

Detail - Pedestrian Handrail Installation (based on 1.07m railing height) Chainlink Fence /Pedestrian Guardrail Design by others

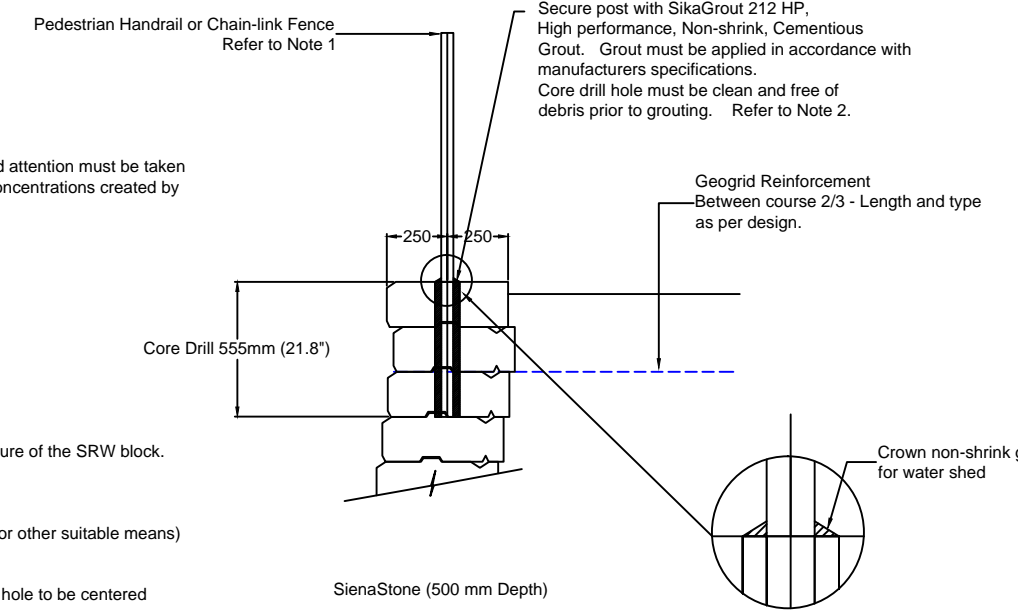
Notes:

1. Pedestrian Handrail or Chain-Link Fence (Designed by others)

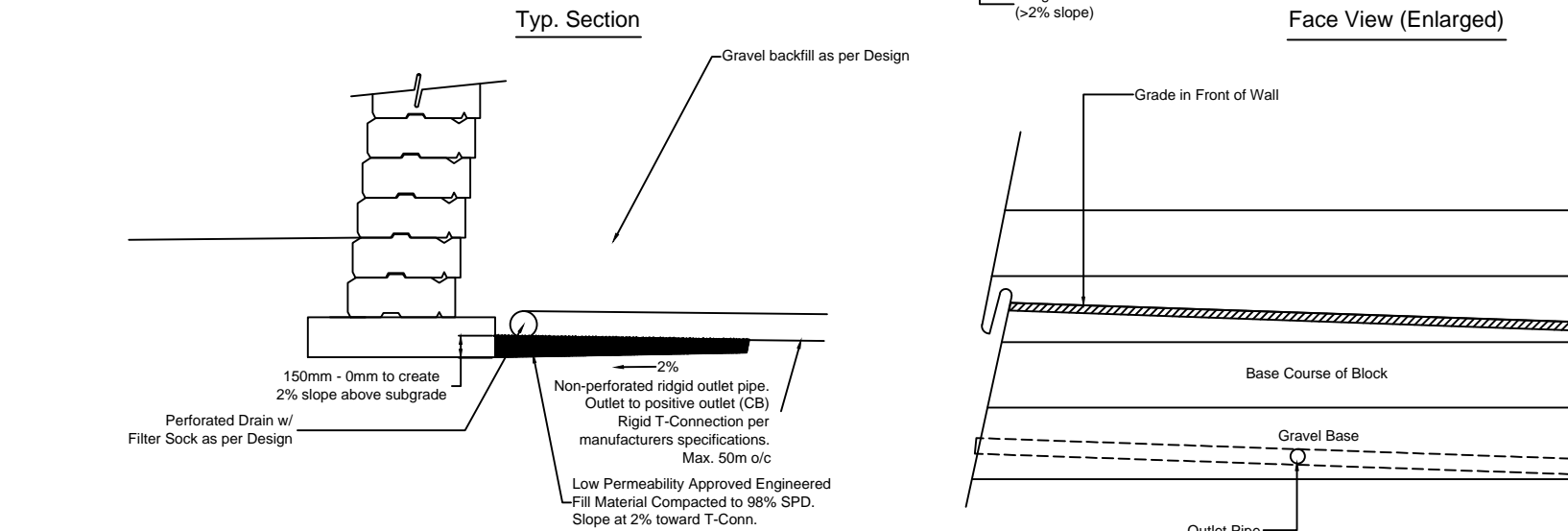
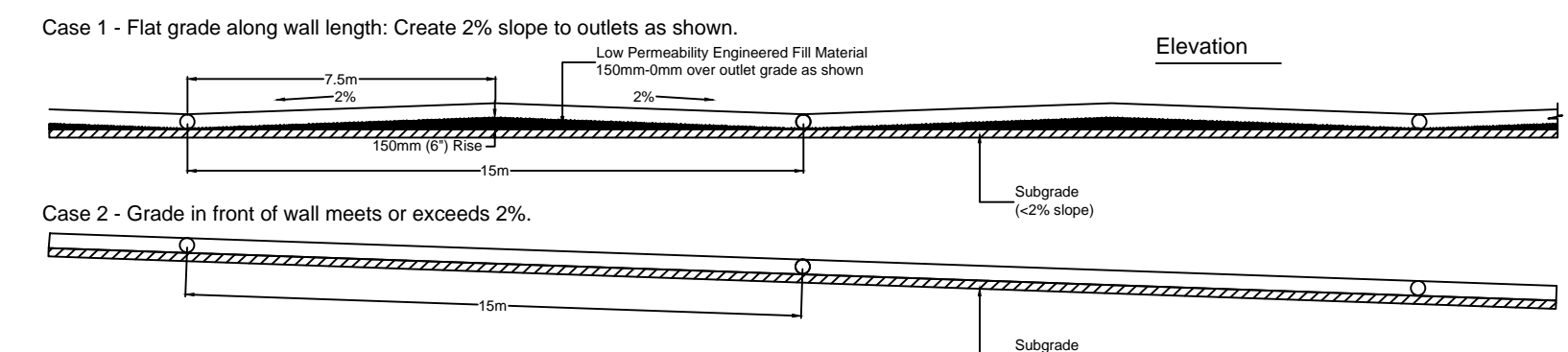
- Must be non-wind bearing
- Max. Post OD = 75mm (3")
- It is highly recommended that the Post shape be circular. Square posts are permitted, however, extra care and attention must be taken to ensure all procedures detailed here and the GROUT Specifications are followed due to the potential for stress concentrations created by the post geometry.
- GROUT portion of the post must be unplanted.
- Post must be sealed or capped from the top to prevent infiltration of water.
- Post must be filled with grout inside and outside to crowing elevations (just above top of block)
- Max. 1.5 m post spacing.

