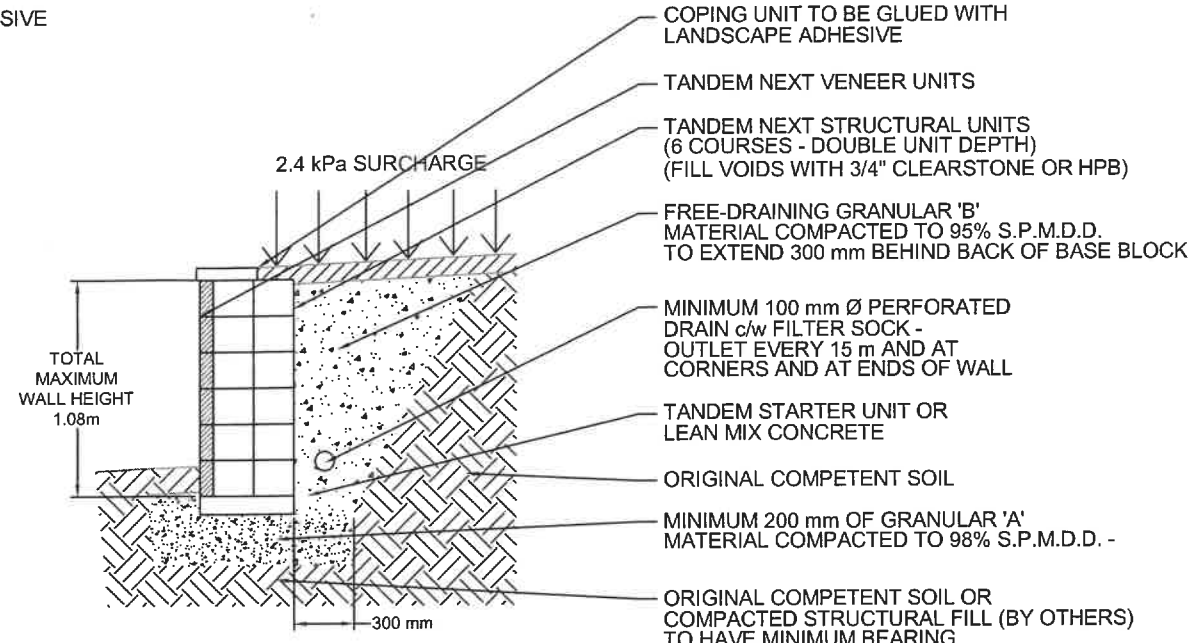
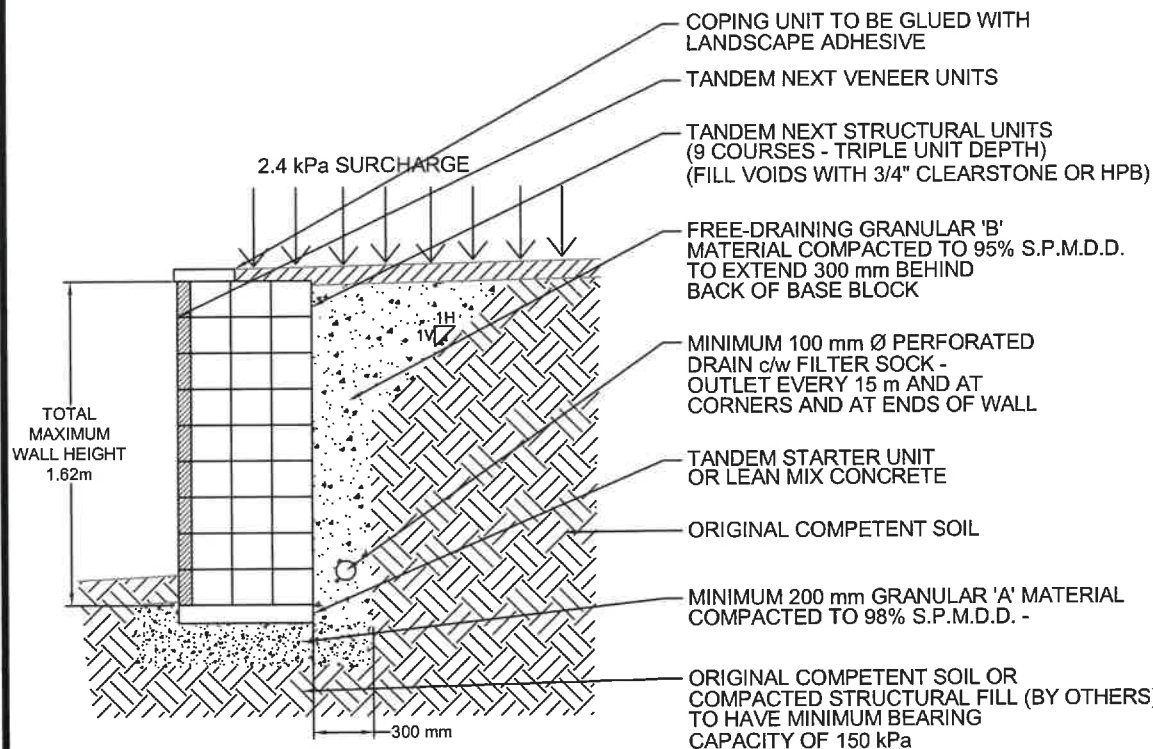


