

# PINE RIVERS SHIRE COUNCIL

## STANDARD DRAWINGS



### 8-40000 Series

## WATER SUPPLY WORKS



| DRAWING | AMEND | DESCRIPTION   | DATE    |
|---------|-------|---|---------|
| 8-40001 | A     | Sample Water Reticulation As Constructed  | 12/2004 |
| 8-40002 | A     | Hydrant and Valve Installations   | 02/2005 |
| 8-40003 | A     | Guide to use of Pavement Markers and Delineators for Locating Hydrants and Valves | 04/2001 |
| 8-40004 | A     | Hydrant, Valve and Main Marker Posts  | 02/2005 |
| 8-40005 | A     | Valve and Hydrant Inspection Boxes  | 04/2001 |
| 8-40006 | -     | Thrust Block Details  | 06/1998 |
| 8-40007 | A     | 50 dia. And 80 dia. Air Valve Installation Details                                | 02/2005 |
| 8-40008 | -     | Air Valve Sizing for Large Orifice Air Valves Relative to Scour Discharge         | 06/1998 |
| 8-40009 | -     | Scour Outlets - General Arrangements  | 08/1998 |
| 8-40010 | A     | Typical Trench Details For Water Main Construction                                | 12/2004 |
| 8-40011 | A     | Section Valve Pit and Interconnection Pit -General Arrangements                   | 02/2005 |
| 8-40012 | B     | Pressure Reducing Valve Pit - Pit and Pipework                                    | 12/2004 |
| 8-40013 | -     | Pressure Reducing Valve Pit - Cover and Frame                                     | 06/1998 |
| 8-40014 | -     | Pressure Gauge and Line installation Detail                                       | 06/1998 |
| 8-40015 | -     | Offtake From Mains - Typical Details  | 08/1998 |
| 8-40016 | A     | Property Service Conduits   | 02/2005 |
| 8-40017 | B     | 20 dia. and 25 dia. Copper Property Services                                      | 12/2002 |
| 8-40018 | -     | 40 dia. to 80 dia. Property Service   | 08/1998 |
| 8-40019 | A     | 40 dia. to 80 dia. Property Service With Hydrant Line                             | 12/2004 |
| 8-40020 | -     | Combination Metered Property Service  | 08/1998 |
| 8-40021 | A     | Combination Metered Property Service with Hydrant Line                            | 12/2004 |

| DRAWING | AMEND | DESCRIPTION   | DATE    |
|---------|-------|---|---------|
| 8-40022 | -     | New 20 dia. and 25 dia. Water Meter Installation Layout and Details | 02/2005 |

PRESENTATION STANDARDS

| WATER MAINS |   |   |
|-------------|---|---|
|             | New 100Ø Water Main - Continuous Line                                     | Thick. - 0.7                                  |
|             | New 150Ø Water Main - Medium Dashed Line                                  |   |
|             | New 200Ø Water Main - Long Dash, Dot                                      |   |
|             | New 225Ø Water Main - Long Dash, Short Dash                               |   |
|             | New 250Ø Water Main - Long, & 2 Short Dashes                              |   |
|             | New 300Ø Water Main - Long Dash, 2 Dots                                   |   |
|             | New 375Ø Water Main - Dotted Line   |   |
|             | New 450Ø Water Main - Long, & 3 short Dashes                              |   |
|             | New 600Ø Water Main - Long Dash, Short Dash, Dot, Short Dash              |   |
|             | New Water Main - Any Other Diameter - Continuous Line with Diameter Noted | Height - 3.5<br>Thick. - 0.5<br>Incline - 75° |
|             | Existing Mains - As per above Linetypes for each Diameter Main            | Thick. - 0.25                                 |

| WATER MAIN FEATURES |  |   |
|---------------------|--|---|
|                     | Section Valve or Stop Valve - New                    | Thick. - 1.0                                  |
|                     | Air Valve - New                                      | Text  |
|                     | Scour Valve - New                                    | Height - 3.5<br>Thick. - 0.5<br>Incline - 90° |
|                     | Pressure Reducing Valve - New                        |   |
|                     | Reducer - New  |   |
|                     | Hydrant - New  | Radius - 1.5                                  |
|                     | Alternate Classes of Pipework called up              |   |
|                     | Existing Features - As per above                     | Thick. - 0.25                                 |
|                     | New Water Service Conduit - Very Short Dashed Line   | Height - 3.5<br>Thick. - 0.5<br>Incline - 75° |
|                     | Conduit Bank - Behind Retaining Wall                 |   |
|                     | Residential Service Offtake - Fitting laid with Main | Thick. - 0.5                                  |

NOTE :-

| TRUNK MAINS AND VALVE PITS  |  |  |
|---|--|--|
| For Trunk Mains (300 dia. and Greater), Long Sections are to be provided in addition to Plans. Long Sections are to be presented in accordance with the PRSC Design Guideline No. DG03. Full details of Valve Pits and any other structures are also to be provided as detailed in that Document. |  |  |

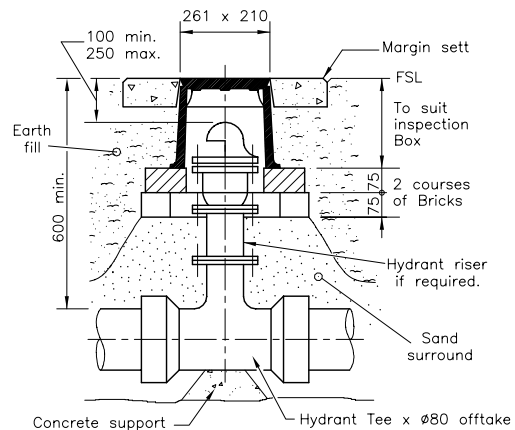
| ALLOTMENT INFORMATION |   |   |
|-----------------------|---|---|
| 43                    | New Lot Number                              | Height - 4.5<br>Thick. - 0.5<br>Incline - 75° |
| 32                    | Existing Lots Numbers                       | Thick. - 0.35                                 |
|                       | Exist. Property Boundary - Long Broken Line | Thick. - 0.35                                 |
|                       | Easement Boundary - Short Broken Line       |   |
|                       | New Property Boundary - Continuous Line     |   |

| MISCELLANEOUS OTHER WORK |                                   |  |
|--------------------------|-----------------------------------|--|
|                          | Dimensions                        | Height - 2.5<br>Thick. - 0.35<br>Incline - 90° |
| AMAROO PL.               | Approved Road Names               | Height - 5.0<br>Thick. - 0.7<br>Incline - 90°  |
| Stage Boundary           | Stage Boundary - Long Dashed Line | Thick - 1.0                                    |

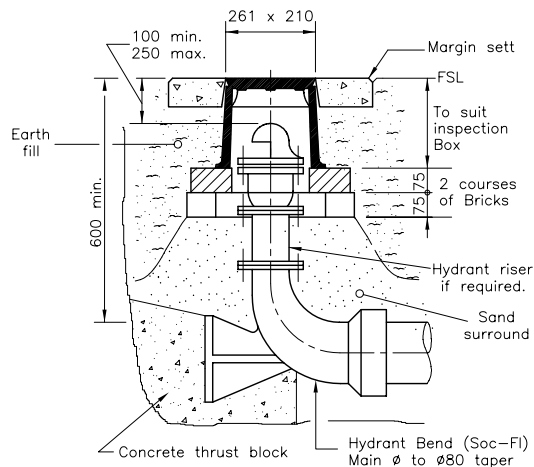
GENERAL NOTES

- Plans are to be drawn at 1:500 Scale on approved media.
- Pipe Material and Class is to be noted on the plan.
- Diameters of Water Service Conduits accepted as 100Ø. Conduits other than this size are to have their Diameters shown on the Plan.
- Lot Numbers are to be provided as per the Registered Plans for the Estate.
- Approved Road Names are to be shown on the Plan.
- Text, Linework, and general Plan Presentation is to be of a Professional Quality and suitable for Microfilming.

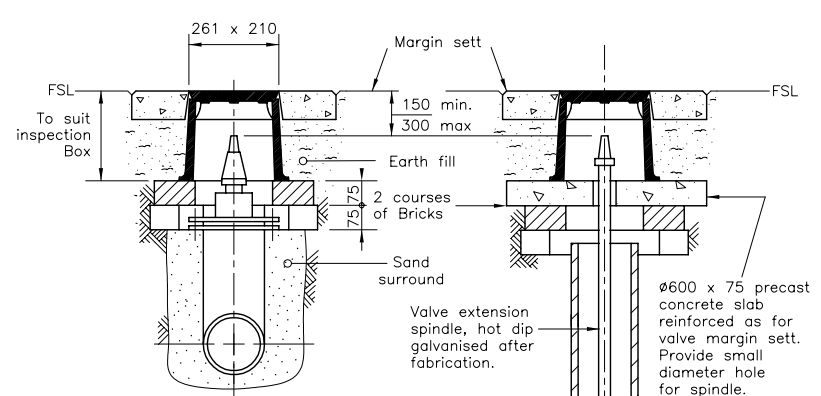
PLAN SAMPLE



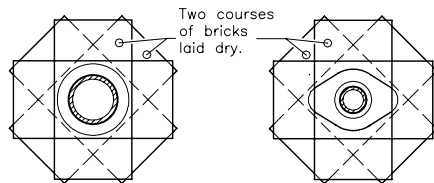
**HYDRANT TEE INSTALLATION**



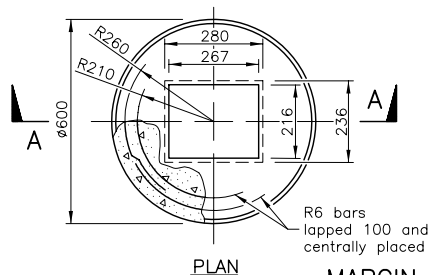
**HYDRANT BEND INSTALLATION**



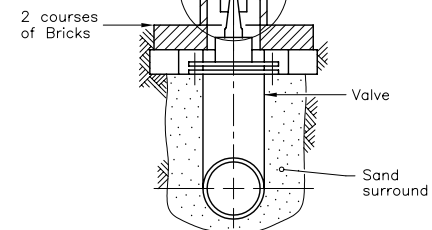
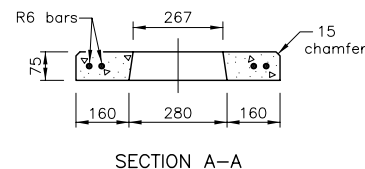
**SLUICE VALVE**



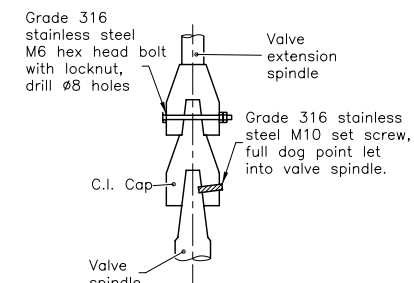
**FOR HYDRANT      FOR VALVE**  
**SET OUT OF BRICKS**



**MARGIN SETT**



**ELEVATION**




**SPINDLE FIXING DETAIL**

**UNDERGROUND VALVE EXTENSION SPINDLE**

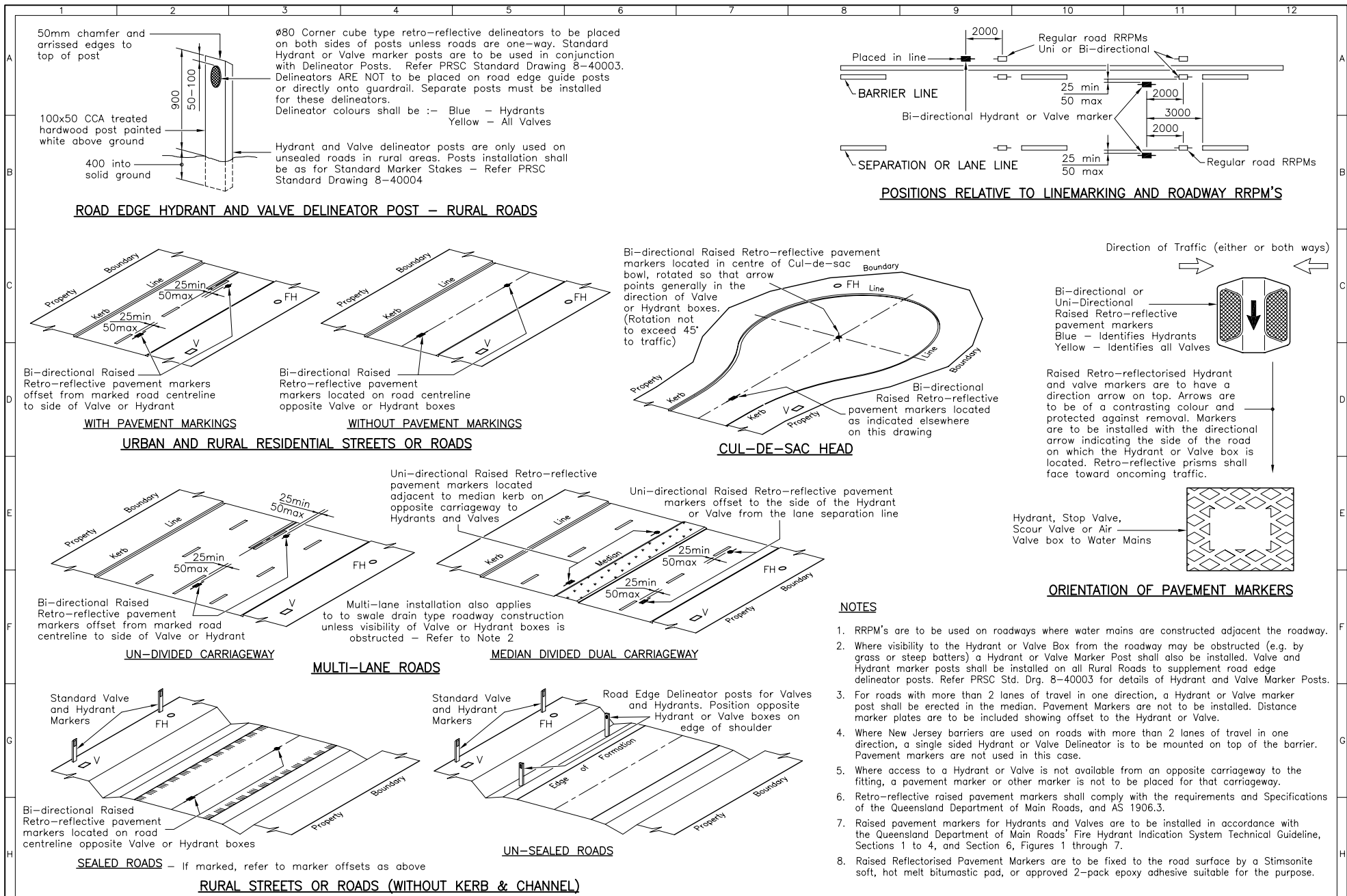
**NOTES**

- Concrete Margin Setts are not required in Roadways. In other hard surfaced areas the concrete margin is to be surrounded with a flexible mastic material to prevent bonding of the surrounding surface to the Margin.
- Hydrant Bends may be used on ends of mains in Cul-de-Sacs, or in locations where extension of the main is extremely unlikely. Hydrant Bends shall be used on 100mm diameter and 150mm diameter mains only. In all other circumstances, and mains other than 100 or 150mm diameters, a regular Hydrant Tee and end cap is to be used for the end of main Hydrant installation.
- Hydrants are to be positioned opposite common property boundaries (not frontage deflections) and clear of likely driveway locations.
- Hydrant tees to have Ø80mm off-take. Hydrant tees and risers to be DICL to AS/NZS 2280.
- Hydrants are to comply with AS 3952.
- Valves are to comply with AS 2638.
- Hydrants and Valves are to be coated with a thermal bonded polymeric coating to AS/NZS 4158.
- All bolts, nuts and washers to be Stainless Steel to AS 1449. Bolts and Washers to be Grade 316. Nuts to be Grade 304.
- Valve pits shall be provided for valves of 375mm dia. and larger. Refer Standard Drawing No. 8-40011 for details.
- All galvanising to AS 4680.
- All Reinforcing bars to be Grade 250R to AS 1302.
- All dimensions in millimetres.

