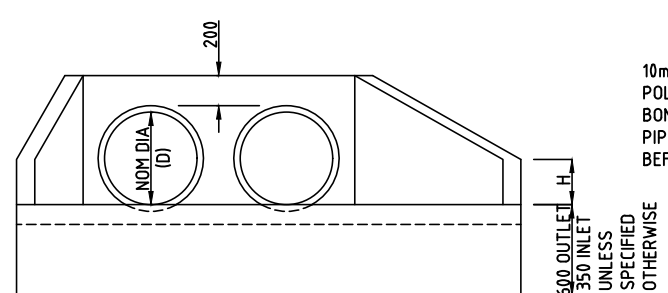


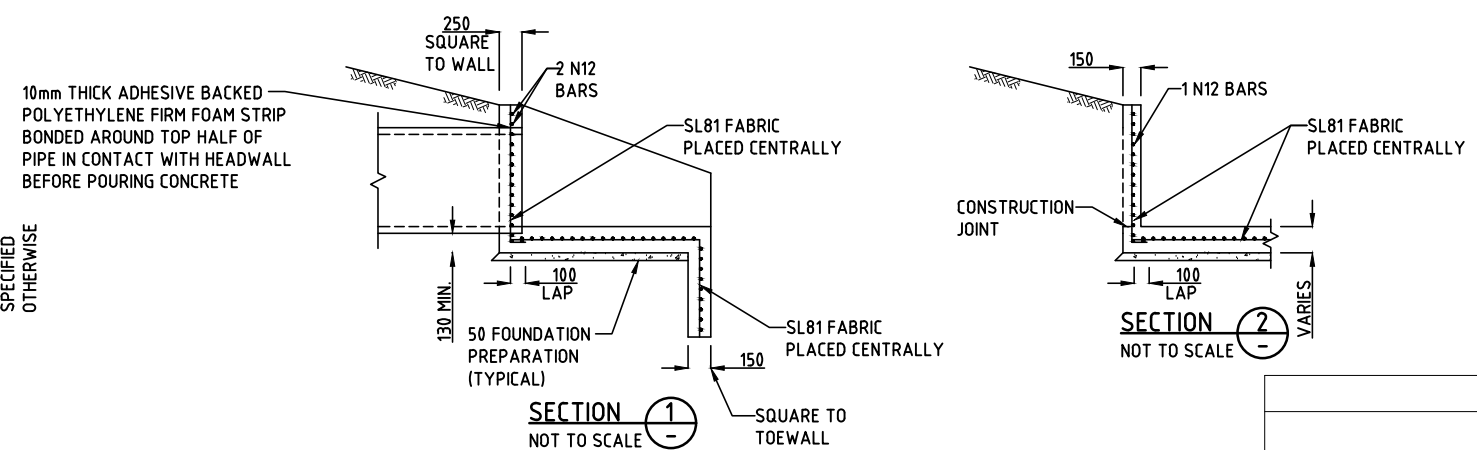
NOTE:
DESIGN LOADS:
 1. IN ACCORDANCE WITH AUSTRALIAN BRIDGE DESIGN CODE AS 5100-2017.
 2. HEADWALLS ARE NOT DESIGNED FOR GUARDRAIL IMPACT FORCES.
CONCRETE:
 1. GRADES S40
COVER:
 1. MINIMUM CLEAR COVER TO BE 50mm.
CONCRETE EXPOSURE CLASSIFICATION:
 1. IN ACCORDANCE WITH REQUIREMENTS IN AUSTRALIAN BRIDGE DESIGN CODE AS 5100-2017 FOR CONCRETE EXPOSURE CLASSIFICATION.
 1.1. COVER AND CONCRETE STRENGTH SHOWN ON DRAWINGS SATISFY REQUIREMENTS FOR EXPOSURE CLASSIFICATION B1 AND B2.
 1.2. FOR EXPOSURE CLASSIFICATIONS C AND U, THE FOLLOWING SHALL APPLY.

EXPOSURE CLASSIFICATION	MINIMUM CLEAR COVER (mm)	
	40 MPa CONCRETE	50 MPa CONCRETE
C (SALT-RICH ARID AREAS OR IN SEA WATER)	60	50
U (IN SOFT OR RUNNING WATER OR AGGRESSIVE SOILS - SULPHATE IONS - pH<4.0)	-	70

REINFORCEMENT:
 1. REINFORCING BAR SHALL BE D500N AND MESH SHALL BE D500L IN ACCORDANCE WITH AS/NZS 4671-2001.
 2. MINIMUM LAPS, UNLESS SHOWN OTHERWISE: BARS 300mm, FABRIC 100mm.
CHAMFERS:
 1. ALL EXPOSED EDGES TO BE PROVIDED WITH 20mm CHAMFERS.
FOUNDATION PREPARATION:
 1. 50mm COMPACTED SAND.
GENERAL:
 1. REFER TO STANDARD DRAWING CS3101 AND CS3100 FOR S*
 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

