



ICC-ES Equivalency Evaluation Report (IRC) EER-5081

Reissued March 2026

This report is subject to renewal March 2027.

CSI: **DIVISION: 03 00 00—CONCRETE**
Section: 03 20 00—Concrete Reinforcing
Section: 03 21 00— Reinforcement Bars

Use of the Equivalency Evaluation Report:

The use of the ICC-ES equivalency evaluation report (IRC) applies to the construction of single-family houses, two-family houses (duplexes) and buildings consisting of three or more townhouse units, limited to three stories above grade plane, in accordance with the *International Residential Code*®. The ICC-ES equivalency evaluation report (IRC) evaluates designs of schematic plans, details and tables of building products described in an ICC-ES evaluation report, to meet the prescriptive requirements of the *International Residential Code*®.

Report Holder: SFTec INC.

Equivalency Evaluation Subject:

Concrete Foundations, Flat Concrete Walls and Lintels with SFT-BAR® as Reinforcement.

Referenced ICC-ES Evaluation Report:

ESR-5081: SFT-BAR®

Product Description: SFT-BAR® is a glass fiber reinforced polymer reinforcing bar that meets the requirements of ASTM D7957. SFT-BAR® is available in sizes #3, #4, and #5 (10, 13, and 16 mm) with guaranteed bond strengths of 1.3 ksi, 1.1 ksi and 1.5 ksi respectively. SFT-BAR® sizes #3, #4 and #5 have a mean tensile modulus of elasticity of 10,900 ksi, 10,500 ksi and 8,700 ksi respectively.

Evaluated to the following IRC Sections:

- 2021 and 2018 *International Residential Code*® (IRC)
Applicable Sections: R403 and R404, R506 and R608

Findings of Schematic Plans, Details and Tables:

The schematic plans, details and tables are in conformance with the prescriptive requirements of the IRC based on the submitted design calculations and the referenced ICC-ES Evaluation Report.

- For above grade wall designs with SFT-BAR® bars, see Table 2 and Figures 6 and 7.
- For below grade wall designs with SFT-BAR® bars, see Table 1 and Figure 5
- For lintel designs with SFT-BAR®, see Tables 3 and 4.
- For plan diagram, typical foundation and slab details, see Figures 1 through 4.

The schematic plans, details and tables were evaluated to the following design parameter:

Design Criteria:

Maximum Plan Dimension: 60 feet (18,288 mm)

Maximum Story Height: 10 feet (3,048 mm)

Concrete Wall Thicknesses: 4 (above grade), 6, 8, 10 and 12 inches (101.6, 152.4, 203.2, 254 and 304.8 mm)

Number of Stories Above Grade: 2

Roof Slope: 12:12 (max)

Risk Category: II

Seismic Load: Seismic Design Categories Seismic Design Categories A, B, and C (SDC C for below-grade foundation elements only)

Design Loads:

Wind Load:

- a) Maximum Design Wind Speed of 160 mph (72 m/s), Exposure B
- b) Maximum First Floor Wind Pressure : 63 psf (3.02 kN/m²)
- c) Maximum Second Floor Wind Pressure : 44 psf (2.11 kN/m²)

Dead Loads:

- a) Concrete Self-weight: 145 pcf (2323 kg/m³)
- b) Floor/Ceiling Dead Load: 10 psf (0.48 kN/m²)
- c) Roof/Ceiling Dead Load: 15 psf (0.72 kN/m²)

Live Loads:

- a) Floor Live Load: 40 psf (1.92 kN/m²)
- b) Attic Live Load: 20 psf (0.96 kN/m²)

Snow Loads:

- a) As required by Table R608.8(1)

Earth Pressure Load:

Maximum Design Lateral Soil Load of 60 psf/ft per IRC Tables R404.1.2(8)

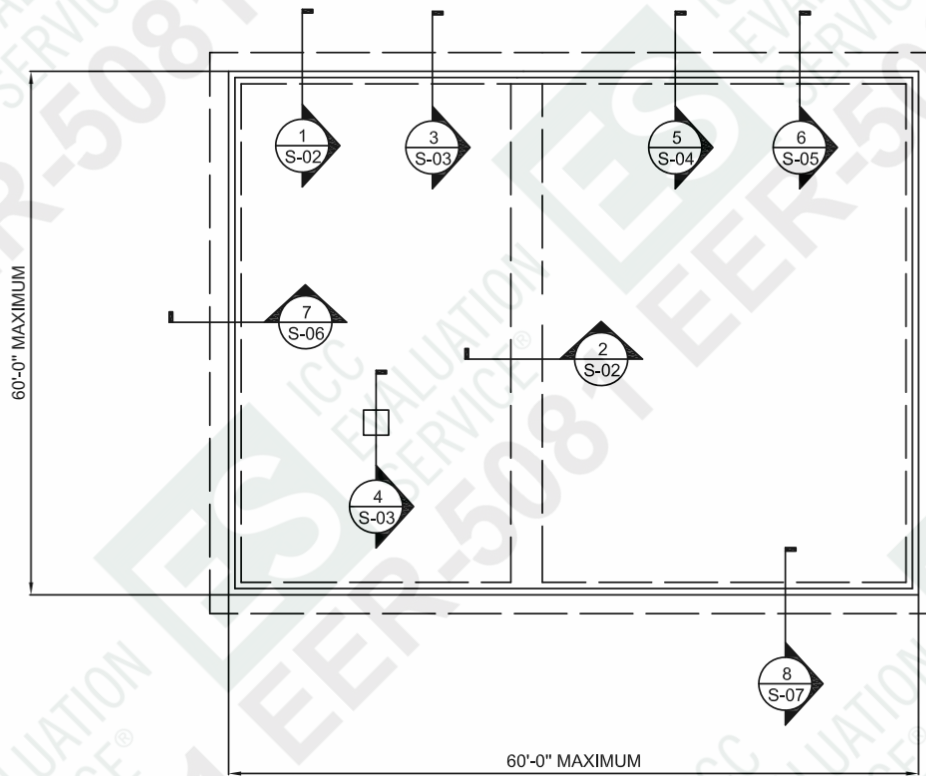
Identification:

1. The identification shall only be used on schematic plans, details and tables evaluated in this report and each page of the schematic plans, details and tables evaluated in this report shall be identified with watermark of the ICC-ES logo and the equivalency evaluation report (IRC) number (EER-5081).
2. The report holder's contact information is the following:

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DORVAL, QUEBEC H9P 2W9
CANADA
+1(800) 503-9139
+1(514) 373-9861
www.sfttec.com
admin@sfttec.ca

Conditions of Use:

1. The ICC-ES equivalency evaluation report (IRC) addresses only conformance with the IRC sections noted above.
2. The end use application of the schematic plans, details and tables in this report must be submitted to the code official for approval.
3. The exemptions for requirement to stamp the schematic plans, details and tables by a registered design professional must comply with the state license laws in which the project is to be constructed.
4. This report applies only to the design parameters submitted for review by ICC-ES.
5. Evaluation for compliance with IRC Table R608.6(4) is outside the scope of this report.
6. Insulated concrete forms (ICF), when used, must comply with IRC requirements, or have an ICC-ES evaluation report.