|                                       |  |   |  |            |  |  |  |  |  |  |  |   |  |                                    |  |   |  |                      |  |          |  |    |  |
|---------------------------------------|--|---|--|------------|--|--|--|--|--|--|--|---|--|------------------------------------|--|---|--|----------------------|--|----------|--|----|--|
| 1                                     |  | 2 |  | 3          |  | 4  |  | 5  |  | 6  |  | 7   |  | 8                                  |  | 9 |  | 10                   |  | 11       |  | 12 |  |
| Revisions                             |  |   |  | Appd. Date |  | Mayor<br>-----<br>C.E.O. -----<br>Date ----- |  | Director Assets & Infrastructure<br>Drawn T.T. Rec. LMc<br>Checked LMc Approved<br>Disc. |  | Pine Rivers Shire Council<br>220 Gympie Road<br>Strathpine<br>PO Box 5070<br>Queensland 4500 |  |  |  | HYDRANT AND VALVE<br>INSTALLATIONS |  |   |  | File No.<br>400/26   |  | Min Page |  |    |  |
|                                       |  |   |  |            |  |  |  |  |  |  |  |   |  |                                    |  |   |  | Standard Drawing No. |  |          |  |    |  |
| A Note 9 and assorted details updated |  |   |  | 2/05       |  |  |  |  |  |  |  |   |  | 8                                  |  |   |  | 40002                |  |          |  |    |  |
| Original Issue                        |  |   |  | 8/98       |  |  |  |  |  |  |  |   |  |                                    |  |   |  |                      |  | A        |  |    |  |

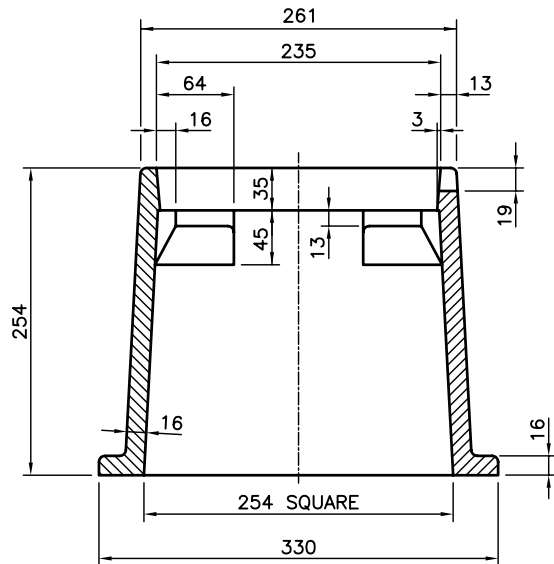
**HYDRANT AND VALVE INSTALLATIONS**



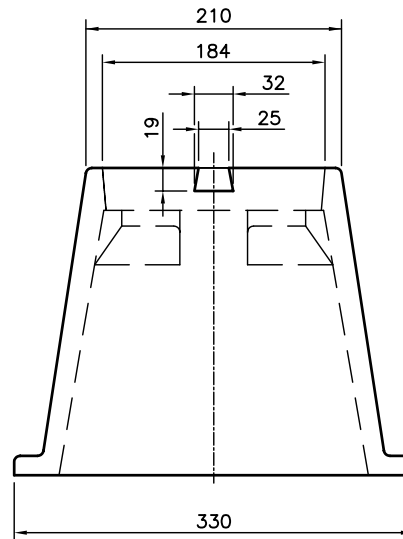


|  |  |       |      |                             |  |                           |  |   |  |                      |          |
|--|--|-------|------|-----------------------------|--|---------------------------|--|---|--|----------------------|----------|
| Revisions                              |  | Appd. | Date | Director Works and Services |  | Pine Rivers Shire Council |  | GUIDE TO USE OF PAVEMENT MARKERS AND DELINEATORS FOR LOCATING HYDRANTS AND VALVES |  | File No.             | Min Page |
|  |  |       |      |                             |  | 220 Gympie Road           |  |   |  | 400/26               | 01/1303  |
|  |  |       |      |                             |  | Strathpine                |  |   |  | Standard Drawing No. |          |
|  |  |       |      |                             |  | PO Box 5070               |  |   |  | 8                    | 40003    |
|  |  |       |      |                             |  | Queensland 4500           |  |   |  |                      |          |
| A Cul-de-sac delineator position added |  |       | 4/01 | C.E.O. _____                |  |                           |  |   |  |                      |          |
| Original Issue                         |  |       | 6/98 | Date _____                  |  |                           |  |   |  |                      |          |

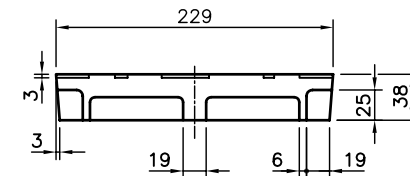




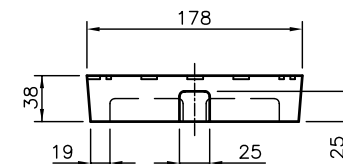
SECTION A-A



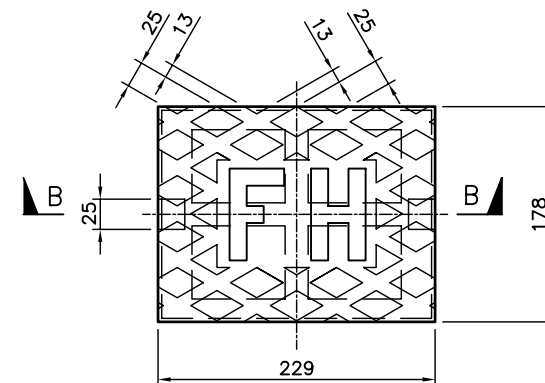
END ELEVATION



SECTION B-B

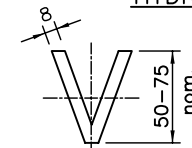


END ELEVATION



PLAN

HYDRANT COVER



STOP OR SECTION  
VALVE SCRIPT

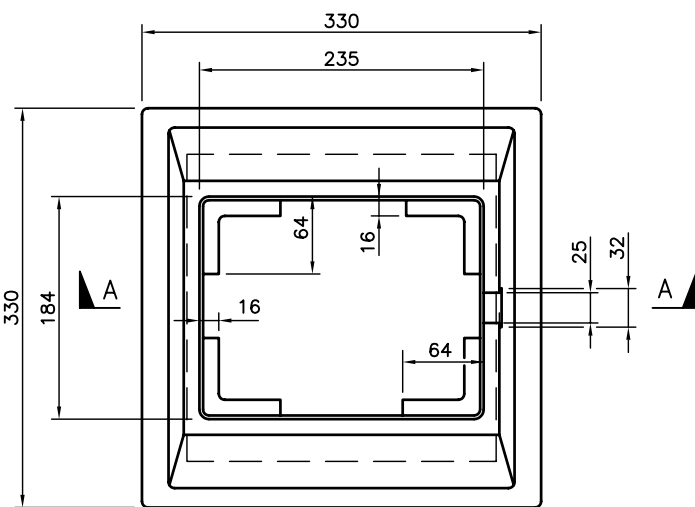


SCOUR VALVE  
SCRIPT

COVERS

### NOTES :

- Boxes and Covers are to be Cast Iron, to AS. 1830, Grade T-180 or greater.
- A 5mm nominal rounding is to be applied to all corners.
- The covers to Hydrant and Valve boxes are to be prepared, primed, and painted with two coats of gloss paint as follows :-
  - HYDRANTS - YELLOW
  - VALVES (ALL OTHER) - WHITE
  - VALVES PERMANENTLY CLOSED - RED
  - VALVES CONTROLLING SUPPLY TO RESIDENTS REQUIRING WATER FOR MEDICAL PURPOSES - MID BLUE
- Mass of components is approximately:-
  - Body - 37 kg
  - Cover - 14 kg
- All dimensions are in Millimetres.
- Alternate boxes approved by P.R.S.C. may be used in place of the box detailed on this drawing. Alternate boxes are only to be used in accordance with their Product Approval conditions.



PLAN

VALVE AND HYDRANT INSPECTION BOX

| Revisions | Appd | Date | Director Assets & Infrastructure | File No.             | Min Page |
|-----------|------|------|----------------------------------|----------------------|----------|
|           |      |      |                                  | 400/26               |          |
|           |      |      |                                  | Standard Drawing No. |          |
|           |      |      |                                  | 8                    | 40005    |

VALVE AND HYDRANT  
INSPECTION BOXES



Pine Rivers Shire Council  
220 Gympie Road  
Strathpine  
PO Box 5070  
Queensland 4500

# MINIMUM THRUST BLOCK AREA FOR ANCHORAGE IN SQUARE METRES FOR TEST PRESSURE OF 1200 kPa (NOM. 120m HEAD)

| SAFE HORIZONTAL BEARING CAPACITY OF GROUND<br>For horizontal thrusts, the safe bearing load values for soils in trenches, where the cover over pipes is 450mm or greater. | 90° BENDS                 |                              |                                 |  | 45° BENDS        |                              |                                 |  | 22 1/2° BENDS    |                              |                                 |  | 11 1/4° BENDS    |                              |                                 |  | TEES & DEAD ENDS |                              |                                 |  | PIPE DIA. |
|---|---------------------------|------------------------------|---------------------------------|--|------------------|------------------------------|---------------------------------|--|------------------|------------------------------|---------------------------------|--|------------------|------------------------------|---------------------------------|--|------------------|------------------------------|---------------------------------|--|-----------|
|   | 50 kPa SOFT CLAY WET SAND | 100 kPa FIRM CLAY SANDY LOAM | 150 kPa SAND & GRAVEL HARD CLAY | 200 kPa SAND & GRAVEL CEMENTED WITH CLAY | 50 kPa SOFT CLAY | 100 kPa FIRM CLAY SANDY LOAM | 150 kPa SAND & GRAVEL HARD CLAY | 200 kPa SAND & GRAVEL CEMENTED WITH CLAY | 50 kPa SOFT CLAY | 100 kPa FIRM CLAY SANDY LOAM | 150 kPa SAND & GRAVEL HARD CLAY | 200 kPa SAND & GRAVEL CEMENTED WITH CLAY | 50 kPa SOFT CLAY | 100 kPa FIRM CLAY SANDY LOAM | 150 kPa SAND & GRAVEL HARD CLAY | 200 kPa SAND & GRAVEL CEMENTED WITH CLAY | 50 kPa SOFT CLAY | 100 kPa FIRM CLAY SANDY LOAM | 150 kPa SAND & GRAVEL HARD CLAY | 200 kPa SAND & GRAVEL CEMENTED WITH CLAY |           |
| 100   | 0.41                      | 0.20                         | 0.14                            | 0.10                                     | 0.22             | 0.11                         | N                               | N  | 0.12             | N                            | N                               | N  | N                | N                            | N                               | N  | 0.29             | 0.14                         | 0.10                            | N  | 100       |
| 150   | 0.84                      | 0.42                         | 0.28                            | 0.21                                     | 0.46             | 0.23                         | 0.15                            | 0.11                                     | 0.24             | 0.12                         | N                               | N  | 0.12             | N                            | N                               | N  | 0.60             | 0.30                         | 0.20                            | 0.15                                     | 150       |
| 200   | 1.44                      | 0.72                         | 0.48                            | 0.36                                     | 0.77             | 0.38                         | 0.26                            | 0.19                                     | 0.41             | 0.20                         | 0.14                            | 0.10                                     | 0.19             | 0.10                         | N                               | N  | 1.01             | 0.50                         | 0.34                            | 0.25                                     | 200       |
| 225   | 1.80                      | 0.90                         | 0.60                            | 0.45                                     | 0.96             | 0.48                         | 0.32                            | 0.24                                     | 0.50             | 0.25                         | 0.17                            | 0.13                                     | 0.24             | 0.12                         | N                               | N  | 1.27             | 0.64                         | 0.42                            | 0.32                                     | 225       |
| 250   | 2.18                      | 1.09                         | 0.73                            | 0.55                                     | 1.18             | 0.59                         | 0.39                            | 0.29                                     | 0.60             | 0.30                         | 0.20                            | 0.15                                     | 0.31             | 0.16                         | 0.10                            | N  | 1.54             | 0.77                         | 0.51                            | 0.38                                     | 250       |
| 300   | 3.19                      | 1.60                         | 1.06                            | 0.80                                     | 1.73             | 0.86                         | 0.58                            | 0.43                                     | 0.89             | 0.44                         | 0.30                            | 0.22                                     | 0.43             | 0.22                         | 0.14                            | 0.12                                     | 2.26             | 1.13                         | 0.75                            | 0.56                                     | 300       |
| 375   | 4.85                      | 2.42                         | 1.62                            | 1.21                                     | 2.62             | 1.31                         | 0.87                            | 0.65                                     | 1.34             | 0.67                         | 0.45                            | 0.34                                     | 0.67             | 0.34                         | 0.22                            | 0.17                                     | 3.43             | 1.72                         | 1.14                            | 0.86                                     | 375       |
| 450   | 6.86                      | 3.43                         | 2.29                            | 1.72                                     | 3.72             | 1.86                         | 1.24                            | 0.93                                     | 1.90             | 0.95                         | 0.63                            | 0.47                                     | 0.96             | 0.48                         | 0.32                            | 0.24                                     | 4.85             | 2.42                         | 1.62                            | 1.21                                     | 450       |
| 500   | 8.38                      | 4.19                         | 2.79                            | 2.09                                     | 4.54             | 2.27                         | 1.51                            | 1.13                                     | 2.30             | 1.15                         | 0.77                            | 0.58                                     | 1.15             | 0.58                         | 0.38                            | 0.29                                     | 5.93             | 2.96                         | 1.98                            | 1.48                                     | 500       |
| 525   | 9.20                      | 4.50                         | 3.00                            | 2.25                                     | 5.04             | 2.52                         | 1.68                            | 1.26                                     | 2.64             | 1.32                         | 0.88                            | 0.66                                     | 1.32             | 0.66                         | 0.44                            | 0.33                                     | 6.60             | 3.30                         | 2.20                            | 1.65                                     | 525       |
| 600   | 11.86                     | 5.93                         | 3.95                            | 2.96                                     | 6.41             | 3.20                         | 2.14                            | 1.60                                     | 3.26             | 1.63                         | 1.09                            | 0.82                                     | 1.63             | 0.82                         | 0.54                            | 0.41                                     | 8.40             | 4.20                         | 2.80                            | 2.10                                     | 600       |

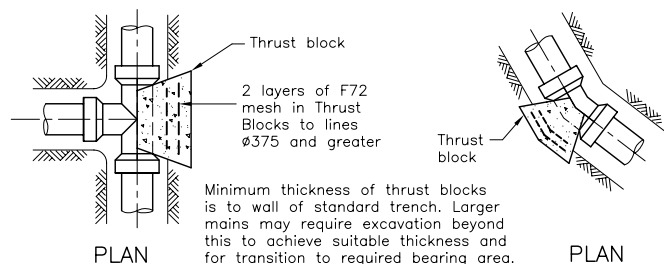
'N' Denotes nominal thrust area (Refer Note 5)

## NOTES

- All fittings shall be provided with thrust blocks formed against undisturbed solid ground to transfer unbalanced forces from fitting to solid ground.
- Thrust blocks shall be Class N25 concrete in accordance with AS 1379 and AS 3600.
- Nominal thrust area 'N' shall be effected by Class N25 concrete over full length of fitting, and extending in depth from the bottom of the trench to 65mm above the top of the fitting.
- Minimum area of blocks for reducers shall be equal to the difference in corresponding area for dead ends of each end diameter of reducer.
- Tabulated minimum areas apply for test pressure of 1200 kPa. Areas shall be adjusted pro rata for other specified test pressures except that nominal thrust areas 'N' shall have to be re-calculated for test pressures over 1200 kPa.
- Shape and dimensions of concrete blocks shown are diagrammatic only.
- For vertical thrust acting downwards, the safe bearing loads of the various soils may be taken as twice those for horizontal thrusts. Upward (lifting) thrusts are to be counteracted by the mass of concrete, the volume of which is indicated in the table below.
- Unless otherwise required by the Council's Engineer, concrete anchorages are required for all valves Ø300 or smaller in soft clay. Thrust area shall be as for dead ends. Sluice valves Ø375 or larger shall be installed in valve pit.
- When placing the concrete on a uPVC pipe care shall be taken to avoid encasing the pipe completely. The maximum encasement shall be 180°.
- Where uPVC rubber ring jointed pipes are used, the normal practice of anchoring of bends, tees, dead ends and reducers shall be followed.
- When setting uPVC pipes in concrete, a membrane of polythene, PVC or felt shall surround the pipe and fitting to permit pipe movement in the concrete.
- Minimum cover to pipe shall be 600mm, or as dictated by the height of the valve casings.
- Where Butterfly valves are used, these shall be installed in a valve pit.