2. Grouting and Core Drilling

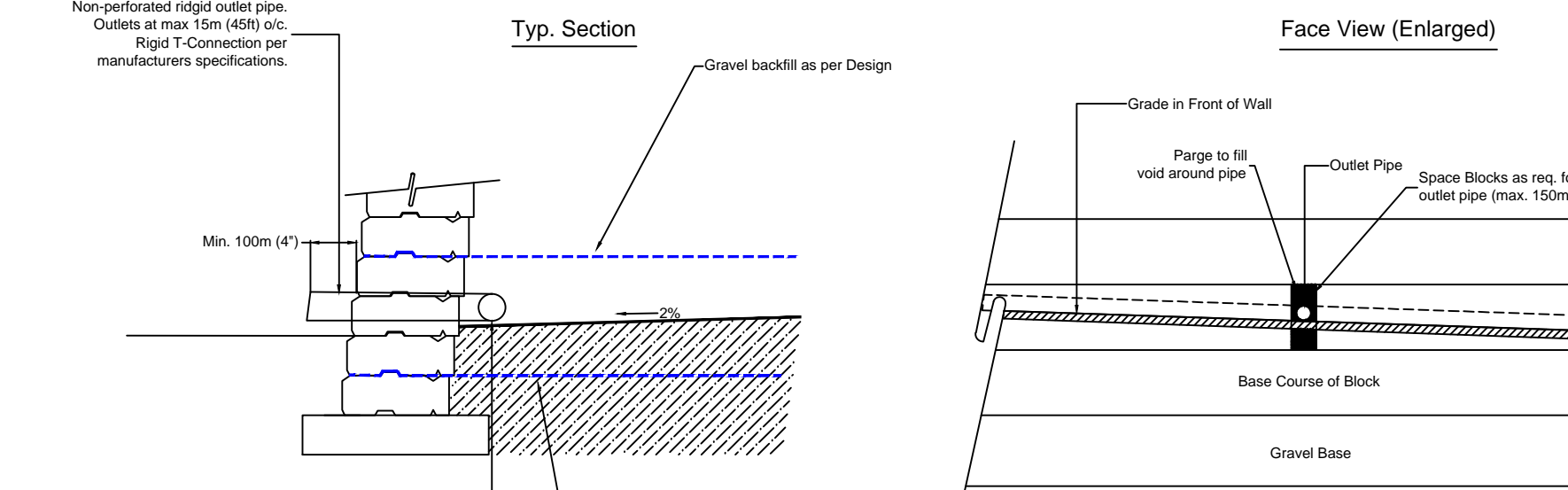
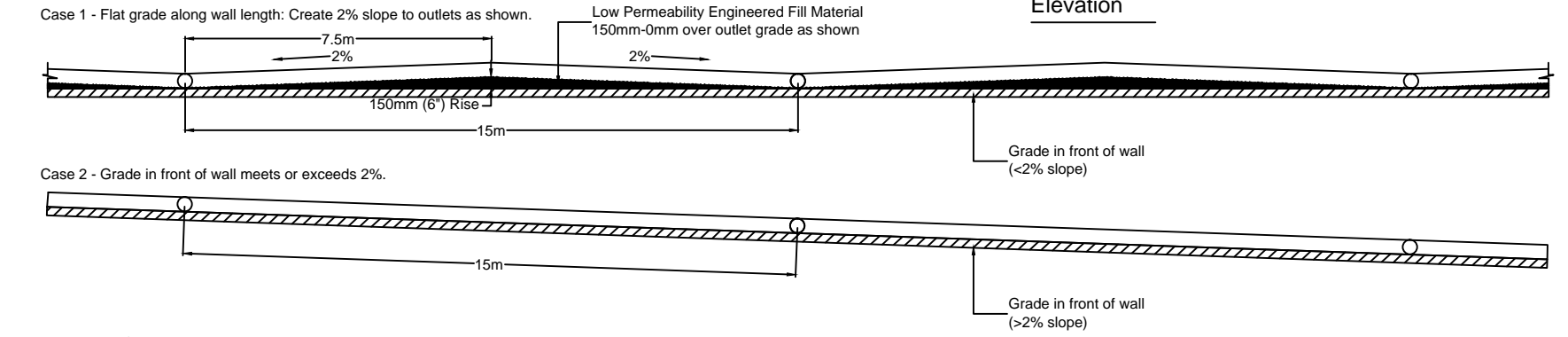
- GROUT manufacturers specifications must be adhered to. Failure to follow these specifications may lead to failure of the SRW block.
- Holes are to be core drilled. Use of percussion type instrument is not allowed.
- Core drill hole to extend completely through the specified number of courses to allow high pressure water jet (or other suitable means) to clean hole of dust and debris prior to grouting.
- OD of core drill hole not to exceed 100mm. Core drill hole OD to exceed post OD by min. 25mm. Core drill hole to be centered midway through block as shown. Min. 200mm offset to either end of block.
- Installation must take place during the grout manufacturer's recommended temperature ranges.
- The core drilled holes must be cleaned and free of dust and debris prior to pouring of the grout.
- The core drill holes must be wet down prior to pouring the grout to promote a damp curing environment.
- The grout must be brought up to just above the top of the coping unit and sloped away (crowned) from the post to prevent the future infiltration of water into the core drill hole. Contractor must ensure water is prevented from infiltrating post hole.
- All contaminated water (used in cleaning the hole or core drilling) must be washed from the face of the wall to prevent staining.
- Additional requirements and provisions are required by Grout manufacturer for proper performance than those noted here. Strict adherence to specifications required.
- 2012 Ontario Building Code requires that the contractor retain a General Review Engineer to ensure installation is in compliance with design and specifications (Wall and grout manufacturers specs)



