## General Hydraulic

- G1. All work shall be carried out in accordance with relevant authority requirements, Council's regulations, Superintendent's approval, Hydraulic Specification and National Plumbing Codes AS.3500, AS.1221, AS.2441 and AS.2419.1.
- G2. This plan shall be read in conjunction with approved architectural, structural, mechanical and electrical plans and specifications.
- G3. Drains to be supported on or from solid ground. Location and depth/invert level of branch shall be verified on site prior to commencement of work.
- G4. Drains under buildings shall be re-tested where directed by superintendent.
- G5. Inspection openings shall be provided:
  - -on the property boundary -on each w.c. or branch
  - -at a max. of 30m intervals, spread equidistant where possible -immediately upstream and downstream of all jump-ups -as required by the authority for inspection and maintenance.
- G6. Existing services have been plotted from supplied data. The Superintendent does not guarantee their accuracy and it is the contractor's responsibility to establish the location of all existing services prior to commencement of any work. Clearances shall be obtained from the relevant authority.
- G7. The contractor shall arrange all survey setouts by a registered
- G8. Contractor shall verify all levels and ensure all falls are attainable prior to commencing work.
- G9. All services that cross pavements, footings etc. shall be backfilled with approved granular material to upgrade level and compacted to 100% standard maximum dry density in accordance with AS.1289.E1.1.
- G10. On completion of pipe installation, all disturbed areas must be restored to original condition including kerbs, footpaths, concrete areas, gravel areas, grassed areas and road pavements.
- G11. Trenches through existing road and concrete areas shall be sawcut to full depth of concrete and a minimum of 50mm in bituminous paving. Reinstate to equivalent of original road and concrete area.
- G12. Where new work abuts existing, the contractor shall ensure that a smooth, even profile, free from abrupt changes, is obtained.
- G13. Care shall be taken when excavating near existing services. No mechanical excavation shall be taken over Telstra or electrical services. Excavate by hand in these areas.
- G14. All pipe penetrations at walls shall be fitted with a puddle flange and made good and watertight.
- G15. All suspended slab pipes shall be supported with adjustable hanging brackets similar to "Abey" in accordance with AS.3500.
- G16. All core hole locations shall be approved by the superintendent prior to commencement of coring.
- G17. Contractor shall allow for all timbering, shoring and shuttering as necessary to construct pipework and include the removal of same upon completion of pipework.
- G18. Provide 80mm compressible material over pipework where clearance to underside of footing is less than 150mm (U.N.O.)
- G19. Contractor shall obtain all authority approvals and pay all fees.
- G20. All uPVC pipe exposed to sunlight shall be DWV.
- G21. Contractor to allow for all associated fees, charges, applications and inspections (Section 50, Hydraulic Design Assessment etc.) for water, sewer and gas services installations required by

## Supplied data

#### Existing services have been plotted from supplied data. It is the Contractor's responsibility to establish the location of all existing

services prior to commencing any work. Existing services servicing other operational areas must be retained. Contractor to modify/relocate existing services as required. This drawing

is to be used as a guide only.

# Existing Services and Features

- E1. The contractor shall allow for the capping off, excavation and removal if required, of all existing services in areas affected by works within the contract area and as shown on the drawings, unless directed otherwise by the Superintendent.
- E2. The contractor shall ensure that at all times services to all buildings are not affected by the works and are not disrupted.
- E3. Prior to commencement of any works the contractor shall gain approval of his programme for the relocation/construction of temporary services.
- E4. Existing buildings, external structures and trees shown on these drawings are features existing prior to any demolition works.
- E5. Contractor shall construct temporary services to maintain existing supply to buildings remaining in operation during works to the satisfaction and approval of the superintendent. Once diversion is complete and commissioned the contractor shall remove all such temporary services and make good to the satisfaction of the Superintendent.
- E6. Interruption to supply of existing services shall be done so as not to cause any inconvenience to the principal. Contractor to gain approval of Superintendent for time of interruption.

### Demolition

- D1. Unless noted otherwise in these hydraulic drawings. refer to Architect's drawings, existing conditions drawings and demolition drawings for extent of demolition works associated with
- D2. Disconnect and remove existing services to and from existing fixtures and plant areas affected by the proposed works.
- D3. Contractor to undertake independent survey of all areas to determine extent of existing services to be disconnected and
- D4. Existing services required for the operation of other buildings are to be diverted/extended as required.

# Water, Gas and Fire services

- 1. All pipework to be copper type "B" unless noted otherwise. For fire services, material pipe shall be galvanized steel pipe.
- 2. Piping materials proposed for installation shall be suitable for the soil conditions existing on site. Confirm soil conditions prior to laying metal piping through soils.
- 3. Where piping is concealed in wall or chased in floor, Kemlag insulation to both hot and cold water pipework shall be provided as
- 4. All metal pipework penetrating fire rated elements shall be sealed to maintain required fire rating

# **Erosion and Sediment Control**

#### General instructions:

- All references to details, testing and procedures are to be followed as specified in the Department of Housing "Managing Urban Stormwater Soils and Construction" manual (March 2004).
- . This plan is to be read in conjunction with the engineering plans and any other plans or written instructions that may be issued and relating to development at the subject site.
- . The contractor will ensure that all soil and water management works are located as shown in this specification.
- . All contractors shall be aware of their responsibilities in minimising the potential for soil erosion and pollution to downslope lands and
- . These plans represent concepts only. the contractor shall be responsible for the establishment and management of a detailed scheme meeting council's approval.

