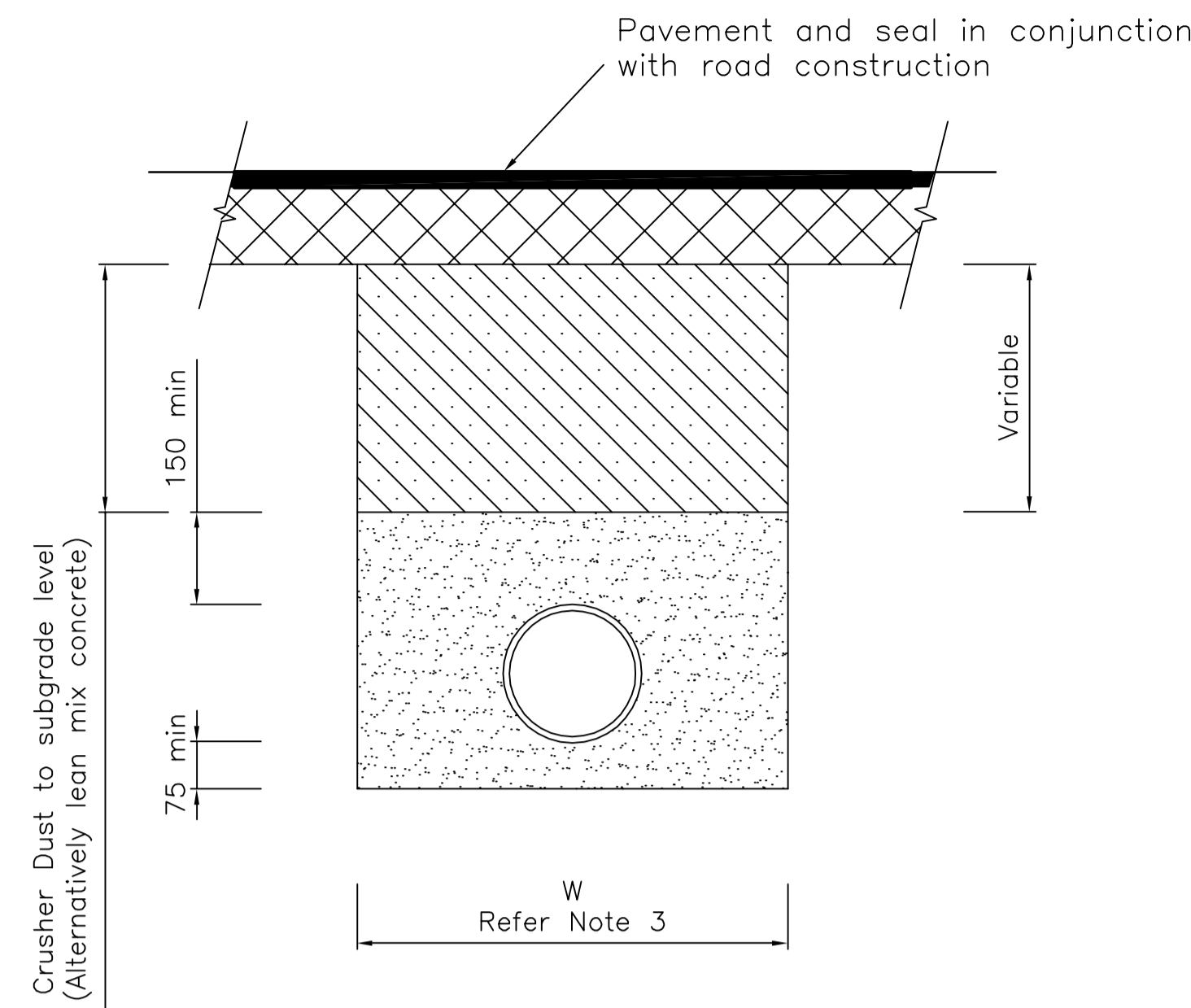