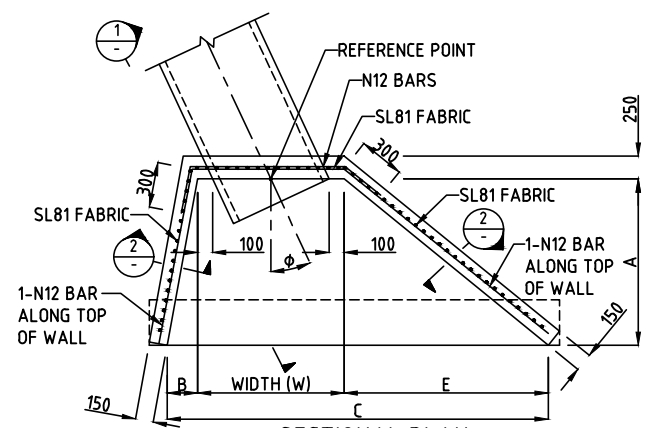


ELEVATION
 TYPICAL FOR SINGLE AND MULTIPLE PIPES
 NOT TO SCALE

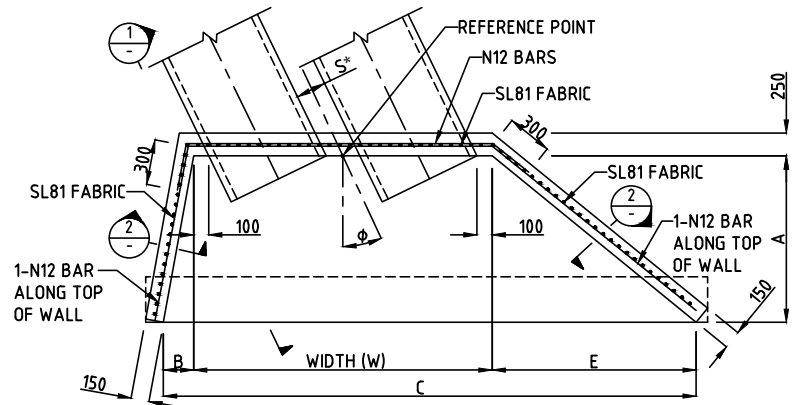


SETTING OUT DIMENSIONS								
SKEW ANGLE φ								
			21° TO 30°			31° TO 35°		
D	A	H	B	E	C	B	E	C
450	900	250	150	1100	W+1250	150	1250	W+1400
525	1000	275	175	1225	W+1400	175	1375	W+1550
600	1100	300	200	1350	W+1550	175	1525	W+1700
675	1200	325	225	1475	W+1700	200	1650	W+1850
750	1300	350	225	1600	W+1850	225	1800	W+2025
825	1400	375	250	1700	W+1950	225	1925	W+2150
900	1500	400	275	1875	W+2150	250	2075	W+2325
SKEW ANGLE φ								
			36° TO 40°			41° TO 45°		
D	A	H	B	E	C	B	E	C
450	900	250	150	1400	W+1550	0	1600	W+1600
525	1000	275	150	1575	W+1725	0	1800	W+1800
600	1100	300	175	1725	W+1900	0	1975	W+1975
675	1200	325	175	1875	W+2050	0	2150	W+2150
750	1300	350	200	2025	W+2225	0	2325	W+2325
825	1400	375	200	2200	W+2400	0	2500	W+2500
900	1500	400	225	2350	W+2575	0	2675	W+2675

*BEYOND 45° REQUIRES SPECIAL DESIGN



SECTIONAL PLAN
 REINFORCEMENT FOR SINGLE PIPE
 NOT TO SCALE



SECTIONAL PLAN
 REINFORCEMENT FOR MULTIPLE PIPE
 NOT TO SCALE

WARNING
 BEWARE OF UNDERGROUND SERVICES.
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DRAWN J.LEESON
 CHECKED S.HATZI
 DATE DESIGNED S.A.
 DATE CHECKED S.A.
 DATE DESIGN LEADER S.HATZI
 DATE DESIGN DIRECTOR S.JACKSON
 DATE 1/09/2017 DATE 1/09/2017



THIS DRAWING IS DERIVED FROM TRANSPORT SOUTH AUSTRALIA STANDARD DRAWING S-4002, SHEET 23 AND ADOPTED FOR THE NT CONDITIONS.

STANDARD DRAWINGS
 DRAINAGE
 RCP 450mm DIA. TO 900mm DIA.
 HEADWALL & WINGWALL DETAIL 21° TO 45° SKEW ANGLE

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
-	-	1 OF 1	CS3104	0	A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED AS A STANDARD DRAWING	SEPT 2017	J.LEESON	EES/DIPL
AMENDMENTS				