GLEN INNES SEVERN COUNCIL
BUILDING OVER SEWERS POLICY

RESOLUTION NUMBER:	***32.02/20*** *21.08/13*	***MEETING:***	***27 February 2020*** *22 August 2013*

1. INTRODUCTION

This policy is applicable in cases where a developer proposes to construct physical assets over or in the vicinity of existing sewer mains. This policy is a local adaptation of the model policy produced by the NSW Water Directorate, and numbering in this policy is consistent with the model policy for reference.

2. AIMS OF POLICY

The objective of Glen Innes Severn Council's building in the vicinity of sewer mains policy is to protect existing and future assets, both privately and corporately owned from potential damage. This policy also looks at allowing access for repairs, upgrades and inspection of Glen Innes Severn Council assets and whom is subject to the associated costs.

3. POLICY STATEMENT

3.1 CONSIDERATION OF BUILD OVER SEWER REQUESTS

Any application to Glen Innes Severn Council to build adjacent to or over sewer mains will only be considered if the alternative options outlined below are found to be not viable. Glen Innes Severn Council's approach to 'Build in the vicinity of Sewer' requests is as follows:

- Relocate proposed structure
- Relocate Glen Innes Severn Council's affected assets
- Provide protection measures and build over/adjacent to asset

It is the developer's responsibility to investigate and document the above options, in consultation with Glen Innes Severn Council. Some guidance regarding the above options is provided below.

3.2 RELOCATION OF PROPOSED BUILDING

In all instances the first option considered should be the relocation of the proposed building away from the existing sewer assets. If this is not feasible due the position of the sewer main on the property adversely restricting the use of the land relocation of assets may be considered.

3.3 RELOCATION OF ASSETS

Glen Innes Severn Council will only consider relocation of existing sewer assets if the applicant can demonstrate that building away from the sewer adversely restricts the use of the land. Any relocation works need to ensure all required design standards (cover, grade, position) are still met and that the capacity or functionality of the assets is not reduced. All costs associated with the relocation of assets are to be funded by the developer/applicant.

3.3.1 Relocation - Gravity mains

Where approval to relocate a sewer is granted the Developer/Applicant will be required to submit plans in accordance with Glen Innes Severn Council's design guidelines. Relocating the sewer following approval is required before construction of the proposed building/structure can commence. The applicant will need to liaise with Glen Innes Severn Council regarding the bypassing of live sewage flows.

3.3.2 Relocation - Rising mains

Where approval to relocate a rising main is granted the Developer/Applicant will be required to submit plans in accordance with Glen Innes Severn Council's design guidelines. Following approval, the applicant is required to relocate and ensure proper function of the rising main before construction of the building/structure can commence. The applicant will need to liaise with Glen Innes Severn Council regarding the bypassing of live sewage flows.

3.3.3 Relocation - Easements

The Developer/Applicant may be required to acquire/provide an easement in accordance with Glen Innes Severn Council's requirements over a relocated gravity and/or rising main.

3.4 BUILDING OVER SEWER

Glen Innes Severn Council will only consider a building/structure over the sewer main in exceptional circumstances and then only if the applicant can demonstrate that relocating the building/structure and/or relocation of the sewer is not feasible.

The Developer /Applicant shall consider an integrated approach and demonstrate that all associated risks can be managed with marginal costs if building over a sewer main is to be considered and accepted by Glen Innes Severn Council. All costs associated with the works are to be funded by the developer/applicant.

3.4.1 CCTV Inspection

Any application to build over a sewer must include the following:

- A CCTV inspection of the subject sewer, undertaken by a contractor qualified and with the necessary experience to do so, or by Council at the applicant's expense.
- The results of the CCTV inspection are to be submitted to Council with the application. The inspection may be used as a dilapidation survey, with the developer required to fully fund any repair work required to rectify damage caused by their development.