EXAMPLE OF CONCRETE FOUNDATION AND
ABOVE GRADE WALL PLAN

Client:

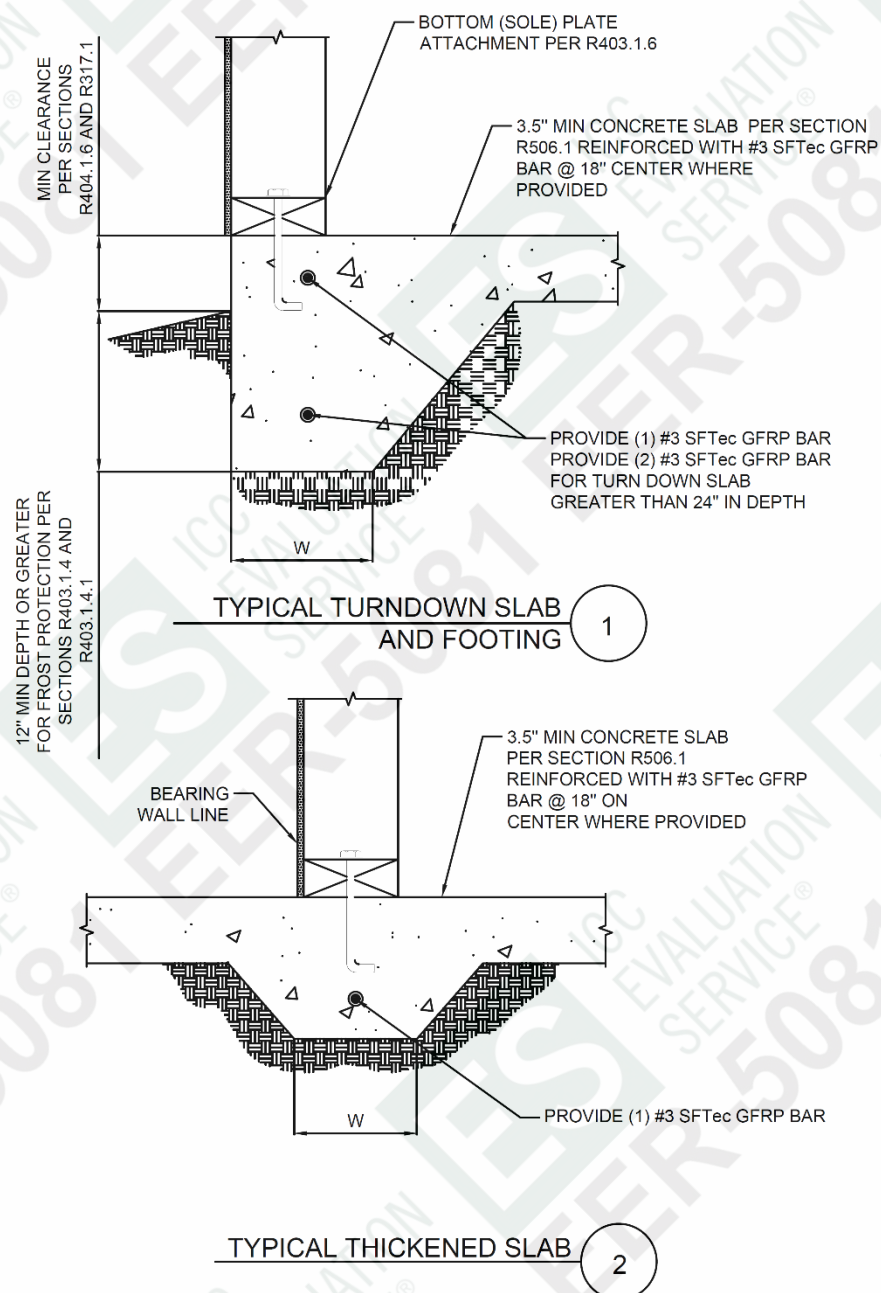
Project: ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - DetailingPrepared by: Ecotori, LLC
info@eco-tori.com

Date: 01/18/2024

Drawing Nr.:

S-01

FIGURE 1 –PLAN DIAGRAM



description

Client:



Project:

ICC-ES Equivalency Evaluation Report
(EER-5081) SFTec GFRP Bars - Detailing

Drawing Nr.:

S-02

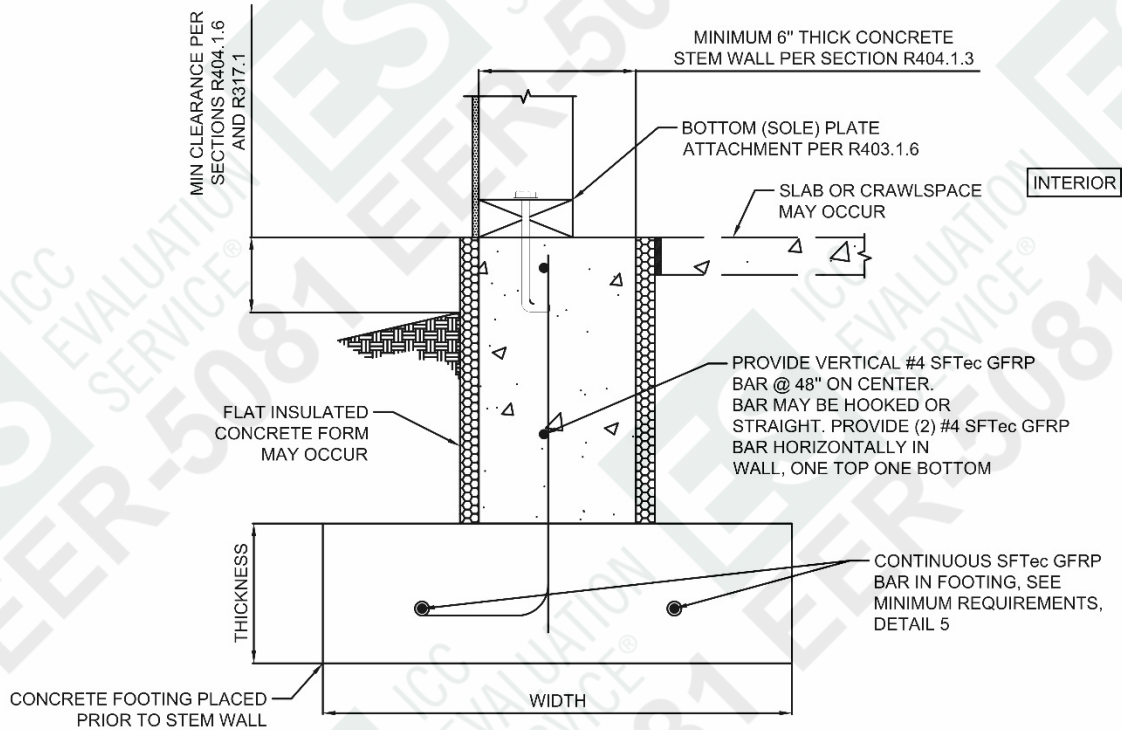
Prepared by:

Ecotori, LLC
info@eco-tori.com

Date:

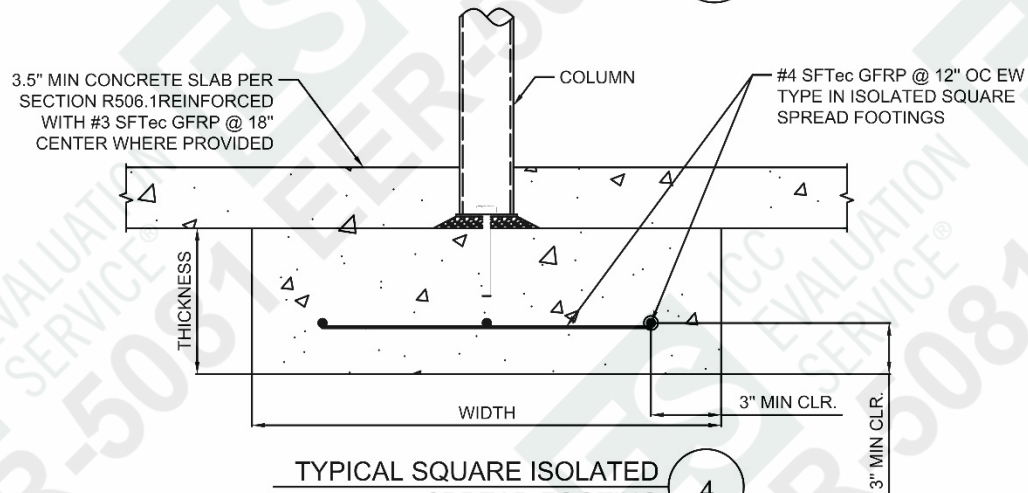
01/18/2024

FIGURE 2 –SECTION DETAILS



TYPICAL CONCRETE
STEM WALL FOUNDATION

3



TYPICAL SQUARE ISOLATED
SPREAD FOOTING

4

CONSIDERATIONS:

1. MINIMUM ALLOWABLE BEARING PRESSURE OF 1500PSF REQUIRED
2. MINIMUM COLUMN BASE PLATE DIMENSIONS OF 4 INCHES X 4 INCHES
3. MINIMUM FOOTING THICKNESS OF 12 INCHES
4. MINIMUM SQUARE FOOTING DIMENSIONS OF 28 INCHES X 28 INCHES
5. MAXIMUM SQUARE FOOTING DIMENSIONS OF 60 INCHES X 60 INCHES
6. MINIMUM CONCRETE STRENGTH OF 2500PSI
7. MAXIMUM TOTAL UNFACTORED AXIAL LOAD ON COLUMN OF 8000LBS

description

Client:



Project:

ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - Detailing

Drawing Nr.:

S-03

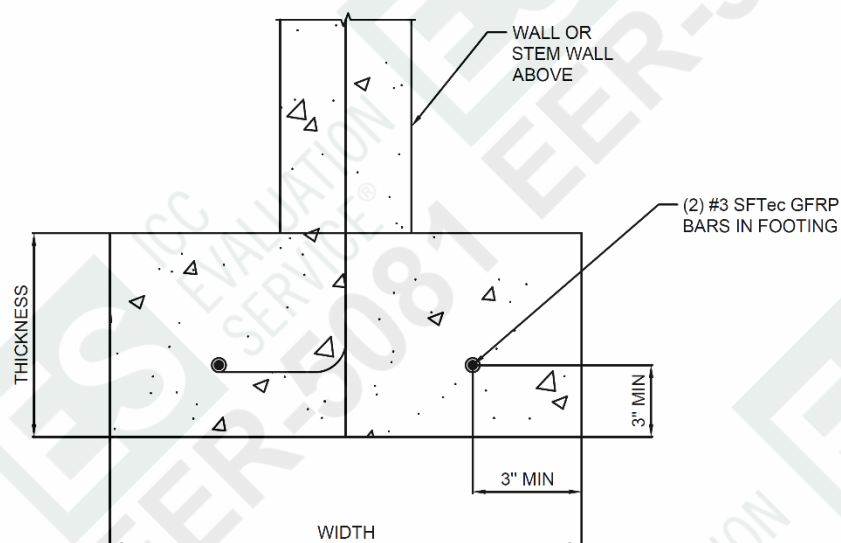
Prepared by:

Ecotori, LLC
info@eco-tori.com

Date:

01/18/2024

FIGURE 3 –SECTION DETAILS



MINIMUM CONTINUOUS WALL FOOTING REINFORCING 5

CONSIDERATIONS:

1. MINIMUM ALLOWABLE BEARING PRESSURE OF 1500PSF
2. DOWELS MAY BE INSTALLED INTO WET CONCRETE PROVIDED THEY PENETRATE THE FULL DEPTH OF THE FOOTING

description

Client:



Project:

ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - Detailing

Drawing Nr.:

S-04

Prepared by:

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Date:

01/18/2024

FIGURE 4 –SECTION DETAILS

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS*

2500 psi Concrete		Design Lateral Soil Load (psf/ft)											
2" Concrete Cover		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 14, #4 @ 24, #5 @ 29	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 22	#3 @ 14, #4 @ 24, #5 @ 30	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 16, #4 @ 28, #5 @ 32	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 26	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 11, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 18	#3 @ 14, #4 @ 24, #5 @ 30	PC	PC
	8	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 18	#3 @ 14, #4 @ 24, #5 @ 30	PC	PC	#3 DR, #4 @ 9, #5 @ 11	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 15, #4 @ 26, #5 @ 32	PC	PC	PC	#3 @ 11, #4 @ 20, #5 @ 24	PC	PC	PC
	7	#3 @ 16, #4 @ 27, #5 @ 32	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC
	8	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 12, #4 @ 22, #5 @ 27	PC	PC	#3 DR, #4 DR, #5 @ 6	#3 @ 9, #4 @ 16, #5 @ 20	#3 @ 12, #4 @ 21, #5 @ 26	PC
	9	#3 @ 9, #4 @ 15, #5 @ 19	#3 @ 14, #4 @ 24, #5 @ 30	PC	PC	#3 DR, #4 DR, #5 @ 7	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 10, #4 @ 17, #5 @ 22	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