### Construction sequence:

- 6. The soil erosion potential on this site shall be minimised. Hence initial works shall be undertaken in the following sequence prior to commencing construction:
- (a) install all temporary sediment fences and barrier fences. Where fences are adjacent to each other the sediment fence can be incorporated into the barrier fence. (b) construct temporary stabilised site access (c) install sediment traps.
- 7. Undertake site development works so that land disturbance is confined to areas of minimum workable size.

### Erosion control:

B. At all times and in particular during windy and dry weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control.

### Sediment control:

- 9. Any sand used in the concrete curing process (spread over the surface) will be removed as soon as possible and within ten working days from placement.
- 10. Water will be prevented from entering the permanent drainage system unless it is relatively sediment free i.e. the catchment area has been permanently landscaped/stabilised and/or any likely sediment has been filtered through an approved structure.
- 1. Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised/rehabilitated.

- 12. Acceptable receptors will be constructed for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter
- 13. Any existing trees which form part of the final landscaping plan, will
- be protected from construction activities by: (a) protecting them with barrier fencing or similar materials installed outside the drip line.
  - (b) ensuring that nothing is nailed to them. (c) prohibiting paving, grading, sediment wash or placing of stockpiles within the drip line except under the following
- (i) encroachment only occurs on one side and no closer to the trunk than either 1.5m or half the distance between the outer edge of the drip line and the trunk, which ever is the
- (ii) a drainage system that allows air and water to circulate through the root zone (e.g. a gravel bed) is placed under all fill layers of more than 300mm depth.
- (iii) care is taken not to cut roots unnecessarily nor to compact the soil around them.

### Site inspection and maintenance:

- 14. Allow for grass stabilisation of unstable areas, open channels and rock batters as and where directed.
- 15. Allow for establishment of other erosion protection measures as
- 6. Receptors for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter are to be emptied as necessary. Disposal of waste shall be in a manner approved by the site
- 7. Erosion and sediment control measures shall be inspected to ensure that they operate effectively immediately after each storm. Repairs and or maintenance shall be undertaken after each event and as required on a weekly basis.
- The contractor shall provide all monitoring controls and testing.

### Stormwater

- SW1. All stormwater lines shall be sewer grade uPVC with solvent weld
- SW2. Minimum grade to stormwater lines to be 1% (U.N.O.)
- SW3. Contractor to supply and install all fittings and specials including various pipe adapters to ensure proper connection between dissimilar pipework.
- SW4. All connections to existing drainage pits shall be made in a tradesman-like manner and the internal wall of the pit at the point of entry shall be cement rendered to ensure a smooth finish.
- SW5. Where trenches are in rock, the pipe shall be bedded on a minimum 50mm concrete bed (or 75mm thick bed of 12mm blue metal) under the barrel of the pipe. the pipe collar at no point shall bear on the rock. in other than rock, pipes shall be laid on a 75mm thick sand bed. In all cases backfill the trench with sand to 200mm above the pipe. Where the pipe is under pavements, backfill remainder of trench with approved granular material to subgrade level in 150mm layers compacted to 100% standard maximum dry density. A minimum pavement of 125mm thick dgb20 base and 25mm thick ac10 wearing course shall be provided.
- SW6. Where stormwater lines pass under floor slabs, sewer grade rubber ring joints are to be used.
- SW6 All metal downpipes connecting to gutters are to be separated by non-conducting gasket or similar approved device to prevent electro chemical corrosion.

# Minimum grades piping materials

N.B. Alternatives to materials listed hereunder will only be considered by written submission to the Engineer.

225(dia.)mm and under

-uPVC DWV SH to AS.1415

<u>Downpipes</u>

-all exposed downpipes to be in material as specified by architect -all concealed downpipes to be uPVC to A.S.3500.2.2 Section 2

### Legend

----sw----sw----

Existing stormwater service Proposed stormwater service

### Symbols

**Pipework** 

Existing riser ExDP Existing service type 100 Existing size Existing dropper

Service type Service size Dropper

Note reference

Pipe Riser Pipe Dropper End Cap Continuation

Stop Valve  $\leftarrow\sim$ Direction of overland flow Rainwater spreader

Temporary sediment fence

Hose tap



Sandbag sediment trap

Temporary geotextile filter fabric drop inlet sediment trap

### Abbreviations

DP

HL

m

SPRD

STW

**SWP** 

TBC

TOK

U.N.O.

uPVC

At High Level Diameter Approx. Approximately Copper Dia Diameter DN Nominal Size Downpipe Drg Drawing Ex./Exist. Existing F.F.L. Finished Floor Level F.G.L. Finished Ground Level F.S.L. Finished Surface Level G.L. **Ground Level** High Level I.L. Invert Level l/sec. Litres per Second Millitmetre mm N.T.S. Not to Scale OF Overflow PVC Poly Vinyl Chloride RHS Rectangular hollow section R.L. Reduced Level RRJ Rubber Ring Jointed

Spreader

Stormwater

Stormwater Pit

Top of Kerb

Ultraviolet

To Be Confirmed

**Unless Noted Otherwise** 

Unplasticised Poly Vinyl Chloride

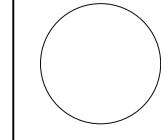
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ALTERATIONS AND ADDITIONS 38 BOWER STR MANLY

COVER SHEET AND NOTES.

Client Project No. TRACEY & JAMES SMAIL Architect A&Co. 23S255 -H01

CONCEPT STORMWATER PLAN (FOR DA) CONCEPT STORMWATER PLAN (FOR DA) CONCEPT STORMWATER PLAN (FOR DA) Amendment or reason for issue



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