3.4.2 Results of the CCTV Inspection

Depending on the results of the CCTV inspection Council may require the Developer/Applicant to:

- Reconstruct the sewer main in its existing location using construction materials as specified by Council and in accordance with requirements set down within Council Engineering Guidelines for Subdivision and Development and approved plans or;
- Reline the existing sewer main by the engagement of contractors qualified to undertake such work. The name of contractor and the relining technique to be utilised will be submitted to Council for approval prior to work commencing.
- All works on gravity sewer mains must be completed for the full extent between manholes.

3.4.3 Stormwater Flow Paths

Typically, existing sewers are located along overland drainage paths. If new buildings are proposed over existing sewers, then the Major overland flow path for the site and catchment should be considered to minimise the risk of flooding to existing and future properties.

An integrated approach of water, sewer and irrigation and drainage assets needs to be considered simultaneously.

4. WHERE THE POLICY APPLIES

This building in vicinity of sewer mains policy applies to the following three structure types:

- Heavy or Permanent Structures
- Light Weight or Semi-Permanent Structures
- Miscellaneous Structures (Rainwater Tanks, Driveways etc.)

This policy applies to any development, such as the above which is built in the vicinity of Glen Innes Severn Council assets.

4.1 CATEGORY OF STRUCTURES

4.1.1 Category 1 - Heavy or permanent structures

These structures are typically constructed from masonry, brick, steel, timber and concrete and it is neither reasonable nor practical to remove or dismantle the structure for the purpose of carrying out sewer repairs or refurbishment.

Examples of structures in this category include:
- Houses
- Factories
- Warehouses
- Brick Garages / Workshops
- Structures that are permanently habitable or used as a work place
- In-Ground Swimming Pools

If category 1 structures are to be built in the vicinity of sewers, the requirements for protection of and access to the existing sewerage network in the following sections must be followed.

4.1.2 Category 2 - Lightweight or semi-permanent structures

These structures are typically of a type of construction that would make it reasonable to remove / dismantle and re-erect if access to the main, by excavation, was required.

Examples of structures in this category include:
- Pergolas
- Garden sheds
- Above ground pools (restrictions apply)
- Carports
- Timber / fibro / aluminium garages
- Glass houses / ferneries
- Barbecue facilities

These structures must be readily removable in the case of work required to take place on Glen Innes Severn Council assets. Asset protection measures as above may still apply to certain structures within this category. Any future costs arising from the requirement to remove and subsequently reassemble these structures, as directed by Glen Innes Severn Council, will be at the full cost of the owner.

4.1.3 Category 3 – Miscellaneous

Structures in this Category do not normally require protection of the sewer mains.

Structures in this Category include:
- Fences
- Driveways (concrete, asphalt, pavers etc)
- Tarmac areas

As long as minimum depth requirements for sewer main have been met, no special protection measures for the sewer main should be required. However, if uncertainty exists in cases of anticipated high loadings or where sewer mains are less than minimum depth advice shall be sought from Glen Innes Severn Council.

Any special conditions applied to Category 3 structures would be on a case-by-case basis and would include in part a stipulation that any removal and reinstatement of the structures (involved with Council accessing the sewer main) would be at the cost of the owner. Provisions required for access to the existing sewerage network still apply.

Council's sewerage infrastructure presents numerous design, construction and operational issues in the protection of Council interests.

4.2 CONSTRUCTION NOT PERMITTED

Structures will not be permitted to be built over and/or in close proximity to the following:

- Sewer rising mains, surcharge mains and critical gravity mains (generally all sewer mains of greater diameter than 300mm mains and/or deemed to be excessively deep i.e. greater than 3.0m), as determined by Glen Innes Severn Council.
- Any gravity sewer that, in the opinion of the Glen Innes Severn Council, is in a poor condition. Exposing of the sewer, and/or CCTV may be required prior to construction. This inspection may determine that repair/replacement may, be required. Any subsequent repair/replacement work will be at the developers cost.
- Sewer manholes, lampholes, maintenance points and junctions where sufficient clearances cannot be achieved. (See Section 2.8)
- No building within Glen Innes Severn Council's easements.

4.3 ASSET PROTECTION MEASURES

Where construction of any Category 1 or 2 structures will impose a load within an existing sewer assets zone of influence Glen Innes Severn Council may request the developer to carry out piering of foundations.