2500 psi Concrete		Design Lateral Soil Load (psf/ft)											
Centered Bar		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 27	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 10, #4 @ 19, #5 @ 23	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 DR, #4 @ 8, #5 @ 10	#3 @ 9, #4 @ 17, #5 @ 21	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 21	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 19	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	#3 @ 9, #4 @ 17, #5 @ 21	PC	PC
	8	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	#3 @ 9, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 12, #5 @ 15	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 26	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 19	PC	PC	PC
	7	#3 @ 12, #4 @ 22, #5 @ 27	PC	PC	PC	#3 @ 7, #4 @ 13, #5 @ 17	PC	PC	PC	#3 DR, #4 DR, #5 @ 7	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC
	8	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	PC	#3 DR, #4 DR, #5 @ 7	#3 @ 8, #4 @ 15, #5 @ 19	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 10, #5 @ 13	#3 @ 7, #4 @ 13, #5 @ 17	PC
	9	#3 DR, #4 @ 7, #5 @ 9	#3 @ 9, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC	PC	#3 DR, #4 DR, #5 DR	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

3000 psi Concrete		Design Lateral Soil Load (psf/ft)											
2" Concrete Cover		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 15, #4 @ 26, #5 @ 32	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 14, #4 @ 24, #5 @ 29	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 26	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 18	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC
	8	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 9, #4 @ 15, #5 @ 19	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC	#3 DR, #4 @ 9, #5 @ 13	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 15, #4 @ 26, #5 @ 32	PC	PC	PC	#3 @ 11, #4 @ 20, #5 @ 24	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 17	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC
	8	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 8, #4 @ 13, #5 @ 16	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC	#3 DR, #4 @ 7, #5 @ 8	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC
	9	#3 @ 9, #4 @ 16, #5 @ 19	PC	PC	PC	#3 DR, #4 @ 8, #5 @ 10	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 10, #4 @ 18, #5 @ 22	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

3000 psi Concrete		Design Lateral Soil Load (psf/ft)											
Centered Bar		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 27	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 11, #4 @ 19, #5 @ 24	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC	PC	#3 @ 7, #4 @ 13, #5 @ 16	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC
	8	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	#3 DR, #4 DR, #5 @ 6	#3 @ 7, #4 @ 12, #5 @ 16	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	#3 @ 12, #4 @ 21, #5 @ 26	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 21	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 18	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC
	8	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	#3 @ 8, #4 @ 15, #5 @ 19	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC	PC
	9	#3 DR, #4 @ 7, #5 @ 9	PC	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 12, #5 @ 15	PC	PC	#3 DR, #4 DR, #5 DR	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

3500 psi Concrete		Design Lateral Soil Load (psf/ft)											
2" Concrete Cover		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 14, #4 @ 24, #5 @ 29	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 12, #4 @ 22, #5 @ 27	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	PC
	8	#3 @ 13, #4 @ 23, #5 @ 28	PC	PC	PC	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	PC	#3 @ 6, #4 @ 11, #5 @ 14	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 11, #4 @ 20, #5 @ 25	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 11, #4 @ 18, #5 @ 23	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 17	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC
	8	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 8, #4 @ 13, #5 @ 17	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	#3 @ 6, #4 @ 10, #5 @ 12	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC
	9	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 @ 6, #4 @ 10, #5 @ 12	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 10, #4 @ 18, #5 @ 22	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

3500 psi Concrete		Design Lateral Soil Load (psf/ft)											
Centered Bar		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 11, #4 @ 19, #5 @ 24	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC	PC	#3 @ 7, #4 @ 13, #5 @ 17	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 22	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	PC	PC	PC
	8	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC	PC	#3 DR, #4 @ 7, #5 @ 9	PC	PC	PC	#3 DR, #4 DR, #5 @ 6	#3 @ 7, #4 @ 12, #5 @ 16	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 18	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	#3 @ 8, #4 @ 14, #5 @ 18	PC	PC
	8	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	#3 @ 8, #4 @ 14, #5 @ 18	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC	PC
	9	#3 @ 7, #4 @ 12, #5 @ 16	PC	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 12, #5 @ 15	PC	PC	#3 DR, #4 DR, #5 DR	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

4000 psi Concrete		Design Lateral Soil Load (psf/ft)											
2" Concrete Cover		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 12, #4 @ 22, #5 @ 27	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 12, #4 @ 20, #5 @ 25	PC	PC	PC	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	PC
	8	#3 @ 13, #4 @ 22, #5 @ 27	PC	PC	PC	#3 @ 9, #4 @ 15, #5 @ 19	PC	PC	PC	#3 @ 6, #4 @ 11, #5 @ 14	#3 @ 10, #4 @ 18, #5 @ 23	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 11, #4 @ 20, #5 @ 25	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 11, #4 @ 18, #5 @ 23	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 17	PC	PC	PC
	8	#3 @ 12, #4 @ 21, #5 @ 25	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 17	PC	PC	PC	#3 @ 6, #4 @ 10, #5 @ 12	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC
	9	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 @ 6, #4 @ 10, #5 @ 13	#3 @ 10, #4 @ 17, #5 @ 21	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 13, #5 @ 16	#3 @ 9, #4 @ 16, #5 @ 20	PC

TABLE 1 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE BASEMENT WALLS* (continued)

4000 psi Concrete		Design Lateral Soil Load (psf/ft)											
Centered Bar		30				45				60			
Wall Height (ft)	Backfill (ft)	Wall Thickness (in)				Wall Thickness (in)				Wall Thickness (in)			
		6	8	10	12	6	8	10	12	6	8	10	12
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 @ 8, #4 @ 14, #5 @ 17	PC	PC	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 10, #4 @ 17, #5 @ 22	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC	#3 @ 7, #4 @ 12, #5 @ 15	PC	PC	PC
	8	#3 @ 10, #4 @ 18, #5 @ 22	PC	PC	PC	#3 @ 7, #4 @ 12, #5 @ 15	PC	PC	PC	#3 DR, #4 DR, #5 @ 6	#3 @ 7, #4 @ 13, #5 @ 16	PC	PC
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	6	PC	PC	PC	PC	PC	PC	PC	PC	#3 @ 9, #4 @ 16, #5 @ 20	PC	PC	PC
	7	PC	PC	PC	PC	#3 @ 8, #4 @ 15, #5 @ 18	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	PC	PC	PC
	8	#3 @ 9, #4 @ 16, #5 @ 21	PC	PC	PC	#3 DR, #4 @ 6, #5 @ 8	PC	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 6, #4 @ 11, #5 @ 14	PC	PC
	9	#3 @ 7, #4 @ 13, #5 @ 16	PC	PC	PC	#3 DR, #4 DR, #5 DR	#3 @ 7, #4 @ 12, #5 @ 15	PC	PC	#3 DR, #4 DR, #5 DR	#3 DR, #4 @ 9, #5 @ 11	#3 @ 6, #4 @ 10, #5 @ 13	PC

For **Sl**: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf/ft = 0.1571 kPa²/m, 1 psi = 6.895 kPa.