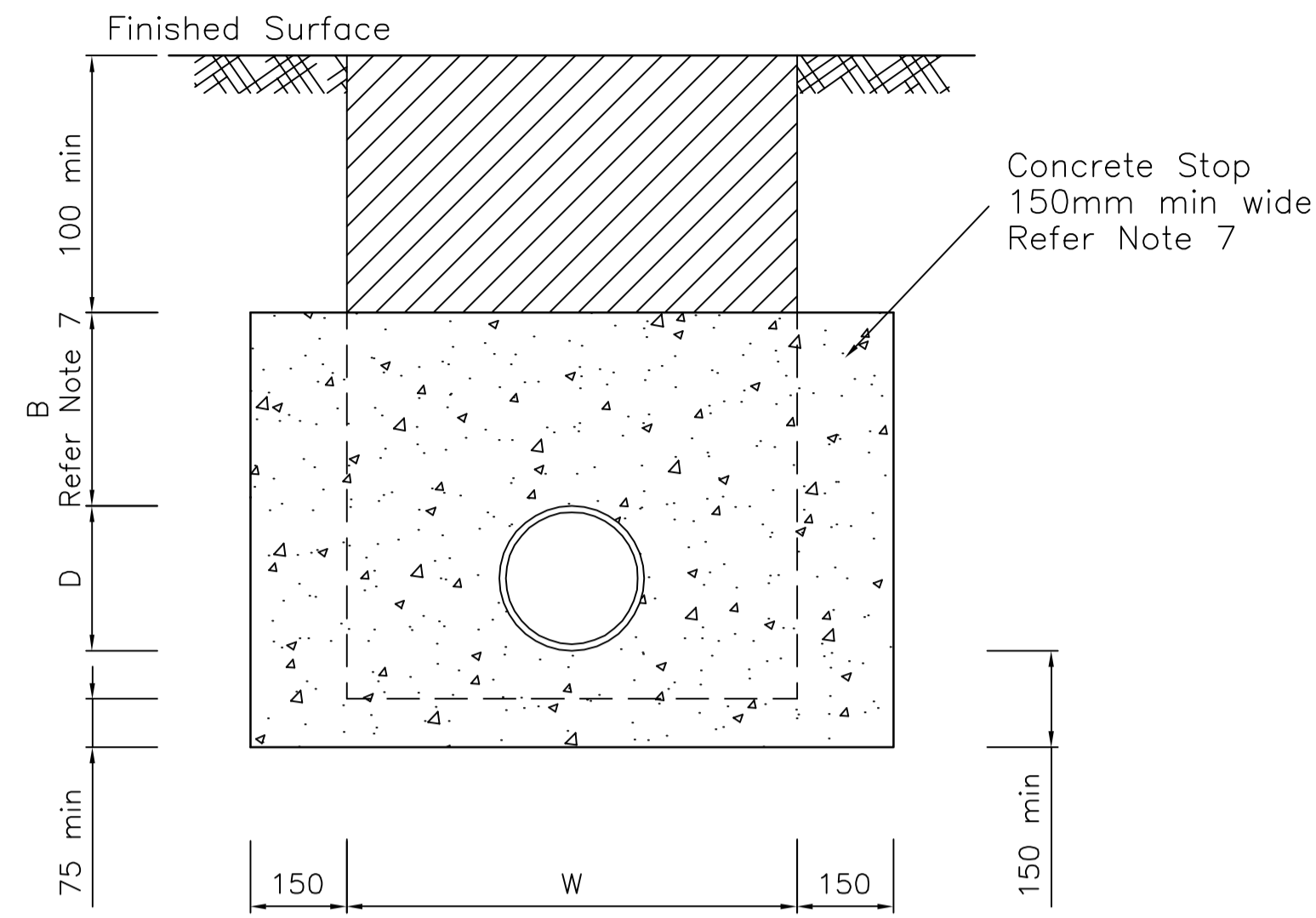


