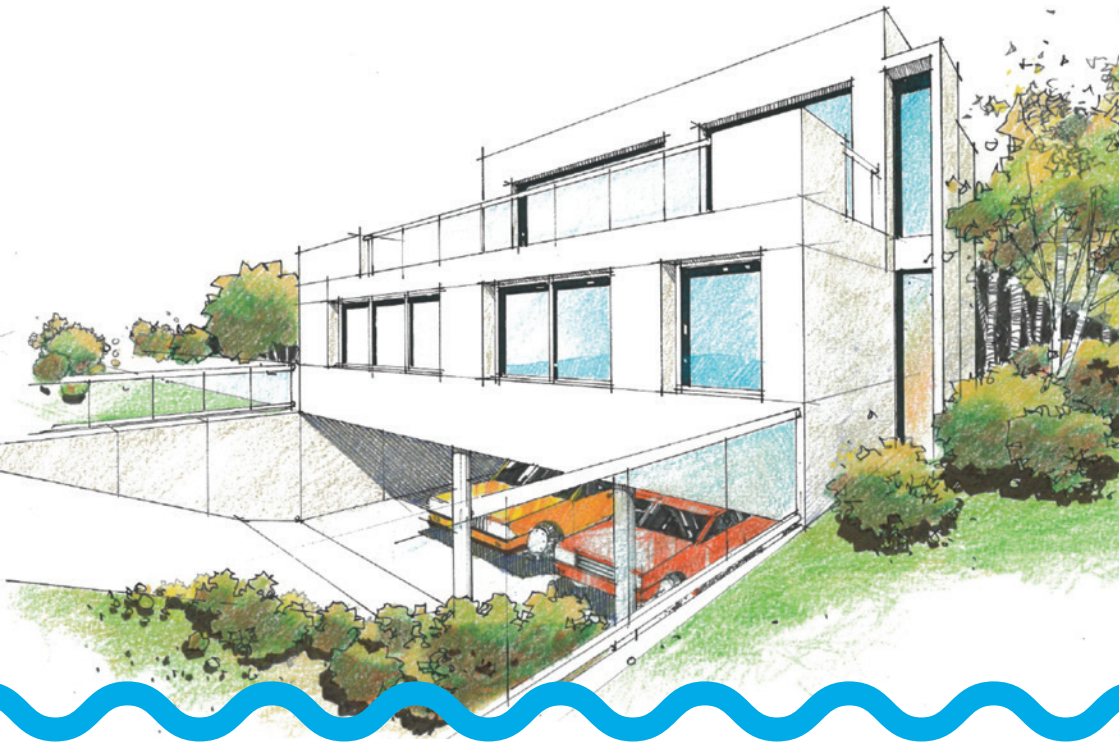


Figure 32 Planned access passages



Multi unit development

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

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Water supply and sewer connection

Single lease, multi unit developments must be serviced with:

One connection to the water network fitted with an Icon Water meter in accordance with Icon Water's unit metering guidelines, and one shared connection to the sewer network. Figure 33 shows an example of this.