Detail - Or Drainage Outlet Option b) Drain Outlet at /near base of the wall (as shown) or Just above the Base of Wall Outlet from Behind (To Nearest Catch Basin)



Detail - Either Drainage Outlet Option a) Drain Outlet at /near or Just above the Base of Wall (as shown) Outlet Thru Block Face To Nearest Catch Basin or Daylight

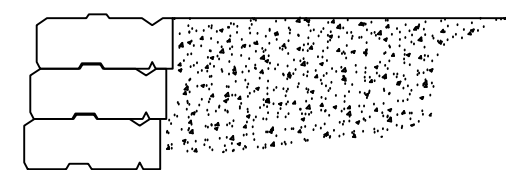


Detail - Geogrid Installation

Notes:

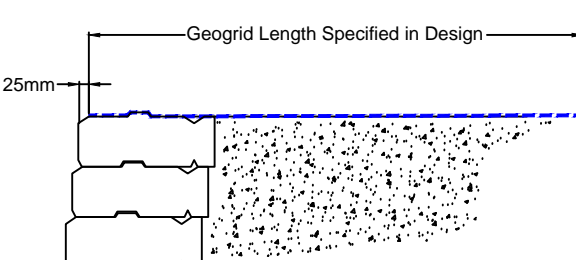
- Follow geosynthetic manufacturer's installation instructions and specifications. Care must be taken to ensure geogrid is not damaged during construction or subject to UV exposure.
- Do not allow ANY tracked equipment directly on top of the geogrid. For necessary travel on the geogrid, use only lightweight rubber tired equipment operating at slow speeds (less than 10 mph); do not allow braking or sharp turning.
- Geogrid length, placement and type shall be as indicated in the Wall Design.
- Geogrid must be placed in direction of highest strength (roll direction) perpendicular to face of wall. (i.e. - Do not roll out geogrid along the length of the wall).
- COMPACTED INFILL MUST BE LEVEL WITH THE TOP OF THE BLOCK PRIOR TO PLACEMENT OF GEOGRID.
- Remove all debris from the top of the SRW block prior to placement of geogrid.
- Geogrid must be placed within 25mm (1") of the front face of the block.
- Geogrid must be pulled taut, removing any slack or wrinkles prior to the placement of infill material. The use of temporary stakes to maintain tension of the geogrid is good practice. Infill material should be dumped close to the face of the wall and raked away from the wall to maintain tension in the geogrid during backfilling. When infill material is placed, caution must be used to ensure hand equipment (shovels and rakes) does not contact the geogrid or cause damage.
- Adjacent sections of geogrid shall abut each other (not overlap or gap) at the face of the wall to ensure continuous geogrid coverage. Geogrid cannot be spliced to create the required length into the back - the geogrid must be one continuous piece.
- Do not stack more than two (2) courses of block prior to backfilling wall.

Step 1. Compacted infill level with top of SRW block.