| Fitting       | Diameter |      |      |      |      |      |       |       |       |       |       |
|---------------|----------|------|------|------|------|------|-------|-------|-------|-------|-------|
|               | 100      | 150  | 200  | 225  | 250  | 300  | 375   | 450   | 500   | 525   | 600   |
| 90° Bends     | 0.82     | 1.73 | 2.97 | 3.71 | 4.52 | 6.57 | 10.01 | 14.20 | 17.32 | 19.10 | 24.57 |
| 45° Bends     | 0.44     | 0.94 | 1.61 | 2.01 | 2.45 | 3.56 | 5.43  | 7.68  | 9.38  | 10.34 | 13.30 |
| 22 1/2° Bends | 0.23     | 0.48 | 0.82 | 1.02 | 1.25 | 1.81 | 2.77  | 3.92  | 4.78  | 5.27  | 6.78  |
| 11 1/4° Bends | 0.10     | 0.24 | 0.41 | 0.51 | 0.63 | 0.91 | 1.39  | 1.97  | 2.40  | 2.65  | 3.41  |

THRUST BLOCK VOLUMES — CREST VERTICAL BENDS (Nominal m<sup>3</sup> Concrete)

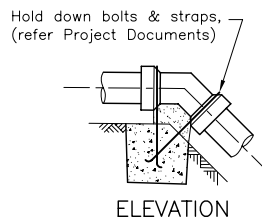


PLAN

TEE

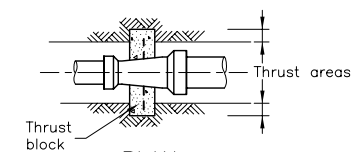
PLAN

HORIZONTAL BENDS



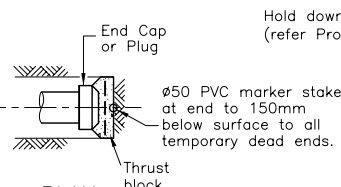
ELEVATION

VERTICAL BENDS, CRESTS



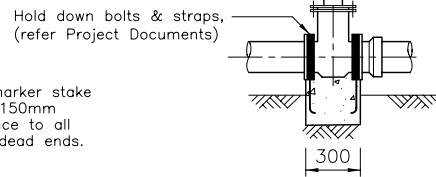
PLAN

REDUCER



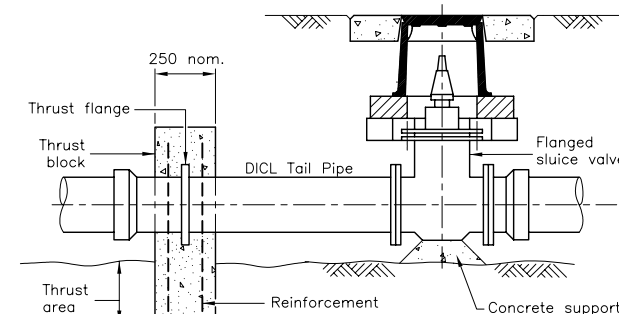
PLAN

DEAD END



ELEVATION

ABOVE GROUND VALVES

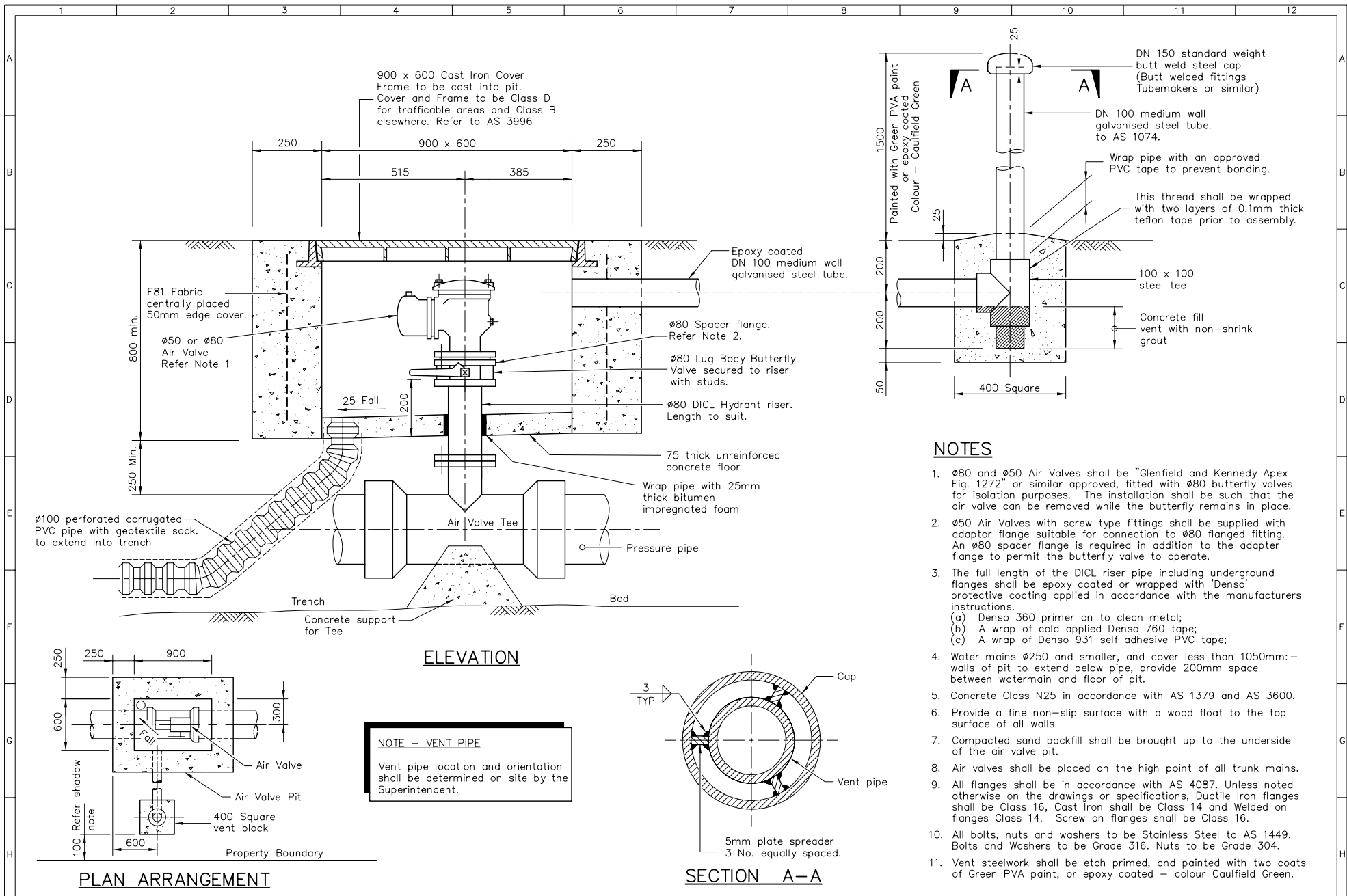


SLUICE VALVE (Ø300 OR LESS — SOFT CLAY)

(REFER NOTE 8)

|           |  |       |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Revisions |  | Appd. | Date |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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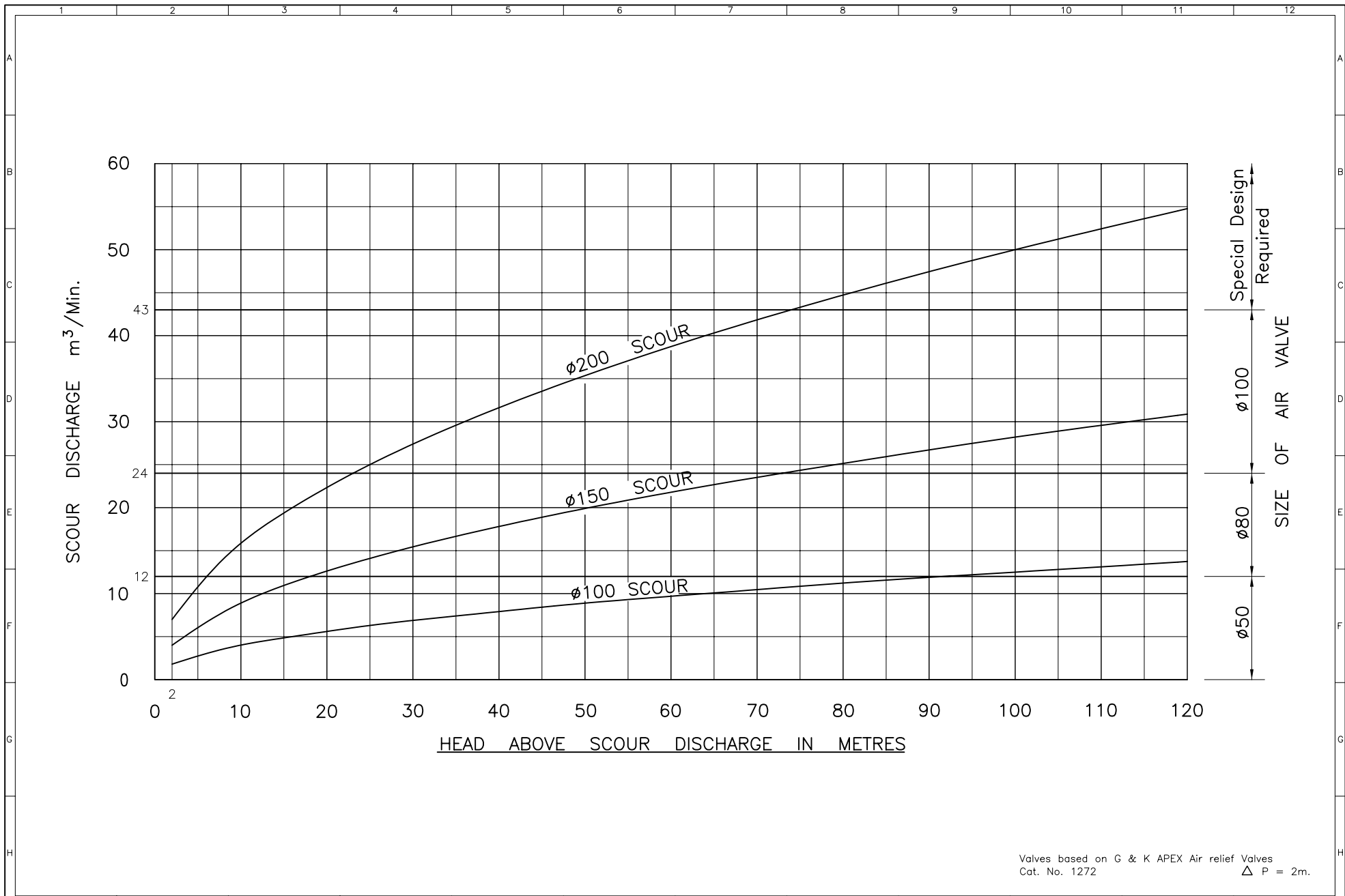
## NOTES

- Ø80 and Ø50 Air Valves shall be "Glenfield and Kennedy Apex Fig. 1272" or similar approved, fitted with Ø80 butterfly valves for isolation purposes. The installation shall be such that the air valve can be removed while the butterfly remains in place.
- Ø50 Air Valves with screw type fittings shall be supplied with adaptor flange suitable for connection to Ø80 flanged fitting. An Ø80 spacer flange is required in addition to the adaptor flange to permit the butterfly valve to operate.
- The full length of the DICL riser pipe including underground flanges shall be epoxy coated or wrapped with 'Denso' protective coating applied in accordance with the manufacturers instructions.
  - Denso 360 primer on to clean metal;
  - A wrap of cold applied Denso 760 tape;
  - A wrap of Denso 931 self adhesive PVC tape;
- Water mains Ø250 and smaller, and cover less than 1050mm: - walls of pit to extend below pipe, provide 200mm space between watermain and floor of pit.
- Concrete Class N25 in accordance with AS 1379 and AS 3600.
- Provide a fine non-slip surface with a wood float to the top surface of all walls.
- Compacted sand backfill shall be brought up to the underside of the air valve pit.
- Air valves shall be placed on the high point of all trunk mains.
- All flanges shall be in accordance with AS 4087. Unless noted otherwise on the drawings or specifications, Ductile Iron flanges shall be Class 16, Cast Iron shall be Class 14 and Welded on flanges Class 14. Screw on flanges shall be Class 16.
- All bolts, nuts and washers to be Stainless Steel to AS 1449. Bolts and Washers to be Grade 316. Nuts to be Grade 304.
- Vent steelwork shall be etch primed, and painted with two coats of Green PVA paint, or epoxy coated - colour Caulfield Green.

| Revisions                       | Appd. | Date | Director assets & Infrastructure | Drawn | T.I. | Rec. | L.Mc. | Checked | L.Mc. | Approved | Disc. | Pine Rivers Shire Council | File No.             | Min Page |
|---------------------------------|-------|------|----------------------------------|-------|------|------|-------|---------|-------|----------|-------|---------------------------|----------------------|----------|
| A Steel reference to AS deleted |       | 2/05 | Mayor                            |       |      |      |       |         |       |          |       | 220 Gympie Road           | 400/26               |          |
| Original Issue                  |       | 8/98 | C.E.O.                           |       |      |      |       |         |       |          |       | Strathpine                | Standard Drawing No. |          |
|                                 |       |      | Date                             |       |      |      |       |         |       |          |       | PO Box 5070               | 8                    | 40007    |
|                                 |       |      |                                  |       |      |      |       |         |       |          |       | Queensland 4500           |                      |          |
|                                 |       |      |                                  |       |      |      |       |         |       |          |       |                           |                      | A        |



Ø50 AND Ø80 AIR VALVE  
INSTALLATION DETAILS

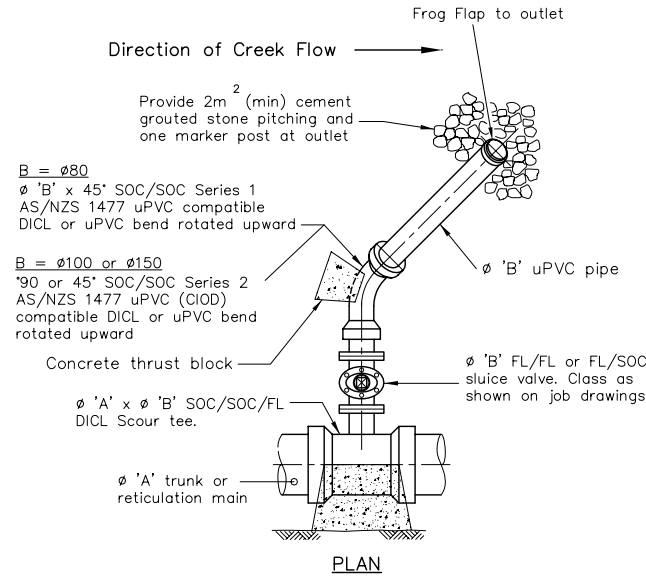


Valves based on G & K APEX Air relief Valves  
Cat. No. 1272  $\Delta P = 2m$ .