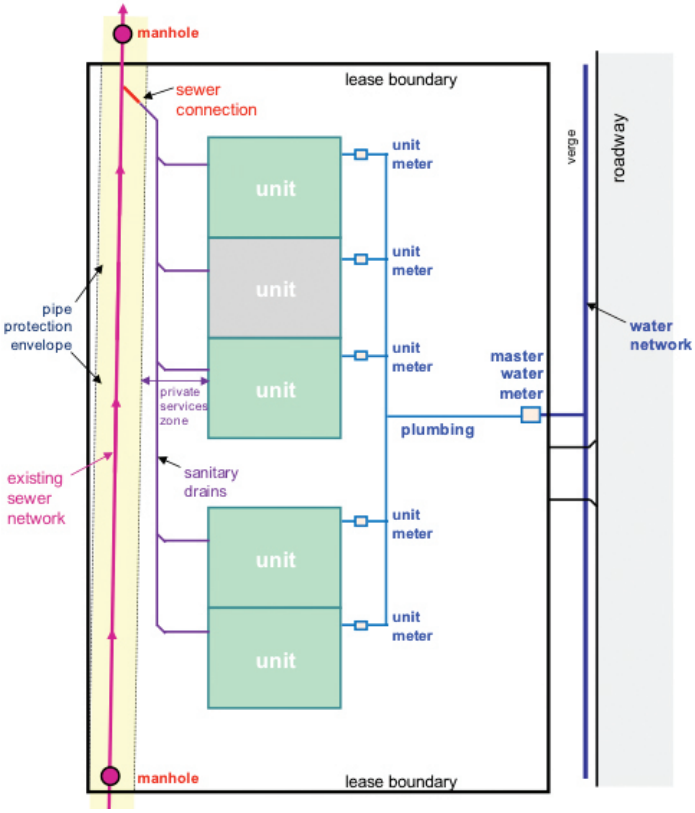


Figure 33 Water supply to single lease multi unit sites

Emergency access passages

An unobstructed emergency access passage is required from the roadway through all properties containing sewer maintenance holes (manholes) to provide Icon Water with 24 hour x 7 day access to clear sewage blockages.

Figure 34 shows an example of this.

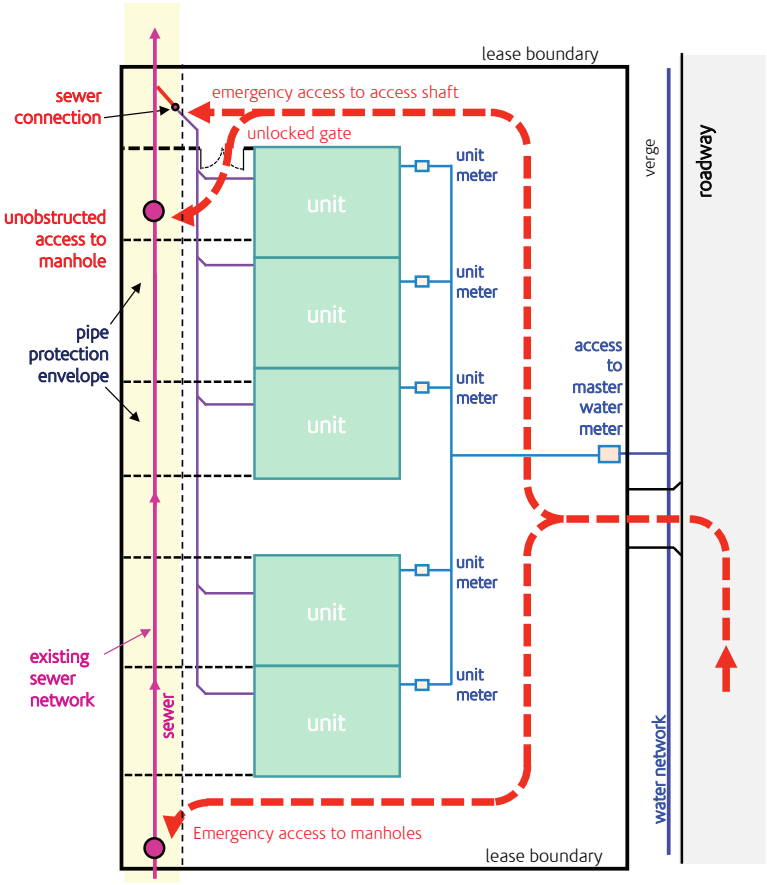


Figure 34 Emergency access to single lease multi unit sites

Maintenance access passages

Where Icon Water sewer or water network pipelines are located inside the boundaries of a property, an unobstructed maintenance access passage is required from the roadway and along the full length of the pipe protection envelope of those assets. Figure 35 shows an example of this.

