

**GENERAL NOTES:**

1. ALL DIMENSIONS IN MILLIMETRES.
2. ALL CONCRETE TO BE MINIMUM 25MPa.
3. PIPE RESTRAINTS TO BE IN ACCORDANCE WITH TABLES 1 & 2.
4. SEE EN7892 FOR PIPE TRENCH & BEDDING REQUIREMENTS.

**TABLE 1: SEWER, WATER & NON-CONCRETE STORMWATER PIPE REQUIREMENTS**

PIPE ANCHORING DETAILS	
PIPE GRADE	ANCHORING MEASURES & MAXIMUM SPACING
LESS THAN 6.5%	NO ANCHORING REQUIRED
6.5 - 10%	TRENCH STOP <sup>(1)</sup> EVERY THIRD COLLAR
10 - 15%	CONCRETE BULKHEADS <sup>(2)</sup> SPACED NO GREATER THAN 100 DIVIDED BY PIPE GRADE EXPRESSED AS A %. EXAMPLE FOR PIPE ON 12.5% GRADE: $100 \div 12.5\% = 8m$ SPACINGS
15 - 25%	CONCRETE BULKHEADS <sup>(2)</sup> SPACED NO GREATER THAN 100 DIVIDED BY PIPE GRADE EXPRESSED AS A %. EXAMPLE FOR PIPE ON 20% GRADE: $100 \div (20\% \times 2) = 2.5m$ SPACINGS
GREATER THAN 25%	NOT PERMITTED

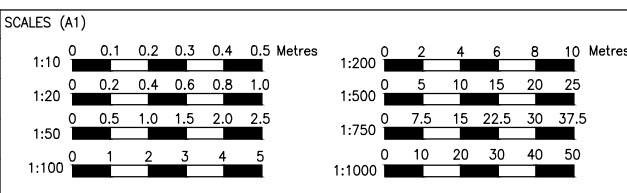
**TABLE 2: CONCRETE STORMWATER PIPE REQUIREMENTS**

PIPE ANCHORING DETAILS	
PIPE GRADE	ANCHORING MEASURES & MAXIMUM SPACING
LESS THAN 15%	NO ANCHORING REQUIRED
15 - 25%	CONCRETE BULKHEADS <sup>(2)</sup> SPACED NO GREATER THAN 100 DIVIDED BY PIPE GRADE EXPRESSED AS A %. EXAMPLE FOR PIPE ON 20% GRADE: $100 \div 20\% = 5m$ SPACINGS
GREATER THAN 25%	NOT PERMITTED

**TABLE 1 & 2 NOTES:**

1. TRENCH STOPS SHALL BE POLYETHYLENE BAGS WITH A MINIMUM THICKNESS OF 0.25mm FILLED WITH CLAY OR OTHER APPROVED MATERIAL, SEALED IN AN APPROPRIATE MANNER, PLACED UNDER, AROUND AND TO 300mm ABOVE THE PIPE AT EVERY THIRD COLLAR. BAGS NOT TO BE PLACED ON SAND BEDDING.
2. CONCRETE BULKHEADS SHALL BE CONSTRUCTED AS DETAILED.

CONSULTANT	REV	DESCRIPTION	INITIALS	DATE
	A	ISSUED FOR APPROVAL	-	03-06-98
	B	CHANGE TO BULKHEAD WARRANT SLOPE	-	09-09-04
	C	ADD BOX CULVERT SLAB & CONCRETE WINGED HEADWALL	MC	13-03-09
	D	STRAIGHT/WINGED HEADWALLS & BOX CULVERT SLAB DETAILS REMOVED, NOTES & DRAFTING UPDATES	MC	21-09-23
	E	PIPE ANCHORING DETAILS TABLES ADDED, ANCHORING REQUIREMENTS UPDATED	MC	26-02-24



SURVEYED	-
CHECKED	
DRAWN	MC
DESIGN	-
DATE	26-02-24
DATUM	AHD

**BATHURST REGIONAL COUNCIL**

PROJECT BRC STANDARD PIPE ANCHORING & CONCRETE BULKHEAD DETAILS		
DESCRIPTION ELEVATION, CROSS SECTION & NOTES		
DWG No. EN7895	SHEET No. 01	REV. E