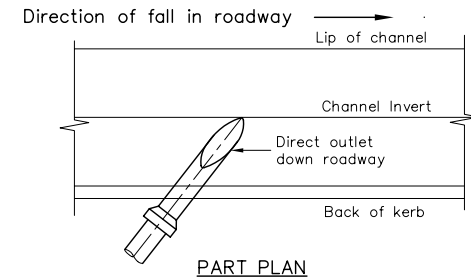
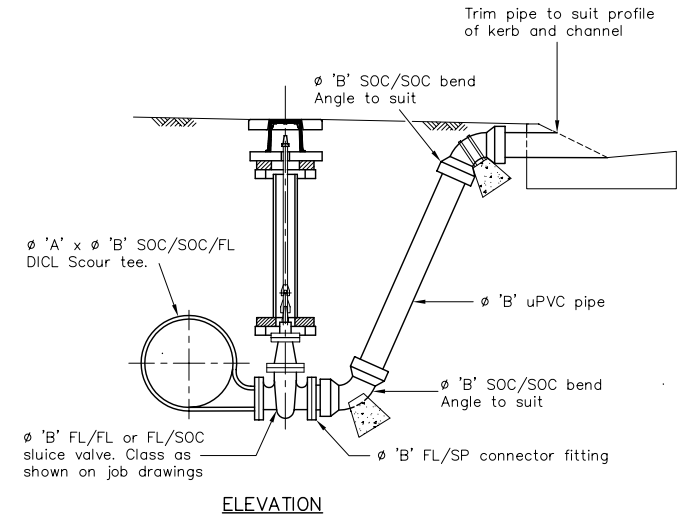
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| Revisions      |  | Appd. | Date | Mayor  |  | Director Works and Services |  | Pine Rivers Shire Council |  |  | AIR VALVE SIZING<br>FOR LARGE ORIFICE AIR VALVES<br>RELATIVE TO SCOUR DISCHARGE |  | File No.             | Min Page |
|                |  |       |      | C.E.O. |  | Drawn                       |  | 220 Gympie Road           |  |  |   |  | 400/26               |          |
|                |  |       |      | Date   |  | Checked                     |  | Strathpine                |  |  |   |  | Standard Drawing No. |          |
| Original Issue |  |       | 6/98 |        |  | Disc.                       |  | PO Box 5070               |  |  |   |  | 8                    | 40008    |
|                |  |       |      |        |  |                             |  | Queensland 4500           |  |  |   |  |                      |          |

TABLE OF DIAMETERS

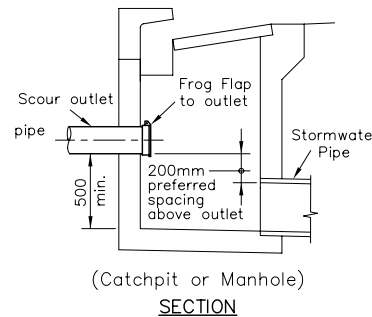
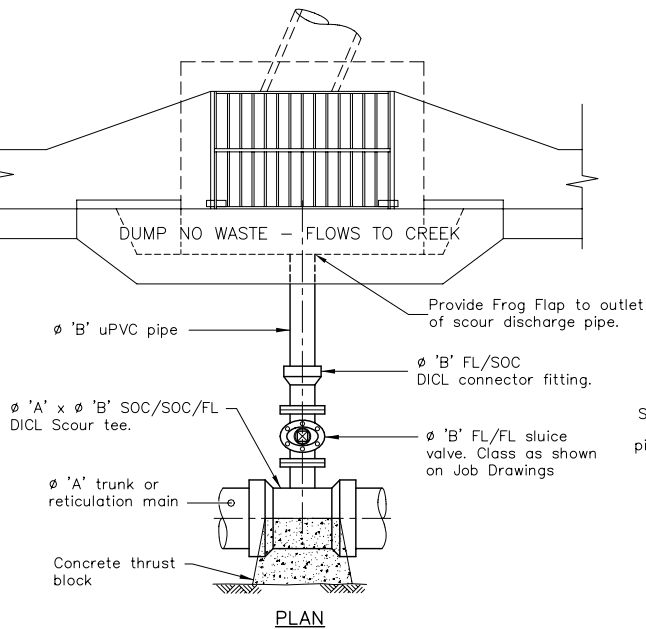
| WATER MAIN<br>ø 'A' | SCOUR OUTLET<br>ø 'B' | PIPEWORK CLASS<br>AND SERIES |
|---------------------|-----------------------|------------------------------|
| 100                 | 80                    | PN 12 Series 1               |
| 150                 | 80                    | PN 12 Series 1               |
| 200                 | 100                   | PN 12 Series 2               |
| 225                 | 100                   | PN 12 Series 2               |
| 250                 | 100                   | PN 12 Series 2               |
| 300                 | 100                   | PN 12 Series 2               |
| 375                 | 150                   | PN 12 Series 2               |
| 450                 | 150                   | PN 12 Series 2               |
| 500                 | 150                   | PN 12 Series 2               |
| 525                 | 150                   | PN 12 Series 2               |
| 600                 | 150                   | PN 12 Series 2               |



SCOUR DISCHARGE INTO CREEK,  
GULLY, OR OPEN OUTLET




SCOUR DISCHARGE INTO KERB & CHANNEL  
(ø80 ONLY)

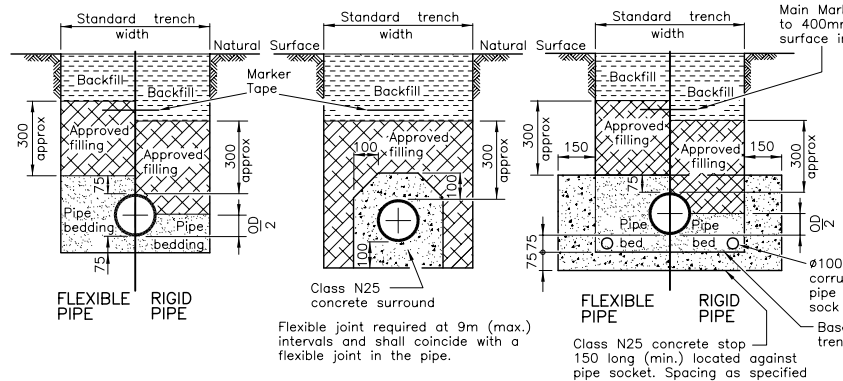


SCOUR DISCHARGE INTO CATCHPIT OR MANHOLE

NOTES :

- Where ever possible, scour outlets are to be located so as to discharge into existing stormwater drainage structures (Manholes, Catchpits and Culverts).
- The location of scour valves and the location and extent of scour discharge pipes as shown on the job drawings are nominal only. The actual location and extent of scour pipes shall be determined by Council's Engineer on site.
- All Ductile Iron fittings for CIOD (ductile iron compatible) pipes shall comply with AS/NZS 2280.
- All uPVC pipes shall comply with AS/NZS 1477.
- Sluice valves to be of Resilient Seated type to AS 2638 with a thermal bonded polymeric coating to AS/NZS 4158. Valves may be of the FL-SOC configuration in place of FL-FL valves.
- All bolts, nuts and washers to be in Stainless Steel to AS 1449. Bolts and Washers to be Grade 316. Nuts to be Grade 304.
- All pipes and fittings are to be of the rubber ring joint or flanged configuration.

|                |  |            |        |                                |  |   |                                       |  |                      |          |
|----------------|--|------------|--------|--------------------------------|--|---|---------------------------------------|--|----------------------|----------|
| Revisions      |  | Appd. Date | Mayor  | Pine Rivers Shire Council      |  |  | SCOUR OUTLETS<br>GENERAL ARRANGEMENTS |  | File No.<br>400/26   | Min Page |
|                |  |            | C.E.O. | 220 Gympie Road                |  |   |                                       |  | Standard Drawing No. |          |
|                |  |            | Date   | Strathpine                     |  |   |                                       |  | 8                    | 40009    |
| Original Issue |  | 8/98       |        | PO Box 5070<br>Queensland 4500 |  |   |                                       |  |                      |          |



**TYPE 1**

| MINIMUM COVER TO WATER MAINS |             |         |
|------------------------------|-------------|---------|
| Under Roads                  | All Sizes   | 1200 mm |
| Under Verges and Parks       | Ø100 & Ø150 | 600 mm  |
|                              | Ø200 - Ø300 | 900 mm  |

**TYPE 2**

ANCHOR BLOCK SPACING

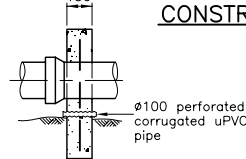
Slope 1 in 5 to 1 in 6 - every 4th pipe

Slope 1 in 4 to 1 in 5 - every 3rd pipe

Slope 1 in 3 to 1 in 4 - every 2nd pipe

Slope greater than 1 in 3 - every pipe

**TYPE 3**



**TYPE 3 - SECTION**

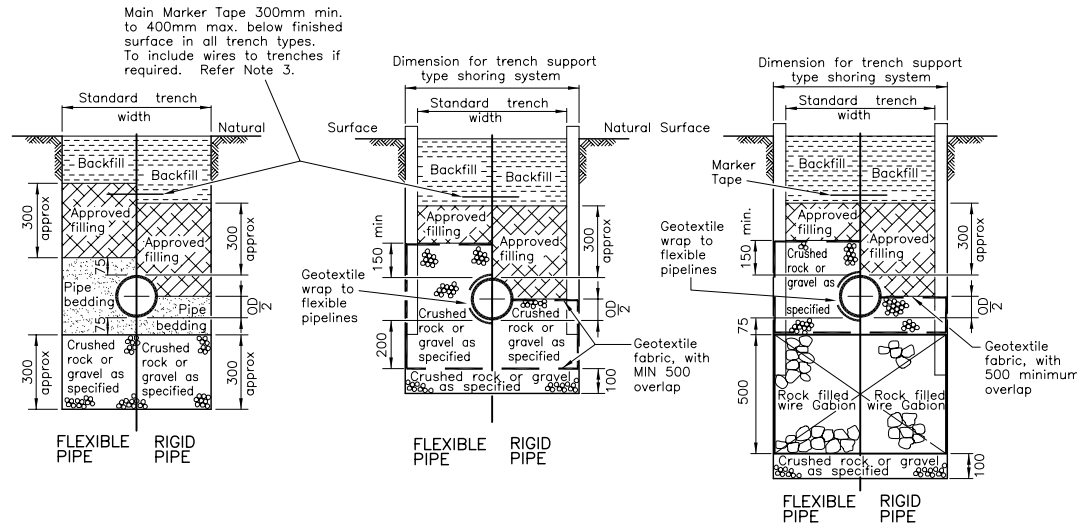
## CONSTRUCTION OF WATER MAINS UNDER SEALED ROADS

### GENERAL NOTES

- Unless otherwise stated, dimensions are in millimetres.
- Water main marker tapes are to be installed in all trenches. Tapes are to be 100mm wide, 150 micron, polyethylene or PVC. Tapes shall be green coloured, with the words "DANGER - BURIED WATER MAIN BELOW" or similar in black lettering. Tapes are to be in accordance with AS/NZS 2648.1, and shall include a conductive traceable wire.
- Pipe bedding shall be non cohesive granular material free from particles which may be retained on a 9.5mm sieve. (Refer Specifications) For the purpose of pipe type bedding:
  - Mild steel cement lined, and ductile iron cement lined, pipes are classified as rigid pipes.
  - Unplasticised polyvinyl chloride, glass filament reinforced thermosetting plastics, acrylonitrile butadiene styrene (ABS) and polyethylene pipes are classified as flexible pipes. (Refer Note 4.)
- Glass filament reinforced thermosetting plastic, acrylonitrile butadiene styrene (ABS) and polyethylene pipes are only to be used with the written permission of Council's Engineer.
- Approved filling shall be non cohesive and free from particles which may be retained on a 30mm sieve when placed above the pipe bedding surround of flexible pipes and; free from particles which may be retained on a 19.5mm sieve when placed against a rigid pipe barrel. The pipe bedding may be required to be extended 75mm above the top of rigid pipes at the discretion of Council's Engineer.
- Soil testing shall be in accordance with AS 1289 "Methods of Testing Soils for Engineering Purposes"
- The minimum cover to pipes under sealed roadways may be varied where approved by Council's Engineer. Where a lesser cover is approved; that section of main shall be constructed of approved cement lined Ductile Iron pipe. The absolute minimum cover shall be not less than the full depth pavement material plus 150mm pipe bedding.
- Longitudinal trenches constructed under existing roadways may be constructed as for new roads where approved by Council's Engineer, provided satisfactory compaction standards are achieved.

| BACKFILL             | COMPACTION    |
|----------------------|---------------|
| Allotments           | 95% Standard  |
| Footpaths            | 95% Standard  |
| Roads                |               |
| -Base Course         | 98% Modified  |
| -Sub-base            | 95% Modified  |
| -Blanket Course      | 95% Modified  |
| -Subgrade -Top 150mm | 100% Standard |
| -Balance             | 95% Standard  |

| Diameter of Pipe      | 100 | 150 | 200 | 225 | 250 | 300 | 375 | 450 | 500 | 525  | 600  | 675  | 750  | 900  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Standard Trench Width | 600 | 600 | 650 | 675 | 700 | 750 | 825 | 900 | 950 | 1000 | 1075 | 1150 | 1300 | 1450 |



**TYPE 4**

**TYPE 5**

**TYPE 6**

| Revisions   | Appd | Date       |
|---|------|------------|
|   |      |            |
|   |      |            |
|   |      |            |
| A Note 2 includes trace wires always, concrete N25 Original Issue |      | 12/04 9/98 |

|        |  |
|--------|--|
| Mayor  |  |
| C.E.O. |  |
| Date   |  |

|                                  |                |
|----------------------------------|----------------|
| Director Assets & Infrastructure |                |
| Drawn                            | T.I. Rec. L.M. |
| Checked                          | L.M. Approved  |
| Disc.                            |                |

Pine Rivers Shire Council

220 Gympie Road

Strathpine

PO Box 5070

Queensland 4500

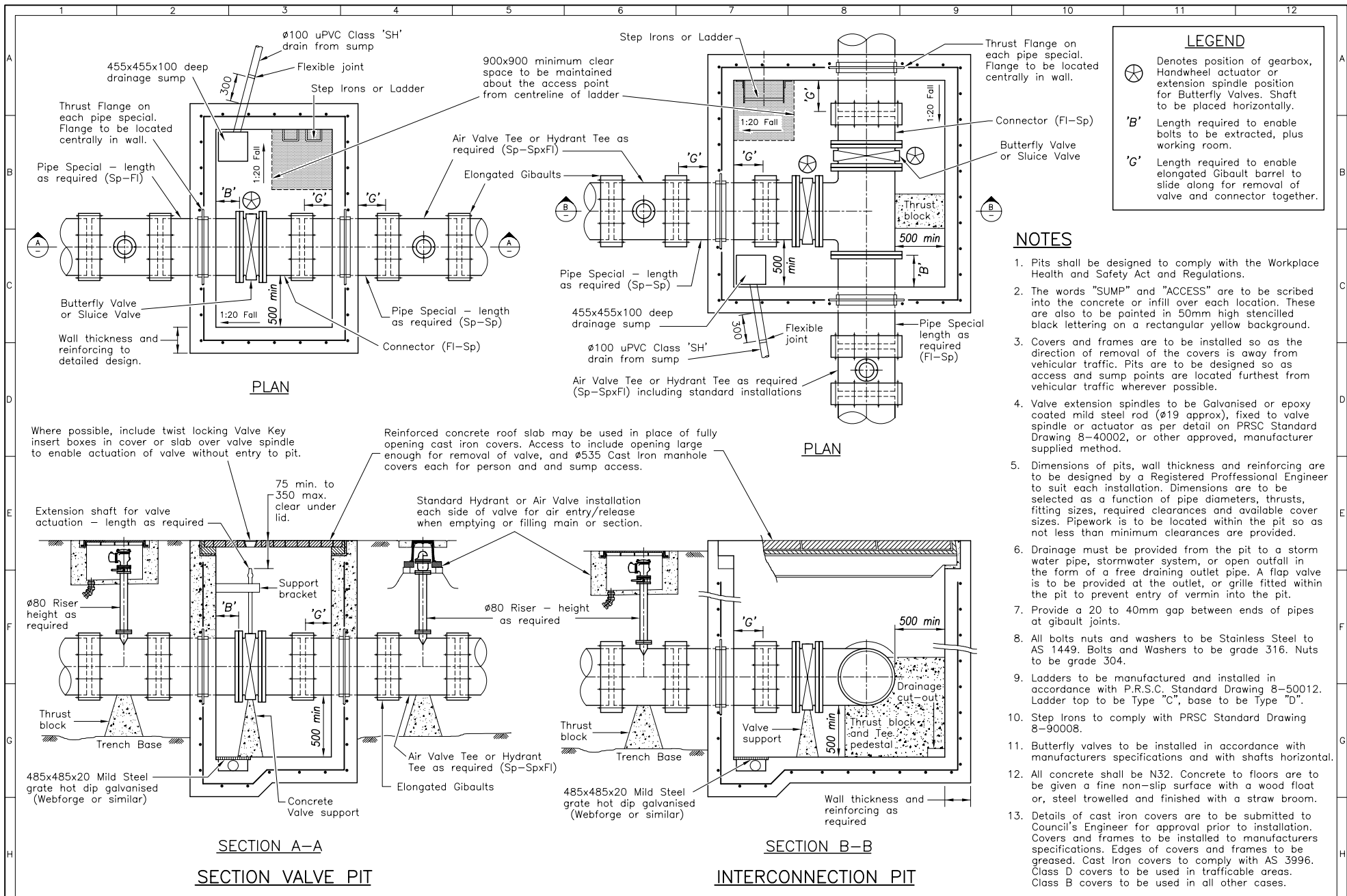


TYPICAL TRENCH DETAILS

FOR WATER MAIN

CONSTRUCTION

|                      |          |
|----------------------|----------|
| File No.             | Min Page |
| 400/26               |          |
| Standard Drawing No. |          |
| 8                    | 40010    |



**LEGEND**

⊗ Denotes position of gearbox, Handwheel actuator or extension spindle position for Butterfly Valves. Shaft to be placed horizontally.

