

**GENERAL NOTES:**

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS. ALL DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED. ONLY FIGURED DIMENSIONS ARE TO BE USED. THESE DRAWINGS SHALL NOT BE SCALED.
- G3. ALL DIMENSIONS AND LEVELS ARE TO BE VERIFIED BEFORE SETTING-OUT, CONSTRUCTION OR FABRICATION IS COMMENCED.
- G4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE AND OTHER ADJACENT STRUCTURES.
- G5. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE RELEVANT CURRENT AUSTRALIAN STANDARDS.
- G6. CONFIRM WITH ALL OTHER RELEVANT STAKEHOLDERS THE LOCATION OF THE PROPOSED RETAINING WALLS RELATIVE TO PROPERTY BOUNDARIES.
- G7. THE CONTRACTOR IS TO ENSURE ALL NECESSARY BOUNDARY ENCROACHMENT PERMISSIONS ARE IN PLACE PRIOR TO COMMENCEMENT OF WORKS.
- G8. FOOTINGS SHALL BE FOUNDED IN LEVEL 1 COMPACTED FILL OR NATURAL MATERIAL

**CONCRETE PIER NOTES:**

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 & AS1379.
- C2. UNLESS NOTED OTHERWISE ON THE PLANS, CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS:

ELEMENT	GRADE	SLUMP	MAX. NOMINAL AGGREGATE
PIERS	N20	80	20

CONCRETE GRADE TYPES: N NORMAL CLASS(MPA)  
S SPECIAL CLASS(MPA)

- C3. FOOTING EXCAVATION SHALL BE FREE OF WATER AND LOOSE SOIL BEFORE PLACEMENT OF CONCRETE BEGINS.
- C4. SHAPE TOP OF PIERS SUCH THAT ALL CONCRETE FALLS AWAY FROM POST WITH A MINIMUM FALL OF 1 IN 50.
- C5. PIER REINFORCEMENT TYPE:  
\* N - DENOTES DEFORMED BARS GRADE 500 TO AS/NZS 4671 NORMAL DUCTILITY CLASS
- C6. WELDING OF REINFORCEMENT TO POST SHALL BE IN ACCORDANCE WITH AS/NZS 1554.3:2014. EXAMINATION OF WELDS SHALL BE 100% VISUAL.
- C7. FOR PIERS IN THE PROXIMITY OF SEWER/STORMWATER LINES:  
\* OBTAIN COUNCIL APPROVAL BEFORE DRILLING  
\* CONFIRM SEWER/STORMWATER LINE LOCATION ACCURATELY BEFORE DRILLING.

**STEEL NOTES:**

- S1. ALL MATERIALS & WORKMANSHIP SHALL COMPLY TO AS4100-1998
- S2. HOT ROLLED POSTS SHALL BE GRADE 300 TO AS/NZS 7679.1 & HOT DIP GALVANISED TO AS/NZS 4680.
- S3. WELDS SHALL BE CATEGORY SP USING E41XX/W40X ELECTRODES COMPLYING WITH AS4855.

**RETAINING WALL NOTES:**

- R1. GLOBAL STABILITY HAS NOT BEEN CONSIDERED IN THIS DESIGN. THE DESIGN IS BASED UPON THE ASSUMPTION THAT THE WALL IS FOUNDED ON GROUND NOT SUBJECT TO SLIP. THE DETERMINATION OF THE SITE SUSCEPTIBILITY TO SLIP IS THE RESPONSIBILITY OF THE PROJECT ENGINEER AND THE GEOTECHNICAL CONSULTANT.
- R2. THIS DESIGN HAS NOT CONSIDERED POSSIBLE ADDITIONAL IMPOSED LOADS FROM ADJACENT STRUCTURES, i.e.- HOUSES, DRIVEWAYS, SHEDS, TANKS, RETAINING WALLS, POOLS, ETC. FOOTINGS FOR THESE STRUCTURES ARE TO BE DESIGNED AND CONSTRUCTED SUCH THAT THEY DO NOT IMPOSE ADDITIONAL LOAD UPON ANY PART OF THE RETAINING WALL STRUCTURE.
- R3. LIVE LOAD ADOPTED IN THE ZONE OF INFLUENCE IS 5 kPa UNLESS NOTED OTHERWISE.
- R4. DESIGNED LOADS ARE BASED ON THE ACCEPTANCE THAT WATER PRESSURE WOULD NOT BE ALLOWED TO BUILD-UP BEHIND THE WALL. LARGE VOLUMES OF WATER MUST NOT BE CONCENTRATED TO FLOW TO ANY AREA BEHIND THE WALL. OVERLAND FLOW SHALL NOT BE DISCHARGED OVER THE RETAINING WALL, UNLESS IT IS CONTAINED IN A DROP STRUCTURE.
- R5. THE WALL IS DESIGNED FOR A MAXIMUM BACK SLOPE ABOVE THE WALL OF 1 IN 10.
- R6. THE WALL IS DESIGNED FOR A MAXIMUM FRONT SLOPE ABOVE THE WALL OF 1 IN 75.
- R6. CONSTRUCTION TRAFFIC SHALL BE KEPT A DISTANCE EQUIVALENT TO THE WALL HEIGHT AWAY FROM THE BACK OF THE WALL.
- R7. ALL SLEEPERS SHALL BE PROPRIETARY CONCRETE SLEEPERS SUPPLIED BY Q-PRO OR REAL-CRETE:  
\* N40 CONCRETE  
\* 75mmx200mmxL  
\* CONFIRM MANUFACTURED LENGTHS BEFORE SETTING OUT POSTS. PROVIDE A MAXIMUM 5mm CLEARANCE BETWEEN END OF
- R8.
- R9. WATERING OF GARDEN BEDS AT THE TOP OF WALL SHALL BE KEPT TO A MINIMUM.
- R10. THE WALL SHALL HAVE A BACK LEAN OF APPROXIMATELY 1 IN 20.
- R11. BACKFILLING SHALL NOT TAKE PLACE UNTIL THE CONCRETE HAS CURED FOR AT LEAST 3 DAYS.
- R12. SEEK ENGINEERING ADVICE IF EXCAVATION NEEDED IN FRONT OF THE WALL.
- R13. THE WALL IS NOT SUITABLE FOR AREA SUBJECT TO FLOODING.
- R14. GEOTECHNICAL CONDITIONS MUST BE CONFIRMED UPON SITE INSPECTION BY A COMPETENT ENGINEER.

