14. BUILDING OVER OR NEAR SEWERS

This plan, which may be cited as "Dungog Development Control Plan No. 1" – Building Over Sewers, constitutes a Development Control Plan as provided for by Section 72 of the Environmental Planning and Assessment Act, 1979.

14.1 OBJECTIVES

The objectives of this plan are:-

(a) To provide a guide to staff and builders within the Dungog Shire for the construction of buildings near sewers.
(b) To ensure no load is transmitted to a sewer main from any structure built over or near the sewer main.
(c) To enable safe access to manholes.
(d) To enable safe excavation of pipes without causing damage to adjacent buildings.
Any damage to a sewer main caused by construction over or near that sewer main shall be repaired at full cost to the owner/builder of the structure.

14.2 DEFINITION OF TERMS

ZONE OF INFLUENCE

Unless otherwise specified by a practising geotechnical engineer, a zone extending longitudinally along the sewer. The zone is bounded on either side of the pipeline by a line drawn from the pipe invert horizontally for 1 metre from the edge of the pipeline and thence at a slope of 1 vertical to 2 horizontal to the ground surface (See Attachment 1).

STRUCTURES

Type A

Lightweight Demountable Structures

(i) Lightweight demountable carport with sheetmetal roof.
(ii) Lightweight demountable aluminium garden shed.
(iii) Retaining wall less than one (1) metre in height, provided that any footing running almost parallel to the sewer shall be a minimum one (1) metre from the sewer.

Type B

Aboveground flexible wall swimming pool with fabric liner.

Type C

Free standing timber framed garage with light weight sheet cladding on slab on ground where the adjacent sewer is less than 3 metres deep.

Type D

All other buildings or structures (including manufactured homes) not included in Types A, B or C above.

CONCRETE ENCASEMENT

Is defined as encasement with reinforced concrete complying with the requirements of Dungog Shire Council Attachment 2.

14.3 REQUIREMENTS FOR TYPE (A) STRUCTURES - LIGHTWEIGHT DEMOUNTABLE STRUCTURES OVER OR NEAR SEWER MAINS

14.3.1 Lightweight demountable structures may be constructed or erected over a sewer provided all work is in accordance with Clause 14.4.2 and 14.4.3.

14.3.2 No column support shall be situated closer than 1.5 metres (measured horizontally) from the centre of a sewer manhole or within one (1) metre (measured horizontally) from the edge of a sewer main.

14.3.3 Carports and pergolas may be erected over manhole access openings provided that:-

(i) Manhole covers shall be raised to the finished ground level at the property owners cost;

(ii) Manholes shall be accessible at all times.

14.4 REQUIREMENTS FOR TYPE (B) STRUCTURES - ABOVE GROUND FLEXIBLE WALL SWIMMING POOL WITH FABRIC LINER OVER OR NEAR SEWER MAINS

14.4.1 The erection of swimming pools or decking over sewer mains will be permitted provided that the main is concrete encased in accordance with Clause 14.3.3.

14.4.2 Swimming pools covered under this definition may be erected no closer than one (1) metre (measured horizontally) from the edge of a sewer main without concrete encasement of that main.

14.4.3 If any swimming pool or decking is erected closer than one (1) metre (measured horizontally) to the edge of a sewer main then the sewer main shall be encased in accordance with Clause 14.3.3 or as required by Council's inspector.

14.4.4 The minimum clearance distance from the centre of the manhole to a structure shall be in accordance with Clause 14.8.

14.5 REQUIREMENTS FOR TYPE (C) STRUCTURES - FREE STANDING TIMBER GARAGE WITH LIGHT WEIGHT SHEET CLADDING ON SLAB ON GROUND OVER OR NEAR SEWER MAINS LESS THAN 3 METRES DEEP

14.5.1 Freestanding timber garages on slab on ground may be erected adjacent to sewer mains without foundation protection provided that:-

(i) The structure is erected no closer than one (1) metre (measured horizontally) to the edge of a sewer main.

(ii) The sewer main has a depth to invert of 1.5 metres or less.

(iii) The structure is erected no closer that four (4) metres (measured horizontally) to the edge of the sewer main if the depth to invert exceeds 1.5 metres, but is less than 3.0 metres.