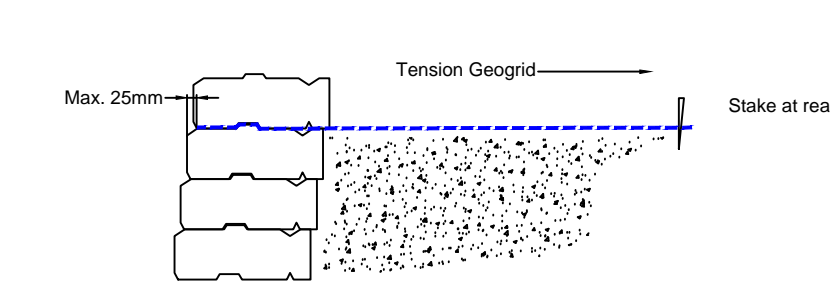


Step 2. Place geogrid on top of block with 25mm (1") of face.

For most RiSto Stone blocks, the geogrid will be placed past the front edge of the chamfer (as shown).

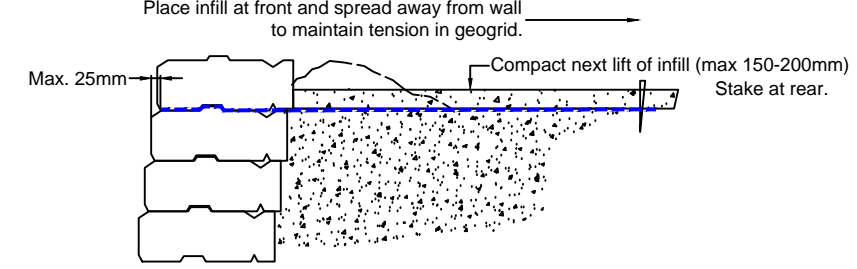


Step 3. Secure geogrid in place at face with next course and pull geogrid taut. Maintain tension with temporary stakes as shown.

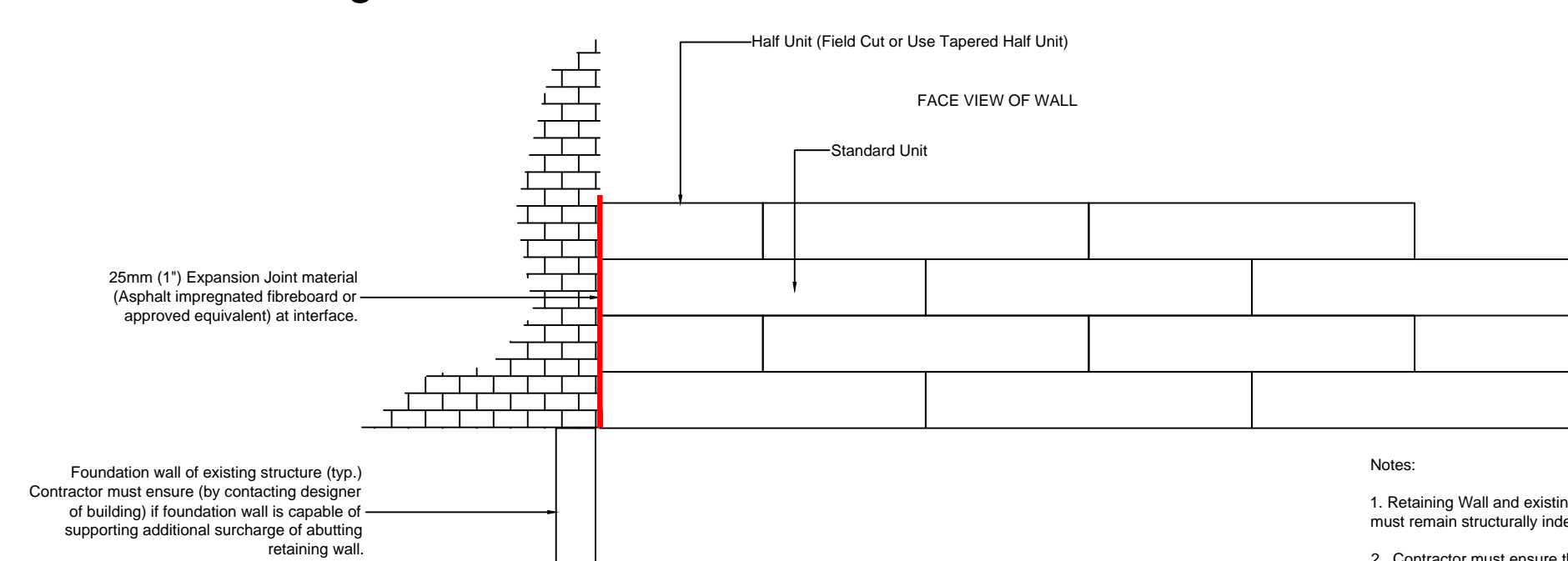


Step 4. Place infill material near face of wall and spread back, away from wall to maintain geogrid tension.