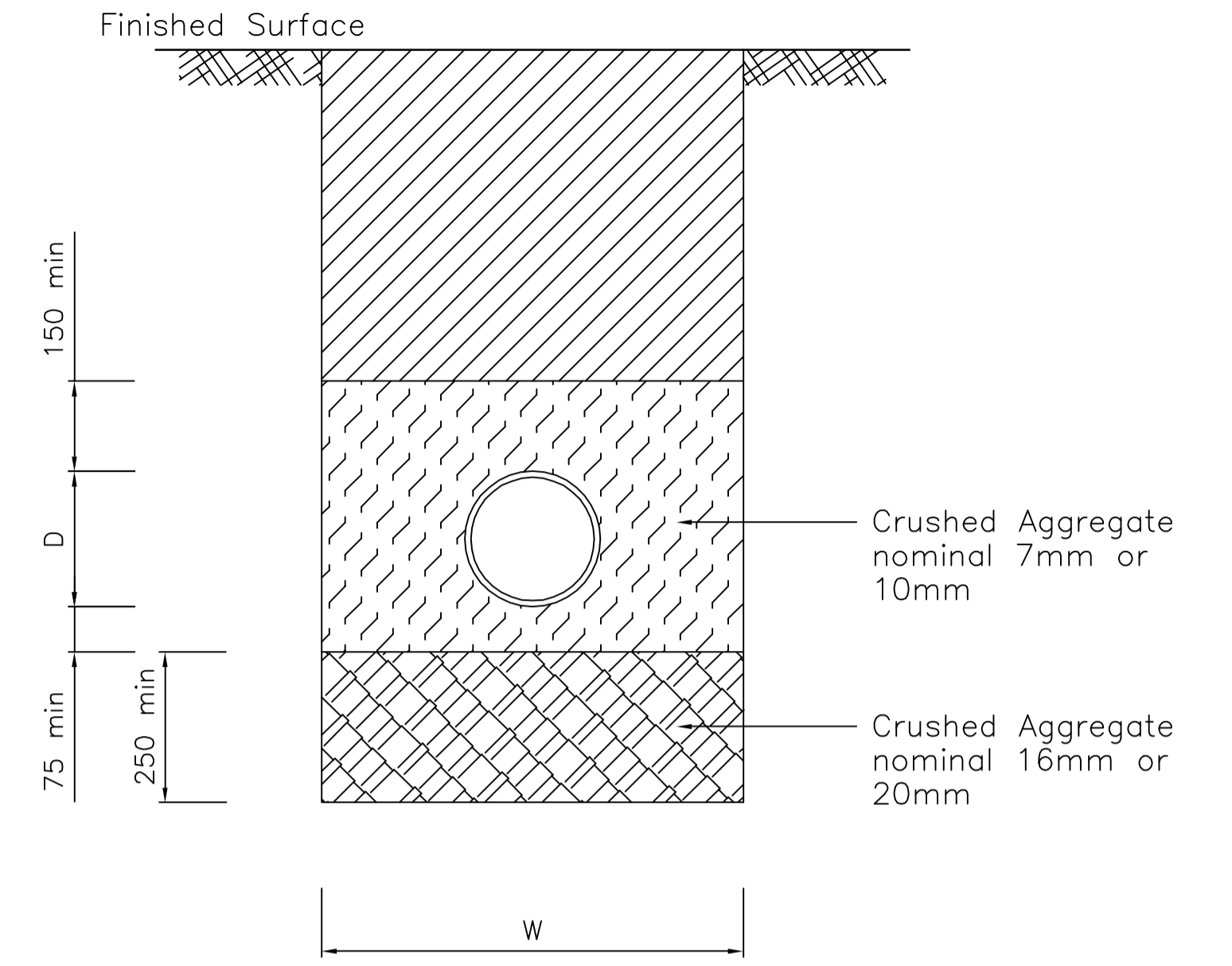
**STANDARD INSTALLATION**



**INSTALLATION UNDER PROPOSED ROAD PAVEMENTS**



**CONCRETE STOPS**



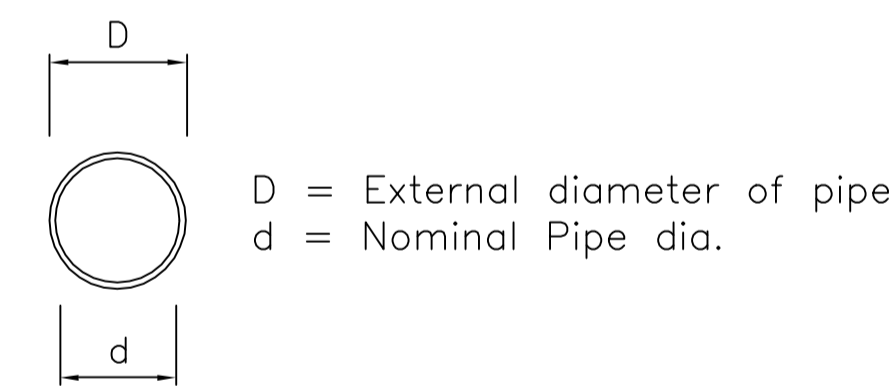
**INSTALLATION IN WATER CHARGED SAND**

**TABLE OF DIMENSIONS AND QUANTITIES**

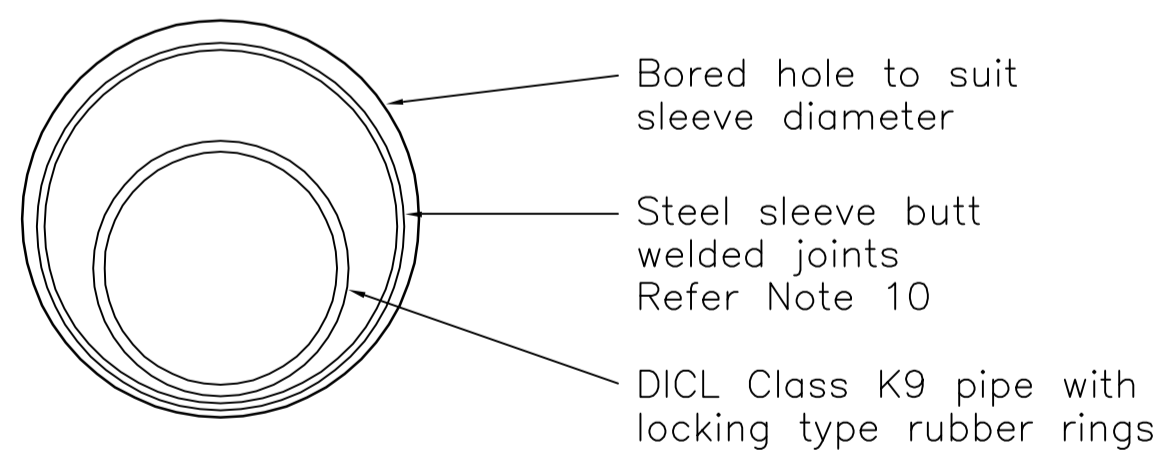
	Nominal pipe diameter 'd' (mm)									
	100	150	200	250	300	375	450	500	600	750
Minimum trench width (W)	Pipe OD 'D' plus 100mm each side									
Maximum trench width (W)	600	600	700	750	800	850	900	950	1000	1250
Underlay/side support/overlay (cu m/100m)	20.1	22.6	29.0	33.5	38.1	43.2	47.7	51.2	54.3	64.4
Concrete surround (cu m/100m)	9.2	11.8	14.4	17.2	20.4	24.9	29.8	33.1	40.2	51.7

