

Policy

Sewers - Work in Proximity Version v1.2

**Adopted by Council at its meeting on XXXXXX
Minute No: XXXXXX**

Division: Community and Natural Resources
Section: Water

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Sewers - Work in Proximity

Introduction

Council has the power to enter private property and construct and maintain sewers irrespective of protective easements being placed on titles.

Parties working on public and private property have an obligation to protect such sewers from accidental damage and Council may recover costs of repair. Deliberate damage or unauthorised interference with a sewer is an offence under the Local Government Act.

This policy details the requirements for performing private construction activities in proximity to public sewers in various circumstances.

Building Over Sewers

Council requires reasonable access to sewers both by manholes and possible ground excavation to enable maintenance, repair and/or possible replacement in perpetuity.

This precludes the construction of enclosed buildings, inground swimming pools, and major retaining walls directly over public sewers.

Minor variations to this blanket exclusion will be permitted under the following circumstances, with the permission of the Director of Community and Natural Resources:

- i) Passage under a corner of a structure where the covered length does not exceed three (3) metres and bearing on the sewer trench is avoided. i.e. the structure is designed and certified by a practising structural engineer to span over likely sewer trench.
- ii) Construction in areas zoned commercial where 100% site coverage is permitted. In this case the Director may request conduiting, concrete encasement or provision of an uncommissioned segment in the public area as part of an overall future relocation strategy.
When full coverage is permitted, designers should take care that rodding access is available to the sewer and to private drainage lines from points within the building.

Building foundations should not impose additional load on the sewer.

- iii) Sterilisation of an approved building lot from development because of the presence of a sewer or sewers within the building envelope which cannot be economically relocated, and which leave insufficient residual land for erection of an appropriate building consistent with the zoning and character of the area.

The Director will impose special development conditions in this event. This may include special rights of access, special indemnity to Council and Section 88B instruments added to the land title.

Building Near Sewers

Sewers in new subdivisions are generally located outside the building envelope or within easements when along a property sideline. New subdivision policies require deep sewers to be placed in the street.

However many existing areas have been sewered with deep sewer lines or sewers which intrude into the possible building envelope. The potential for buildings to load sewers, to be undermined by erosion of backfill into damaged sewers, or to prevent safe trenching for repair purposes requires some restriction on proximity.

Buildings and other structures should be founded so that the 45° decline from the extreme lower edge of any part of the footing passes below the sewer line, i.e. the invert of the pipe. The minimum distance horizontally from a buried structural element shall be 1.0 metres from the sewer centreline. Except for the situation in (i) above, the minimum distance from an above-ground building wall to the centre of any sewer shall be equal to the depth of the sewer below ground level, except that this distance needs to exceed 2.5m. These requirements are depicted diagrammatically at Sketch 1A.

Designers should be aware of the possible reductions in bearing capacity of strip footings closely parallel to uncompacted back fill in sewer trenches. Designers should also recognise the need for protective attachment of piped utilities buried beneath floor slabs which span between piered footings, as loss of support may occur after nearby sewer maintenance excavations.

Relocating Sewers

Where an owner desires to exploit part of a site near or over a sewer and does not satisfy the exceptional conditions mentioned in (2) or (3) above, he may elect to relocate the sewer at his own cost.

Council will perform this work on request, subject to staff availability at the owners cost.

Alternatively the proponent may engage a Licensed Drainer to perform the work. A private engineering consultant may also be engaged to design and inspect the work. In this case, the following is required before proceeding:

- a) Designs to professional standards submitted to Council with application under S68 of the Local Government Act (1993) for approval.
- b) Drainers Licence No.
- c) Payment to Council of necessary appropriate inspection fees, road opening fees and security deposit
- d) Evidence of public liability insurance (minimum \$1 million) when engaged in the public area
- e) Evidence of WorkCover notification

- f) Lodgement of an approved program of work consistent with Council inspection hours and a description of site safety provisions, and
- g) An undertaking to lodge certified work as executed drawings with Council (where private consultants are engaged).