14.5.2 Freestanding timber garages on slab on ground erected closer than one (1) metre to a sewer main will be permitted provided that the sewer main has been concrete encased in accordance with Clause 14.3.3.

14.5.3 Freestanding timber garages on slab on ground erected further than one (1) metre (measured horizontally) from the edge of a sewer main with an invert depth greater than 3.0 metres are Type D structures see Section 14.7.

14.5.3 The minimum clearance distance from the centre of the manhole to a structure shall be in accordance with Clause 14.8.

14.6 REQUIREMENTS FOR TYPE D STRUCTURES - ALL OTHER BUILDINGS OR STRUCTURES (INCLUDING MANUFACTURED HOMES) NOT INCLUDED IN TYPES A, B OR C

14.6.1 Structures located adjacent to sewer main and within the zone of influence region as defined in Clause 14.3.1 shall be designed with a footing system as follows (Attachment 3);

(a) the structure shall be self supporting within the zone of influence;

(b) the footings shall be founded outside the zone of influence;

14.6.2 Structures erected closer than one (1) metre to the edge of a sewer main will be permitted, provided the main has been concrete encased in accordance with Clause 14.3.3 and complies with these guidelines.

14.6.3 No foundation shall be constructed closer than 500 mm from the wall of the pipeline or its encasement.

14.7 STRUCTURES NEAR MANHOLES

14.7.1 The minimum clearance distance from the centre of the manhole to a structure shall be in accordance with Drawing WS0023.

14.7.2 No sewer manhole shall be enclosed on more than three (3) sides. The fourth side shall be left fully open and clear of structures or associated works at all times.

14.7.3 A minimum three (3) metres vertical clearance shall be allowed above the surface of the manhole cover.

14.7.4 Minimum path width required for access to manhole for maintenance requirements shall be 900 mm.

14.7.5 All works carried out adjacent to sewer mains and manholes are not to damage or destabilise the mains or manholes.

14.8 VACUUM SEWER AREAS

14.8.1 No structure shall be permitted to be erected over a vacuum sewer pit or the Council main from that pit, except as provided for in 14.6.2 and 14.9.3.

14.8.2 Erection of fences is permitted over a Council vacuum sewer line provided that:-

(a) A brick fence located within one (1) metre of pipeline shall have pier and beam foundations to the depth of the pipe invert;

(b) Posts for timber fences shall be located no closer than 500 mm from the vacuum sewer mains or chambers.

14.8.3 Construction of driveways, carports and pergolas may be permitted over vacuum sewer pits provided that:-

(a) access to pit is available at all times;

(b) radial clearance of not less than 1.5 metres is provided from the centre of the pit;

(c) vertical clearance of not less than two (2) metres is provided above the pit.

14.9 PILE DRIVING

14.9.1. Building applicants and their Contractors shall be liable for all costs for repairs to sewer mains which result from site piling operations.

14.9.2 Pile driving shall not be permitted within fifteen (15) metres of a sewer main, except as provided for in 14.10.3.

14.9.3 Driving of piles may be approved under the followings circumstances:-

(i) the applicant satisfies Council that the risk of damage to a sewer main is negligible and nominates the contractor responsible for the pile driving;

(ii) the applicant provides security bond or cash guarantee as determined by Council. The cost of repair of any damage which occurs will be deducted from the security;

(iii) the pile driving contractor agrees in writing to accept Council's opinion regarding the cause and extent of any damage which may be evident following the pile driving operation;

(iv) the pile driving contractor shall submit documents as required by Council to confirm that his insurances are adequate prior to commencement of work.

14.9.4 Prior to driving of piles the owner/applicant is required to pay an inspection fee as determined by Council, and give the appropriate Area Overseer two (2) working days notice to arrange CCTV sewer inspections prior to and following the driving of piles.

14.10 SUBMISSION OF DRAWINGS

14.10.1
This section sets out the details that will generally be required for the erection or construction

of a structure located within the zone of influence of a sewer main. Drawings shall be certified by the applicant's Engineer.