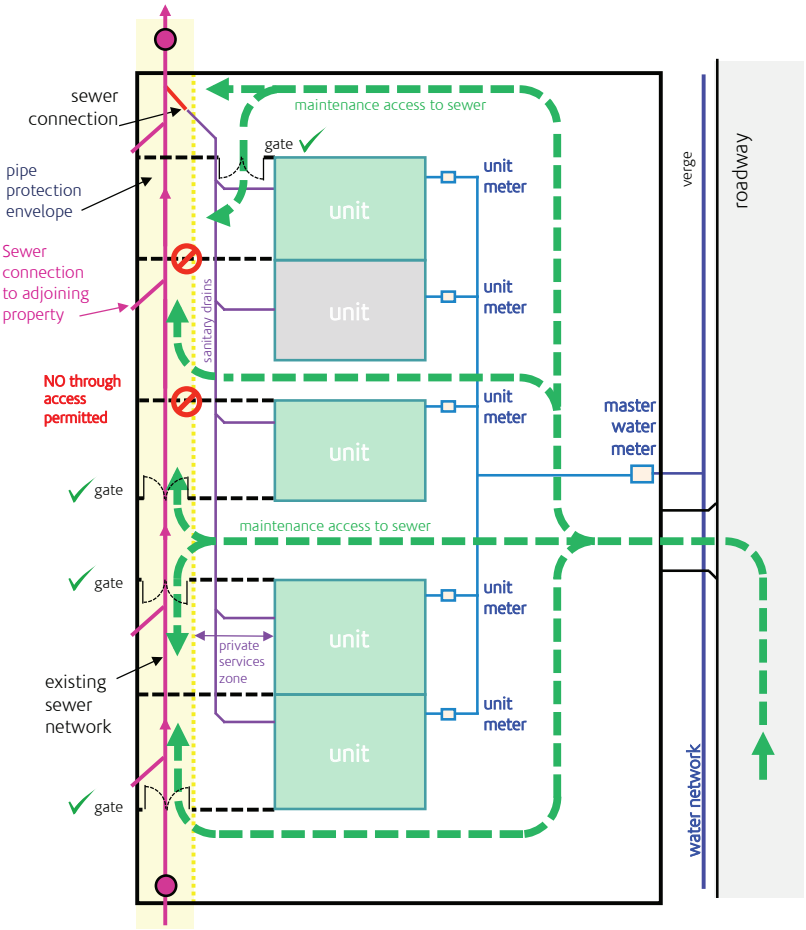


Figure 35 Maintenance access to single lease multi unit sites

Access to water and sewer mains must be through the unit on which these assets are located. Neighbouring units must not be disadvantaged.