'B' Length required to enable bolts to be extracted, plus working room.

'G' Length required to enable elongated Gibault barrel to slide along for removal of valve and connector together.

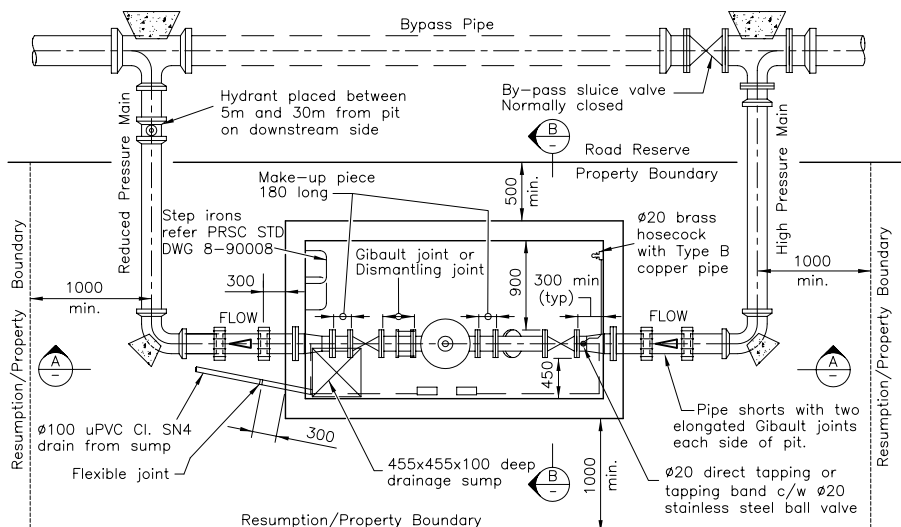
- NOTES**
- Pits shall be designed to comply with the Workplace Health and Safety Act and Regulations.
  - The words "SUMP" and "ACCESS" are to be scribed into the concrete or infill over each location. These are also to be painted in 50mm high stencilled black lettering on a rectangular yellow background.
  - Covers and frames are to be installed so as the direction of removal of the covers is away from vehicular traffic. Pits are to be designed so as access and sump points are located furthest from vehicular traffic wherever possible.
  - Valve extension spindles to be Galvanised or epoxy coated mild steel rod (Ø19 approx), fixed to valve spindle or actuator as per detail on PRSC Standard Drawing 8-40002, or other approved, manufacturer supplied method.
  - Dimensions of pits, wall thickness and reinforcing are to be designed by a Registered Professional Engineer to suit each installation. Dimensions are to be selected as a function of pipe diameters, thrusts, fitting sizes, required clearances and available cover sizes. Pipework is to be located within the pit so as not less than minimum clearances are provided.
  - Drainage must be provided from the pit to a storm water pipe, stormwater system, or open outfall in the form of a free draining outlet pipe. A flap valve is to be provided at the outlet, or grille fitted within the pit to prevent entry of vermin into the pit.
  - Provide a 20 to 40mm gap between ends of pipes at gibault joints.
  - All bolts nuts and washers to be Stainless Steel to AS 1449. Bolts and Washers to be grade 316. Nuts to be grade 304.
  - Ladders to be manufactured and installed in accordance with P.R.S.C. Standard Drawing 8-50012. Ladder top to be Type "C", base to be Type "D".
  - Step Irons to comply with PRSC Standard Drawing 8-90008.
  - Butterfly valves to be installed in accordance with manufacturers specifications and with shafts horizontal.
  - All concrete shall be N32. Concrete to floors are to be given a fine non-slip surface with a wood float or, steel trowelled and finished with a straw broom.
  - Details of cast iron covers are to be submitted to Council's Engineer for approval prior to installation. Covers and frames to be installed to manufacturers specifications. Edges of covers and frames to be greased. Cast iron covers to comply with AS 3996. Class D covers to be used in trafficable areas. Class B covers to be used in all other cases.

TABLE OF MINIMUM DIMENSIONS

| Main Pipe Diameter | P.R.V. Pipe Diameter * | A    | B    | T1  | T2  | H   | Frame Opening |      |
|--------------------|------------------------|------|------|-----|-----|-----|---------------|------|
|                    |                        |      |      |     |     |     | L             | W    |
| 150                | 100                    | 2518 | 1880 | 225 | 150 | 450 | 2068          | 1580 |
| 200                | 150                    | 2803 | 1955 | 225 | 150 | 450 | 2353          | 1655 |
| 250                | 200                    | 3102 | 2020 | 250 | 150 | 550 | 2602          | 1720 |
| 300                | 250                    | 3484 | 2080 | 275 | 150 | 650 | 2934          | 1780 |

Variations in dimensions of fittings between manufacturers may require adjustments to pit size.

\* Pipework between the offtake from, and return to the main pipeline may be the same size as the Pressure Reducing Valve, with approval from Council's Engineer.



PLAN

Pressure gauges graduated in Metres Head installed in accordance with Standard Drawing 8-40014.

Label with pressure setting of D/S pipe line - Refer Note 16

Flanged joint cast centrally in wall. (Typical)

Mild Steel grate, 485x485x20, hot dipped galvanised (Webforge or similar.)

Support bracket. Refer detail on Std. Dwg. 8-40013

Cover overlap - refer PRSC Standard Drawing 8-40013 for details

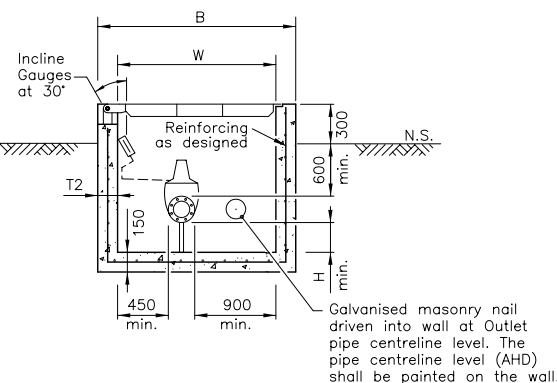
Ø13 ball valve drilled and tapped into 180 long pipe section (each side)

Ø13 pressure sensing line on rising grade to gauges.

Sluice Valve with handwheel

50mm min. thick blinding concrete.


SECTION A - A

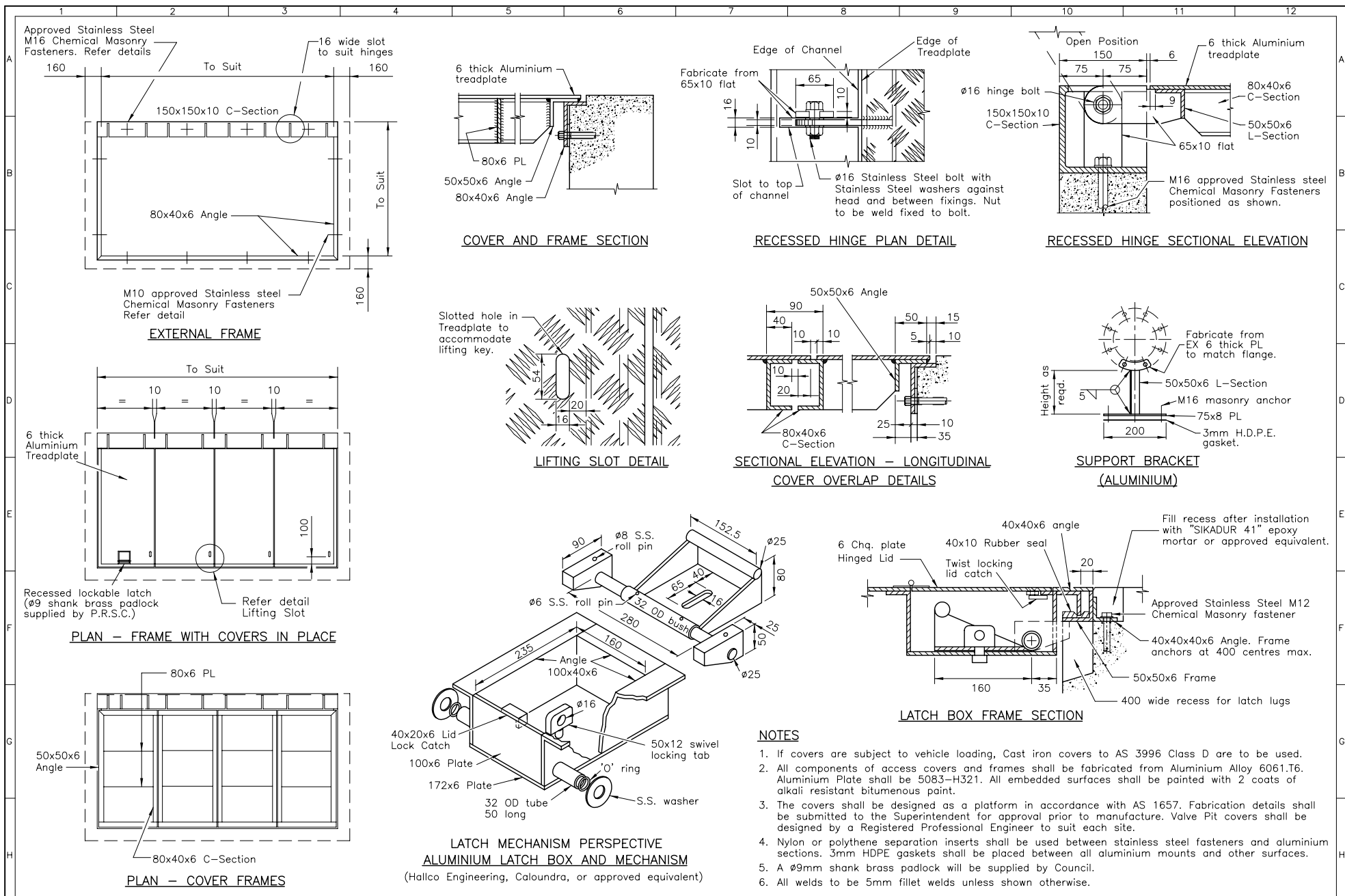


SECTION B - B

## NOTES

- The Pressure Reducing Valve shall be selected in accordance with Council's Water Supply Specification 402.
- Size of the Pressure Reducing Valve shall be selected by a specialist manufacturer given initial and ultimate flows, maximum and minimum upstream, and downstream set pressures. The manufacturer's sizing shall be submitted to Council's Engineer for approval.
- Every Pressure Reducing Valve shall have a handbook supplied detailing the valve's maintenance, adjustment and working principles. The handbook shall indicate the brand, model, and Serial Number of the Pressure Reducing Valve to which it applies. The Valve shall incorporate an OPEN/CLOSED indicator, and a needle valve to control closing speed.
- All concrete to be N32. Provide a fine non-slip surface to floors and top of all walls with a wooden float.
- All Ductile Iron pipework shall be cement lined, and in accordance with AS/NZS 2280.
- All Isolating valves and, the Pressure Reducing Valve shall be coated with a thermal bonded polymeric coating in accordance with AS/NZS 4158. Pressure reducing valves may also be painted with an approved high build 2-part epoxy paint suitable for use with potable water..
- All Sluice Valves shall be of the Resilient Seat type and shall comply with with AS 2638.
- All flange bolts, nuts and washers are to be Stainless Steel to AS 1449. Bolts and Washers to be Grade 316. Nuts to be Grade 304. Bolts and nuts shall be assembled with an anti galling paste.
- Valve pit cover, reinforcement, wall and floor thickness shall be designed by an Engineer to suit each site.
- For pressure class of Valves and Flanges refer to Job Drawings and Specifications.
- Pit floor to be shaped to provide a minimum fall toward drain or sump from all directions of 1 in 20.
- The inside wall of the pit shall have stencilled, in high gloss black paint, "INLET" and "OUTLET", at the respective ends of the pit and the RL (AHD) of the centreline of the outlet pipe. Refer Section B-B.
- Drainage must be provided from the valve pit to a stormwater pipe, stormwater system, or open outfall in the form of a free draining outlet pipe. A flap valve is to be fitted to the outlet, or grille provided within the pit, to prevent entry of vermin into the pit.
- Step Irons are to be in accordance with PRSC STD DWG 8-90008.
- Pressure Gauges are to be selected according to expected operating pressures. Increments on gauges are to be suitable to enable accurate adjustment of PRV levels. Contact Council's Engineers for guidance on expected pressures.
- A label is to be affixed adjacent the downstream pressure gauge indicating the pressure setting of the downstream (outlet) pipeline in Metres Head. The label is to be of ABS White/Black sheet engraved with 5mm high lettering. The label is to be fixed with epoxy adhesive or Rawlplugs with stainless steel screws.
- Flow through ventilation is to be incorporated into the design of valve pits which are larger than those given in the Table of Dimensions on this drawing.

|   |  |   |  |            |  |   |  |  |  |  |  |  |  |   |  |                      |  |          |  |    |  |    |  |
|---|--|---|--|------------|--|---|--|--|--|--|--|--|--|---|--|----------------------|--|----------|--|----|--|----|--|
| 1   |  | 2 |  | 3          |  | 4   |  | 5  |  | 6  |  | 7  |  | 8   |  | 9                    |  | 10       |  | 11 |  | 12 |  |
| Revisions                                   |  |   |  | Appd. Date |  | Mayor _____<br>C.E.O. _____<br>Date _____ |  | Director assets & Infrastructure<br>Drawn _____ T.I. _____ Rec. _____ L.Mc. _____<br>Checked _____ L.Mc. _____ Approved _____<br>Disc. _____ |  | Pine Rivers Shire Council<br>220 Gympie Road<br>Strathpine<br>PO Box 5070<br>Queensland 4500 |  | <br>PINE RIVERS |  | PRESSURE REDUCING<br>VALVE PIT – SHEET 1 OF 2<br>PIT AND PIPEWORK DETAILS |  | File No.<br>400/26   |  | Min Page |  |    |  |    |  |
|   |  |   |  |            |  |   |  |  |  |  |  |  |  |   |  | Standard Drawing No. |  |          |  |    |  |    |  |
| B Step iron detail removed, Note 14 amended |  |   |  | 12/04      |  |   |  |  |  |  |  |  |  |   |  | 8                    |  | 40012    |  |    |  |    |  |
| A Hydrant and hose cock added               |  |   |  | 4/01       |  |   |  |  |  |  |  |  |  |   |  |                      |  |          |  |    |  |    |  |
| Original Issue                              |  |   |  | 8/98       |  |   |  |  |  |  |  |  |  |   |  |                      |  |          |  |    |  |    |  |



| Revisions      | Appd. | Date | Director Works and Services | Pine Rivers Shire Council | File No.             | Min Page |
|----------------|-------|------|-----------------------------|---------------------------|----------------------|----------|
|                |       |      | Drawn T.I. Rec. L.M.        | 220 Gympie Road           | 400/26               |          |
|                |       |      | Checked L.M. Approved       | Stratpine                 | Standard Drawing No. |          |
|                |       |      | Disc.                       | PO Box 5070               | 8                    | 40013    |
| Original Issue |       | 6/98 |                             | Queensland 4500           |                      |          |

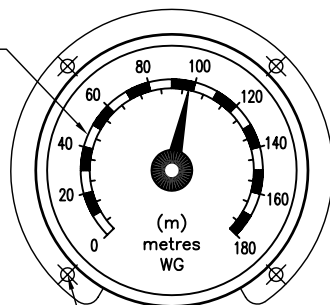
**PRESSURE REDUCING  
VALVE PIT - SHEET 2 OF 2  
COVER AND FRAME**



ABS White/Black sheet label engraved with distance between centreline of main pipework and mounting position of pressure gauge. Label to be fixed to wall adjacent to gauge position with mechanical fasteners or epoxy adhesive.