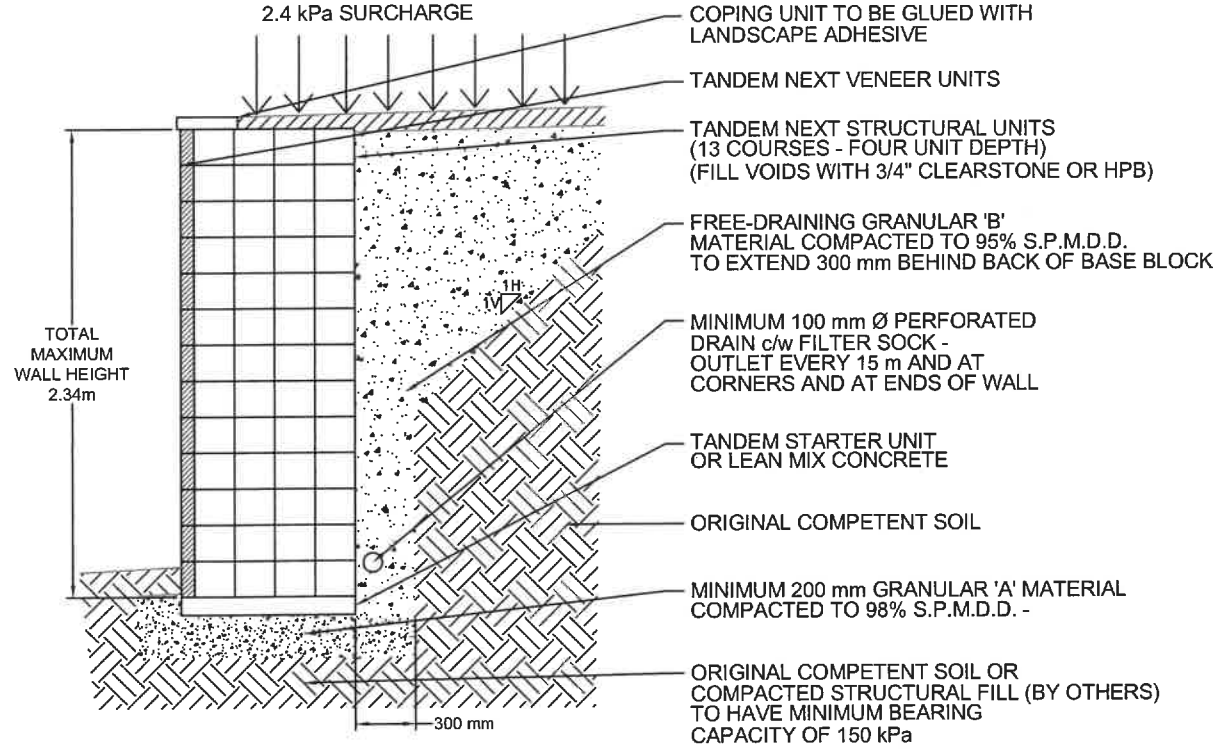
- COPING UNIT TO BE GLUED WITH LANDSCAPE ADHESIVE
- TANDEM NEXT VENEER UNITS
- TANDEM NEXT STRUCTURAL UNITS (3 COURSES - SINGLE UNIT DEPTH) (FILL VOIDS WITH 3/4" CLEARSTONE OR HPB)
- FREE-DRAINING GRANULAR 'B' MATERIAL COMPACTED TO 95% S.P.M.D.D. TO EXTEND 300 mm BEHIND BACK OF BASE BLOCK - MATERIAL
- ORIGINAL COMPETENT SOIL
- MINIMUM 100 mm Ø PERFORATED DRAIN c/w FILTER SOCK - OUTLET EVERY 15 m AND AT CORNERS AND AT ENDS OF WALL
- TANDEM NEXT STARTER UNIT
- MINIMUM 200 mm GRANULAR 'A' MATERIAL COMPACTED TO 98% S.P.M.D.D. -
- ORIGINAL COMPETENT SOIL OR COMPACTED STRUCTURAL FILL (BY OTHERS) TO HAVE MINIMUM BEARING CAPACITY OF 150 kPa



- COPING UNIT TO BE GLUED WITH LANDSCAPE ADHESIVE
- TANDEM NEXT VENEER UNITS
- TANDEM NEXT STRUCTURAL UNITS (6 COURSES - DOUBLE UNIT DEPTH) (FILL VOIDS WITH 3/4" CLEARSTONE OR HPB)
- FREE-DRAINING GRANULAR 'B' MATERIAL COMPACTED TO 95% S.P.M.D.D. TO EXTEND 300 mm BEHIND BACK OF BASE BLOCK
- MINIMUM 100 mm Ø PERFORATED DRAIN c/w FILTER SOCK - OUTLET EVERY 15 m AND AT CORNERS AND AT ENDS OF WALL
- TANDEM STARTER UNIT OR LEAN MIX CONCRETE
- ORIGINAL COMPETENT SOIL
- MINIMUM 200 mm OF GRANULAR 'A' MATERIAL COMPACTED TO 98% S.P.M.D.D. -
- ORIGINAL COMPETENT SOIL OR COMPACTED STRUCTURAL FILL (BY OTHERS) TO HAVE MINIMUM BEARING CAPACITY OF 150 kPa



- COPING UNIT TO BE GLUED WITH LANDSCAPE ADHESIVE
- TANDEM NEXT VENEER UNITS
- TANDEM NEXT STRUCTURAL UNITS (9 COURSES - TRIPLE UNIT DEPTH) (FILL VOIDS WITH 3/4" CLEARSTONE OR HPB)
- FREE-DRAINING GRANULAR 'B' MATERIAL COMPACTED TO 95% S.P.M.D.D. TO EXTEND 300 mm BEHIND BACK OF BASE BLOCK
- MINIMUM 100 mm Ø PERFORATED DRAIN c/w FILTER SOCK - OUTLET EVERY 15 m AND AT CORNERS AND AT ENDS OF WALL
- TANDEM STARTER UNIT OR LEAN MIX CONCRETE
- ORIGINAL COMPETENT SOIL
- MINIMUM 200 mm GRANULAR 'A' MATERIAL COMPACTED TO 98% S.P.M.D.D. -
- ORIGINAL COMPETENT SOIL OR COMPACTED STRUCTURAL FILL (BY OTHERS) TO HAVE MINIMUM BEARING CAPACITY OF 150 kPa



- COPING UNIT TO BE GLUED WITH LANDSCAPE ADHESIVE
- TANDEM NEXT VENEER UNITS
- TANDEM NEXT STRUCTURAL UNITS (13 COURSES - FOUR UNIT DEPTH) (FILL VOIDS WITH 3/4" CLEARSTONE OR HPB)
- FREE-DRAINING GRANULAR 'B' MATERIAL COMPACTED TO 95% S.P.M.D.D. TO EXTEND 300 mm BEHIND BACK OF BASE BLOCK
- MINIMUM 100 mm Ø PERFORATED DRAIN c/w FILTER SOCK - OUTLET EVERY 15 m AND AT CORNERS AND AT ENDS OF WALL
- TANDEM STARTER UNIT OR LEAN MIX CONCRETE
- ORIGINAL COMPETENT SOIL
- MINIMUM 200 mm GRANULAR 'A' MATERIAL COMPACTED TO 98% S.P.M.D.D. -
- ORIGINAL COMPETENT SOIL OR COMPACTED STRUCTURAL FILL (BY OTHERS) TO HAVE MINIMUM BEARING CAPACITY OF 150 kPa