The protection measures may also be required due to other factors affecting the asset such as available cover.

4.3.1 Piering of foundations

Piering of the proposed structure's foundations may be requested to transfer loads outside an assets zone of influence. A certified design prepared by a suitably qualified and experienced Engineer will be required to accompany foundation designs. The plan shall show the design of all footings, beams and piers and clearly note required clearances, ground levels and nominated soil classifications.

The following requirements apply to foundation piering:

- The building and its foundations are to be designed in such a way that no building loads are transmitted to the Glen Innes Severn Council's sewer and where possible, the pipe can be repaired or replaced at any time without affecting the stability of the building.
- Foundations within an assets zone of influence will require piering to a minimum depth of 150mm below the zone of influence of the affected asset or until solid rock is encountered.
- A minimum horizontal clearance of 1 metre is required between any piers and the face of a sewer main.

4.4 ZONE OF INFLUENCE

The Zone of Influence is an area extending both horizontally and longitudinally along the alignment of an underground asset. This area is considered as that part of the ground where:

- Settlement or disturbance of the ground surrounding the pipe may cause damage to buildings or structures on the surface above.
- Loads from buildings or structures on the surface may have an impact on the buried pipe.

The zone of influence shall be determined by extending a line at an angle of 1.5 (Horizontal): 1 (Vertical) to the surface, starting from a point 150mm below the invert of the sewer main and half of the trench width measured horizontally from the pipes centreline (See figure below)

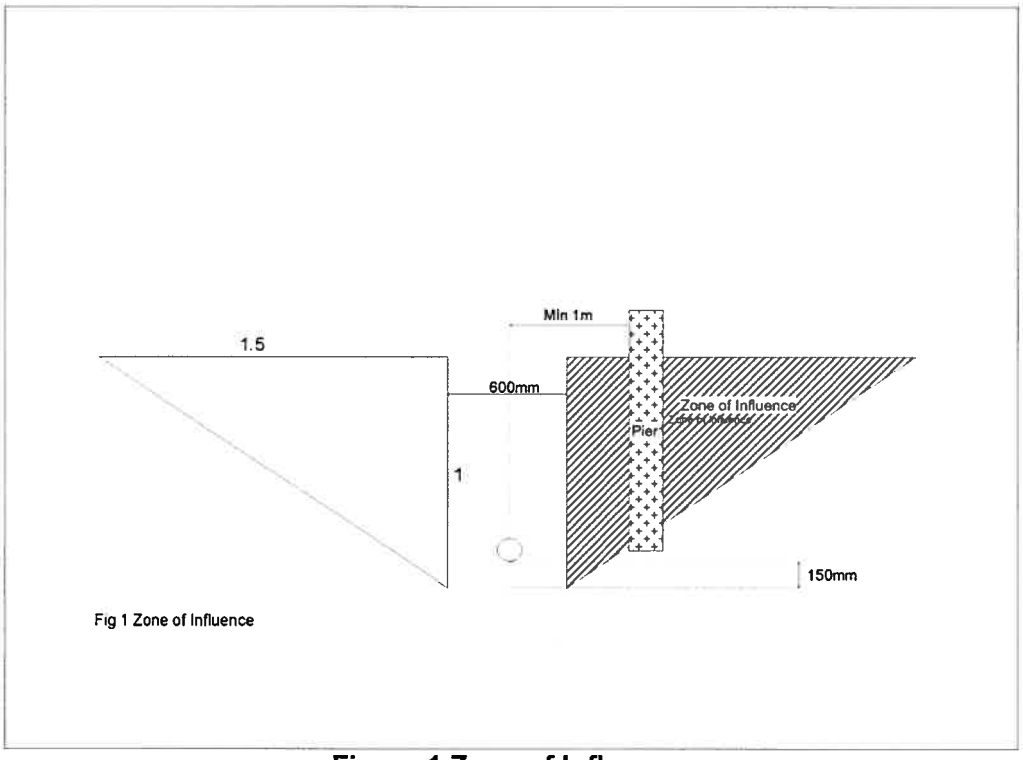


Figure 1 Zone of Influence

It is Glen Innes Severn Council's discretion whether to consider a steeper angle of repose (max 1H:1V) for stiff soils (clays etc). Geotechnical investigations and a report from a suitably qualified and experienced Geotechnical Engineer need to be provided by the applicant to support such requests.