Non-Habitable Buildings and Structures Over Sewers

In the case of unenclosed buildings and other civil construction, certain building over the sewer may be permitted. Examples might include carports, driveways, cantilevered verandas, open workbays, retaining wall less than 1.2 metres in height, portable garden sheds, breezeways and so forth.

Before approval the Director Community and Natural Resources must be satisfied that:

- i) the plant and labour force appropriate for future sewer excavations at the site would have adequate clearance to work in the space created by the structure;
- ii) any flooring or paving can be removed and reinstated without destruction, and the scale of removal is reasonably limited;
- iii) access to the sewer and manholes is unlikely to be denied by new security provisions associated with the work;
- iv) the requirements of **Building Near Sewers** above are otherwise met.

Earthworks Near Sewers

Caution must be exercised when altering the cover to gravity sewers and pressure mains.

Consequences

Increased cover may cause the sewer to fail under increased bearing forces; or local increases (such as mass retaining walls) may cause failure due to differential settlement. Manholes might be buried by landscaping. Toes of fill batters may be unstable near sewer trenches, or become unstable when trenches are excavated.

Decreased vertical cover may expose the sewer to accidental breakage by transient loading from vehicles. Decreased lateral cover (caused by cut faces of earthworks in proximity to trenches) may result in slumping out of the backfill and/or sewer pipe, or washing out of sand bedding carrying groundwater.

Remedies

Proposals to increase cover should be checked for pipe crushing capacity and local effects as above. Pressure mains should not be deeply buried but rather regraded by the proponent, as potential failures are usually more frequent and more severe.

Manhole alterations required by building or development applications or necessitating reduction or increase in height are permitted with Council consent, at the proponent's cost.

Loss of lateral support by adjacent excavation must be reinstated at least up to the point of intersection of a 45° decline from the sewer centreline to the face of the cut batter. Where it is apparent that the sewer overburden has a safe angle of repose of less than 45, the Director Community and Natural Resources may require reinstatement of support up to the height of the sewer obvert plus minimum permissible cover.

Note that the minimum permissible depth of cover for gravitation sewers and pressure remains is as follows:

Location of Pipe	Gravitation		Pressure
	Sewers All Pipes	UPVC	Mains Others
1. Areas not subject to vehicular loading	450mm	450mm	450mm
2. Areas subject to vehicular loading:			
a) not in roadway:	600mm	600mm	600mm
b) in sealed roadway:	750mm	600mm	600mm
c) in unsealed roadway:	750mm	750mm	600mm

Insufficient vertical cover may be permitted where concrete protection is provided, but rigid encasement of jointed pipe is generally to be avoided. The preferred technique is packing no less than 50mm of loose fill around the sides and top of the pipe and pouring a minimum 150mm thick concrete shield outside this material; with the legs of the bridging shield bearing on compacted bedding or sound undisturbed material below pipe invert level. A layer of trench mesh should be provided in the top of the shield. (Details must be provided before commencement.)

Penalties

Failure to abide by Council's policy may incur the penalties allowed by the Local Government Act plus costs of restitution. In cases of danger to public health or safety, Council may perform the work itself immediately and recover the costs from the delinquent party.

Urban Extensions (E4.2)

Extensions within and beyond a serviceable area may be constructed provided the applicants pay full costs and capital contributions in accordance with Council's Development Servicing Plans.

EXTRACT – 9 June 2005

Tweed Shire Council Infrastructure Referrals Interdivisional Policy (Appendix to Council Policy Sewerage - Works in Proximity)

A5 ANCILLIARY DEVELOPMENT

(Garages, Carports, Swimming Pools, Masonry Fences, Retaining Walls etc)