- GENERAL NOTES:
- 1) EXCAVATE FOR FOOTING TO MINIMUM DEPTH OF 400 mm (16 in), OR UNTIL COMPETENT SOIL IS REACHED OR FILL WITH COMPACTED STRUCTURAL FILL (BY OTHERS). THE FOUNDING SOIL MUST BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO CONFIRM ADEQUATE BEARING CAPACITY AND SLOPE STABILITY. WHERE REQUIRED BY GEOTECHNICAL ENGINEER, PLACE ENGINEERED FILL COMPRISING OF APPROVED GRANULAR MATERIAL PLACED IN 250 mm (10") LIFTS AND COMPACTED TO 98% S.P.M.D.D. BACKFILLING AND COMPACTION TO BE CARRIED OUT UNDER GEOTECHNICAL SUPERVISION. PERMACON IS NOT RESPONSIBLE FOR RETAINING A GEOTECHNICAL ENGINEER TO OVERSEE CONSTRUCTION OF RETAINING WALL.
 2. EXCAVATION TO ALLOW FOR THE THICKNESS OF THE WALL PLUS A SUFFICIENT DISTANCE TO ALLOW FOR COMPACTED GRANULAR BACKFILL BEHIND THE WALL. EXCAVATE ON A SUITABLE BACK ANGLE DEEP ENOUGH TO REACH ORIGINAL COMPETENT SOIL.
 3. PLACE 200 mm OF GRANULAR 'A' MATERIAL WITHIN FOOTING EXCAVATION AND COMPACT TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
 4. LEVEL THE FIRST COURSE AND PLACE THE DESIRED FINISHED GRADE IN FRONT OF THE WALL. MINIMUM EMBEDMENT DEPTH TO BE 150mm. SLOPES AT TOE OF WALL MAY REQUIRE MORE UNITS TO BE BURIED (CONSULT QUALIFIED PROFESSIONAL ENGINEER FOR GUIDANCE).
 5. WALL APPEARANCE TO BE AS PER VENEER UNITS AND COLOR TO BE DETERMINED BY OWNER.
 6. BACKFILL THE WALL WITH FREE-DRAINING GRANULAR 'B' MATERIAL AS THE HEIGHT INCREASES, IDEALLY EVERY ONE OR TWO COURSES. AT NO TIME SHOULD THE HEIGHT EXCEED 2 COURSES WITHOUT BACKFILLING UNLESS OTHERWISE DIRECTED BY THE ENGINEER. BACKFILL MUST BE COMPACTED TO 95% S.P.M.D.D.
 7. FILL ALL VOIDS OF STRUCTURAL UNITS WITH 3/4" CLEARSTONE OR HPB
 8. ALL CONSTRUCTION OPERATIONS INCLUDING BLOCK PLACEMENT, BACKFILLING AND COMPACTION TO BE COMPLETED UNDER GEOTECHNICAL SUPERVISION.
 9. POOR SOIL CONDITIONS AND EXCESSIVE MOISTURE MAY REQUIRE ALTERNATE DRAINAGE REQUIREMENTS AND DESIGN MODIFICATIONS.
 10. TO ACHIEVE A 0° BATTER, DO NOT STEP BACK.
 11. THE TOP MUST BE LANDSCAPED TO PROMOTE SURFACE RUNOFF OVER THE TOP OF THE WALL. NO UNUSUAL SURCHARGE LOADING SHOULD BE ADJACENT TO THE TOP OF THE WALL.
 12. APPROPRIATE RESTRAINT MUST BE PROVIDED TO ENSURE PEDESTRIANS CANNOT ACCESS THE TOP OF THE WALL. OTHERWISE AN ENGINEERED HANDRAIL SYSTEM WILL BE REQUIRED ON THE TOP OF THE WALL. PROVISION OF A HANDRAIL ON TOP OF THE WALL MAY REQUIRE DESIGN MODIFICATIONS.
 13. ALL PRODUCT NAMES AND STYLIZED REPRESENTATIONS ARE TRADEMARKS OF PERMACON, OR APPROVED FOR USE BY PERMACON COMPANIES.
 14. ALL PRODUCTS ILLUSTRATED ARE SUBJECT TO PATENTS.
 15. THE APPLICABILITY OF THESE RETAINING WALL SECTIONS MUST BE REVIEWED ON A SITE SPECIFIC BASIS BY A QUALIFIED PROFESSIONAL ENGINEER.
 16. FOR OTHER WALL HEIGHTS, SOIL PARAMETERS AND SURCHARGE LOADING NOT REPRESENTED ON THIS DRAWING, PLEASE CONTACT PERMACON FOR SITE SPECIFIC DESIGN.
- SOIL PARAMETERS USED IN DESIGNS:
 REINFORCED SOIL: $\phi = 34$ DEGREES, $\gamma = 21$ kN/m³
 RETAINED SOIL: $\phi = 28$ DEGREES, $\gamma = 19$ kN/m³



REV.	DATE	DESCRIPTION	BY
0	6/6/19	ISSUED FOR USE	DAD

DRAWING: GRAVITY DESIGN
VERTICAL / 2.7° BATTER
TO 2.34 m

PROJECT: Permacon Products
TANDEM NEXT WALL
STANDARD ENGINEERING

PROJECT ENGINEER:



DESIGN ENGINEER:

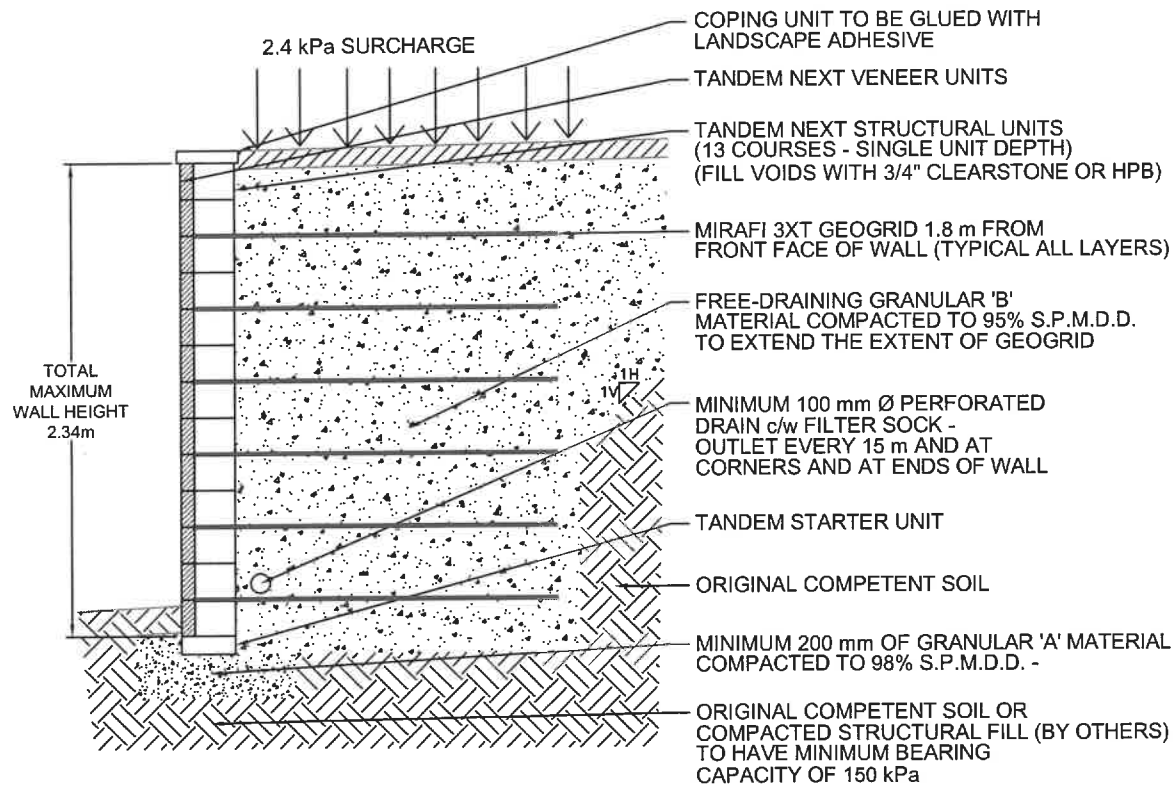
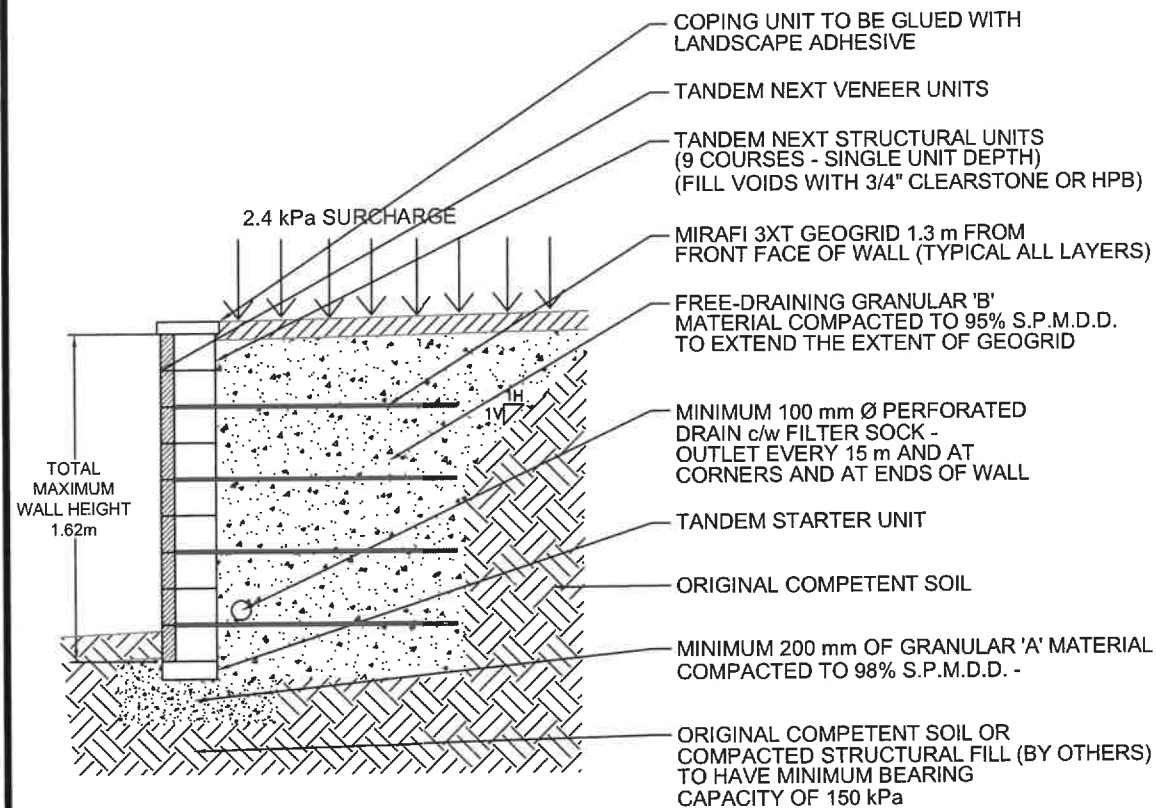