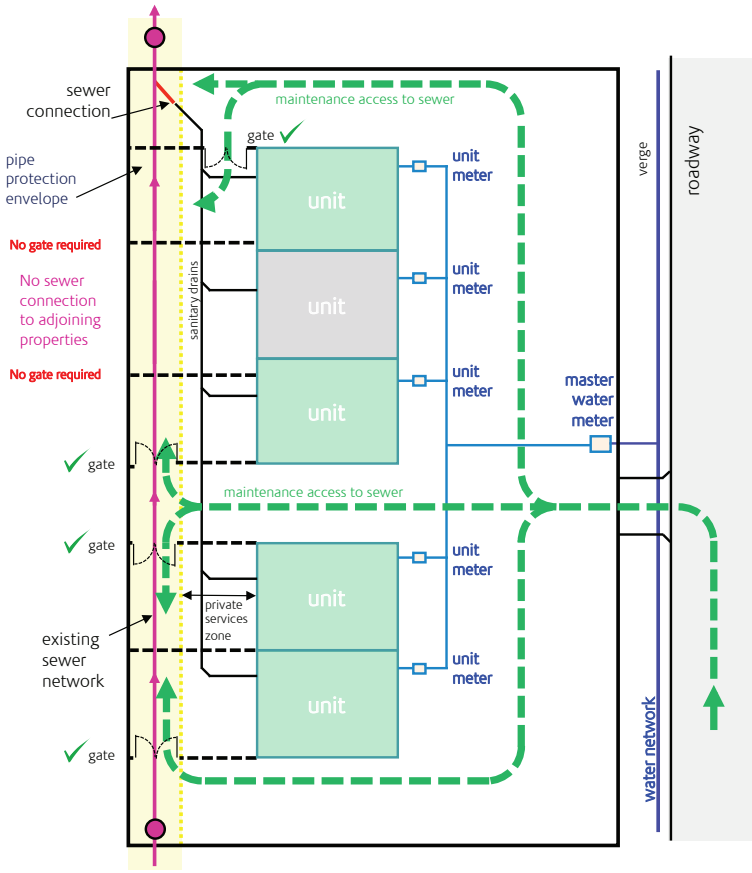
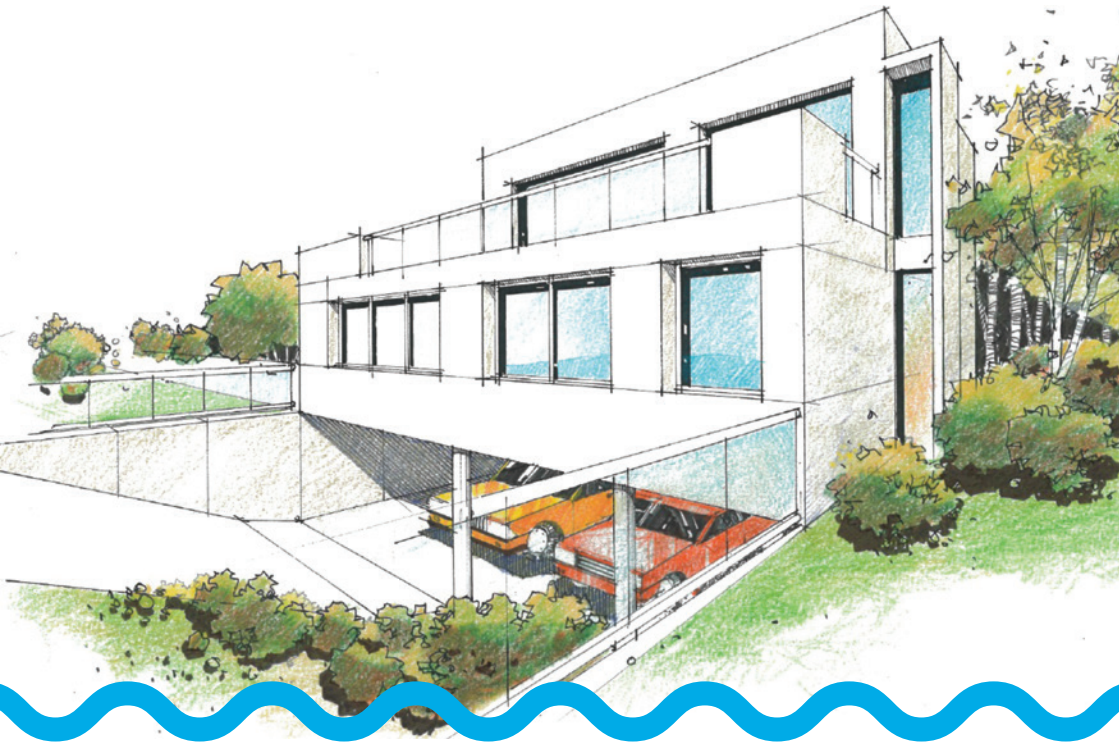


Figure 36 Alternative maintenance access to single lease multi unit sites



Rock anchors and soil nails

To be read in conjunction with General Requirements: A guide to building on properties containing (or in close proximity to) Canberra's water and sewerage networks

About this guide

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Rock anchors

Post tensioned rock anchors are commonly used to provide temporary support for basement perimeter walls. The anchors may become redundant when the internal building structure is installed. All rock anchors must be installed below the pipe protection envelope of a network water or sewer asset. A minimum of one metre clearance must be provided between the confirmed location of the utility network and the shaft of the rock anchor to ensure the utility assets are not damaged or disturbed.

