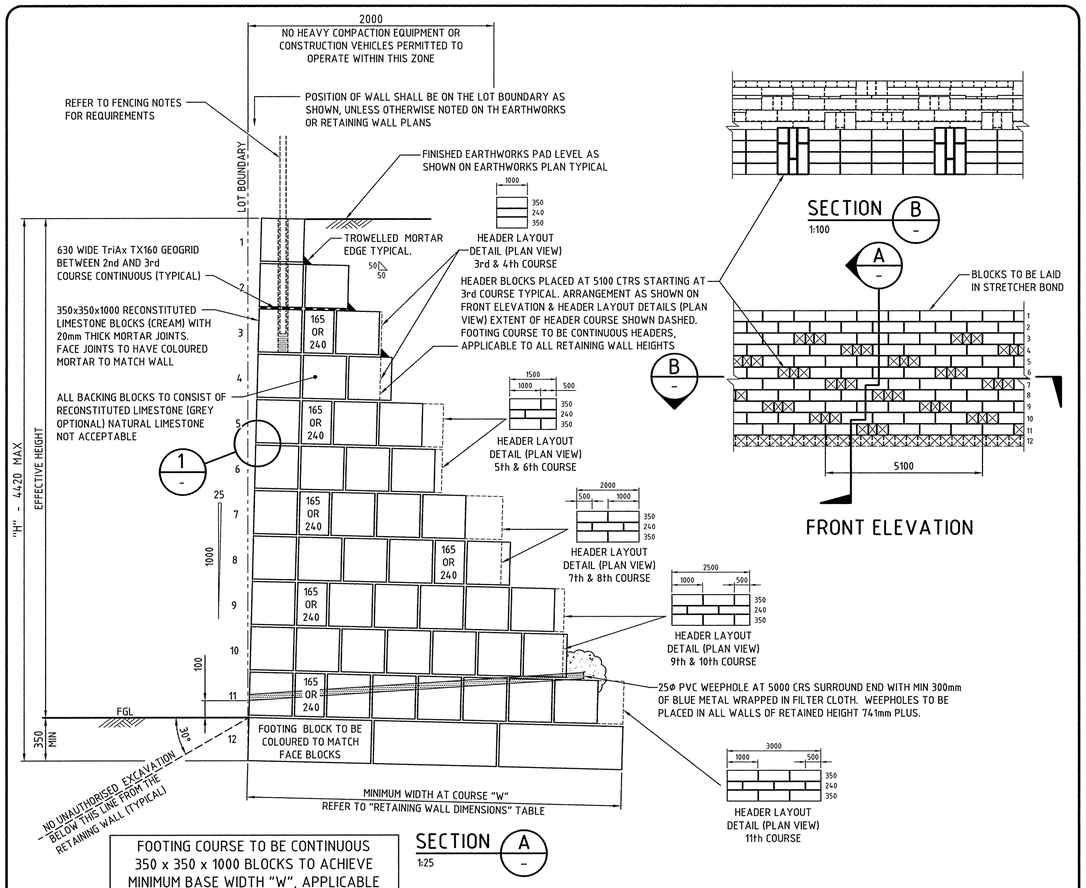
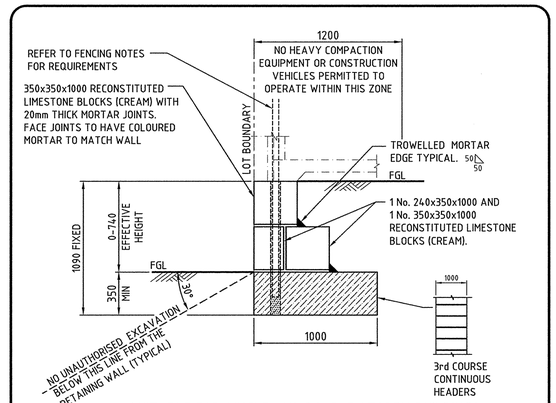
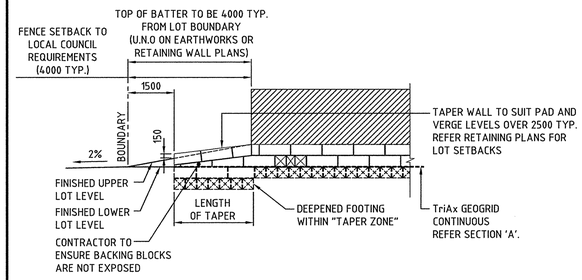