**Gauge mounted  
500mm above  
pipework centreline**

Gauge face shown  
diagramatic only



150mm dia. Flange (Surface) mount 13mm BSPT bottom entry Pressure Gauge reading Metres Head of Water. Gauge to be waterproof, of non-metallic or non-corrosive metal construction.

Gauge type and display scale to be selected to suit expected operating range. normal reading point to be between 50% and 66% of maximum gauge reading. Face shall be capable of being read to 1 metre of head.

Details of Gauges to be submitted to Council's Manager Electrical/Mechanical Services for approval before purchase.

Gauges shall be remotely mounted from pipework, onto walls, plinths or specific mounting boards.

1. All pipe fittings are to be brass, to AS 1565.
2. Tube fittings to be "Swagelok" or approved equivalent brass fittings.
3. All threads to be BSPT. Sizes have been quoted to the nearest millimetre.
4. All Ball Valves are to be fitted with handles.
5. All pipework is to be clamped to walls and floors etc. with copper saddle clamps.
6. Copper pipework to be Type 'B'.
7. All fasteners to be Stainless Steel.
8. Details of alternative fittings from those specified are to be submitted to Council's Manager Electrical/Mechanical Services for approval before purchase and installation.

Gauge to be fixed to walls or mounting with Rawlplugs and/or stainless steel screws.

13mm BSP "Cajon B-8-SA-EW" or approved equivalent Surge Snubber (F.I. to M.I.)

13mm BSP STAUFF (Pn. 5110-1/2) or approved equivalent 2-way Instrument mount vented Ball valve (F.I. to F.I.) mount with handle to front (ie. rotated 90° from as drawn position)

13mm BSP Tee (M.I. to M.I. x M.I.)

13mm dia. Drain pipework directed to floor. Pipework to be clamped to wall.

13mm BSP Ball Valve as bleed point (F.I. to F.I.) Mount with handle to top.

13mm dia. copper pipework for pressure sensing line.

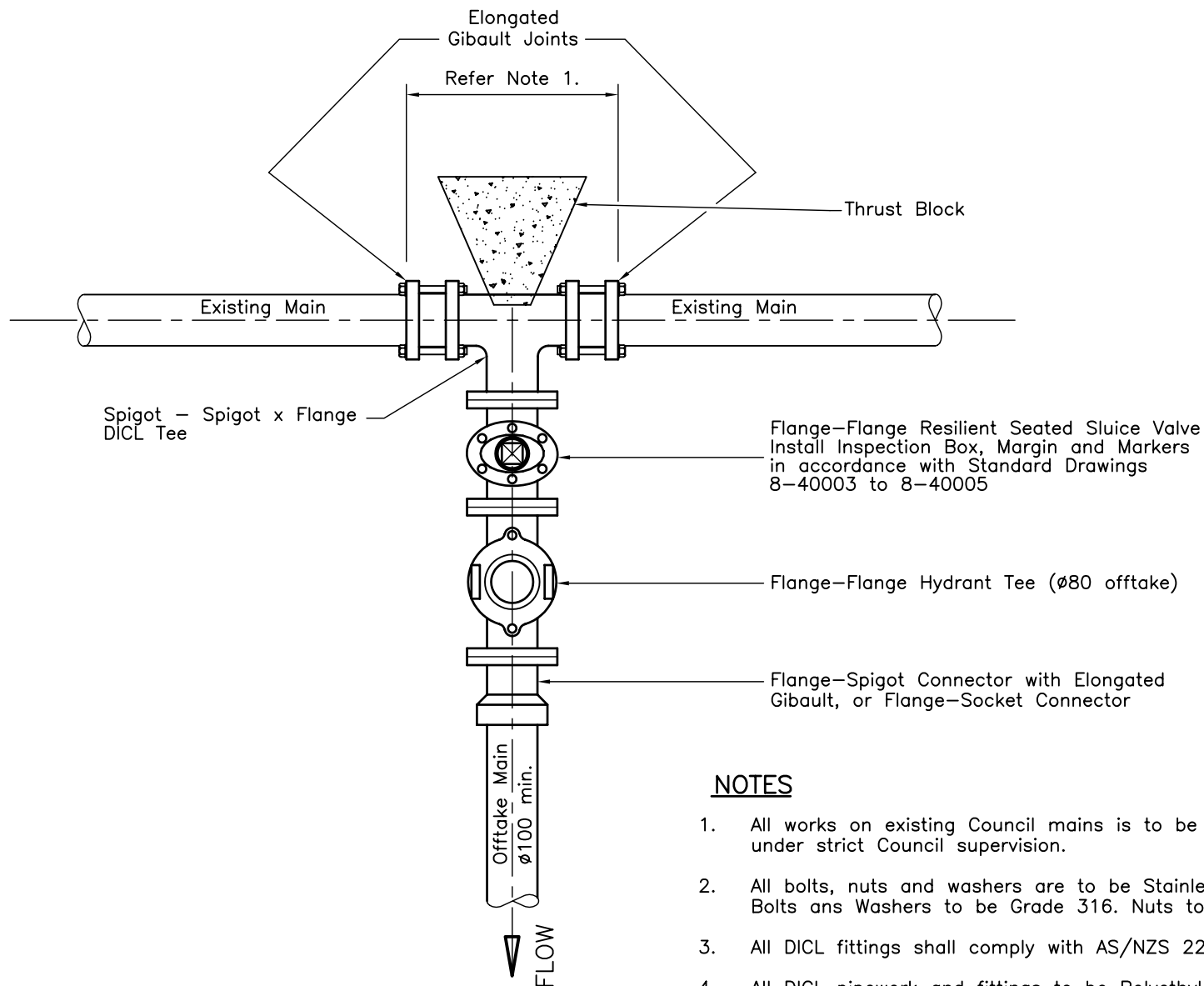
13mm BSP Ball Valve (M.I. to F.I.)

13mm BSP F.I. Socket fitting, Tapping Band, or Drilled and Tapped hole into pipe or fitting

Fitting or Pipe Section

|                |  |       |      |                             |  |                           |  |   |  |             |  |  |  |                      |          |
|----------------|--|-------|------|-----------------------------|--|---------------------------|--|---|--|-------------|--|--|--|----------------------|----------|
| Revisions      |  | Appd. | Date | Director Works and Services |  | Pine Rivers Shire Council |  | 220 Gympie Road<br>Strathpine<br>PO Box 5070<br>Queensland 4500 |  | PINE RIVERS |  | PRESSURE GAUGE AND<br>LINE INSTALLATION<br>DETAILS |  | File No. 400/26      | Min Page |
|                |  |       |      |                             |  |                           |  |   |  |             |  |  |  | Standard Drawing No. |          |
|                |  |       |      |                             |  |                           |  |   |  |             |  |  |  | 8                    | 40014    |
| Original Issue |  |       | 6/98 |                             |  |                           |  |   |  |             |  |  |  |                      |          |




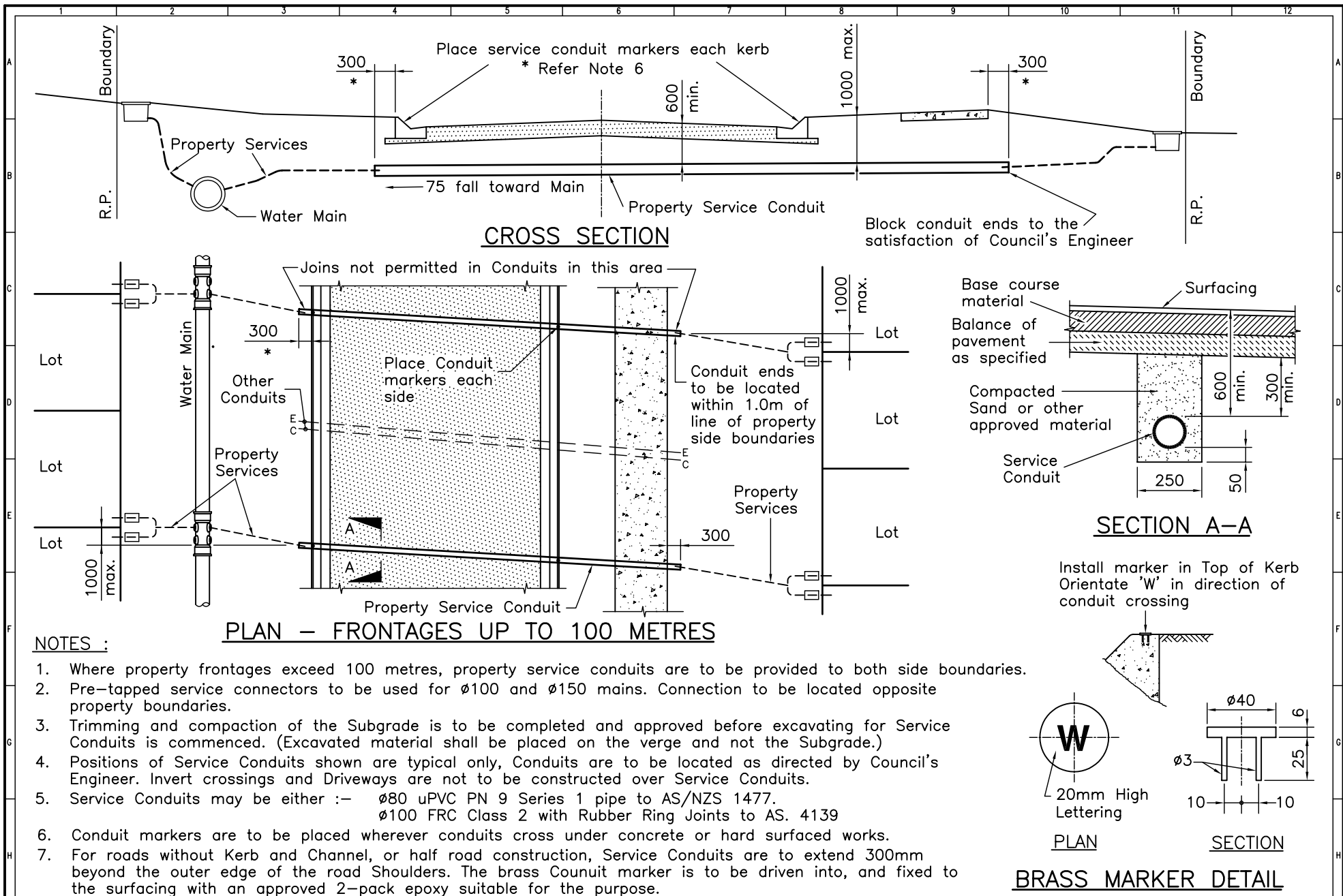


### NOTES

1. All works on existing Council mains is to be performed only under strict Council supervision.
2. All bolts, nuts and washers are to be Stainless Steel to AS 1449. Bolts and Washers to be Grade 316. Nuts to be Grade 304.
3. All DICL fittings shall comply with AS/NZS 2280.
4. All DICL pipework and fittings to be Polyethylene wrapped.

PLAN

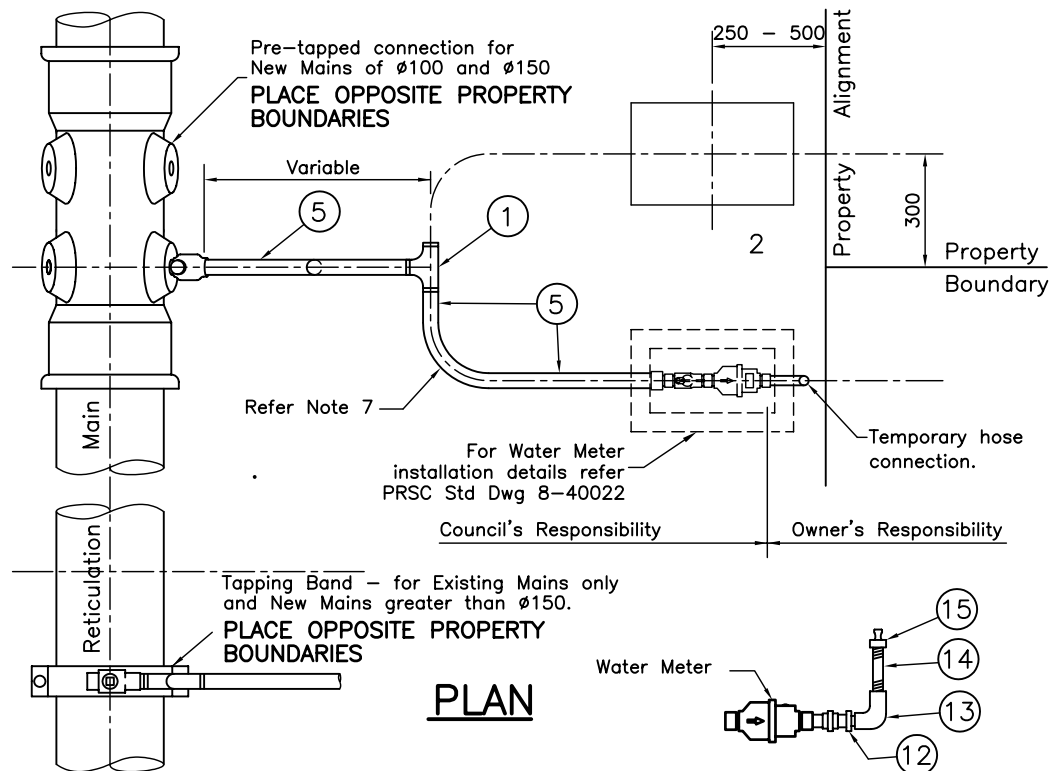
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|----------------|--|-------|------|---|--|---|--|---|--|---|--|---|--|------------------------|----------|
| Revisions      |  | Appd. | Date | Director Works and Services               |  | Pine Rivers Shire Council                   |  | 220 Gympie Road<br>Strathpine<br>PO Box 5070<br>Queensland 4500 |  |  |  | <b>OFFTAKE FROM MAINS<br/>TYPICAL DETAILS</b> |  | File No. 400/26        | Min Page |
| Original Issue |  |       | 8/98 | Mayor _____<br>C.E.O. _____<br>Date _____ |  | Drawn _____<br>Checked _____<br>Disc. _____ |  |   |  |   |  |   |  | Standard Drawing No. 8 | 40015    |



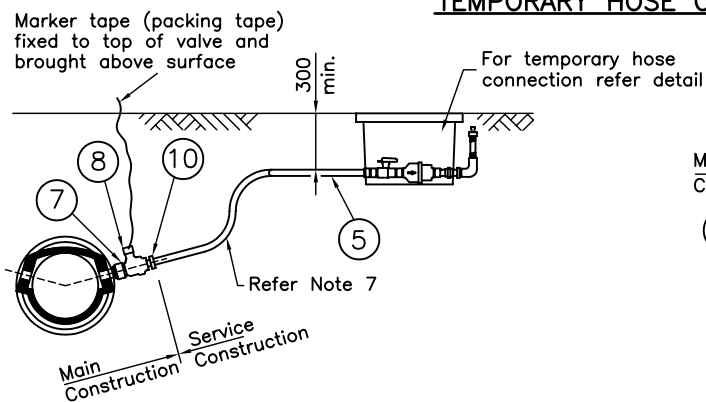
# **NOTES :**

- Where property frontages exceed 100 metres, property service conduits are to be provided to both side boundaries.
- Pre-tapped service connectors to be used for Ø100 and Ø150 mains. Connection to be located opposite property boundaries.
- Trimming and compaction of the Subgrade is to be completed and approved before excavating for Service Conduits is commenced. (Excavated material shall be placed on the verge and not the Subgrade.)
- Positions of Service Conduits shown are typical only, Conduits are to be located as directed by Council's Engineer. Invert crossings and Driveways are not to be constructed over Service Conduits.
- Service Conduits may be either :-  
Ø80 uPVC PN 9 Series 1 pipe to AS/NZS 1477.  
Ø100 FRC Class 2 with Rubber Ring Joints to AS. 4139
- Conduit markers are to be placed wherever conduits cross under concrete or hard surfaced works.
- For roads without Kerb and Channel, or half road construction, Service Conduits are to extend 300mm beyond the outer edge of the road Shoulders. The brass Conduit marker is to be driven into, and fixed to the surfacing with an approved 2-pack epoxy suitable for the purpose.

