

GENERAL NOTES

- G1 ALL CONSTRUCTION IN ACCORDANCE WITH CONCRETE SLEEPERS INSTALLATION MANUAL AND TO THE BUILDING CODE OF AUSTRALIA. VOLUME 1 FOR GENERAL CONDITIONS &/OR AS APPROPRIATE VOLUME 2 FOR WORKMANSHIP & MATERIALS.
- G2 DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- G3 ALL DIMENSIONS ARE IN MILLIMETERS, UNO.
- G4 WALLS OVER 1.0m HIGH SHOULD BE CONSTRUCTED BY A BUILDER, CONTRACTOR, PROFESSIONAL INSTALLER OR QUALIFIED INSTALLER WITH EXPERIENCE IN THIS TYPE OF WORK AND HAS READ & UNDERSTOOD THESE DRAWINGS.
- G5 THE STRUCTURAL WORK SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LOADS IN ACCORDANCE WITH AS1170 2002;
 - ACTIVE EARTH PRESSURE IN COHESIVE SOIL (NOT SAND) $K_a = 0.3$, DENSITY $\rho = 20kN/m^3$, COHESION $c = 20kN/m^2$. WHERE SOIL CONDITIONS VARY, CONTACT AN ENGINEER.
- G6 LIVE LOAD SURCHARGES AS BELOW;
 - 0kPa LIVE LOAD SURCHARGE ALLOWANCE. AS REFERENCED IN TABLE 1 BELOW.
 - USED FOR RETAINING WALLS SUPPORTING EARTH PRESSURE ONLY WITH NO ADDITIONAL LOADING.
 - WALLS SHALL NOT SUPPORT NEIGHBOURING PROPERTY, EITHER PRIVATE OR PUBLIC.
 - DESIGN NOT SUITABLE FOR COMMERCIAL USE.
 - 5kPa LIVE LOAD SURCHARGE ALLOWANCE. AS REFERENCED IN TABLE 1 BELOW.
 - USED FOR RETAINING WALLS SUPPORTING EARTH PRESSURE AND RESIDENTIAL / LIGHT COMMERCIAL VEHICLE DRIVEWAY IN ACCORDANCE WITH AS1170.1:2002.
 - USED WHERE SUPPORTING NEIGHBORING PROPERTY, EITHER PRIVATE OR PUBLIC WITH UP TO MAX 5kPa SURCHARGE ALLOWANCE. THE PROPERTY OWNER / BUILDER IS RESPONSIBLE TO IDENTIFY ANY LOAD CONDITIONS WHICH MAY BE HIGHER THAN EFFECTIVE 5kPa SURCHARGE AND SEEK ENGINEERING ADVICE ACCORDINGLY.
- G7 THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDER GROUND SERVICES PRIOR TO EXCAVATION.
- G8 HANDRAILS AT THE TOP OF RETAINING WALLS MAY BE REQUIRED FOR SAFETY AND/OR BY REGULATIONS. THE PROPERTY OWNER / BUILDER IS RESPONSIBLE TO CHECK. WHERE REQUIRED, HANDRAILS SHALL BE A MINIMUM OF 1000mm HIGH WITH MAXIMUM 125mm SPACES TO BUILDING CODE OF AUSTRALIA AND STRONG ENOUGH TO WITHSTAND 0.75kN/m UDL AND 0.6kN POINT LOAD IN ANY DIRECTION TO AS1170.1:2002 AND 1.5kN/m² WIND LOAD. WIRE HANDRAILS ARE NOT RECOMMENDED, BUT IF USED SHALL BE WIRES @ MAX 80mm c/c TENSIONED TO BCA.
- G9 DESIGN SHALL NOT BE USED IN AGGRESSIVE SOILS, E.G SULFATE RICH SOILS.

CONCRETE NOTES

- C1 CONCRETE SLEEPERS SHALL BE MIN 46MPa TO AS3600, MIX DESIGN IS AS FOLLOWS:
210kg WASHED SAND, 350kg NOM 10mm GRAVEL, 160kg CEMENT. BASF RHEOBUILD 1000 SUPERPLASTICISER / WATER REDUCER MAY BE USED AT THE RATE OF 50:1 (WATER:RHEOBUILD 1000). TOTAL WATER:CEMENT RATIO BELOW 0.45.
- C2 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600.
- C3 CONCRETE FOR FOOTINGS SHALL BE MIN N25 (25MPa) TO AS3600.
- C4 LONG TERM DESIGN PRESSURE WILL CAUSE THE SLEEPERS TO HAVE SOME CRACKING.