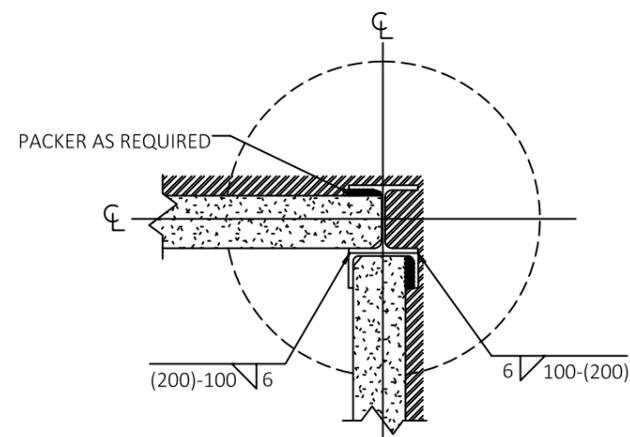


**SPECIFICATIONS PROVIDED FOR BUILDING DESIGNERS, BUILDER CERTIFIERS, OWNERS & BUILDERS**

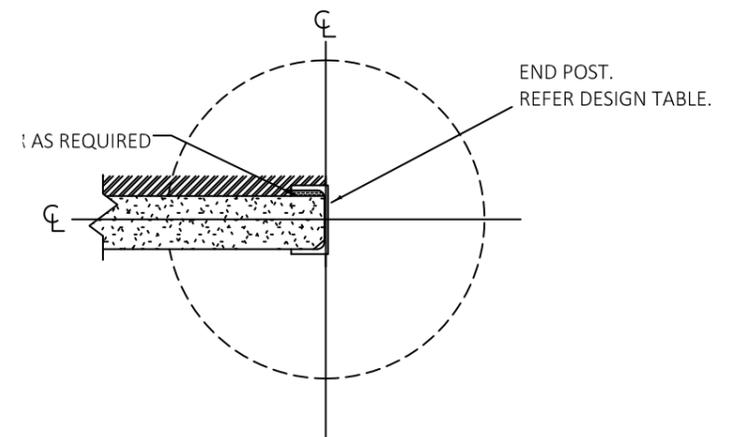
- S1. IF PERMANENT STRUCTURES (HOUSES, TANKS, SHEDS ETC.) ARE REQUIRED WITHIN THE ZONE OF INFLUENCE BEHIND THE RETAINING WALL, THE STRUCTURE IS TO BE DESIGNED SUCH THAT IT IMPOSES NO ADDITIONAL LOAD ON THE RETAINING WALL.
- S2. NO EXCAVATIONS, ALTERATIONS OR MODIFICATIONS ARE ALLOWED WITHIN THE ZONES OF INFLUENCE BEHIND OR IN FRONT UNLESS THE DESIGN ENGINEER IS CONSULTED. IF MODIFICATION IS PERMITTED ANY GROUND EXCAVATIONS OR PENETRATIONS MUST ENSURE SURFACE WATER RUN-OFF IS DIRECTED AWAY FROM THE WALL.
- S3. TEMPORARY CONSTRUCTION LOADING SHALL NOT EXCEED 5kPa DURING CONSTRUCTION (IE. NO MACHINERY OR HEAVY COMPACTION EQUIPMENT).
- S4. NO SURFACE COATINGS, DECORATIVE FINISHES OR CLEANING AGENTS SHALL BE APPLIED TO THE RETAINING WALL WHICH WILL HAVE A CORROSIVE OR DEGRADING AFFECT ON THE DURABILITY. GENERAL CLEANING SHALL BE PERFORMED USING A HIGH PRESSURE WATER WASHER ONLY.
- S5. ANY DAMAGE TO THE RETAINING WALL STRUCTURE SHALL BE RECTIFIED IMMEDIATELY AS APPROVED BY THE DESIGN ENGINEER. DAMAGED CONCRETE SLEEPERS OR EXPOSED REINFORCING STEEL SHALL BE REPAIR WITH "MEGAPOXY P1". HOT DIP GALVANIZED POST SHOWING SIGNS OF SURFACE RUST SHALL BE SCRUBBED WITH A WIRE BRUSH AND "COLD GALVANIZING ZINC RICH PAINT SHALL BE APPLIED"
- S6. NO LANDSCAPED GARDENS ARE PERMITTED TO THE ZONE OF INFLUENCE FRONT OF WALL THAT REDUCE THE PASSIVE RESISTANCE OF THE FOOTINGS. ENSURE ALL SUBSOIL DRAINAGE OUTLETS REMAIN "FREE DRAINING".