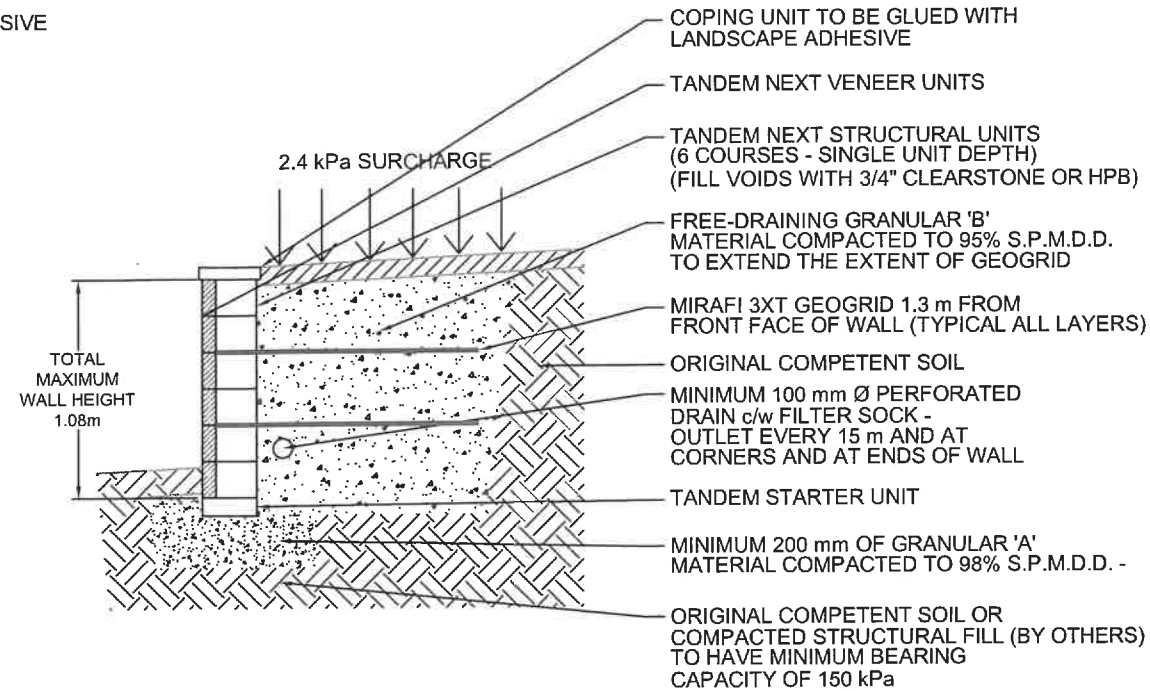
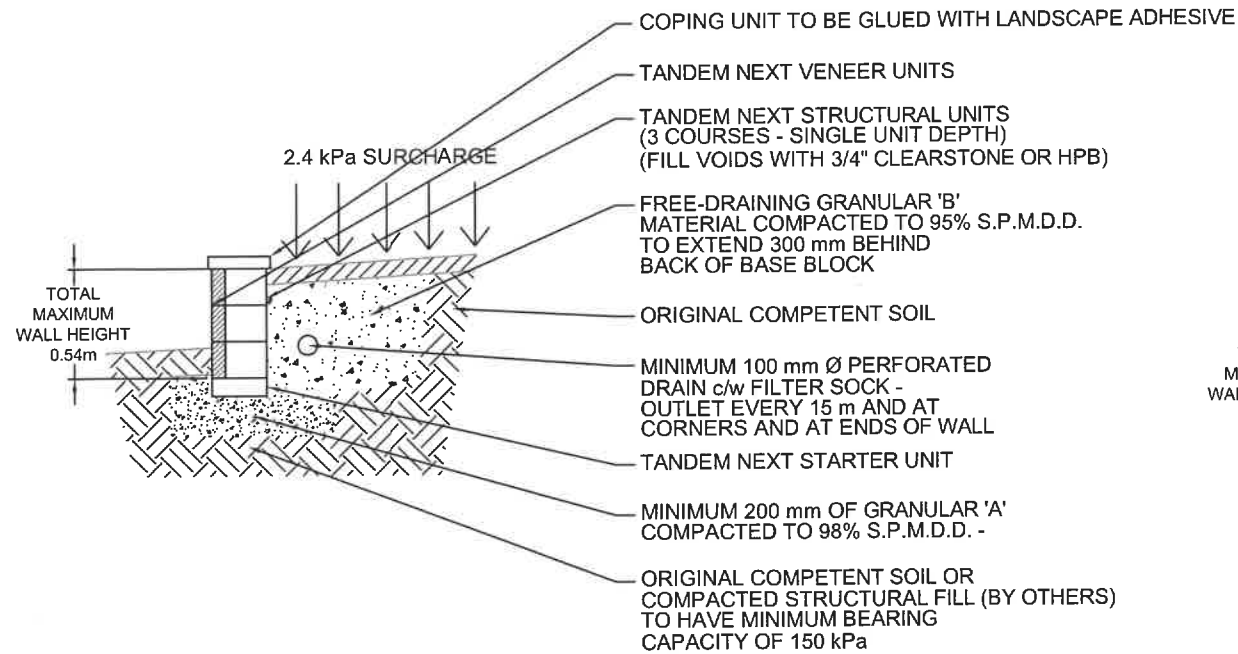
DRAWN BY: DAD CH'D BY:

DATE: June 6, 2019

SCALE: NOT TO SCALE

FILE NAME: Tandem Next-Standard Gravity.dwg

DRAWING No. TANDEM NEXT GRAVITY VERTICAL / 2.7°



GENERAL NOTES:

- EXCAVATE FOR FOOTING TO MINIMUM DEPTH OF 400 mm (16 in), OR UNTIL COMPETENT SOIL IS REACHED OR FILL WITH COMPACTED STRUCTURAL FILL (BY OTHERS). THE FOUNDING SOIL MUST BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO CONFIRM ADEQUATE BEARING CAPACITY AND SLOPE STABILITY. WHERE REQUIRED BY GEOTECHNICAL ENGINEER, PLACE ENGINEERED FILL COMPRISING OF APPROVED GRANULAR MATERIAL PLACED IN 250 mm (10") LIFTS AND COMPACTED TO 98% S.P.M.D.D. BACKFILLING AND COMPACTION TO BE CARRIED OUT UNDER GEOTECHNICAL SUPERVISION. PERMACON IS NOT RESPONSIBLE FOR RETAINING GEOTECHNICAL ENGINEER TO OVERSEE CONSTRUCTION OF RETAINING WALL.
- EXCAVATION TO ALLOW FOR THE THICKNESS OF THE WALL PLUS A SUFFICIENT DISTANCE TO ALLOW FOR COMPACTED GRANULAR BACKFILL BEHIND THE WALL. EXCAVATE ON A SUITABLE BACK ANGLE DEEP ENOUGH TO REACH ORIGINAL COMPETENT SOIL.
- PLACE 200 mm OF GRANULAR 'A' MATERIAL WITHIN FOOTING EXCAVATION AND COMPACT TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- LEVEL THE FIRST COURSE AND PLACE THE DESIRED FINISHED GRADE IN FRONT OF THE WALL. MINIMUM EMBEDMENT DEPTH TO BE 150mm. SLOPES AT TOE OF WALL MAY REQUIRE MORE UNITS TO BE BURIED (CONSULT QUALIFIED PROFESSIONAL ENGINEER FOR GUIDANCE).
- WALL APPEARANCE TO BE AS PER VENEER UNITS AND COLOR TO BE DETERMINED BY OWNER.
- BACKFILL THE WALL WITH FREE-DRAINING GRANULAR 'B' MATERIAL AS THE HEIGHT INCREASES, IDEALLY EVERY ONE OR TWO COURSES. AT NO TIME SHOULD THE HEIGHT EXCEED 2 COURSES WITHOUT BACKFILLING UNLESS OTHERWISE DIRECTED BY THE ENGINEER. BACKFILL MUST BE COMPACTED TO 95% S.P.M.D.D. NOTE: LEAVE ROOM TO INSERT CONNECTOR.
- FILL ALL VOIDS OF STRUCTURAL UNITS WITH 3/4" CLEARSTONE OR HPB.
- PLACE THE GEOGRID LAYERS AS THE BACKFILLING PROCEEDS, AT THE LOCATIONS SPECIFIED. COMPACT BACKFILL AS THE GEOGRID IS PLACED.
- THE GEOGRID SHOULD BE CUT TO EXTEND BETWEEN THE UNITS PLUS THE SPECIFIED DISTANCE BEHIND THE WALL AS SHOWN. NO SPLICES PARALLEL TO THE WALL FACE ARE ALLOWED WITHOUT THE PERMISSION FROM THE ENGINEER.
- ORIENTATION OF THE GEOGRIDS IS OF EXTREME IMPORTANCE. THE STRONGER STRAND OF THE GEOGRID SHOULD BE PERPENDICULAR TO THE WALL FACE. ENSURE THAT THE GEOGRID EXTENDS BETWEEN THE UNITS TO THE FRONT FACE OF THE WALL.
- AFTER BEING ROLLED OUT, THE GEOGRID SHOULD BE TENSIONED BY HAND UNTIL IT IS TIGHT, FREE OF WRINKLES, AND LYING FLAT. THE GEOGRID SHOULD BE HELD FLAT WHILE BACKFILLING. CARE SHOULD BE TAKEN TO AVOID DAMAGING THE GEOGRID DURING BACKFILLING.
- GEOGRID WHEN PULLED TIGHT MUST BE IN CONTACT WITH CONNECTOR. SEE GEOGRID PLACEMENT PROCEDURE. GEOGRID MUST BE PLACED EVERY 2 COURSES.
- ADJACENT GEOGRID WIDTHS SHALL BE BUTT TIGHT TOGETHER.
- ALL CONSTRUCTION OPERATIONS INCLUDING GEOGRID PLACEMENT, BACKFILLING AND COMPACTION TO BE COMPLETED UNDER GEOTECHNICAL SUPERVISION.
- POOR SOIL CONDITIONS AND EXCESSIVE MOISTURE MAY REQUIRE ALTERNATE DRAINAGE REQUIREMENTS AND DESIGN MODIFICATIONS.
- TO ACHIEVE A 0° BATTER, DO NOT STEP BACK.
- THE TOP MUST BE LANDSCAPED TO PROMOTE SURFACE RUNOFF OVER THE TOP OF THE WALL. NO UNUSUAL SURCHARGE LOADING SHOULD BE ADJACENT TO THE TOP OF THE WALL.
- APPROPRIATE RESTRAINT MUST BE PROVIDED TO ENSURE PEDESTRIANS CANNOT ACCESS THE TOP OF THE WALL. OTHERWISE AN ENGINEERED HANDRAIL SYSTEM WILL BE REQUIRED ON THE TOP OF THE WALL. PROVISION OF A HANDRAIL ON TOP OF THE WALL MAY REQUIRE DESIGN MODIFICATIONS.
- ALL PRODUCT NAMES AND STYLIZED REPRESENTATIONS ARE TRADEMARKS OF PERMACON, OR APPROVED FOR USE BY PERMACON COMPANIES.
- ALL PRODUCTS ILLUSTRATED ARE SUBJECT TO PATENTS.
- THE APPLICABILITY OF THESE RETAINING WALL SECTIONS MUST BE REVIEWED ON A SITE SPECIFIC BASIS BY A QUALIFIED PROFESSIONAL ENGINEER.
- FOR OTHER WALL HEIGHTS, SOIL PARAMETERS, AND SURCHARGE LOADING NOT REPRESENTED ON THIS DRAWING, PLEASE CONTACT PERMACON FOR SITE SPECIFIC DESIGN.

SOIL PARAMETERS USED IN DESIGNS:
 REINFORCED SOIL: $\phi = 34$ DEGREES, $\gamma = 21$ kN/m³
 RETAINED SOIL: $\phi = 28$ DEGREES, $\gamma = 19$ kN/m³