4.5 CLEARANCES FROM ACCESS STRUCTURES

Any proposed structure shall not prevent future access to existing maintenance structures associated with sewerage assets. These include manholes, lampholes/maintenance shafts and sewer dead ends.

A minimum horizontal clearance of 1.5m is required around existing access structures as well as a minimum vertical clearance of 3m. The horizontal setback shall increase to 2m if two or more sides of an access structure are built around. The fourth side must be open and accessible at all times.

4.5.1 Access requirements

Glen Innes Severn Council requires that all sewer access structures be accessible at all times in case of maintenance or emergency situations. Developments on properties with sewer manholes or lampholes must provide at least A 3.0 metre wide clear access to the sewer structures i.e. along the boundary between fence and building.
This is necessary to allow Glen Innes Severn Council staff access with their "tools of trade" such as cleaning rods and lid lifting equipment.

Developments which locate sewer manholes or lampholes in security areas must make suitable arrangements for access by Glen Innes Severn Council's sewer operations staff for maintenance or emergency work.

4.6 EXISTING ENCUMBRANCES

Where structures have been built over an underground pipeline without Council approval then Council may require that the structure be demolished, moved or substantially modified so that it complies with this policy.

Where it is necessary to access an underground line for maintenance or repair work Council will not be held liable for the cost of restoring any illegal structures and the property owner may be charged for extra work required due to the illegal structure.

Where a structure has been given permission, previously by Council, to be built over a pipeline then no further extensions, additions or reconstructions will be allowed without further assessment. Council recognises that the existing structure presents a risk to both the building and Council's liability. Therefore Council will assess each structure on its own merit to give permission for additions.

4.7 SWIMMING POOLS

4.7.1 Above Ground Swimming Pool

Above ground pools without floor decking around the pool, and not constructed of concrete or fibreglass, are considered to be semipermanent structures that are able to be removed on request to enable access to the sewer.

Special sewer protection provisions are not required for these pools provided that they are placed on the existing natural ground levels and minimum cover requirements to the sewer are met. Clearances to sewer access structures described above still apply. The owner should be advised that all costs associated with removal and reinstatement of the pool for access to the sewer main will be at the owner's cost.

Above ground pools with permanent decking are considered to be permanent structures and are subject to the conditions outlined below.

4.7.2 In-ground swimming pool

In-ground Fibreglass pool

The following requirements apply to in-ground fibreglass pools:

- Minimum horizontal clearance from the pool to the face of sewer pipe of 1.5m

- If a fibreglass pool is constructed within the zone of influence of a sewer main it should be designed and certified as being self supporting with foundations founded below the zone of influence.
- No pool shall be located closer than 5 metres to any sewer maintenance structure (manholes etc). Pool must be designed and constructed so as not to allow any interaction between pool water and sewage in the event of overflows from either structure.

The following requirements apply to in ground concrete pools:

- Minimum horizontal clearance from the pool to the face of sewer pipe of 1m.
- If the concrete pool is within the zone of influence of a sewer main, then the foundations of the pool shall be founded below the zone of influence (e.g. piers) to ensure the pool is self supporting.
- No pool shall be located closer than 5 metres to a sewer maintenance structure (manholes etc).

4.8 RETAINING WALLS

The construction of retaining walls is subject to the following requirements:

- Where the footings of a wall would encroach on the zone of influence the wall is to be designed in accordance with Section 4.3.
- Generally walls over 1.0m in height would not be permitted within 1.0m of the main.
- Minimum cover over the main is to be maintained or an Engineer's assessment is required for protection of the main.
- The wall is to be set back at a minimum of 1.5m from the centre of a sewer maintenance structure.
- A retaining wall less than 1.0m in height will be permitted over or within the zone of influence without the requirement for an Engineer's design provided that:
  - the wall is at least 3.0m from an adjoining property or building/structure;
  - the wall would not be subject to vehicle loadings.
- Any retaining wall crossing a sewer main must be supported over the main with a reinforced concrete foundation designed in accordance with Section 4.3 to ensure no loads from the wall are transferred to the sewer main i.e. bridging slab foundation.