Compact infill material in max. 150mm-200mm (6"-8") lifts. Continue process to next geogrid layer.

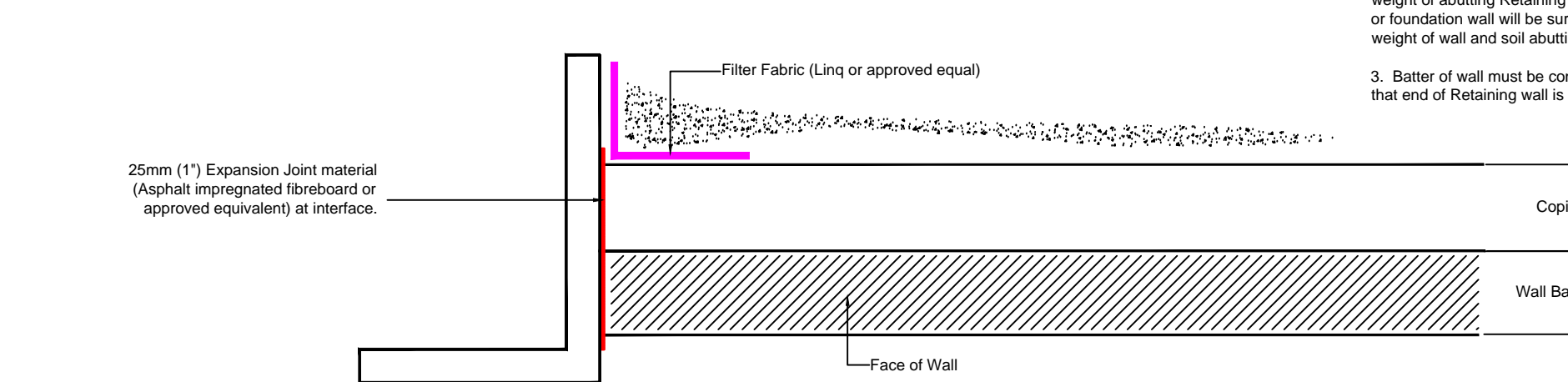


Detail - Abutting Ex. Structure



Notes:

- Retaining Wall and existing abutting structure must remain structurally independent.
- Contractor must ensure that wall of existing structure is capable of supporting additional weight of abutting Retaining Wall. (i.e. basement or foundation wall will be surcharged due to self weight of wall and soil abutting it).
- Batter of wall must be considered, ensuring that end of Retaining wall is not exposed.



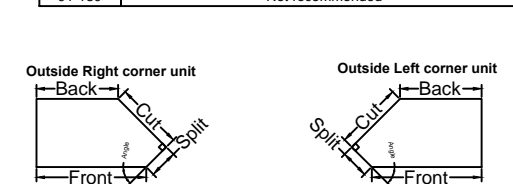
Detail - Outside Corner Construction

SienaStone (1.2m) Outside Modified Corners

Angle (Degrees)	Front (mm)	Back (mm)	Split (mm)	Cut (mm)	Unit to Modify
5	24 1/2	23 5/8	7 1/8	19 5/8	Standard
10	25 3/8	23 5/8	1 3/4	19 5/8	Standard
15	26 1/4	23 5/8	2 3/8	19 5/8	Standard
20	27 1/8	23 5/8	3 1/2	19 5/8	Standard
25	28	23 5/8	4 3/8	19 5/8	Standard
30	28 7/8	23 5/8	5 1/4	19 5/8	Standard
35	29 3/8	23 5/8	6 1/4	19 5/8	Standard
40	30 3/4	23 5/8	7 1/8	19 5/8	Standard
45	31 3/4	23 5/8	8 1/8	19 5/8	Standard
50	32 3/4	23 5/8	9 1/8	19 5/8	Standard
55	33 3/8	23 5/8	10 1/4	19 5/8	Standard
60	34	23 5/8	11 3/8	19 5/8	Standard
65	36 1/8	23 5/8	12 1/2	19 5/8	Standard
70	37 3/8	23 5/8	13 3/4	19 5/8	Standard
75	38 3/4	23 5/8	15 1/8	19 5/8	Standard
80	40 1/8	23 5/8	16 1/2	19 5/8	Standard
85	41 3/8	23 5/8	18	19 5/8	Standard
90	42	23 5/8	19 1/8	19 5/8	Standard
91-180					Not recommended