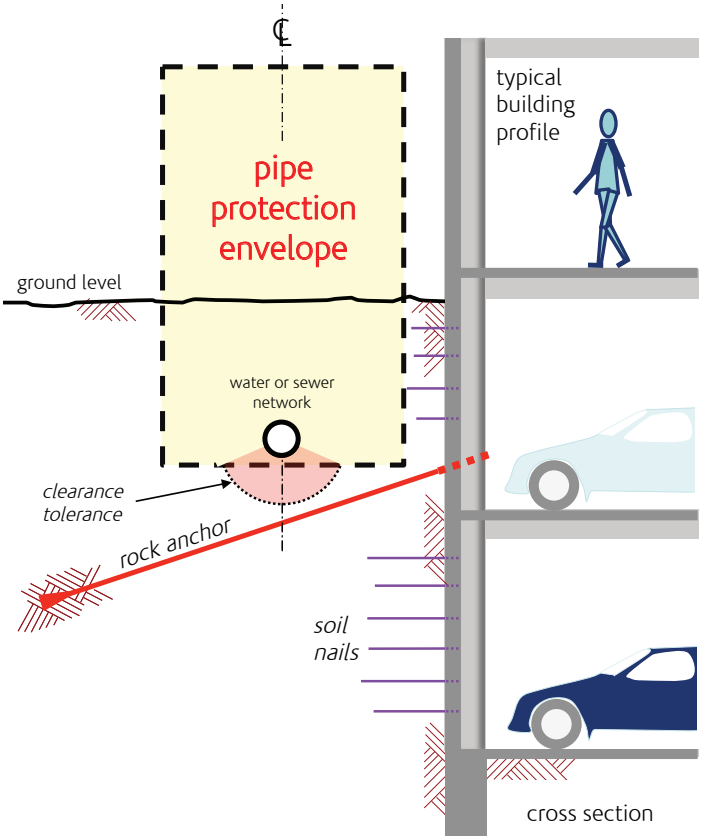

Figure 37 Rock anchors near utility assets

Soil nails

Steel soil nails (reinforcement bars) are commonly driven into the exposed perimeter face of a basement excavation to provide temporary support for the reinforcement mesh in shot-crete walls. Soil nails must not enter the pipe protection envelope of a water or sewer network or within 1m of a sewer maintenance hole (manhole).

Contact details:

iconwater.com.au

Phone

Icon Water: (02) 6248 3111

Option 1 – Faults and emergencies (24 hour)

Option 2 – Account enquiries (8.00am – 6.00pm Monday to Friday)

Option 3 – General enquiries and complaints (8.30am – 5.00pm Monday to Friday)

Postal address

Icon Water
GPO Box 366
Canberra City ACT 2601

Email

talktous@iconwater.com.au

Dial-Before-You-Dig

Phone: 1100

Web address: www.1100.com.au

Language assistance

13 14 50
24 hours

如果您需要幫助，請打電話給下面的號碼。

¿Necesita un intérprete? Llame al número indicado abajo.

هل تحتاج إلى مترجم؟ اتصل بالرقم أدناه.

Trebate li pomoć tumača? Nazovite niže navedeni broj.

Nếu quí vị cần sự giúp đỡ, vui lòng gọi số bên dưới.

Se vi serve un interprete, telefonate al seguente numero.

Αν χρειάζεστε διερμηνέα, τηλεφωνείτε στον αριθμό παρακάτω.