

CASE III: 2H:1V BACKFILL

SEISMIC LATERAL WALL COEFFICIENT, kh=0.10																	
H	B	C	T	L	Bars a	Bars b	Bars c	Bars d, g	Bars e, f	Conc. Cu. Yd./Lin.Ft.	Reinf. Lb./Lin.Ft.	Effective Bearing Width, B' (ft) & Factored Soil Pressure, qu/φ (psf)					
												Service		Strength-I		Extreme-I; kh=0.1	
4'-0"	3'-2"	1'-2"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.24	16	2.8 ft	500 psf	2.9 ft	1200 psf	3.1 ft	600 psf
6'-0"	4'-6"	1'-3"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.39	22	4.3 ft	800 psf	4.4 ft	1800 psf	4.1 ft	1100 psf
8'-0"	6'-6"	1'-6"	1'-2"	-----	#5 @ 12"	#5 @ 12"	-----	#4 @ 12"	#4 @ 12"	0.61	48	6.3 ft	1100 psf	6.4 ft	2500 psf	5.6 ft	1600 psf
10'-0"	8'-0"	1'-9"	1'-4"	-----	#6 @ 12"	#7 @ 12"	-----	#4 @ 12"	#4 @ 12"	0.83	73	7.9 ft	1300 psf	8.0 ft	3100 psf	6.7 ft	2000 psf
12'-0"	8'-3"	2'-0"	1'-4"	1'-0"	#6 @ 9"	#6 @ 9"	#4 @ 18"	#4 @ 12"	#4 @ 12"	1.09	85	8.1 ft	1600 psf	7.9 ft	3900 psf	6.4 ft	2700 psf
14'-0"	10'-0"	3'-0"	1'-4"	1'-0"	#6 @ 6"	#6 @ 6"	#4 @ 18"	#4 @ 12"	#4 @ 12"	1.32	125	9.8 ft	1700 psf	10 .0ft	4000 psf	8.2 ft	2700 psf
16'-0"	11'-4"	3'-6"	1'-6"	1'-6"	#7 @ 8"	#8 @ 8"	#4 @ 16"	#4 @ 12"	#4 @ 12"	1.69	153	11.1 ft	2000 psf	11.3 ft	4600 psf	9.3 ft	3100 psf
18'-0"	12'-9"	3'-6"	1'-6"	1'-6"	#7 @ 6"	#9 @ 6"	#4 @ 18"	#4 @ 12"	#4 @ 12"	1.93	223	12.7 ft	2200 psf	12.5 ft	5500 psf	10.1 ft	3700 psf
20'-0"	14'-2"	4'-3"	1'-7"	2'-0"	#8 @ 6"	#9 @ 6"	#4 @ 12"	#5 @ 12"	#5 @ 12"	2.33	314	14.0 ft	2400 psf	14.0 ft	5800 psf	11.4 ft	4000 psf
22'-0"	15'-6"	4'-6"	2'-0"	2'-6"	#8 @ 6"	#9 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"	2.92	343	15.4 ft	2700 psf	15.2 ft	6700 psf	12.3 ft	4500 psf
24'-0"	16'-6"	5'-0"	2'-6"	2'-6"	#9 @ 6"	#9 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"	3.45	405	16.4 ft	2900 psf	15.9 ft	7300 psf	12.8 ft	5000 psf

SEISMIC LATERAL WALL COEFFICIENT, kh=0.20																	
H	B	C	T	L	Bars a	Bars b	Bars c	Bars d, g	Bars e, f	Conc. Cu. Yd./Lin.Ft.	Reinf. Lb./Lin.Ft.	Effective Bearing Width, B' (ft) & Factored Soil Pressure, qu/φ (psf)					
												Service		Strength-I		Extreme-I; kh=0.20	
4'-0"	3'-2"	1'-2"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.24	16	2.8 ft	500 psf	2.9 ft	1200 psf	2.7 ft	800 psf
6'-0"	4'-6"	1'-3"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.39	22	4.3 ft	800 psf	4.4 ft	1800 psf	3.2 ft	1400 psf
8'-0"	6'-6"	1'-6"	1'-2"	-----	#5 @ 12"	#5 @ 12"	-----	#4 @ 12"	#4 @ 12"	0.61	48	6.3 ft	1100 psf	6.4 ft	2500 psf	4.7 ft	2000 psf
10'-0"	7'-0"	2'-3"	1'-4"	1'-0"	#6 @ 12"	#7 @ 12"	#4 @ 24"	#4 @ 12"	#4 @ 12"	0.89	72	6.7 ft	1300 psf	6.9 ft	2900 psf	4.8 ft	2500 psf
12'-0"	8'-6"	2'-6"	1'-6"	1'-0"	#6 @ 9"	#6 @ 9"	#4 @ 18"	#4 @ 12"	#4 @ 12"	1.14	85	8.3 ft	1500 psf	8.5 ft	3600 psf	5.5 ft	3200 psf
14'-0"	10'-0"	3'-0"	2'-0"	1'-6"	#6 @ 6"	#6 @ 6"	#4 @ 18"	#5 @ 12"	#4 @ 12"	1.60	136	9.8 ft	1800 psf	9.9 ft	4200 psf	6.5 ft	3800 psf
16'-0"	12'-0"	3'-3"	2'-4"	2'-0"	#7 @ 8"	#8 @ 8"	#4 @ 16"	#5 @ 12"	#4 @ 12"	2.13	171	11.8 ft	2100 psf	12.0 ft	5000 psf	8.0 ft	4400 psf
18'-0"	16'-0"	4'-6"	2'-6"	2'-0"	#7 @ 6"	#9 @ 6"	#4 @ 18"	#5 @ 12"	#4 @ 12"	2.72	274	14.7 ft	2500 psf	14.9 ft	5900 psf	12.6 ft	4100 psf
20'-0"	18'-0"	5'-3"	3'-0"	2'-6"	#8 @ 6"	#9 @ 6"	#4 @ 12"	#6 @ 12"	#5 @ 12"	3.49	378	16.7 ft	2800 psf	16.6 ft	6600 psf	14.3 ft	4500 psf
22'-0"	20'-0"	6'-0"	3'-0"	3'-0"	#8 @ 6"	#9 @ 6"	#5 @ 12"	#6 @ 12"	#5 @ 12"	4.04	419	18 ft	3100 psf	18.3 ft	7300 psf	16.2 ft	4800 psf
24'-0"	22'-0"	7'-0"	3'-8"	3'-0"	#9 @ 6"	#10 @ 6"	#5 @ 12"	#6 @ 12"	#5 @ 12"	4.93	537	19.7 ft	3300 psf	20.0 ft	7900 psf	18.0 ft	5100 psf