A5.1 Stormwater

Situation	Other Approval Required?	Special Cases	Policies to apply General and Special Cases
Buildings or structures on or near stormwater mains, or drainage (or services) easements	Subject to DA/CC or if exempt or complying development will come under those provisions		General <i>Compliance with Policy E4.1</i>
		1. Carports and Decks	Special Cases No carports (including roof, walls, ceiling, floor slab, footings or any other associated elements), permitted on, over or beneath easements Footings outside the easement must comply with Sketch 1A. If no easement and pipe depth is <3m and pipe diameter is not >225mm, carport or deck permissible in accordance with Sketch 1A.
		2. Masonry fences and masonry elements of otherwise non-masonry fences	Masonry fences (or masonry elements of otherwise non-masonry fences) must comply with Sketch 2A. Transverse fences (of any type) not permitted to interfere with overland flow path function of a drainage easement.
		3. Retaining Walls	Retaining walls must comply with Sketch 3A and 3B as appropriate. Sketch 4A may also apply. Retaining walls are not permitted to interfere with overland flow path function of easement.
		4. Earthworks, or land reshaping	Earthworks whether or not associated with retaining walls, must comply with Sketch 4A. Earthworks or land reshaping must not interfere with any overland flow function of the easement.
		5. Pools	Footing and structure setback must comply with Sketch 1A.
		6. Surfacing	Concrete slabs not permitted on easement. Removable paving (maximum size 600mm) only permitted, provided it does not interfere with overland flow path function of easement.
7. Any other obstructions.	Must not interfere with any overland flow function of the easement or inhibit maintenance/repair access to any drainage or other service pipes in the easement.		

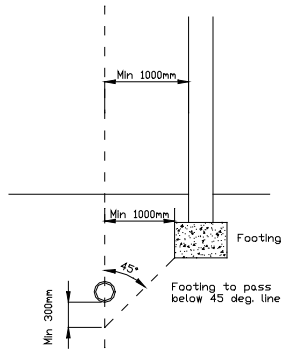
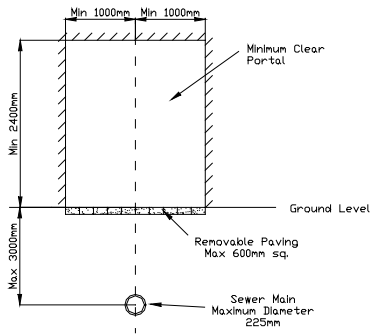
A5.3 Water Supply & Sewerage Issues

Situation	Other Approval Required	Special Cases	Policies to apply General and Special Case
Buildings or structures on or near sewer or water mains and associated easements	Subject to DA/CC or if exempt or complying development will come under those provisions		General <i>Compliance with Policy E4.1</i>
		1. Carports and Decks	<i>Special Cases</i> No carports (including roof, walls, ceiling, floor slab, footings or any other associated elements), permitted on, over or beneath easements <i>Footings outside the easement must comply with Sketch 1A.</i> If no easement and pipe depth is <3m and pipe diameter is not >225mm, carport or deck permissible in accordance with Sketch 1A.
		2. Masonry fences and masonry elements of otherwise non-masonry fences	<i>Masonry fences (or masonry elements of otherwise non-masonry fences) must comply with Sketch 2A.</i>
		3. Retaining Walls	Retaining walls must comply with Sketch 3A and 3B as appropriate. Sketch 4A may also apply.
		4. Earthworks or land reshaping	Earthworks whether or not associated with retaining walls, must comply with Sketch 4A.
		5. Pools	Footing and structure setback must comply with Sketch 1A.
		6. Surfacing	Concrete slabs not permitted in easements, or within 1m horizontal clearance of pipe centreline. Removable paving (maximum size 600mm) only permitted.
		7. Any other obstructions	Must not inhibit maintenance/repair access to mains.