Angle (Degrees)	Front (mm)	Back (mm)	Split (mm)	Cut (mm)	Unit to Modify
5	62	60	22	50	Standard
10	64	60	4	50	Standard
15	66	60	8	50	Standard
20	69	60	8	50	Standard
25	71	60	11	50	Standard
30	74	60	14	50	Standard
35	76	60	16	50	Standard
40	78	60	18	50	Standard
45	80	60	20	50	Standard
50	83	60	23	50	Standard
55	86	60	26	50	Standard
60	89	60	29	50	Standard
65	91	60	33	50	Standard
70	95	60	36	50	Standard
75	99	60	38	50	Standard
80	103	60	43	50	Standard
85	106	60	48	50	Standard
90	110	60	53	50	Standard
91-180					Not recommended

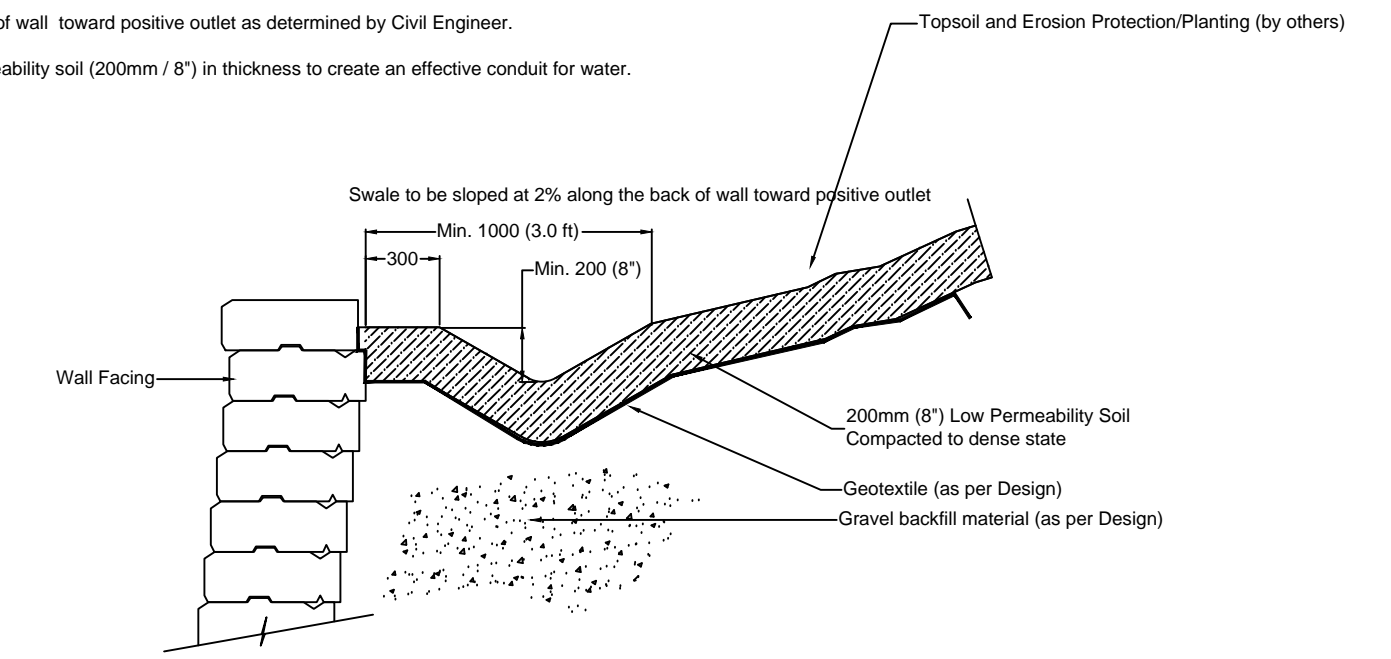
- Create modified right corner unit using required unit.
 - Place modified right corner unit on first course.
 - Create modified left corner unit using required unit.
 - Place modified left corner unit on next course.
- Identify inside angle required. Mark corresponding Front and Back dimensions from left end of unit.
 - Mark Split and Cut dimensions on square. Line up marks on square with marks on unit.
 - Use concrete saw to cut along Cut line.
 - Use chisel and hammer to score then split along Split line.
 - If necessary, use concrete saw to remove knob from the right end, leaving approximately 5/8" (23 inches) of the key intact on the right side.
- Identify inside angle required. Mark corresponding Front and Back dimensions from right end of unit.
 - Mark Split and Cut dimensions on square. Line up marks on square with marks on block.
 - Score Split and Cut lines on unit.
 - Use concrete saw to cut along Cut line.
 - Use chisel and hammer to score then split along Split line.
 - If necessary, use concrete saw to remove knob from the left end, leaving approximately 5/8" (23 inches) of the key intact on the left side.
5. Repeat step 1 through 4 until desired height is achieved.