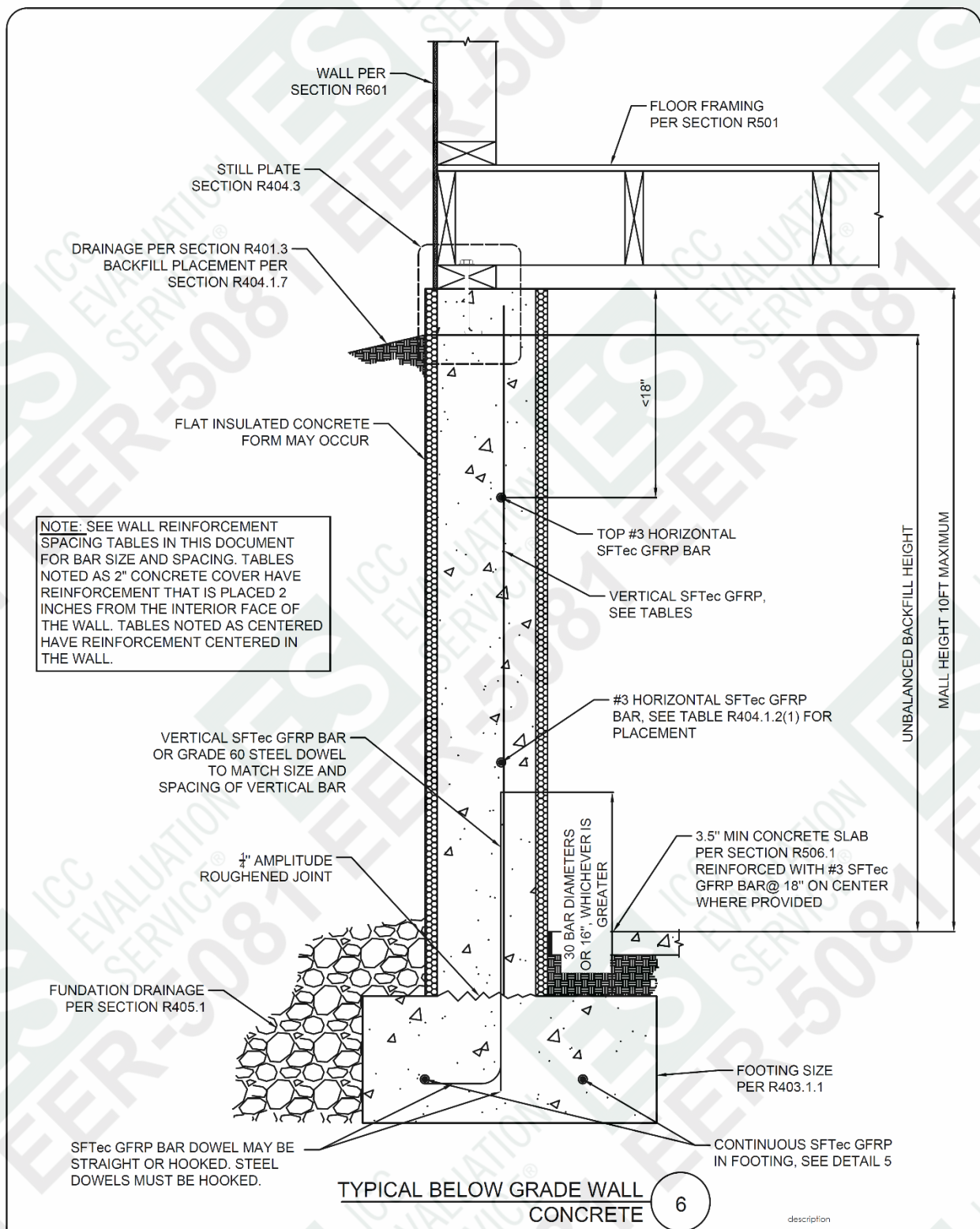
PC= Plain Concrete.

DR = Design Required.

Shaded cells highlight conditions not governed by Plain Concrete

*Footnotes:

1. Soil Classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1. Design Lateral Soil Loads are as follows:
 - a. 30psf/ft = GW, GP, SW, SP
 - b. 45psf/ft = GM, GC, SM, SM-SC, and ML
 - c. 60psf/ft = SC, ML-CL, and Inorganic CL
2. Table values are only applicable for SFT-BAR® GFRP bar with a specified concrete strength, f'_c , as specified in each table at 28 days.
3. Flat panel insulated concrete forms may be used so long as the manufacturer does not require special reinforcing outside of the IRC minimum requirements for steel as described in IRC Chapter 4.
4. PC indicates vertical wall reinforcement is not required. However, as a minimum, a vertical #4 SFT-BAR® GFRP bar @ 48 inches on center or #3 SFT-BAR® GFRP bar @ 24 inches on center must be used.
5. Allowable deflection criterion is $L/240$, where L is the unsupported height of the basement wall in inches.
6. Interpolation is not permitted.
7. Where walls retain 4 feet or more of unbalanced backfill, walls must be laterally supported at the top and bottom before backfill is placed.
8. Vertical reinforcing must be located in the wall as described in the Table above. Tables denoted with "Centered" reinforcing must have the bar placed at the center of the cross section. Tables denoted with "Edge" reinforcing must have the center line of the bar placed 2 inches from the inside face of the wall.
9. Concrete cover of the bar must not be less than 2x the diameter of the bar.
10. DR indicates design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 440.11.
11. Horizontal reinforcement located at mid height must be placed in accordance with Table R404.1.2(1) of the IRC, except #3 SFT-BAR® GFRP bar may be used in lieu of the #4 steel reinforcing bars. #3 SFT-BAR® GFRP bar may be lapped either 20 bar diameters or 12 inches, whichever is greater. For foundations walls with a maximum unsupported wall height of more than 8 feet, provide one #3 bar within 12 inches of the top of the wall story and one #3 near third points in the wall story.
12. Splice horizontal bars at wall corners using bent bars extended around the corner and spliced with a minimum splice length as shown above (splice = 19 in).
13. Requirement of IRC Section R608.2, R608.3.1, R608.4, R608.7, R608.8, R608.9, and R608.10 must be considered.
14. Top of wall horizontal reinforcement must be placed according to Detail 6 in the attached sketches.
15. Backfill to be a minimum of 6 inches below the top of the wall.
16. Wood sill plates to be installed in accordance with Section R403.1.6 and R608.9.
17. Vertical bars must be lapped a minimum of 30 bar diameters or 16 inches, whichever is greater.
18. Below grade walls reinforced with SFT-BAR® GFRP bar in Seismic Design Categories D, E, or F are outside the scope of this report but may be designed by a Registered Design Professional.