SEISMIC LATERAL WALL COEFFICIENT, kh=0.30																	
H	B	C	T	L	Bars a	Bars b	Bars c	Bars d, g	Bars e, f	Conc. Cu. Yd./Lin.Ft.	Reinf. Lb./Lin.Ft.	Effective Bearing Width, B' (ft) & Factored Soil Pressure, qu/φ (psf)					
												Service		Strength-I		Extreme-I; kh=0.30	
4'-0"	3'-2"	1'-2"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.24	16	2.8 ft	500 psf	2.9 ft	1200 psf	2.3 ft	900 psf
6'-0"	4'-6"	1'-3"	1'-0"	1'-0"	#4 @ 18"	#4 @ 18"	#4 @ 24"	#4 @ 18"	#4 @ 18"	0.50	24	4.1 ft	900 psf	4.2 ft	2100 psf	3.0 ft	1800 psf
8'-0"	6'-6"	1'-6"	1'-2"	1'-0"	#5 @ 12"	#5 @ 12"	#4 @ 24"	#4 @ 12"	#4 @ 12"	0.72	51	6.2 ft	1200 psf	6.2 ft	2700 psf	4.1 ft	2500 psf
10'-0"	7'-0"	2'-3"	1'-6"	1'-6"	#6 @ 12"	#7 @ 12"	#4 @ 24"	#4 @ 12"	#4 @ 12"	1.01	71	6.7 ft	1300 psf	6.8 ft	3100 psf	3.9 ft	3400 psf
12'-0"	8'-6"	2'-6"	2'-6"	2'-0"	#6 @ 9"	#6 @ 9"	#4 @ 18"	#5 @ 12"	#4 @ 12"	1.57	95	8.4 ft	1700 psf	8.4 ft	3900 psf	4.5 ft	4600 psf
14'-0"	10'-0"	3'-0"	3'-0"	3'-0"	#6 @ 6"	#6 @ 6"	#4 @ 18"	#6 @ 12"	#4 @ 12"	2.26	150	9.8 ft	2000 psf	10.0 ft	4700 psf	5.5 ft	5300 psf
16'-0"	12'-0"	3'-3"	3'-6"	3'-6"	#8 @ 8"	#8 @ 8"	#4 @ 16"	#6 @ 12"	#4 @ 12"	2.97	202	11.7 ft	2400 psf	12.0 ft	5500 psf	6.8 ft	6100 psf
18'-0"	16'-0"	4'-6"	4'-0"	4'-0"	#7 @ 6"	#9 @ 6"	#4 @ 18"	#7 @ 12"	#4 @ 12"	4.08	321	14.8 ft	2800 psf	15.0 ft	6500 psf	11.0 ft	5400 psf
20'-0"	18'-0"	5'-3"	4'-6"	4'-6"	#8 @ 6"	#9 @ 6"	#4 @ 12"	#7 @ 12"	#4 @ 12"	5.03	384	16.9 ft	3000 psf	16.7 ft	7200 psf	12.5 ft	5900 psf
22'-0"	20'-0"	6'-0"	5'-0"	5'-0"	#8 @ 6"	#9 @ 6"	#5 @ 12"	#7 @ 12"	#4 @ 12"	6.08	427	18.2 ft	3400 psf	18.5 ft	7900 psf	14.1 ft	6400 psf
24'-0"	21'-0"	7'-0"	5'-6"	5'-6"	#9 @ 6"	#10 @ 6"	#5 @ 12"	#7 @ 12"	#5 @ 12"	7.02	553	19.1 ft	3600 psf	19.4 ft	8400 psf	14.6 ft	6900 psf

Accompanied by drawings – BR705, BR706, BR707, and BR709

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.		
OREGON STANDARD DRAWINGS		
STANDARD RETAINING WALL REINFORCEMENT DETAILS		
CASE III: 2H:1V INCLINED BACKFILL		
2024		
DATE	REVISION DESCRIPTION	
CALC. BOOK NO.	6402, 6406, 6407	SDR DATE 01-JUL-2020
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