RETAINED HEIGHT 741mm TO 4050mm HIGH
1:25

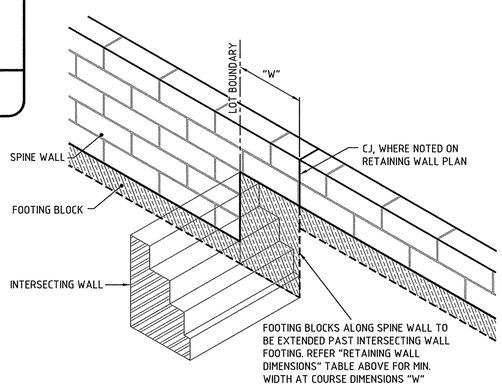


SUITABLE FOR SINGLE AND DOUBLE STOREY BUILDINGS ON ZERO LOT LINE AND BOUNDARY FENCES

RETAINED HEIGHT 0mm TO 740mm HIGH
1:25



TYPICAL SIDE BOUNDARY WALL TAPER DETAIL
SCALE 1:100
NOTE: TO BE USED U.N.O ON EARTHWORKS OR RETAINING WALL PLAN



TYPICAL SPINE WALL FOOTING STEP DETAIL
1:25
NOTE: FOR 1 COURSE (EFFECTIVE HEIGHT) INTERSECTING WALLS, CONTRACTOR TO PREPARE PROCEDURE FOR SAFE EXCAVATION FOR FOOTING BLOCKS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. ALL BLOCKS MUST BE RECONSTITUTED LIMESTONE HAVING A DRY DENSITY OF AT LEAST 1800 kg/m AND A CRUSHING STRENGTH OF AT LEAST 5.0MPa.
2. MORTAR TO BE 1 : 1 : 6 (CEMENT : LIME : SAND). ALL JOINTS TO BE FULLY MORTARED
3. ALL TOPSOIL, VEGETATION AND DELETERIOUS MATTER SHALL BE REMOVED FROM THE FOUNDATION AREA.
4. ALL BACKFILLING SHALL BE CARRIED OUT USING MATERIAL WHICH SHALL GENERALLY BE SANDY IN NATURE AND FREE FROM LARGE PIECES OF ROCK TO THE EXTENT THAT THE MATERIAL CAN BE COMPACTED USING A VIBRATING PLATE COMPACTOR TO MEET THE REQUIREMENTS OF THE SPECIFICATION.
5. IN ALL CASES THE BACKFILL MATERIAL SHALL BE SELECTED SUCH THAT, ONCE COMPACTED, THE STANDARD OF COMPACTION CAN BE MEASURED USING A STANDARD PERTH PENETROMETER.
6. COMPACTION OF THE BACKFILL MATERIAL TO THE FRONT AND BACK OF THE WALL SHALL BE IN ACCORDANCE WITH THE BACKFILL COMPACTION TABLE SHOWN ON THIS DRAWING. INSITU OR PLACED MATERIAL BENEATH WALL TO BE COMPACTED TO 95% MODIFIED MAX DRY DENSITY.
7. PRIOR TO PRACTICAL COMPLETION THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION FROM A PRACTICING STRUCTURAL ENGINEER THAT THE WALL CONSTRUCTION HAS BEEN CARRIED OUT IN ACCORDANCE WITH THIS DRAWING, THE SPECIFICATION AND ANY REQUIREMENTS SHOWN ON THE BUILDING LICENCE.
8. CONTROL JOINTS (CJ) SHALL BE CONSTRUCTED WITHIN THE RETAINING WALL WHERE NOTED BELOW (REFER RETAINING WALL PLAN FOR LOCATIONS):
   a. WHERE THE ANGLE BETWEEN FACES OF TWO WALLS IS 90°. CJ IS TO BE LOCATED ON ONE SIDE OF THE CHANGE IN DIRECTION, AT A DISTANCE AWAY FROM THE DIRECTION CHANGE EQUAL TO THE BASE WIDTH OF THE WALL "W".