1410.2
The following information shall be shown on drawings:-

(i) Plan view of the proposed building(s) in the region of the sewer main, the extent of any excavation and the pier locations and their depths;

(ii) Centreline of sewer on plan view;

(iii) Limits of the Zone of Influence of main;

(iv) Typical sections across Zone of Influence of main;

(v) Section across Zone of Influence at the closet point between the main and foundation if it is different to the typical cross section;

(vi) Engineering details of structural suitability dimensioned;

(vii) Certification by the applicant's engineer as follows:-

"I, ……., certify that the footings of this building as designed are adequate to support and protect the building from damage in the event that the sewer main is excavated or disturbance or settlement occurs within the Zone of Influence."

Signed ……..

(viii) A certification from a practising geotechnical engineer, if the applicant proposes to modify the Zone of Influence.

NOTES TO DRAWING NO. See Attachment 4.

STANDARD SPECIFICATION FOR THE PROTECTION OF SEWER MAINS

INSPECTION

Three (3) working days notice shall be given prior to the commencement of any work.

Before any concrete work is commenced, the sewer main is to be located and uncovered. Care shall be taken to avoid damage to the main and should any such damage occur, it will be repaired at the owner/applicant's cost.

Prior to placement of any concrete and after placement of reinforcement, the owner/applicant shall give at least one (1) working day's notice of the need for an inspection.

No concrete is to be placed until Council's representative has inspected and approved the reinforcement, the prepared trench and the support of the sewer main.

A final inspection of the work will be carried out by Council's representative after placement and curing of the concrete.

CONCRETE

All concrete work shall comply with the requirements of Australian Standard AS 1480-1982 as amended. All concrete shall have a minimum F'c of 20 MPa at twenty eight (28) days.

All concrete is to be placed in such a manner to ensure satisfactory compaction with the absence of segregation.

After completion of pouring the concrete shall, unless otherwise approved by Council's representative, be covered with an approved impermeable membrane and kept in a moist condition for a minimum of three (3) days.

No filling or building work will be carried out in the vicinity of the main during this period.

REINFORCEMENT

Reinforcement shall be as detailed on the attached sketch.

Minimum lap length shall be 450 mm.

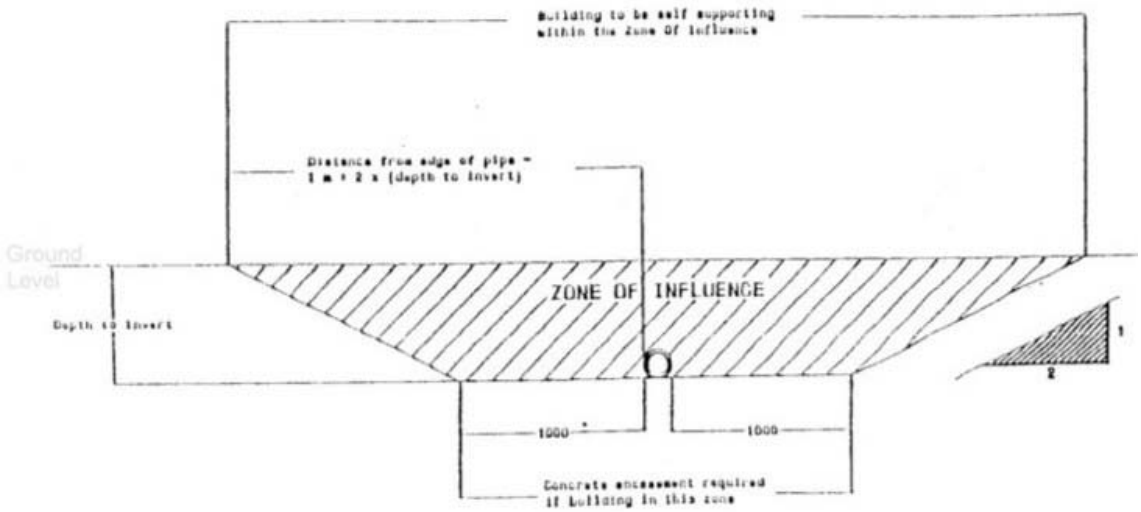
Minimum concrete cover to reinforcement shall be 70 mm.

Reinforcement shall be securely tied with annealed wire at all crossings.