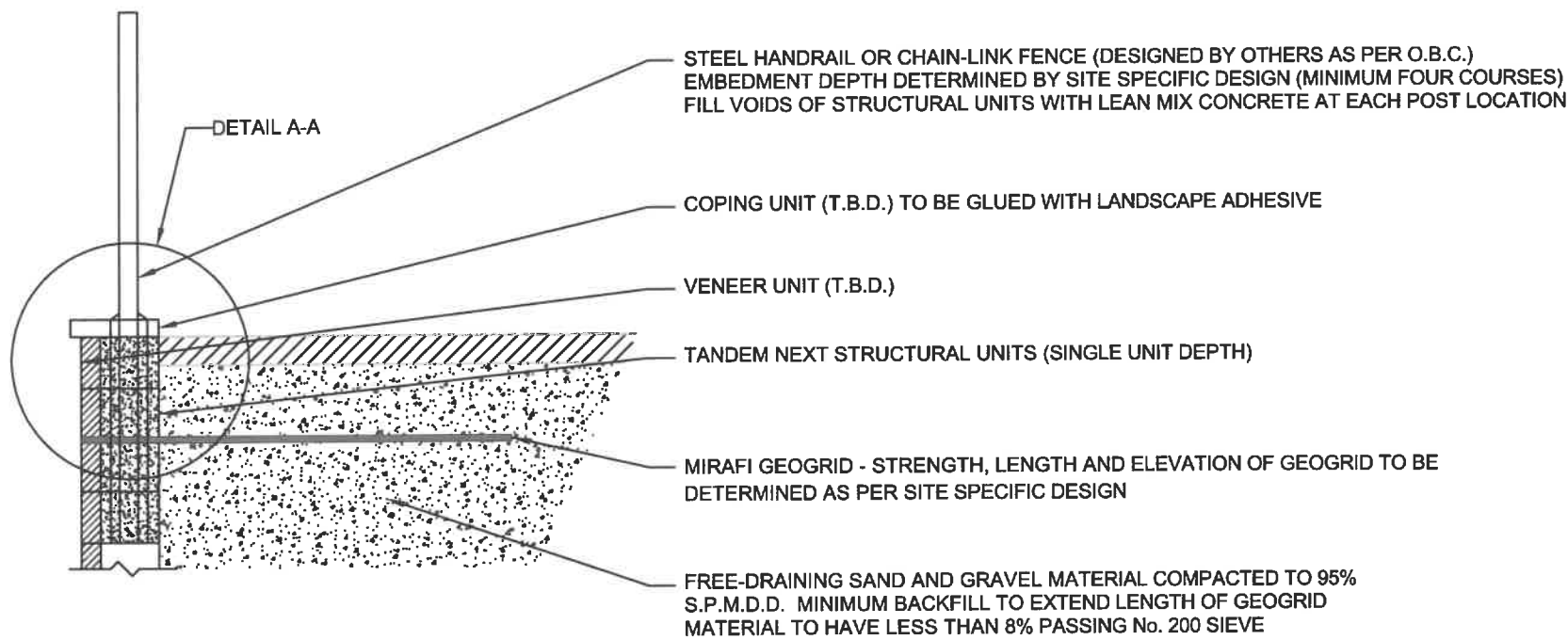


REV.	DATE	DESCRIPTION	BY
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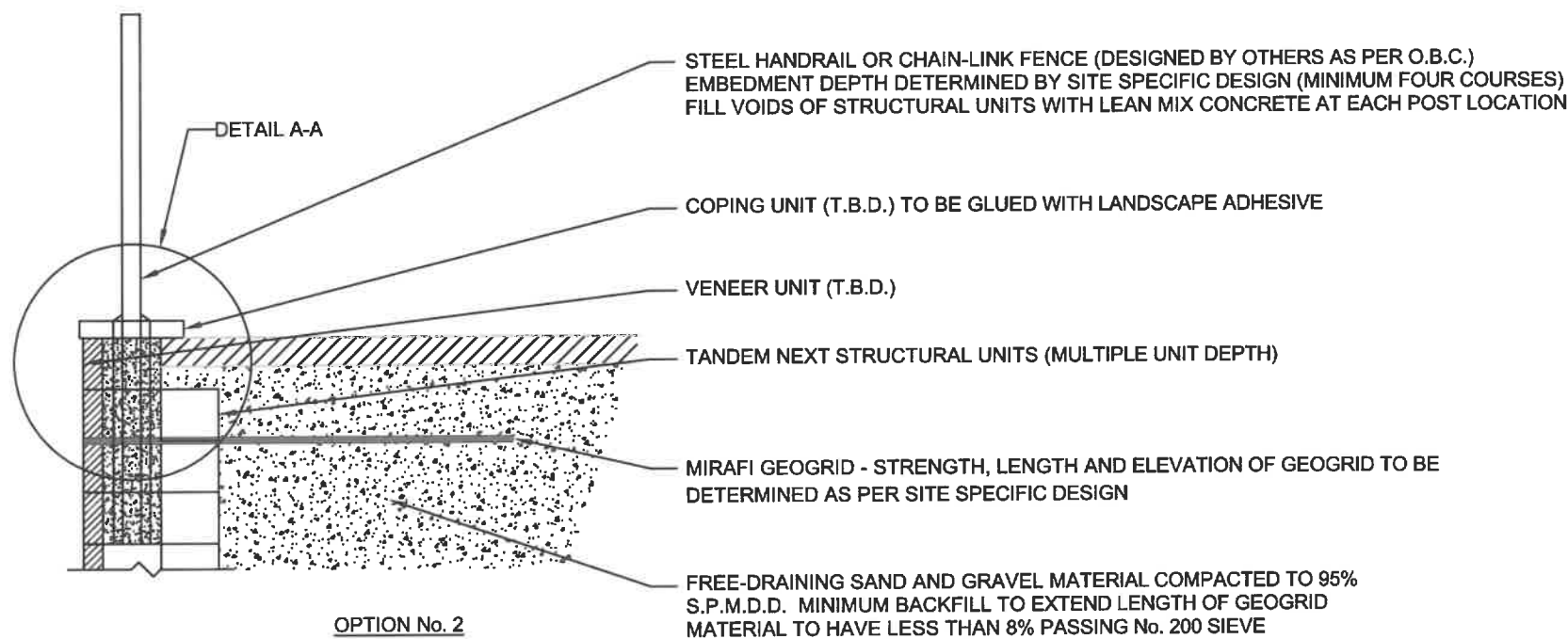
DRAWING:	GEOGRID DESIGN VERTICAL / 2.7° BATTER TO 2.34 m
PROJECT:	Permacon Products TANDEM NEXT WALL STANDARD ENGINEERING
PROJECT ENGINEER:	