   b. WHERE THE STRAIGHT LENGTH OF ANY GIVEN WALL EXCEEDS 40m IN WHICH CASE THE WALL SHALL HAVE CONTROL JOINTS SPACED AT DISTANCES NO GREATER THAN 40m. WHERE POSSIBLE THESE SHALL BE PLACED AT ALLOTMENT BOUNDARIES COINCIDING WITH THE LOWER PROPERTY.
   c. AT CORNER TRUNCATIONS, WHERE BLOCKS ARE NOT CROSS-BONDED
   d. AT SPINE WALL STEPS
9. CONTROL JOINTS SHALL BE 15mm WIDE AND FILLED WITH A ø25 FOAM BACKING ROD (TOP, FRONT & BACK) COVERED WITH A 25mm DEEP MASTIC OF COLOUR TO MATCH WALL MORTAR (FRONT AND TOP ONLY). JOINTS ARE TO EXTEND THROUGH WALL AND ANY MASONRY FENCES. A 1000mm WIDE STRIP OF BIDUM A14 CLOTH IS TO BE DRAPED OVER THE REAR OF THE JOINT.
10. CONTRACTOR TO INSTALL A SAFETY FENCE TO ALL RETAINING WALLS HIGHER THAN 1.0m. REFER DETAIL BELOW AND SPECIFICATION FOR OTHER DETAILS.
11. CONTRACTOR TO INSTALL TEMPORARY WARNING SIGNS TO SAFETY FENCE. REFER SPECIFICATION.
12. ALL WALLS ADJOINING ROAD RESERVES, PAW'S OR PUBLIC OPEN SPACE SHALL BE COATED WITH A NON-SACRIFICIAL, CLEAR, NON-YELLOWING ANTI-GRAFFITI APPLICATION UNLESS NOTED OTHERWISE ON THE EARTHWORKS LAYOUT DRAWING.
13. CONTRACTOR TO OBTAIN BUILDING LICENCE FROM LOCAL AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION OF WALLS AND COMPLY WITH ALL CONDITIONS. UPDATED LICENCE TO BE PROVIDED FOR REVISED DRAWINGS.
14. WHERE A 1/2 COURSE STEP IS SPECIFIED, CONTRACTOR TO USE A 165x350x1000 LONG BLOCK IN PLACE OF 350x350x1000 LONG BLOCK FOR TOP COURSE.

FENCING NOTES

1. THE FENCE POSTS ARE TO BE PLACED IN 80mm CORE HOLES AND DRILLED 250mm INTO THE THIRD COURSE. THE POSTS SHOULD BE AT 2.35m CENTRES (MAX.) WITH A MAXIMUM FENCE HEIGHT OF 1.8m ABOVE TOP OF WALL.
2. THE FENCE POSTS ARE TO BE PLACED CENTRAL TO THE TOP ROW OF BLOCKS IN PLAN. AN APPROVED NON SHRINK, FLOWABLE CONSTRUCTION GROUT SUCH AS CONBEXTRA GP FROM PARCHEM AND MASTERFLOW 500 FROM MBT, MUST BE USED TO ANCHOR THE FENCE POSTS INTO THE CORE HOLES.
3. WHERE METAL FENCING SURROUNDS TRANSFORMER OR SWITCHGEAR SITE, FENCING TO BE INSTALLED A MINIMUM OF 1.25m FROM THE SITE BOUNDARY