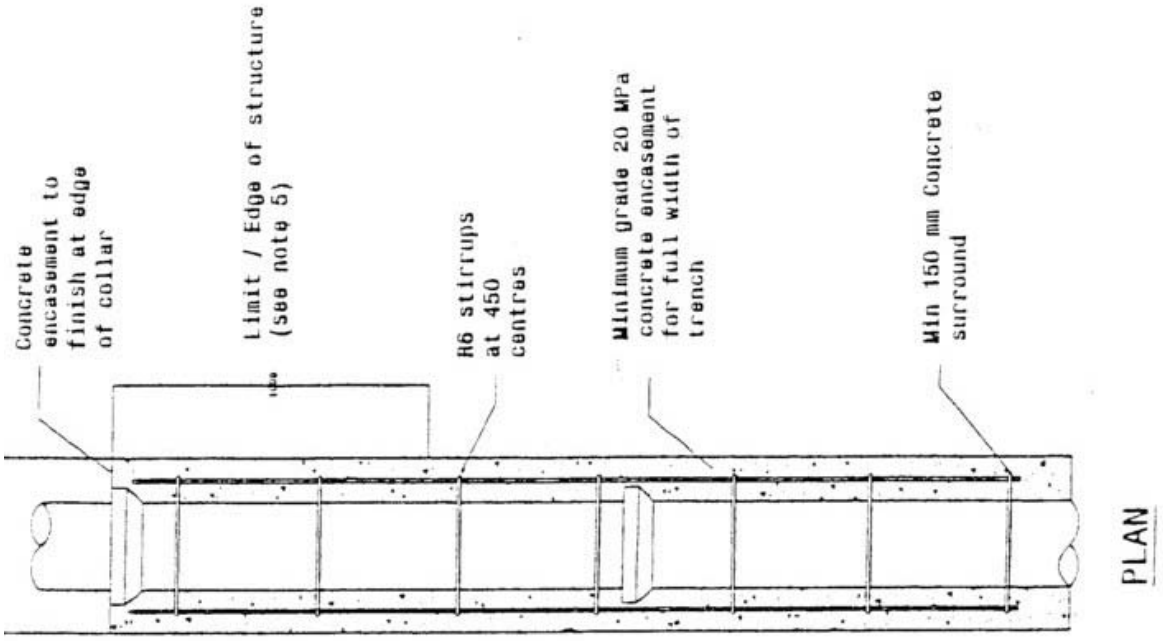
INSPECTIONS

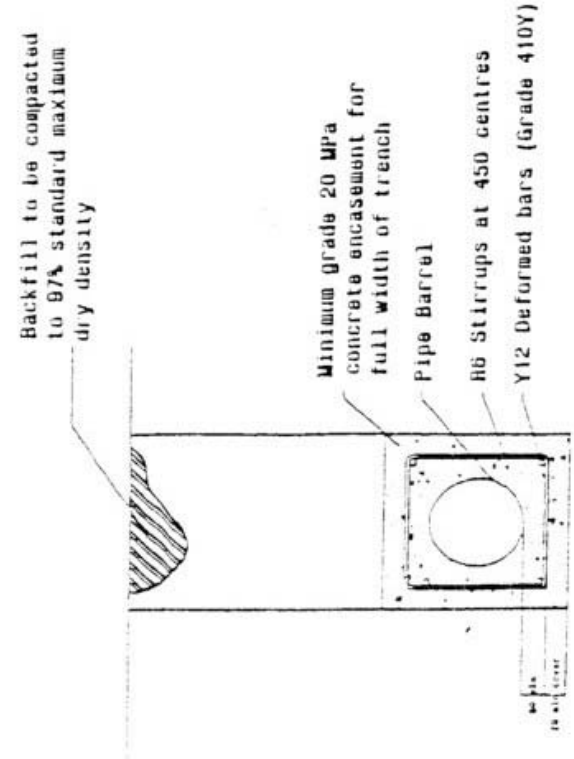
To arrange inspections, Council's Sewerage Engineer can be contacted at the Council Office on 4992 1224.