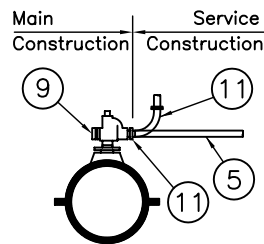
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|------------------|------|------|--------|----------------------------------|---------------------------|---|------------------------------|-----------------------------|---------|
| Revisions        | Appd | Date | Mayor  | Director Assets & Infrastructure | Pine Rivers Shire Council | 220 Gympie Road<br>Strathpine<br>PO Box 5070<br>Queensland 4500 | PROPERTY SERVICE<br>CONDUITS | File No. 400/26<br>Min Page | 8 40016 |
| A Note 5 updated |      | 2/05 | C.E.O. | Drawn T.T. Rec. L.Mc.            |                           |   |                              |                             |         |
| Original Issue   |      | 8/98 | Date   | Checked L.Mc. Approved           |                           |   |                              |                             |         |



### TEMPORARY HOSE CONNECTION



NEW MAINS OF  $\phi 100$  AND  $\phi 150$



EXISTING MAINS AND NEW MAINS GREATER THAN  $\phi 150$

### MATERIALS LIST

| ITEM | 20mm SERVICE                                     | 25mm SERVICE                                     | Quantity     |                |
|------|--|--|--------------|----------------|
|      |  |  | Twin Service | Single Service |
| 1.   | 20 x 20 copper Tee                               | 25 x 25 copper Tee                               | 1            | -              |
| 2.   | 20 straight through meter tail piece.            | 25 straight through meter tail piece.            | 2            | 1              |
| 3.   | 20 straight through ball valve F.I. to F.I.      | 25 straight through ball valve F.I. to F.I.      | 2            | 1              |
| 4.   | 20 Water Meter                                   | 25 Water Meter                                   | 2            | 1              |
| # 5. | 20 copper pipe Type B                            | 25 copper pipe Type B                            | Varies       | Varies         |
| 6.   | Meter Box  | Meter Box  | 2            | 1              |
| * 7. | 20 Nipple M.I. to F.I. with P.E. insulating bush | 20 Nipple M.I. to F.I. with P.E. insulating bush | 1            | 1              |
| * 8. | 20 Straight through ball valve M.I. to F.I.      | 20 Straight through ball valve M.I. to F.I.      | 1            | 1              |
| 9.   | 20 T.P.F.N.R                                     | 20 T.P.F.N.R                                     | 1            | 1              |
| 10.  | 20 M.I. x 20 flared fitting                      | 20 M.I. to 25 Copper Compression union           | 3            | 2              |
| 11.  | Ferrule bend with flared fitting                 | 20 F.I. to 25 Copper Compression union           | 1            | 1              |
| 12.  |  | 25 to 20 reducing socket and 20 nipple           | 2            | 1              |
| 13.  | 20 MDPE 90° elbow.                               | 20 MDPE 90° elbow.                               | 2            | 1              |
| 14.  | 20 MDPE tail piece with threaded ends.           | 20 MDPE tail piece with threaded ends.           | 2            | 1              |
| 15.  | 20 "Click-On" type hose fitting M.I. to F.I.     | 20 "Click-On" type hose fitting M.I. to F.I.     | 2            | 1              |

\* Refer Note 5.

# Refer Note 6.

- NOTES:**
- All fittings to be Brass, or Silver soldered Copper, Type B De-zincification resistant to AS 1565.
  - Meter Box to be P.R.S.C. approved type. Box to be firmly bedded without bearing on the meter arrangement at the recess holes.
  - Service pipes to be laid in sand surround. Pipes to be lagged in aggressive soils.
  - Meter arrangement to be placed centrally across the box width.
  - $\phi 20$ mm Ball Valve, Polyethylene insulating bush and nipple to be supplied and installed by the Main laying Contractor.
  - Service pipes to be  $\phi 20$ mm for installation of a single  $\phi 20$ mm Domestic Service. Council may require a  $\phi 25$ mm copper pipe for a twin service at its discretion.
  - Minimum bend radii to be :- 210mm for  $\phi 20$  Cu. 250mm for  $\phi 25$  Cu.

| Revisions   | Appd.  | Date  |
|---|--------|-------|
|   | Mayor  |       |
|   | C.E.O. |       |
| B Fittings amended - Refer 8-40022 for water meter detail |        | 12/02 |
| A Non-Return Valve added for 20 dia. services - Item 4    |        | 4/01  |
| Original Issue  |        | 8/98  |

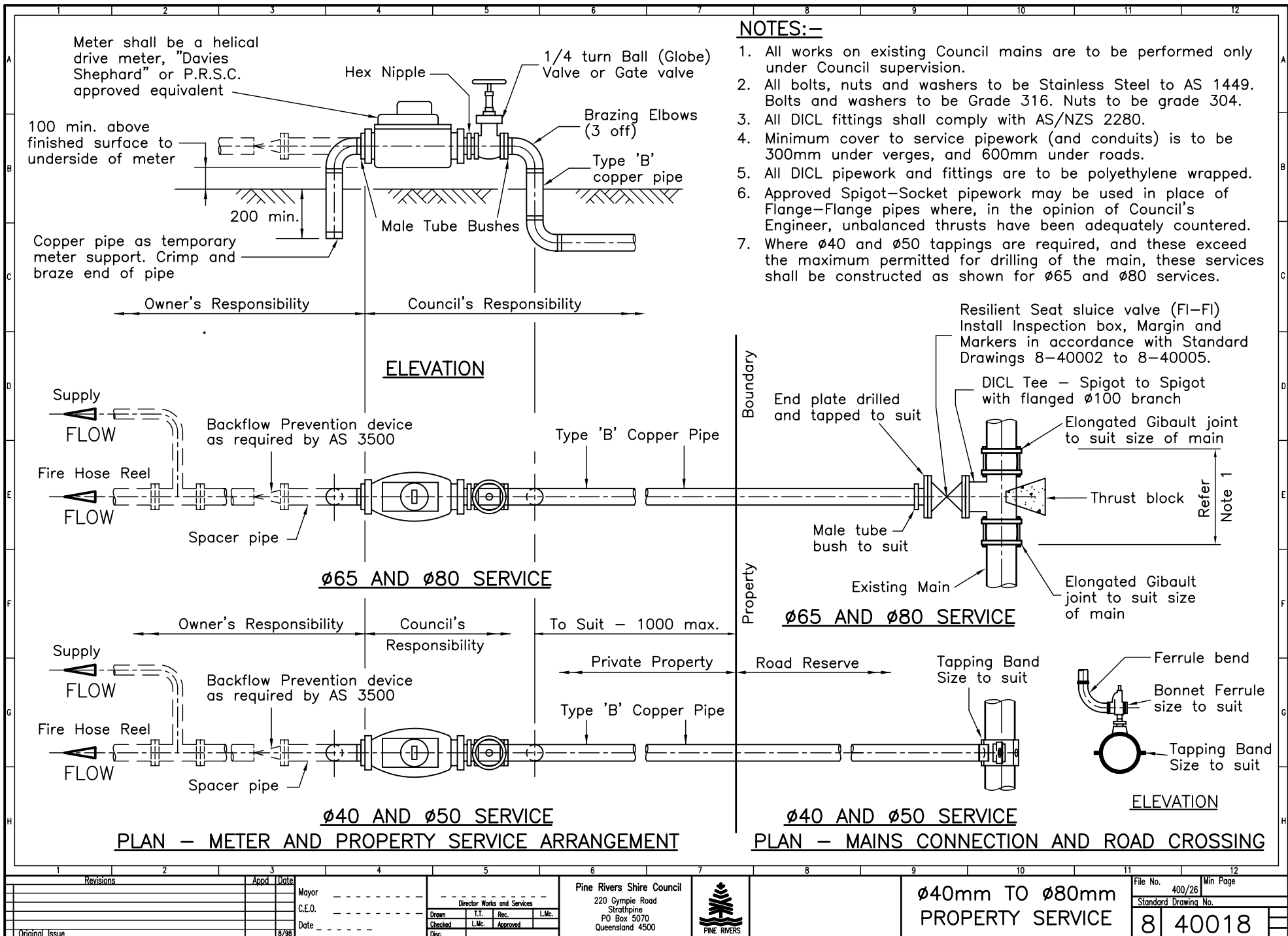
| Director Assets & Infrastructure |
|----------------------------------|
| Drawn                            |
| Checked                          |
| Disc.                            |

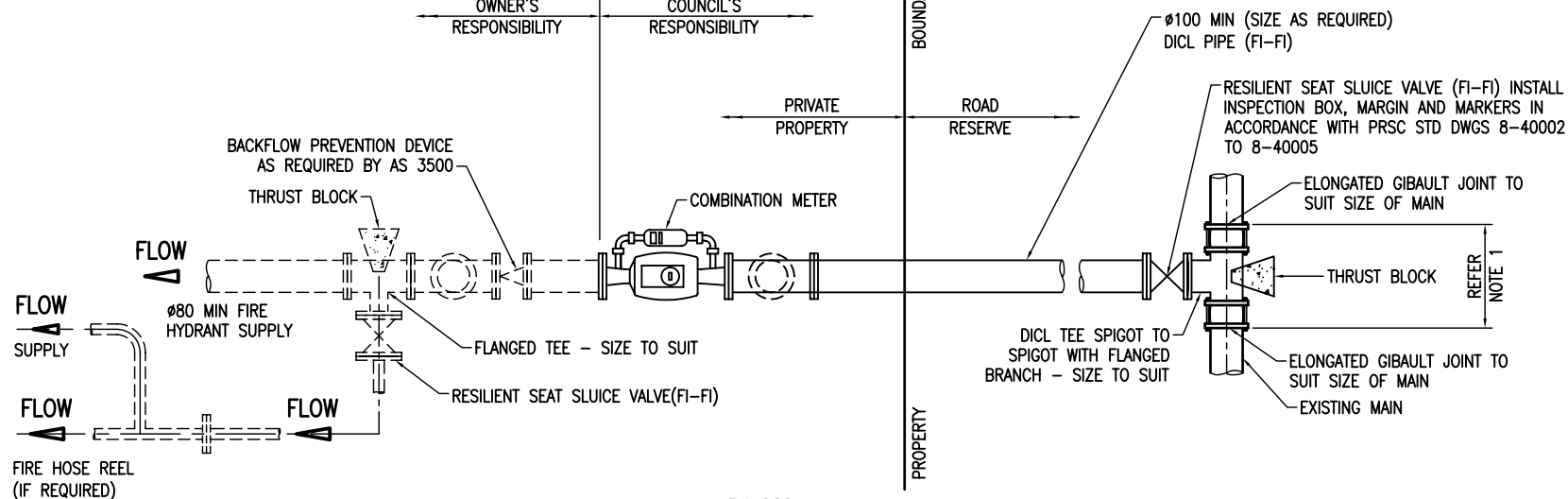
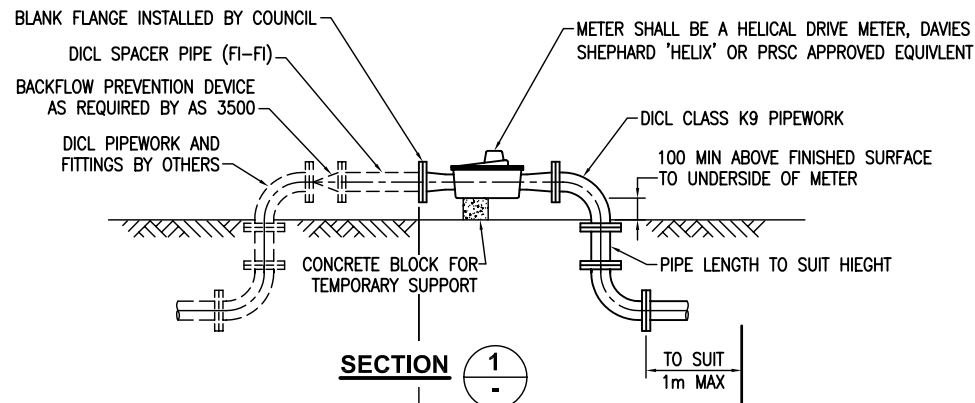
Pine Rivers Shire Council  
220 Gympie Road  
Strathpine  
PO Box 5070  
Queensland 4500



$\phi 20$ mm and  $\phi 25$ mm  
COPPER  
PROPERTY SERVICES

|                      |        |          |
|----------------------|--------|----------|
| File No.             | 400/26 | Min Page |
| Standard Drawing No. | 8      | 40017    |





# NOTES:

1. ALL WORKS ON EXISTING COUNCIL MAINS ARE TO BE PERFORMED ONLY UNDER COUNCIL SUPERVISION.
2. ALL BOLTS, NUTS AND WASHERS TO BE STAINLESS STEEL TO AS 1449. BOLTS AND WASHERS TO BE GRADE 316. NUTS TO BE GRADE 304.
3. ALL DICL DITTINGS SHALL COMPLY WITH AS/NZS 2280.
4. MINIMUM COVERS TO SERVICES PIPEWORK IS TO BE 300mm UNDER VERGES AND 600mm UNDER ROADS.
5. ALL DICL PIPEWORK AND FITTINGS ARE TO BE POLYETHYLENE WRAPPED.
6. APPROVED SPIGOT-SOCKET PIPEWORK MAY BE USED IN PLACE OF FLANGE-FLANGE PIPES WHERE, IN THE OPINION OF COUNCIL'S ENGINEER, UNBALANCED THRUSTS HAVE BEEN ADEQUATELY COUNTERED.