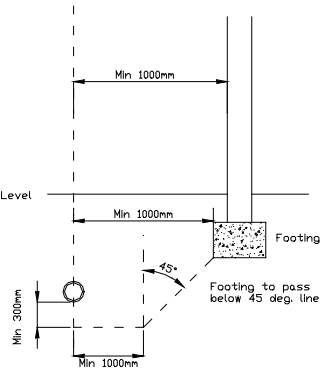
SKETCH 1A - Version 1.0 January 2005

Tweed Shire Council – Planning & Infrastructure Unit

Restrictions to Car Port
& Deck Construction Over
Sewers



Footing Case 1
Dry Cohesive Soils



Footing Case 2
Water Charged /
Non Cohesive Soils

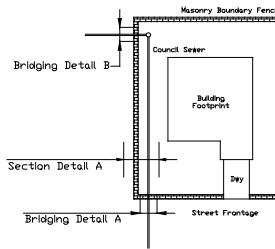
SKETCH 2A - Version 1.1 June 2005

Tweed Shire Council – Planning & Infrastructure Unit

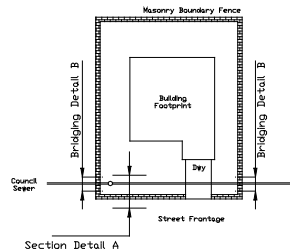
Restrictions to Masonry(1) Fencing

- Notes:
- (1) Specification also applies to masonry piers and elements of otherwise non-masonry fences.
 - (2) Bridging beam may be deleted if light weight removable fencing materials used in this location.
 - (3) Masonry fences are only permitted within sewerage easements along property boundaries, but must be excluded from all other parts of sewerage easements.