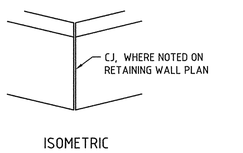
BACKFILL COMPACTION TABLE ✳

PENETROMETER DEPTH (mm)	MINIMUM ACCEPTABLE No OF BLOWS PER 300mm
150 TO 450	8
450 TO 750	10
750 TO 1050	11
1050 TO 1350	12
1350 TO 1650	13
1650 TO 1950	13
1950 TO 2250	14
2250 TO 2550	14
2550 TO 2850	15

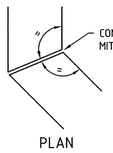
✳ AN ALTERNATIVE SITE SPECIFIC BACKFILL COMPACTION TABLE MAY BE ACCEPTABLE TO THE SUPERINTENDENT IF IT CAN BE DEMONSTRATED THAT COMPACTION EQUIVALENT TO 95% MODIFIED MAXIMUM DRY DENSITY IS ACHIEVED.

RETAINING WALL DIMENSIONS
FOR WALLS RETAINED EFFECTIVE HEIGHT 741mm TO 4050mm HIGH

COURSE No.	HEIGHT "H"	MIN. WIDTH AT COURSE "W"
1	350	350
2	720	720
3	1090	905
4	1460	1090
5	1830	1275
6	2200	1460
7	2570	1645
8	2940	2015
9	3310	2385
10	3680	2570
11	4050	2755
12	4420	3040

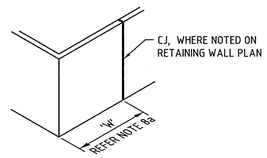


ISOMETRIC

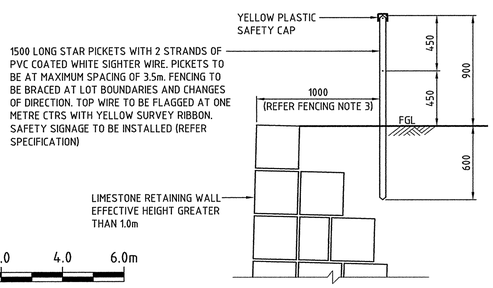


PLAN

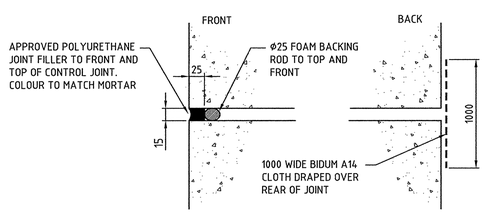
TYPICAL DETAIL OF CONTROL JOINT (CJ) AT A CORNER TRUNCATION
N.T.S.
REFER NOTE 8c.



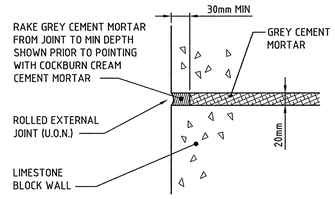
TYPICAL DETAIL OF CONTROL JOINT (CJ) AT A CHANGE OF DIRECTION
N.T.S.
REFER NOTE 8a.



SAFETY FENCE DETAIL
1:25

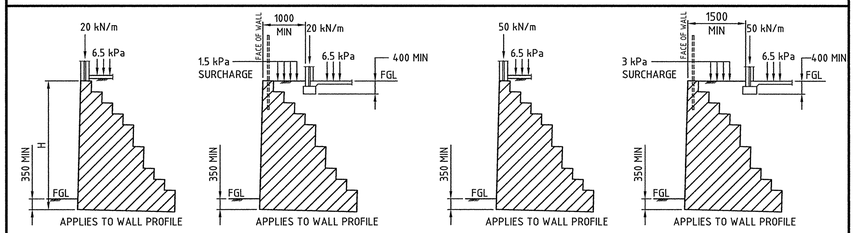


CONTROL JOINT DETAIL (CJ)
N.T.S.



DETAIL 1 N.T.S — BLOCK WALL JOINT DETAIL

RETAINING WALL DESIGN LOAD SUMMARY
N.T.S.