4.9 FILLING OVER SEWER MAINS

The allowable depth of fill that can be placed over a sewer main depends on the material type and stiffness class of the existing pipe. Site filling that increases the depth to the main above 2.5m will require an application to Council and subsequent approval. Any application must include certification from suitably experienced qualified civil, structural or geotechnical engineer that:

- The loading imposed will not adversely affect the underlying sewer; or

- The remediation work proposed will prevent any adverse loading on the underlying sewer.

The placing of fill to excessive depths over Council's main is not permitted (5m is a maximum depth for practical access) regardless of the structural capacity of the pipe. No fill is to be placed over sewer manholes and manholes are to be raised in conjunction with any site filling. Finished lid levels of maintenance structures, relative to ground level, will be advised by Glen Innes Severn Council based on the land use and prevalence of flooding.

4.10 EXCAVATIONS OVER AND ADJACENT TO MAINS

4.10.1 Excavations

Generally excavations over or adjacent to a sewer main are not to reduce the earth cover over the main to less than the minimum limits as detailed in any of Council's Guidelines or WSA2-2002, whichever is the more restrictive.

Any proposal to reduce cover over a sewer to less than the limits imposed in these guidelines will require an application to Council and subsequent approval. Any application must include, amongst other things, certification from a suitably experienced qualified civil, structural or geotechnical engineer that:

- The loading imposed will not adversely affect the underlying sewer, or
- The remediation work proposed will prevent any adverse loading on the underlying sewer

4.10.2 Earth embankments

On sloping sites there is potential that earthworks down slope of an existing sewer main. could present a risk for land slip or erosion of soil providing cover and/or side support to an existing sewer main.

Any proposed regrading of land immediately down slope of an existing sewer main should be designed with a slope no steeper than 3 (horizontal) to 1 (vertical) to ensure future erosion and/or land slip does not reduce cover and/or support to the existing sewer main Steeper embankments would be permitted where the embankment is certified by a suitably experienced qualified civil, structural or geotechnical engineer and approved by Council. Retaining walls may be required to provide support down slope of existing sewer mains if substantial regrading is proposed.

4.11 ABANDONED MAINS

Pressure or gravity mains which have been abandoned due to relocation to suit a particular development may remain in the ground providing the abandoned mains are capped to prevent the movement of water. Glen Innes Severn Council may require certain abandoned mains to be backfilled with grout depending on size, material type and proximity to other structures.

Alternatively the abandoned mains are to be removed and the trench backfilled and compacted to at least 98% standard compaction. Note that SafeWork NSW requirements will govern the handling of any Asbestos Cement materials.

4.12 PLANTING OF TREES

Tree roots can penetrate into sewerage pipes through joints or damaged sections of pipes, causing blockages and subsequent overflows. As a result, certain species are not to be planted within 10 metres of mains. A list of the highest risk species is provided in Appendix 1. No tree is to be allowed to grow within 1.5 meters of a sewer main. Council may order the removal of problematic trees at the expense of the owner of the land on which the tree is growing.

4.13 COSTS

The Developer/Applicant (or owner in the case of existing development) will be responsible for all costs associated with:

- All investigation and design and any costs associated with seeking approval
- If approval is granted then any construction costs
- Repairing any damage to a sewer main or associated sewer infrastructure caused by construction over or near an existing sewer.
- Repairing any damage to a sewer main or associated sewer infrastructure caused by trees listed in Appendix 1 planted within 10 metres of an existing sewer main, or damage caused by any tree located within 1.5 metres of a sewer main. All distances in this section refer to horizontal distance.

If Glen Innes Severn Council decides to upsize a sewer main subject to relocation by a developer, then a cost sharing arrangement may be agreed to between both parties that reflects the extra costs associated with installing a larger diameter main at the time of relocation by the developer. Note this may not apply where the upsizing of the pipe is required due to the subject development.