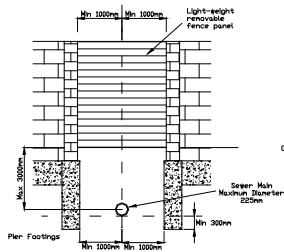
NOT TO SCALE



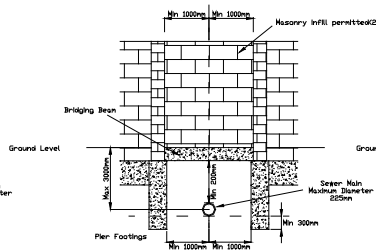
Sewer Case 1



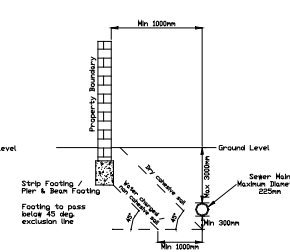
Sewer Case 2



Bridging Detail A



Bridging Detail B

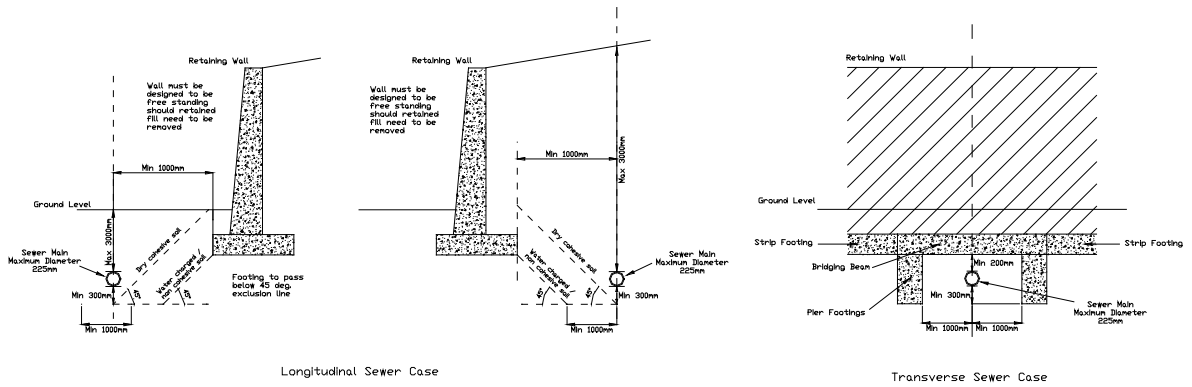


Section Detail A

SKETCH 3A - Version 1.0 January 2005

Tweed Shire Council – Planning & Infrastructure Unit

Restrictions to Structural Retaining Wall Construction

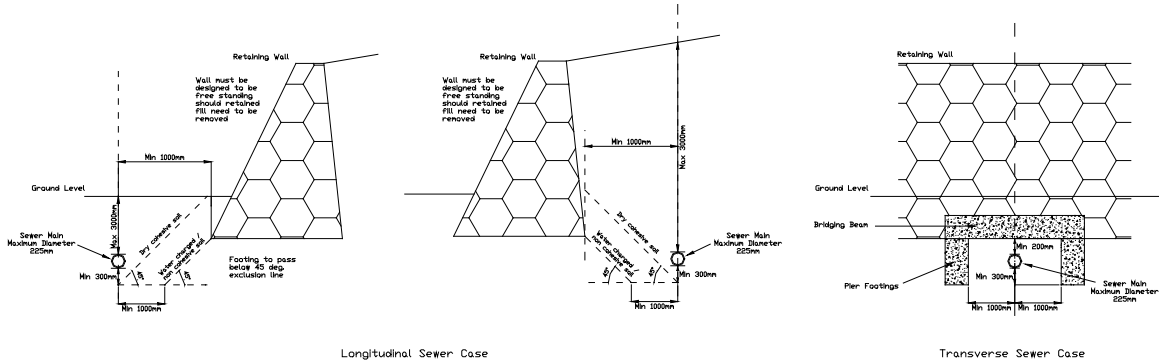


Notes:
 (1) Retaining walls are permitted within sewerage easements along property boundaries, but must be excluded from all other parts of sewerage easements.

SKETCH 3B - Version 1.0 January 2005

Tweed Shire Council – Planning & Infrastructure Unit

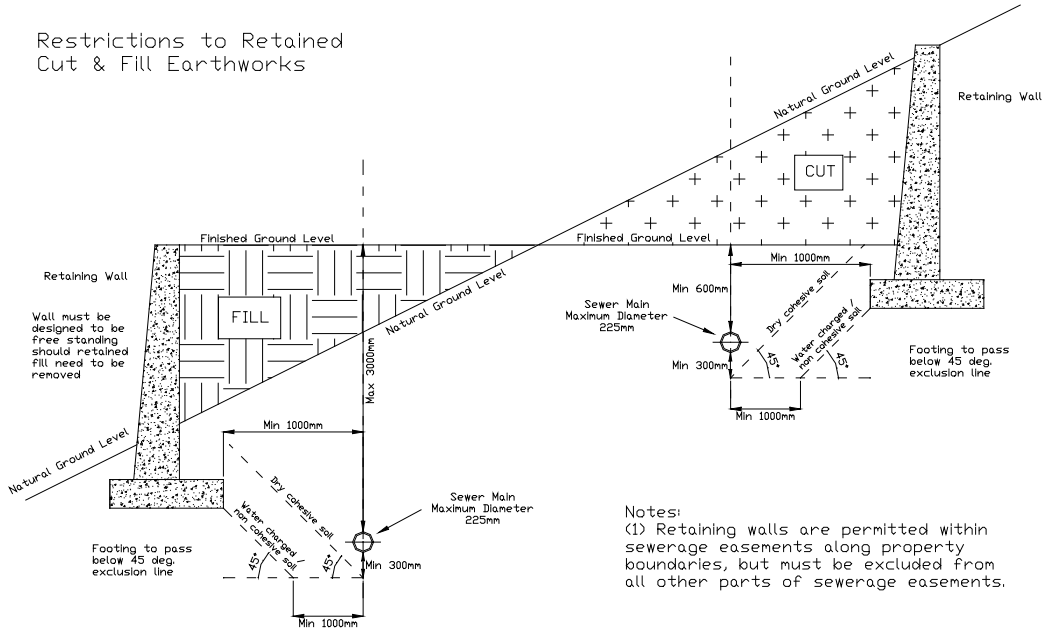
Restrictions to Gravity Rock Retaining Wall Construction



Notes:
 (1) Retaining walls are permitted within sewerage easements along property boundaries, but must be excluded from all other parts of sewerage easements.

SKETCH 4A - Version 1.0 January 2005

Tweed Shire Council – Planning & Infrastructure Unit





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