SINGLE STOREY LOADS
• ALL NOMINATED LOADS ARE DEAD AND LIVE WORKING LOAD

DOUBLE STOREY LOADS
• ALL NOMINATED LOADS ARE DEAD AND LIVE WORKING LOAD

1. INCLUDING THE ABOVE CASES, THE RETAINING WALLS HAVE BEEN DESIGNED FOR THE FOLLOWING:
   (a) 5 kPa SURCHARGE PLUS WIND LOAD ON FENCE (TC2, WIND REGION 'A')
   (b) 4 kPa CONSTRUCTION SURCHARGE WITH 10 kN POINT LOAD 1000 FROM WALL, NO WIND LOAD
   (c) 5 kPa SURCHARGE PLUS BALUSTRADE LOAD (OCCUPANCY TYPE C3)
2. FOR OTHER LOAD CASES, CERTIFICATION MUST BE OBTAINED FROM AN INDEPENDENT PRACTICING STRUCTURAL ENGINEER.
3. BLOCKS MAY NOT BE ADDED TO THE TOP OF RETAINING WALLS AND GROUND LEVELS MAY NOT BE ALTERED IN THE VICINITY OF THE WALLS FOLLOWING THEIR COMPLETION WITHOUT THE APPROVAL OF AN INDEPENDENT PRACTICING STRUCTURAL ENGINEER.
4. WALL PROFILES HAVE BEEN DESIGNED TO SUPPORT 1.8m HIGH POST AND RAIL SHEET FENCING INSTALLED STRICTLY IN ACCORDANCE WITH THE FENCING NOTES OUTLINED ON THIS DRAWING. OTHER FENCE TYPES, SUCH AS MASONRY FENCING, MAY NOT BE FIXED TO THE WALL UNLESS CERTIFICATION IS OBTAINED FROM AN INDEPENDENT PRACTICING STRUCTURAL ENGINEER.
5. SPECIAL PRECAUTIONS ARE REQUIRED IN THE SELECTION OF TREES AND SHRUBS WITHIN A DISTANCE EQUIVALENT TO THE HEIGHT OF THE RETAINING WALL TO AVOID DAMAGE FROM ROOTS IMPOSING ADDITIONAL LOADS ON THE RETAINING WALLS. SEEK PROFESSIONAL ADVICE IN THE SELECTION OF SUITABLE TREES, SHRUBS AND PROTECTION BARRIERS. ALL TREES MUST BE MAINTAINED TO AVOID IMPACT LOADS ON TO THE WALL OR FENCES.

.....FOR TERPKOS ENGINEERING PTY LTD
P. TERPKOS M.I.E. AUST. CP ENG

No.	DATE	DRAWN	CHECKED	AMENDMENT
3	19.04.12	JAE	KT	AMENDMENTS AS PER TERPKOS COMMENTS
2	03.07.07	JV	RP	MINOR AMENDMENTS AS CLOUDED
1	22.9.05	KAM	RP	LIMESTONE BLOCK DIMENSIONS REVISED
0	4/5/05	AAD	RT	ISSUED FOR CONSTRUCTION

This plan is not to be used for construction unless issued as rev 0 or higher and signed as "Approved"

CLIENT: STANDARD DRAWING

DESIGNED TERPKOS ENGINEERING PTY LTD | CHECKED AT
DRAWN AAD | CHECKED AT
APPROVED 20/4/12

Cossill & Webley CONSULTING ENGINEERS
Mailing Address: PO Box 680 Subiaco WA 6904
Street Address: B12 (Level 2) 431 Roberts Road Subiaco WA 6008
T (08) 9422 5800 F (08) 9422 5801 E admin@cosweb.com.au

PROJECT: STANDARD DRAWING
TITLE: RECONSTITUTED LIMESTONE RETAINING WALL DETAILS. CLASS 'A' - IN RESIDENTIAL AREAS
SCALE: AS SHOWN | DRAWING NUMBER: CW-STD-110 | ISSUE: 3