Detail - Swale Detail (Typical - Dim. to be provided by Civil Engineer)

Notes:

- Swale to be dimensioned by Civil Engineer based on site drainage plan.
- Swale to slope at min. 2% along the back of wall toward positive outlet as determined by Civil Engineer.
- Swale must be constructed with low permeability soil (200mm / 8") in thickness to create an effective conduit for water.



SienaStone Wall System Information

SIENASTONE® System Units	Face Width	Back Width	Height	Depth	Weight
Standard Unit	48" (39")	48" (39")	7.25"	20"	570 lbs (463 lbs)*
	1200 mm (991 mm)*	1200 mm (991 mm)*	185 mm	500 mm	259 kg (210 kg)*
925 Unit	48" (39")	48" (39")	7.25"	36"	1102 lbs (895 lbs)*
	1200 mm (991 mm)*	1200 mm (991 mm)*	185 mm	925 mm	450 kg (366 kg)*
Left Corner Unit	44" (35")	44" (35")	7.25"	20"	525 lbs (426 lbs)*
	1100 mm (900 mm)*	1100 mm (900 mm)*	185 mm	500 mm	238 kg (194 kg)*
Right Corner Unit	44" (35")	44" (35")	7.25"	20"	525 lbs (426 lbs)*
	1100 mm (900 mm)*	1100 mm (900 mm)*	185 mm	500 mm	238 kg (194 kg)*
45 Degree Corner Unit	86"	86"	7.25"	20"	330 lbs
	856 mm	856 mm	185 mm	500 mm	150 kg
Coping Unit	48" (39")	48" (39")	7.25"	20"	570 lbs (463 lbs)*
	1200 mm (991 mm)*	1200 mm (991 mm)*	185 mm	500 mm	259 kg (210 kg)*

* indicates dimensions of alternate units available in some locations

SIENASTONE® System Design/Construction Information		
Minimum Inside/Outside Radius	Standard Units	240'
	925 Units	73 m
		0'
Application of Coping Unit	Adhesive not required	
Stacking Alignment	Battered/Vertical	
Facing	Split Face	
Placement Method	Machine	

Project: Cedarbrook Housing (Cedarbrook Park Co-op)
 435 Markham Rd., Scarborough ON
 RSS Project No: 201806026

SIENASTONE Geogrid Reinforced Segmental Retaining Wall

Drawn By:	ECJ
Design:	ECJ
Check:	*
Date:	06/25/18
	2 of 2
Dwg. File:	201806026RW2

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No.	Date	By	Revisions

RETAINING WALL DETAIL SHEET

SHEET
RW-2

DWG NO.
2 of 2