REINFORCEMENT NOTES

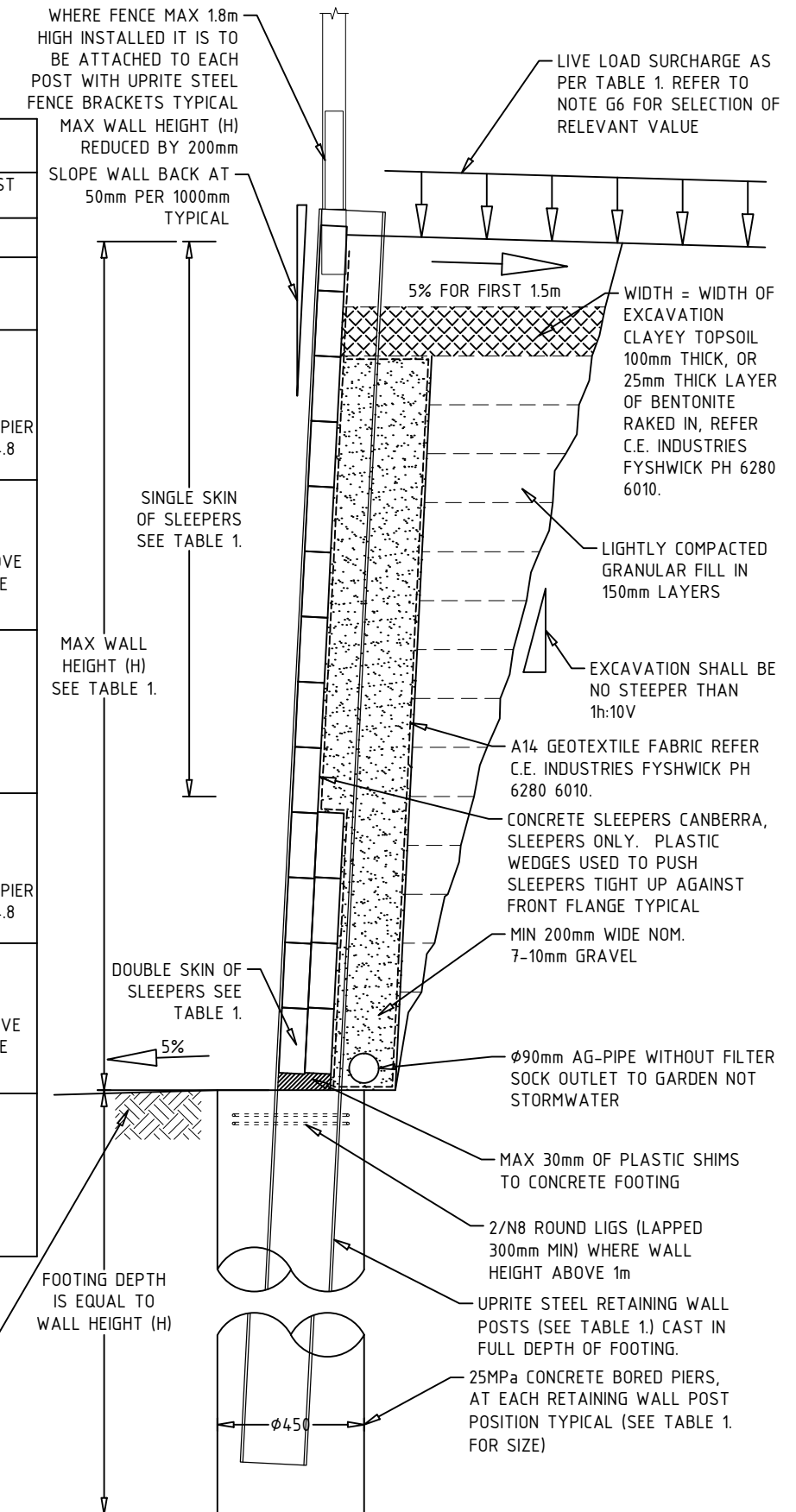
- R1 REINFORCEMENT SHALL BE SUPPLIED, FABRICATED AND PLACED TO AS3600 AND IS GENERALLY DESIGNATED TO AS1100 PART 501.
- R2 REINFORCEMENT SHALL BE GRADE 500N TO AS1302.
- R3 REINFORCING LAPS SHALL BE 40 BAR DIAMETERS, OR 500mm FOR TRENCH MESH, AND FOR SLAB MESH SHALL BE TWO CROSS BARS PLUS 25mm.
- R4 CLEAR COVER TO REINFORCEMENT FOR CONCRETE SLEEPERS SHALL BE MIN 20mm AND VIBRATED CASTING BED IS CONSIDERED TO BE INTENSE COMPACTION TO AS3600.
- R5 TOLERANCE ON CENTRAL REINFORCEMENT PLACEMENT ± 10 mm.
- R6 CLEAR COVER TO FOOTING REINFORCEMENT SHALL BE MIN 40mm GENERALLY.