## PLAN

| Revisions                          | Appd. | Date  |
|------------------------------------|-------|-------|
| A Position and Arrangement Changed |       | 12/04 |
| Original Issue                     |       | 8/98  |

Mayor \_\_\_\_\_  
C.E.O. \_\_\_\_\_  
Date \_\_\_\_\_

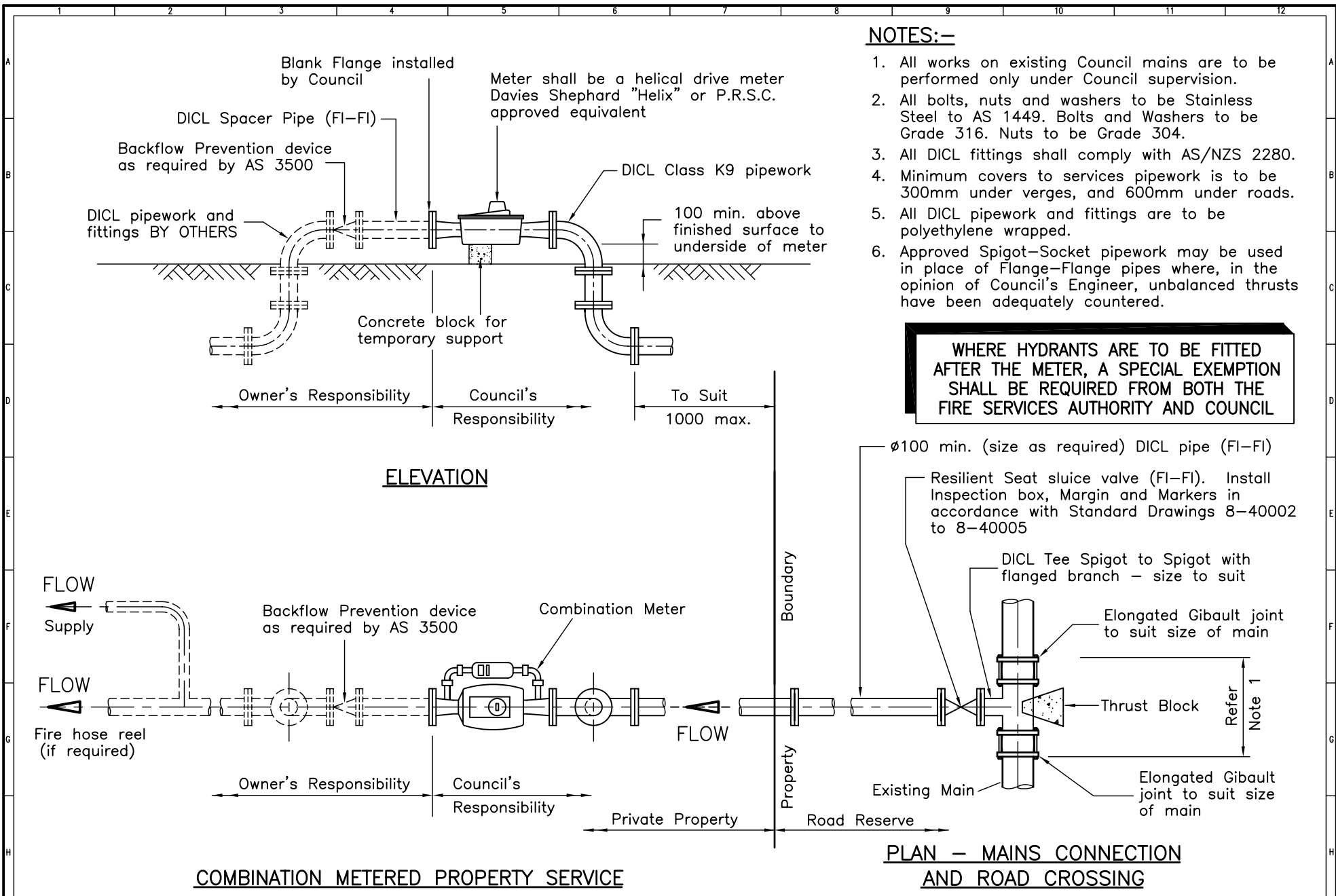
| Director Assets & Infrastructure |      |          |      |
|----------------------------------|------|----------|------|
| Drawn                            | T.T. | Rec.     | L.M. |
| Checked                          | L.M. | Approved |      |
| Disc.                            |      |          |      |

Pine Rivers Shire Council  
220 Gympie Road  
Strathpine  
PO Box 5070  
Queensland 4500

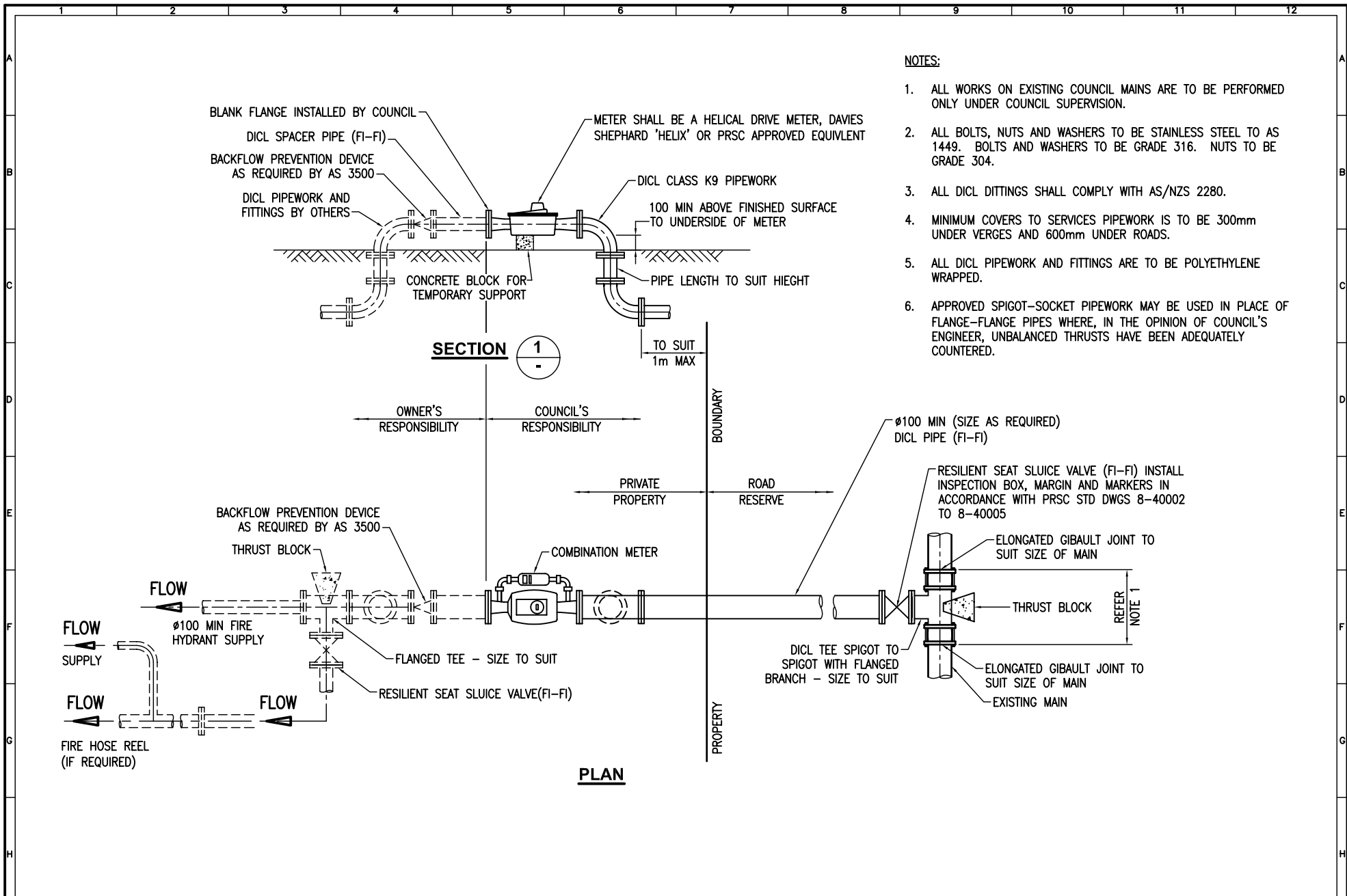


Ø40mm TO Ø80mm  
PROPERTY SERVICE WITH  
HYDRANT LINE

| File No.             | Min Page |
|----------------------|----------|
| 400/26               |          |
| Standard Drawing No. |          |
| 8                    | 40019    |




|                |  |       |      |                             |  |                           |  |                                      |  |                      |        |          |
|----------------|--|-------|------|-----------------------------|--|---------------------------|--|--------------------------------------|--|----------------------|--------|----------|
| Revisions      |  | Appd. | Date | Director Works and Services |  | Pine Rivers Shire Council |  | COMBINATION METERED PROPERTY SERVICE |  | File No.             | 400/26 | Min Page |
|                |  |       |      |                             |  | 220 Gympie Road           |  |                                      |  | Standard Drawing No. |        |          |
|                |  |       |      |                             |  | Strathpine                |  |                                      |  | 8                    |        | 40020    |
|                |  |       |      |                             |  | PO Box 5070               |  |                                      |  |                      |        |          |
|                |  |       |      |                             |  | Queensland 4500           |  |                                      |  |                      |        |          |
| Original Issue |  |       | 8/98 | Disc.                       |  | PINE RIVERS               |  |                                      |  |                      |        |          |



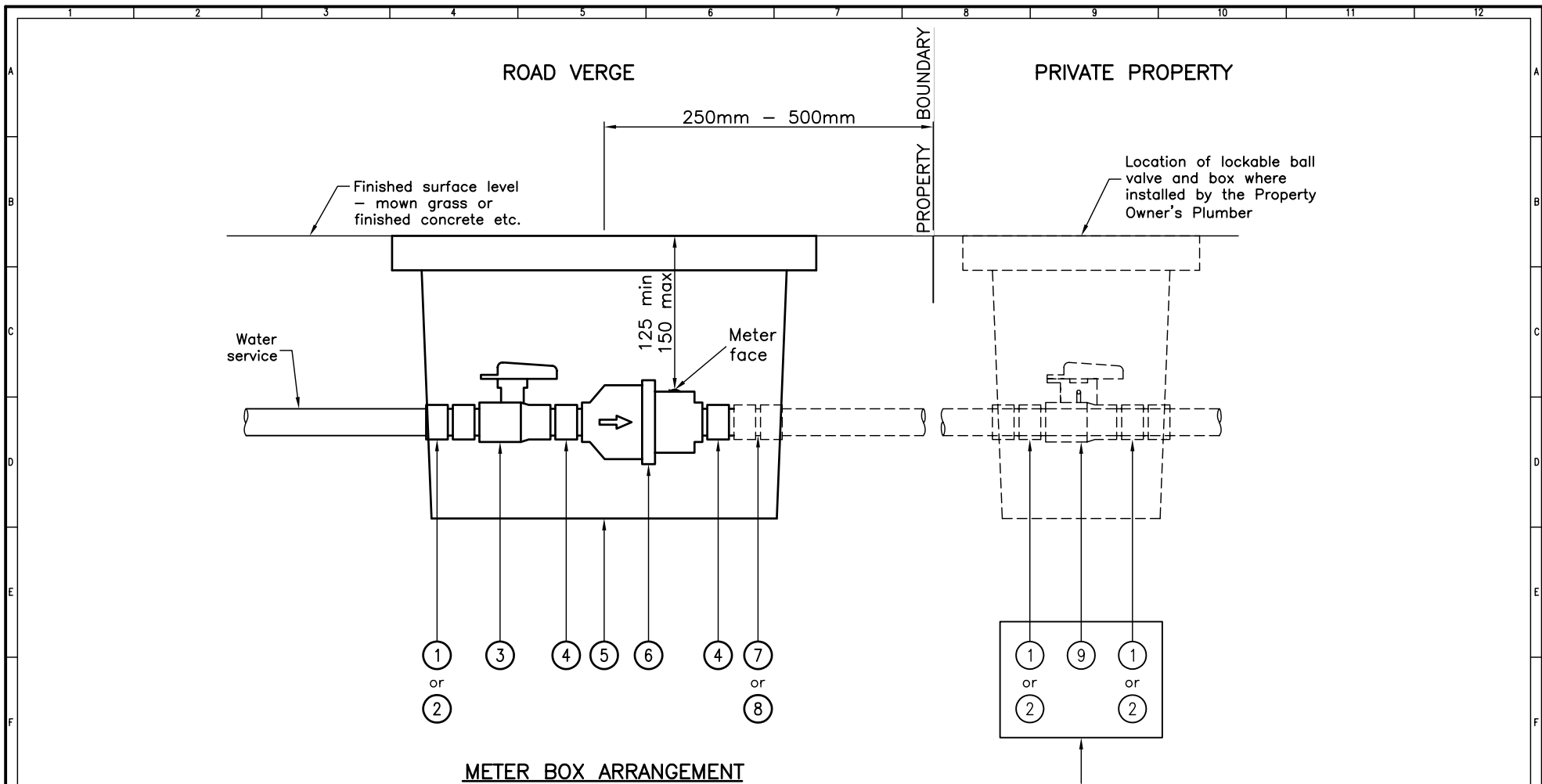
# NOTES:

1. ALL WORKS ON EXISTING COUNCIL MAINS ARE TO BE PERFORMED ONLY UNDER COUNCIL SUPERVISION.
2. ALL BOLTS, NUTS AND WASHERS TO BE STAINLESS STEEL TO AS 1449. BOLTS AND WASHERS TO BE GRADE 316. NUTS TO BE GRADE 304.
3. ALL DICL DITTINGS SHALL COMPLY WITH AS/NZS 2280.
4. MINIMUM COVERS TO SERVICES PIPEWORK IS TO BE 300mm UNDER VERGES AND 600mm UNDER ROADS.
5. ALL DICL PIPEWORK AND FITTINGS ARE TO BE POLYETHYLENE WRAPPED.
6. APPROVED SPIGOT-SOCKET PIPEWORK MAY BE USED IN PLACE OF FLANGE-FLANGE PIPES WHERE, IN THE OPINION OF COUNCIL'S ENGINEER, UNBALANCED THRUSTS HAVE BEEN ADEQUATELY COUNTERED.

## PLAN

|                                    |  |   |  |       |  |       |  |        |  |                                  |  |                           |  |   |  |                     |  |                       |  |              |  |                      |  |          |  |
|------------------------------------|--|---|--|-------|--|-------|--|--------|--|----------------------------------|--|---------------------------|--|---|--|---------------------|--|-----------------------|--|--------------|--|----------------------|--|----------|--|
| 1                                  |  | 2 |  | 3     |  | 4     |  | 5      |  | 6                                |  | 7                         |  | 8   |  | 9                   |  | 10                    |  | 11           |  | 12                   |  |          |  |
| Revisions                          |  |   |  | Appd. |  | Date  |  | Mayor  |  | Director Assets & Infrastructure |  | Pine Rivers Shire Council |  |  |  | COMBINATION METERED |  | PROPERTY SERVICE WITH |  | HYDRANT LINE |  | File No.             |  | Min Page |  |
|                                    |  |   |  |       |  |       |  | C.E.O. |  | Drawn                            |  | 220 Gympie Road           |  |   |  |                     |  |                       |  |              |  | 400/26               |  |          |  |
|                                    |  |   |  |       |  |       |  | Date   |  | Checked                          |  | Strathpine                |  |   |  |                     |  |                       |  |              |  | Standard Drawing No. |  |          |  |
| A Position and Arrangement Changed |  |   |  |       |  | 12/04 |  |        |  | Disc.                            |  | PO Box 5070               |  |   |  |                     |  |                       |  |              |  | 8                    |  | 40021    |  |
| Original Issue                     |  |   |  |       |  | 8/98  |  |        |  |                                  |  | Queensland 4500           |  |   |  |                     |  |                       |  |              |  |                      |  |          |  |
|                                    |  |   |  |       |  |       |  |        |  |                                  |  |                           |  |   |  |                     |  |                       |  |              |  |                      |  |          |  |

COMBINATION METERED  
PROPERTY SERVICE WITH  
HYDRANT LINE



**METER BOX ARRANGEMENT**

N.T.S.

Note: these fittings and pit are to be provided and installed by the Property Owner's Plumber

| SCHEDULE OF FITTINGS |   |
|----------------------|---|
| NUMBER               | DESCRIPTION                               |
| 1                    | Tube Bush                                 |
| 2                    | Poly union x M.I.                         |
| 3                    | Ball valve F.I. - F.I.                    |
| 4                    | Meter tail piece                          |
| 5                    | Meter box                                 |
| 6                    | Water Meter                               |
| 7                    | F.I. x Copper compression                 |
| 8                    | F.I. x Poly union                         |
| 9                    | Ball valve F.I. - F.I. c/w locking bonnet |

**NOTES:**

1. All pipe and fittings shown in hidden detail are to be installed by and are the responsibility of the Property Owner.
2. All fittings are to match the incoming service diameter and type.
3. All metallic fittings are to be Brass Type B De-zincification resistant to AS 1565.
4. All fittings for polyethylene pipe are to conform to AS 4129.
5. All fittings are subject to Pine Water approval.
6. Meter Box to be P.R.S.C. approved type. Box to be firmly bedded without bearing on the meter arrangement at the recess holes.
7. Where meter is to be placed at a grade greater than 1 in 6, the Plumber shall seek direction from the Supervisor Water Services.

| Revisions      | Appd | Date |
|----------------|------|------|
|                |      |      |
|                |      |      |
|                |      |      |
|                |      |      |
| Original Issue |      | 7/02 |

| Director Assets & Infrastructure |      |          |
|----------------------------------|------|----------|
| Drawn                            | A.T. | Rec.     |
| Checked                          |      | Approved |
| Disc.                            |      |          |

Pine Rivers Shire Council  
220 Gympie Road  
Strathpine  
PO Box 5070  
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**NEW Ø20mm and Ø25mm  
WATER METER INSTALLATION  
LAYOUT AND DETAILS**

|                      |        |          |
|----------------------|--------|----------|
| File No.             | 400/26 | Min Page |
| Standard Drawing No. | 8      | 40022    |