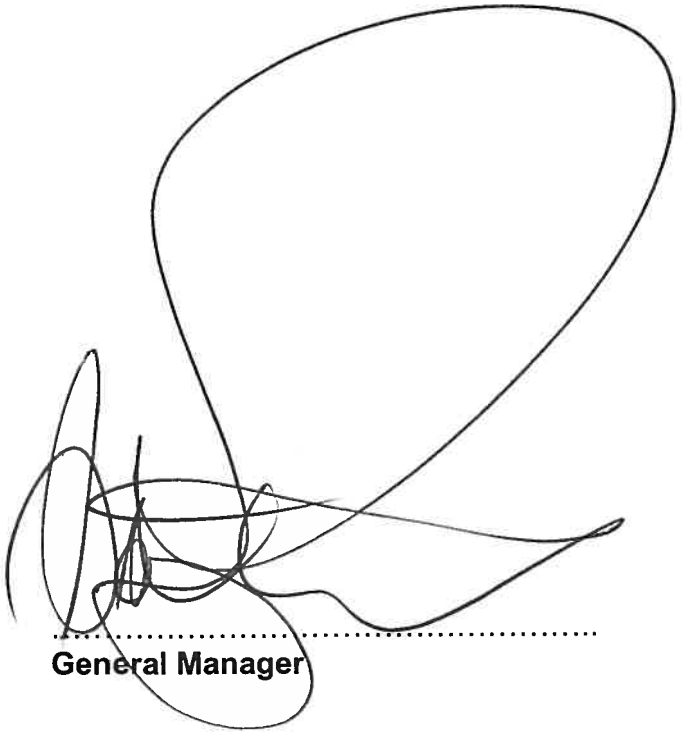
The Developer/Applicant will have no claim on Council for any costs incurred in the event that approval is not granted.

5. IMPLEMENTATION / COMMUNICATION

This Policy will be communicated to all new employees that are affected by it as part of their induction. Revised versions of the Policy that only contain minor changes will be distributed to Managers for highlighting at team meeting by the Technical Services Engineer.

6. VARIATION AND REVIEW

This Building over Sewers Policy shall be reviewed every five (5) years, or earlier if deemed necessary, to ensure that it meets the requirements of legislation and the needs of Council.



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General Manager

22/2/20
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Date

Reference Number:	Version Number: 2 Date: 27/02/2020	Review Date: February 2025	Responsible Officer: TSE
Related Documents:			

APPENDIX 1 – PLANTS TO AVOID NEAR SEWER MAINS

Botanical name	Common Name	Damage rating
Cinnamomum camphora	Camphor Laurel	Extreme
Ficus species	Fig Trees & Rubber Plants	Extreme
Populus species	Poplars	Extreme
Salix species	Willows	Extreme
Fraxinus angustifolia	Claret Ash	Very High
Erythrina species	Coral Trees	Very High
Eucalyptus species	Large Gum Trees	Very High
Jacaranda mimosifolia	Jacaranda	Very High
Liquidambar styraciflua	Liquidambar	Very High
Araucaria species	Norfolk Island & Bunya Pines	Very High
Brachychiton acerifolium	Illawarra Flame Tree	Very High
Casuarina species	Casuarinas	Very High
Melia azedarach	Australian White Cedar	Very High
Pinus species	Pine Trees	Very High
Platanus acerifolia	Plane Tree	Very High
Schinus molle	Pepper Tree	Very High
Ulmus species	Elms	Very High
Bougainvillea species	Bougainvilleas	High
Cortaderia selloana	Pampas Grass	High
Grevillea robusta	Silky Oak	High
Ilex species	Hollies	High
Lagunaria patersonii	Norfolk Island Hibiscus	High
Ligustrum species	Privets	High
Magnolia species	Magnolias	High
Nerium oleander	Oleander	High
Phoenix canariensis	Canary Island Date Palm	High
Phyllostachus species	Bamboos	High
Toxicodendron species	Rhus Trees	High
Lophostemon confetus	Brush Box, Tristania	High
Wisteria species	Wisteria	High