Client:



Project:

ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - Detailing

Drawing Nr.:

S-05

Prepared by:

Ecotori, LLC
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Date:

01/18/2024

FIGURE 5 –SECTION DETAILS

TABLE 2 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE WALLS ABOVE GRADE*

2500 psi Concrete - Above Grade Walls								
Center Bar in Wall								
Max Wind Speed (mph)			Wall Height (ft)	Wall Thickness (in)				
Exposure								
B	C	D		4	6	8	10	12
115			8	PC	PC	PC	PC	PC
			9	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
120			8	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
130	110		8	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 17, #4 @ 30, #5 @ 32	PC	PC	PC	PC
140	119	110	8	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 18, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 14, #4 @ 25, #5 @ 32	PC	PC	PC	PC
150	127	117	8	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 16, #4 @ 28, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 12, #4 @ 21, #5 @ 28	PC	PC	PC	PC
160	136	125	8	#3 @ 19, #4 @ 32, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 14, #4 @ 24, #5 @ 31	PC	PC	PC	PC
			10	#3 @ 10, #4 @ 18, #5 @ 24	PC	PC	PC	PC

TABLE 2 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE WALLS ABOVE GRADE* (continued)

3000 psi Concrete - Above Grade Walls								
Center Bar in Wall								
Max Wind Speed (mph)			Wall Height (ft)	Wall Thickness (in)				
Exposure								
B	C	D		4	6	8	10	12
115			8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
120			8	PC	PC	PC	PC	PC
			9	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
130	110		8	PC	PC	PC	PC	PC
			9	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 17, #4 @ 31, #5 @ 32	PC	PC	PC	PC
140	119	110	8	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 14, #4 @ 25, #5 @ 32	PC	PC	PC	PC
150	127	117	8	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 12, #4 @ 22, #5 @ 28	PC	PC	PC	PC
160	136	125	8	#3 @ 18, #4 @ 31, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 14, #4 @ 25, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 11, #4 @ 19, #5 @ 25	PC	PC	PC	PC

TABLE 2 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE WALLS ABOVE GRADE* (continued)

3500 psi Concrete - Above Grade Walls								
Center Bar in Wall								
Max Wind Speed (mph)			Wall Height (ft)	Wall Thickness (in)				
Exposure				4	6	8	10	12
B	C	D						
115			8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
120			8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
130	110		8	PC	PC	PC	PC	PC
			9	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 16, #4 @ 31, #5 @ 32	PC	PC	PC	PC
140	119	110	8	PC	PC	PC	PC	PC
			9	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 15, #4 @ 26, #5 @ 32	PC	PC	PC	PC
150	127	117	8	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 13, #4 @ 23, #5 @ 29	PC	PC	PC	PC
160	136	125	8	#3 @ 16, #4 @ 29, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 14, #4 @ 26, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 11, #4 @ 20, #5 @ 25	PC	PC	PC	PC

TABLE 2 –VERTICAL REINFORCEMENT SPACING (in) FOR CONCRETE WALLS ABOVE GRADE* (continued)

4000 psi Concrete - Above Grade Walls								
Center Bar in Wall								
Max Wind Speed (mph)			Wall Height (ft)	Wall Thickness (in)				
Exposure								
B	C	D		4	6	8	10	12
115			8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	PC	PC	PC	PC	PC
120			8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	PC	PC	PC	PC	PC
130	110		8	PC	PC	PC	PC	PC
			9	PC	PC	PC	PC	PC
			10	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC	PC
140	119	110	8	PC	PC	PC	PC	PC
			9	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC	PC
150	127	117	8	PC	PC	PC	PC	PC
			9	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 13, #4 @ 23, #5 @ 30	PC	PC	PC	PC
160	136	125	8	#3 @ 15, #4 @ 27, #5 @ 32	PC	PC	PC	PC
			9	#3 @ 15, #4 @ 26, #5 @ 32	PC	PC	PC	PC
			10	#3 @ 11, #4 @ 20, #5 @ 26	PC	PC	PC	PC

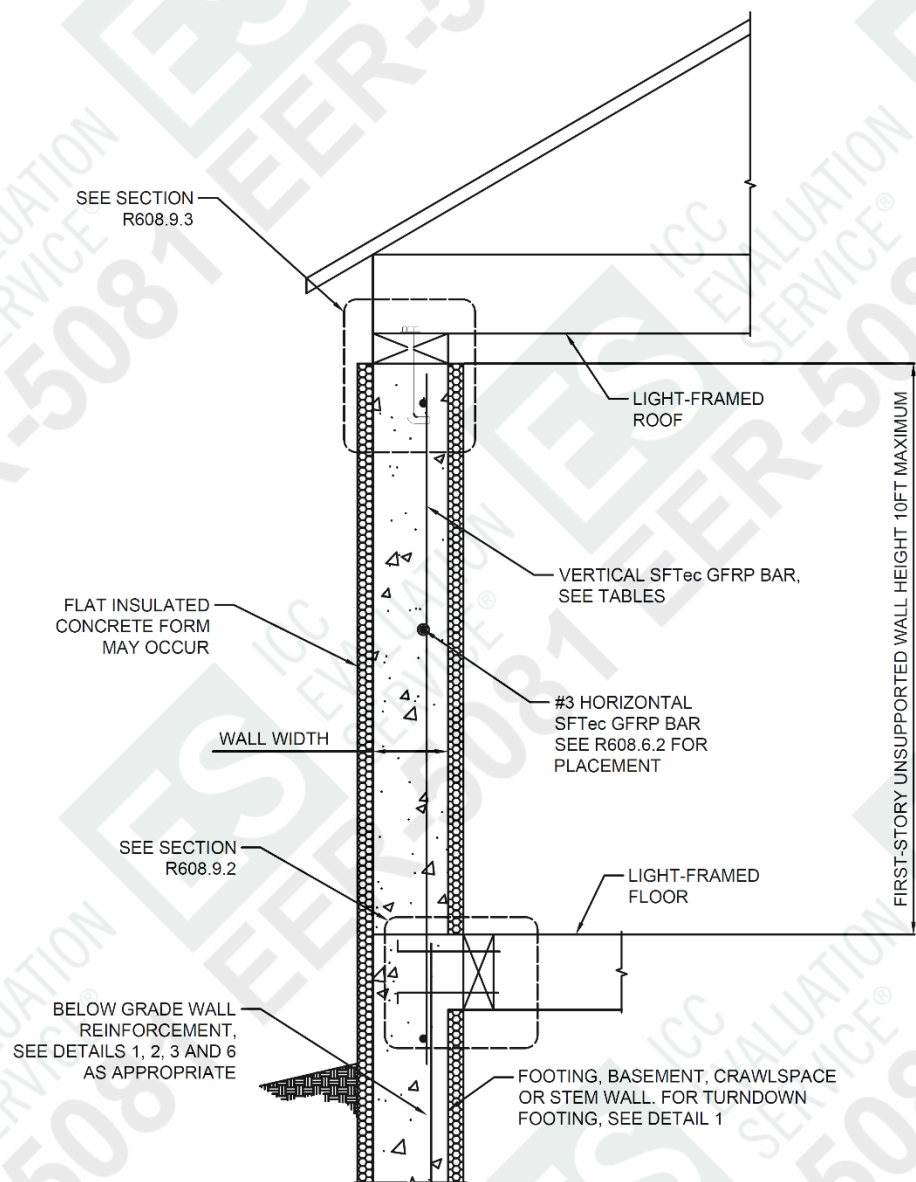
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf/ft = 0.1571 kPa²/m, 1 psi = 6.895 kPa.