STEELWORK NOTES

- S1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100 AND AS1554.
- S2 ALL STEEL SHALL BE IN ACCORDANCE WITH AS3679 FOR HOT ROLLED STRUCTURAL SECTIONS GRADE 300 WITH MINIMUM YIELD STRENGTH $f_y = 320$ MPa AND SUPPLIED BY UPRITE STEEL.
- S3 SECTIONS ARE DESIGNATED AS FOLLOWS: UB - UNIVERSAL BEAM & UC - UNIVERSAL COLUMN
- S4 CORROSION PROTECTION FOR STEELWORK SHALL BE HOT DIP GALVANIZED TO AS2312.

TABLE 1.

SURCHARGE SEE NOTE G6	MAXIMUM WALL HEIGHTS					
	MAX 1.9m POST SPACING'S		MAX 2.1m POST SPACING'S	MAX 2.4m POST SPACING'S	MAX 2.5m POST SPACING'S	
	SLEEPER TYPE					
ROCK FACE	WOODGRAIN, PIER 26, SAWMILL, SHATTER & STACKSTONE	SMOOTH (3N12)	SPLIT STONE	SMOOTH (3N12)	SHATTER	
5kPa	HEIGHT: UP TO 800mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 800mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 800mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 600mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 600mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 400mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8
	HEIGHT: 801mm AND ABOVE IS NOT SUITABLE	HEIGHT: 801mm TO 1200mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 801mm TO 1400mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 601mm TO 1000mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 601mm TO 1200mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 401mm AND ABOVE IS NOT SUITABLE
		HEIGHT: 1201mm TO 1600mm FOOTING: Ø450mm BORED PIER POST: 200 UB 25 DOUBLE UP PLANKS WHERE (H) >1200mm	HEIGHT: 1401mm TO 2200mm FOOTING: Ø450mm BORED PIER POST: 200 UB 25 DOUBLE UP PLANKS WHERE (H) >1400mm	HEIGHT: 1001mm AND ABOVE IS NOT SUITABLE	HEIGHT: 1201mm AND ABOVE IS NOT SUITABLE	
0kPa	HEIGHT: UP TO 1000mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 1000mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 1000mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 800mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 800mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8	HEIGHT: UP TO 600mm FOOTING: Ø300mm BORED PIER POST: 100 UC 14.8
	HEIGHT: 1001mm AND ABOVE IS NOT SUITABLE	HEIGHT: 1001mm TO 1400mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 1001mm TO 1800mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 801mm TO 1200mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 801mm TO 1400mm FOOTING: Ø450mm BORED PIER POST: 100 UC 14.8	HEIGHT: 601mm AND ABOVE IS NOT SUITABLE
		HEIGHT: 1401mm TO 1800mm FOOTING: Ø450mm BORED PIER POST: 200 UB 25 DOUBLE UP PLANKS WHERE (H) >1400mm	HEIGHT: 1801mm TO 2600mm FOOTING: Ø450mm BORED PIER POST: 200 UB 25 DOUBLE UP PLANKS WHERE (H) >1800mm	HEIGHT: 1201mm AND ABOVE IS NOT SUITABLE	HEIGHT: 1401mm AND ABOVE IS NOT SUITABLE	



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