- S7. THE RETAINING WALL POST HAVE BEEN DESIGNED TO ACCOMMODATE A 1.8m HIGH "RESIDENTIAL STYLE" TIMBER OR COLORBOND FENCE. NO HEAVY DUTY OR ACOUSTIC FENCES ARE PERMITTED UNLESS IT IS EXPRESSLY STATED IN THE FORM 15 CERTIFICATE DOCUMENTATION PROVIDED FOR THE RETAINING WALL. FENCE POST SHALL NOT BE ATTACHED TO CONCRETE SLEEPERS. FENCE POST BEHIND THE WALL SHALL ENSURE THE INTEGRITY OF THE DRAINAGE SYSTEMS IS MAINTAINED.
- S8. NO OTHER STRUCTURES MAY BE ATTACHED TO THE RETAINING WALL OTHER THAN A FENCE (IF FENCE BRACKET IS INSTALLED).
- S9. SOME HORIZONTAL MOVEMENTS MAY BE EXPECTED AFTER CONSTRUCTION & DURING SURCHARGE LOADING. RETAINING EARTH MATERIAL MAY SETTLE OVER TIME. ON EXPANSIVE SOIL STES THE WALL MAY ALSO MOVE DUE TO SEASONAL VARIATIONS IN SOIL MOISTURE CONTENTS.
- S10. RETAINING WALLS ARE BACKFILLED BEHIND WITH FREE DRAINING GRANULAR MATERIAL ENCOMPASSING A CONTINUOUS 100mm SLOTTED AGG PIPE TO THE BASE OF THE WALL (WITH OUTLETS AT MAXIMUM 30m CENTRES).
- S11. STORMWATER/SURFACE WATER IS NOT TO BED DIRECTED, CONCENTRATED OR DISCHARGED BEHIND THE WALL OR OVER THE TOP OF THE WALL
- S12. IT IS THE RESPONSIBILITY OF THE OWNER/BUILDER/DESIGNED TO ENSURE THE SUBSOIL DRAIN IS CONNECTED TO THE STORM WATER SYSTEMS AT MAXIMUM OF 30m CENTRES BETWEEN DISCHARGE POINTS.
- S13. IT IS THE RESPONSIBILITY OF THE OWNER/BUILDER/DESIGNED TO ENSURE APPROPRIATE LANDSCAPING ADJACENT TO STEEL PILES AT THE TOP OF THE WALL.

**DESIGN CRITERIA**

DESIGN LIFE	60 YEARS
DESIGN STANDARDS	AS1170.2-2011
	AS3600-2009
	AS4100-1998
	AS4678-2002



TYP. CORNER POST DETAIL  
SCALE 1:10



TYP. END POST DETAIL  
SCALE 1:10

**FOR CONSTRUCTION**

REVISION	DATE	APPROVED	DESCRIPTION	RPEQ NO.
03	06/06/17	EGF	FOR CONSTRUCTION	
02	08/05/17	EGF	FOR CONSTRUCTION	
01	07/12/16	EGF	FOR CONSTRUCTION	



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CLIENT	-
PROJECT	SPRINGFIELD LAKES
TITLE	GENERAL NOTES - CONCRETE SLEEPER RETAINING WALL

DRAWING NUMBER	WRB-STD-01
REVISION	03