ATTACHMENT 1



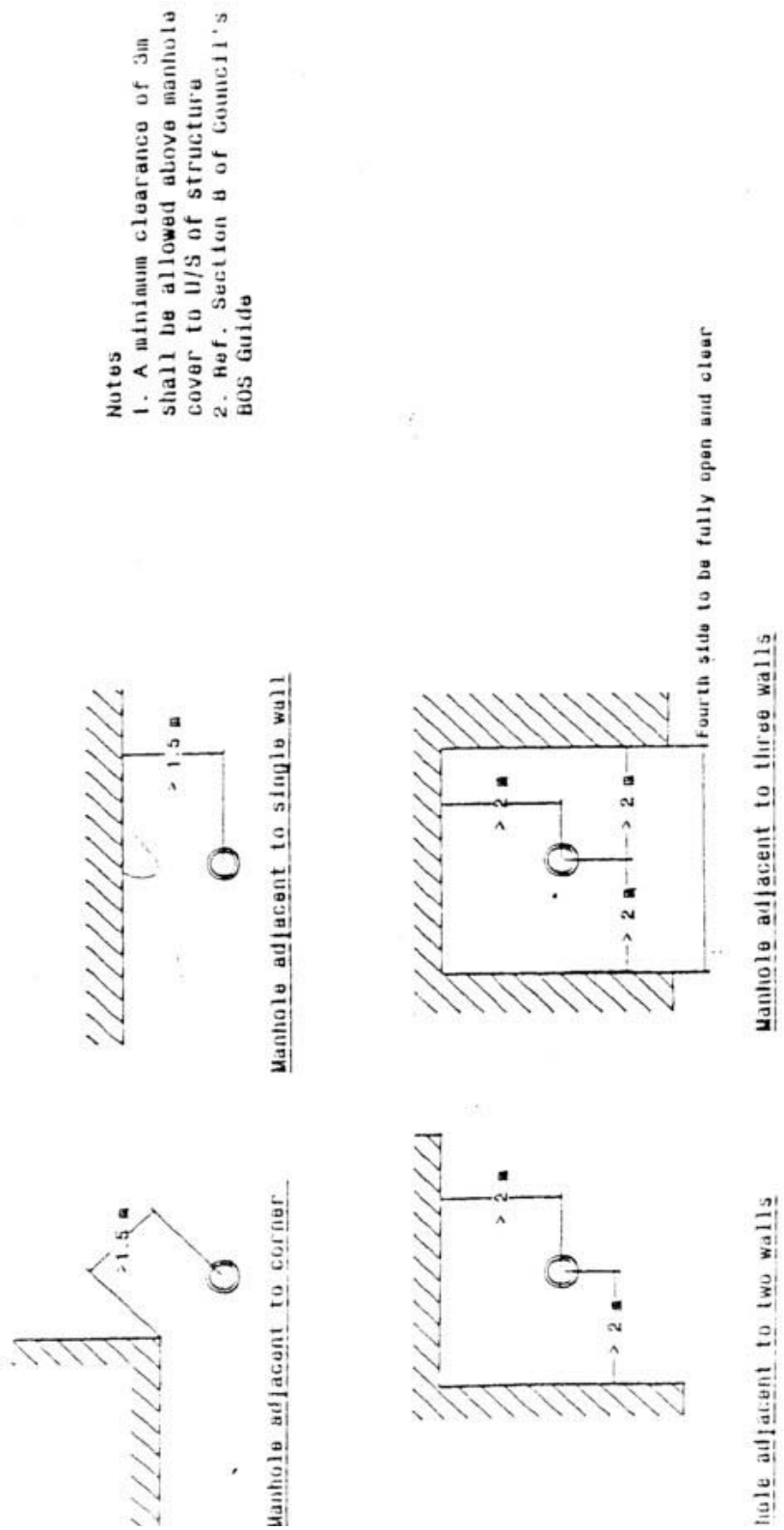
ATTACHMENT 2





Notes
1. Concrete to be minimum grade 20 MPa and placed using mechanical vibration
2. Minimum reinforcement lap length to be 450 mm
3. Minimum concrete cover to reinforcement to be 20 mm
4. Reinforcement to be securely tied with annealed wire at all crossings
5. Where the sewer main is to be concrete encased the encasement shall extend to a collar located not less than 1000 mm beyond the outside edge of the structure

ATTACHMENT 3



ATTACHMENT 4