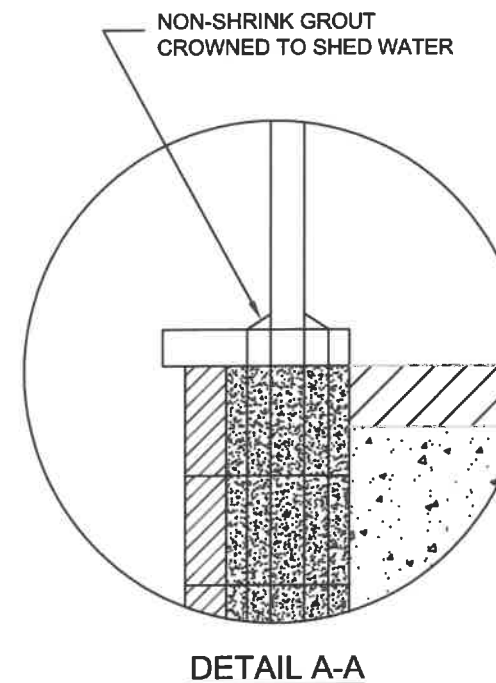
DESIGN ENGINEER:		PML Peto MacCallum Ltd. CONSULTING ENGINEERS	
DRAWN BY:	DAD	CH'D BY:	gh
DATE:	June 12, 2019		
SCALE:	NOT TO SCALE		
FILE NAME:	Tandem Next-Standard Geogrid.dwg		
DRAWING No.		TANDEM NEXT GEOGRID VERTICAL / 2.7°	



OPTION No. 1



OPTION No. 2



GENERAL NOTES:

1. HANDRAIL OR FENCE LOADING TO BE DESIGNED ACCORDING TO LOCAL BUILDING CODE REQUIREMENTS UNLESS OTHERWISE SPECIFIED.
2. HANDRAIL OR FENCE ATTACHMENTS TO BE DESIGNED ON A SITE SPECIFIC BASIS BY A PROFESSIONAL ENGINEER.
3. WALLS TO BE BUILT ACCORDING TO SITE SPECIFIC DETAILS AND NOTES PROVIDED ON SITE SPECIFIC DRAWINGS.
4. BACKFILL THE WALL WITH FREE-DRAINING SAND AND GRAVEL MATERIAL AS THE HEIGHT INCREASES, IDEALLY EVERY ONE OR TWO COURSES. AT NO TIME SHOULD THE HEIGHT EXCEED 2 COURSES WITHOUT BACKFILLING UNLESS OTHERWISE DIRECTED BY THE ENGINEER. BACKFILL MUST BE COMPACTED TO 95% S.P.M.D.D. BACKFILL MATERIAL TO HAVE LESS THAN 8% PASSING No. 200 SIEVE.
5. PLACE THE GEOGRID LAYERS AS THE BACKFILLING PROCEEDS, AT THE LOCATIONS SPECIFIED. COMPACT BACKFILL AS THE GEOGRID IS PLACED.
6. THE GEOGRID SHOULD BE CUT TO EXTEND BETWEEN THE UNITS PLUS THE SPECIFIED DISTANCE BEHIND THE WALL AS SHOWN. NO SPLICES PARALLEL TO THE WALL FACE ARE ALLOWED WITHOUT THE PERMISSION FROM THE ENGINEER.
7. ORIENTATION OF THE GEOGRIDS IS OF EXTREME IMPORTANCE. THE STRONGER STRAND OF THE GEOGRID SHOULD BE PERPENDICULAR TO THE WALL FACE. ENSURE THAT THE GEOGRID EXTENDS BETWEEN THE UNITS TO THE FRONT FACE OF THE WALL.
8. AFTER BEING ROLLED OUT, THE GEOGRID SHOULD BE TENSIONED BY HAND UNTIL IT IS TIGHT, FREE OF WRINKLES, AND LYING FLAT. THE GEOGRID SHOULD BE HELD FLAT WHILE BACKFILLING. CARE SHOULD BE TAKEN TO AVOID DAMAGING THE GEOGRID DURING BACKFILLING.
9. ADJACENT ROLL WIDTHS SHALL BE BUTT TIGHT TOGETHER.
10. ALL CONSTRUCTION OPERATIONS INCLUDING GEOGRID PLACEMENT, BACKFILLING AND COMPACTION TO BE COMPLETED UNDER GEOTECHNICAL SUPERVISION.
11. POOR SOIL CONDITIONS AND EXCESSIVE MOISTURE MAY REQUIRE ALTERNATE DRAINAGE REQUIREMENTS AND DESIGN MODIFICATIONS.
12. BATTER TO BE DETERMINED ON A SITE SPECIFIC BASIS.
13. THE TOP MUST BE LANDSCAPED TO PROMOTE SURFACE RUNOFF OVER THE TOP OF THE WALL. NO UNUSUAL SURCHARGE LOADING SHOULD BE ADJACENT TO THE TOP OF THE WALL.
14. IF THERE IS NOT SUFFICIENT ROOM BEHIND THE WALL FOR GEOGRID, THE WALL CAN BE DESIGNED FOR HANDRAIL USING LARGER BLOCK SIZES.
15. ALL PRODUCT NAMES AND STYLIZED REPRESENTATIONS ARE TRADEMARKS OF PERMACON PRODUCTS, OR APPROVED FOR USE BY PERMACON PRODUCTS' COMPANIES.
16. THE APPLICABILITY OF THIS RETAINING WALL DETAIL MUST BE REVIEWED ON A SITE SPECIFIC BASIS BY A QUALIFIED PROFESSIONAL ENGINEER.


REV.	DATE	DESCRIPTION	BY
0	3/18/20	ISSUED FOR USE	DAD

DRAWING:	TANDEM NEXT Wall PEDESTRIAN GUARD DETAIL
PROJECT:	Permacon Products TANDEM NEXT WALL STANDARD ENGINEERING
PROJECT ENGINEER:	

TANDEM NEXT[®] Wall



PERMACON
an Oldcastle[®] company

DESIGN ENGINEER:		 Peto MacCallum Ltd CONSULTING ENGINEERS DRAWING No. TANDEM NEXT STANDARD DETAIL
DRAWN BY:	CH'D BY:	
DAD		
DATE:	March 18, 2020	
SCALE:	NOT TO SCALE	
FILE NAME:	Pedestrian Guard Detail.dwg	