**LEGEND**

- Concrete – Grade N20
- Pavement Material – Compaction as specified for roadworks
- Crusher Dust – 100% \* (Alternatively Lean Mix Concrete)
- Backfill – 95% \* or to a higher level to avoid settlement
- Underlay, side support and overlay material – 95% \*



\* Percentages shown are the minimum allowable proportion of the maximum dry density of the materials as determined by AS 1289 5.1.1 (standard compaction)



**PIPE IN BORED HOLE**

**NOTES**

1. All dimensions are in millimetres unless noted otherwise.
2. Underlay, side support and overlay material shall consist of either sand or sandy loam or other approved material having binding properties, with a linear shrinkage not exceeding 2.5%. It shall be free from stones which would be retained on a 13.2mm sieve and rubbish and shall be non aggressive to the pipe materials. Excavated material may be used subject to the Director of Engineering Services written approval.
3. Trench width 'W' applies below a level 300mm above top of pipe. Trench above this level may be widened to suit safety requirements.
4. Cover to top of pipe shall be 600min – 1000 max under road pavements, 450 min – 750 max elsewhere. Specific design details to be provided if maximum cover needs to be exceeded.
5. For timbered trenches, timber to be withdrawn to the top of the overlay before compaction of underlay, side support and overlay or the timber in this section shall be left permanently in place.
6. Concrete surround to be discontinuous at each pipe joint for flexibly jointed pipes more than 3.0m long or at joints nearest to 3.0m spacing for shorter pipes.
7. Concrete stops to be spaced not greater than 6.0m and located within 300mm of pipe joints. Stops to be provided where pipe grades exceed:
  - 1 in 6 for 100mm and 150mm diameter water pipes
  - 1 in 10 for water pipes larger than 150mm diameter
 Spacing of stops to be such that top of stop is not less than 100mm above the top of pipe at the next uphill stop, subject to a minimum cover of 100mm.
8. Quantities shown in the table are net solid volumes for DICL and uPVC OD compatible pipes. They are for guidance only and are not guaranteed.
9. Water supply pipes are to be laid and jointed in accordance with the manufacturer's directions. Installation shall also comply with any relevant Australian Standard for the type of pipe used provided the requirements of this drawing are not diminished.
10. Steel sleeves for bored hole to be:
  - 219.1 OD x 4.8mm CHS for 100 diameter pipe
  - 273.1 OD x 4.8mm CHS for 150 diameter pipe
  - 355.6 OD x 6.4mm CHS for 200 diameter pipe
  - 406.4 OD x 6.4mm CHS for 250 diameter pipe
 Larger water pipes to be to specific approved design. Sleeve may be omitted with the approval of the Director of Engineering Services.
11. If water pipes are required to be laid on concrete or mortar bedding or in tunnel or provided with concrete surround, relevant details to be provided to the Director of Engineering Services for approval.
12. Pipes installed in trench under existing road pavements to be in accordance with the directions of the Director of Engineering Services. The minimum length of pavement and seal reinstatement measured along road centreline to be 10.0m.

This drawing is copyright and the property of the City of the Council of Thuringowa and must not be reproduced wholly or in part without written permission.

NOTES : Not to Scale  
Supersedes TW4A and 10017A

DISCLAIMER. The City of the Council of Thuringowa shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.



**CITY OF THURINGOWA**

86 Thuringowa Drive, Thuringowa Central, QLD. 4817

Phone: 07 4773 8411 Fax: 07 4773 8600

DRAWN: NRN

Engineer Approved: Original Signed by C.Phillips Date: 13/12/1999

CHECKED: WJP

D.E.S. Approved: Original Signed by K.Shephard Date: 13/12/1999

**WATER SUPPLY PIPE  
INSTALLATION DETAILS**

**STANDARD  
DRAWING  
WATER**

10305

No.	DATE	DESCRIPTION	AP'D
A	1/7/99	ORIGINAL ISSUE	
REVISIONS			

A