PC= Plain Concrete.

Shaded cells highlight conditions not governed by Plain Concrete

*Footnotes:

1. Table is based on ASCE 7 components and cladding wind pressures for an enclosed building using a mean roof height of 35 feet, interior wall area number 4, an effective wind area of 10 square feet, topographic factor, K_{zt} , equal to 1.0, and Risk Category II.
2. Table is based on side loading for all walls, where gravity load from floor construction is transferred to wall from a wood ledger or cold-formed steel track bolted to side of wall.
3. Table values are only applicable for SFT-BAR® GFRP bar, with a specified concrete strength, f'_c , as specified in each Table at 28 days.
4. Flat panel insulated concrete forms may be used provided the manufacturer does not require special reinforcing outside of the IRC minimum requirements for steel as described in IRC Chapter 6.
5. PC indicates vertical wall reinforcement is not required. However, as a minimum, a vertical #4 SFT-BAR® GFRP bar @ 48 inches on center or #3 SFT-BAR® GFRP bar @ 24 inches on center must be used.
6. Allowable deflection criterion is $L/240$, where L is the unsupported height of the wall in inches.
7. Interpolation is not permitted.
8. Vertical and horizontal reinforcing must be placed at the center of the cross section.
9. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 440.11.
10. Horizontal reinforcement must be placed in accordance with Section R608.6.2 of the IRC, except #3 SFT-BAR® GFRP bar may be used in lieu of the #4 steel reinforcing bars. #3 SFT-BAR® GFRP bar may be lapped either 20 bar diameters or 19 inches, whichever is greater.
11. See Table R608.3 for tolerances on nominal thicknesses.
12. Wood sill plates and other connections to the wall to be installed in accordance with Section R608.9.
13. Vertical bar must be lapped a minimum of 30 bar diameters or 16 inches, whichever is greater.
14. Walls are subject to the requirements of Section R608.2 (applicability limits), R608.3.1 (Flat Walls) or R608.4 (Stay in Place Forms), R608.7 (Solid Walls for Resistance to Lateral Forces), R608.8 (requirements for Lintel and Reinforcement around Openings), R608.9 (Connections) and R608.10 (Diaphragms). Reduction factor for design strength, R_s , for walls must consider no horizontal and vertical shear reinforcement per requirements in Table R608.7.1.1(6) for the 2021 IRC or Table R608.7(4) for the 2018 IRC.
15. Reinforcing around openings can be SFT-BAR® GFRP bar in accordance with the Lintel section of this EER.
16. Table assumes that the building plan aspect ratio does not exceed 3:1 and a minimum of 1/3 of all wall lengths are made up of solid wall segments. Solid wall segments are defined as flat concrete walls extending the full height of the story without openings or penetrations.
17. Above grade walls reinforced with SFT-BAR® GFRP bar in Seismic Design Categories C, D, E or F are outside the scope of this report but may be designed by a Registered Design Professional.
18. The length of solid wall for wind per Section R608.7.1.1 of the IRC shall be calculated based on a reduction factor for design strength in Table R608.7.1.1(6) with no horizontal or vertical shear reinforcement.
19. Requirement of IRC Sections R608.2, R608.3.1, R608.4, R608.7, R608.8, R608.9, and R608.10 must be considered.



TYPICAL ABOVE GRADE WALL
CONCRETE

7

description

Client:



Project: ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - Detailing

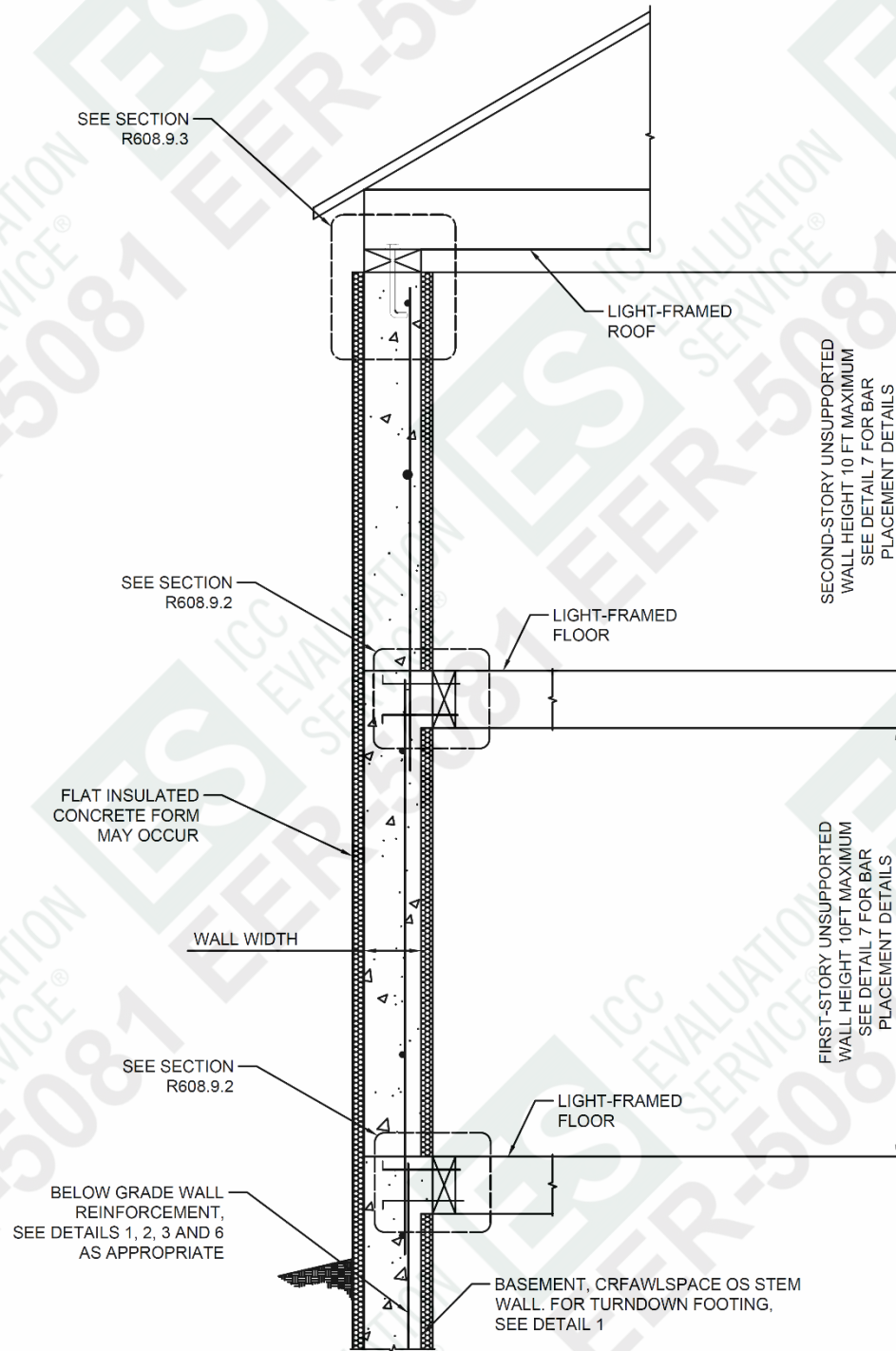
Drawing Nr.:

S-06

Prepared by: Ecotori, LLC
info@eco-tori.com

Date: 01/18/2024

FIGURE 6 –SECTION DETAILS



**TYPICAL ABOVE GRADE WALL
TWO STORY CONCRETE**

8

description

Client:



Project: ICC-ES Equivalency Evaluation Report (EER-5081)
SFTec GFRP Bars - Detailing

Drawing Nr.:

S-07

Prepared by: Ecotori, LLC
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Date: 01/18/2024

FIGURE 7 –SECTION DETAILS

TABLE 3 – LOAD BEARING CONCRETE WALL LINTELS WITHOUT STIRRUPS*

TABLE 6 - LOAD BEARING CONCRETE WALL LINTELS WITHOUT CHAIRS											
Load Bearing Lintel Span Table Reinforced with (1) #4 SFTec GFRP Bar (in)											
Wall Thickness (in)	Lintel Depth (in)	Design Loading Condition per Table R608.8(1)									
		1		2		3		4		5	
		Maximum Ground Snow Load (psf)									
4	8	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
	12	DR	DR	22	DR	DR	DR	DR	DR	DR	DR
	16	26	26	29	DR	DR	DR	DR	DR	DR	DR
	20	32	32	36	DR	DR	DR	DR	DR	DR	DR
	24	38	38	43	DR	DR	DR	DR	DR	DR	DR
6	8	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
	12	29	29	33	DR	DR	DR	DR	DR	DR	DR
	16	38	38	43	22	DR	DR	DR	DR	DR	DR
	20	47	47	54	28	DR	DR	DR	DR	DR	DR
	24	56	56	64	33	DR	DR	DR	DR	DR	DR
8	8	26	26	29	DR	DR	DR	DR	DR	DR	DR
	12	38	38	43	22	DR	DR	DR	DR	DR	DR
	16	50	50	57	30	DR	DR	DR	DR	DR	DR
	20	62	62	70	37	25	DR	DR	DR	DR	DR
	24	73	73	83	44	30	DR	DR	DR	DR	DR
10	8	31	31	33	DR	DR	DR	DR	DR	DR	DR
	12	46	46	49	28	DR	DR	DR	DR	DR	DR
	16	61	61	65	37	25	DR	DR	DR	DR	DR
	20	75	75	80	46	32	DR	DR	DR	DR	DR
	24	89	89	95	54	38	30	31	DR	26	DR

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.88 Pa.

DR = Design Required.

*Footnotes:

1. Table is based on loading as defined in Table R608.8(1).
2. All lintel designs are considered as controlled by the shear capacity of the plain concrete
3. All reinforcement must extend at least 12 in. beyond the end of the opening.
4. See Table R608.3 for tolerances permitted from nominal thickness.
5. Table values are based on concrete with a minimum specified compressive strength of 2500 psi. Where concrete with a minimum specified compressive strength of 3000 psi is used, span values may be permitted to be multiplied by 1.05.
6. Tabulated values are based on uniform loading.
7. Deflection criterion is $L/240$, where L is the clear span of the lintel in inches, or $\frac{1}{2}$ inch, whichever is less.
8. Linear interpolation is permitted between ground snow loads and between lintel depths
9. DR indicates design required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 440.11.
10. The maximum clear opening width between two solid wall segments must be 18 feet (216 in.). See Section R608.7.2.1.

TABLE 4 – NON-LOAD BEARING CONCRETE WALL LINTELS WITHOUT STIRRUPS*

Non-Load Bearing Lintel Span Table Reinforced with (1) #4 SFTec GFRP bar (in)								
Lintel Depth (in)	Wall Thickness (in)							
	4		6		8		10	
	Lintel Supporting							
	Light Framed Gable	Concrete Wall	Light Framed Gable	Concrete Wall	Light Framed Gable	Concrete Wall	Light Framed Gable	Concrete Wall
8	172	143	180	135	187	128	192	123
12	216	171	216	159	216	151	216	145
16	216	192	216	178	216	169	216	162
20	216	206	216	191	216	181	216	174
24	216	216	216	202	216	192	216	184

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.88 Pa.

1. Table is based on loading as defined in Table R608.8(1).
2. All lintels are presumed to not have stirrups and are controlled by the shear capacity of the plain concrete or satisfy the requirements of ACI 440.1R.
3. All reinforcement must extend at least 12 in. beyond the end of the opening.
4. See Table R608.3 for tolerances permitted from nominal thickness.
5. Table values are based on concrete with a minimum specified compressive strength of 2500 psi. Where concrete with a minimum specified compressive strength of 3000 psi, span values may be permitted to be multiplied by 1.05.
6. Tabulated values are based on uniform loading.
7. Deflection criterion is $L/240$, where L is the clear span of the lintel in inches, or $\frac{1}{2}$ inch, whichever is less.
8. The maximum clear opening width between two solid wall segments must be 18 feet. See Section R608.7.2.1.