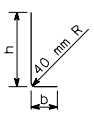
DIMENSIONS					FOOTING REINFORCEMENT																			STEM REINFORCEMENT			MATERIAL QUANTITY		H (m)
					BAR E (size #4)				BAR F			BAR K														BAR G (size #4)			
H (m)	B (m)	C_v (mm)	D (mm)	h_k (mm)	SPACING (mm)	LENGTH (mm)	h (mm)	b (mm)	SIZE	SPACING (mm)	LENGTH (mm)	SIZE	SPACING (mm)	LENGTH (mm)	h (mm)	b (mm)											LENGTH (mm)	CONCRETE (m^3/m)	STEEL (Kg/m)	
1.5	900	300	300		460	1040	840	200	#4	300	600	#5	300	1900	1400	610											1200	0.632	31.273	1.5
1.8	900	300	300		460	1040	840	200	#4	300	600	#5	300	2200	1700	630											1500	0.742	35.605	1.8
2.1	1000	300	300		460	1040	840	200	#4	300	600	#5	300	2500	2000	660											1800	0.888	38.024	2.1
2.4	1100	300	300		460	1040	840	200	#4	300	700	#5	300	2900	2300	690											2100	1.041	42.447	2.4
2.7	1200	380	300		460	1040	840	200	#4	300	700	#5	300	3300	2600	810											2400	1.227	47.461	2.7
3.0	1400	380	300		460	1040	840	200	#4	250	800	#5	300	3600	2900	840											2700	1.422	50.766	3.0
3.4	1500	460	300		460	1040	840	200	#5	300	1000	#5	300	4000	3200	940											3000	1.625	57.249	3.4
3.7	1700	460	300		460	1040	840	200	#5	230	1100	#5	280	4400	3500	970											3300	1.839	66.148	3.7
4.0	1900	530	300		460	1040	840	200	#5	180	1200	#5	230	4800	3800	1070											3600	2.084	86.672	4.0
4.3	2100	530	300		460	1040	840	200	#6	180	1500	#5	180	5100	4100	1120											3900	2.318	102.223	4.3
4.6	2300	610	380		460	1120	910	200	#6	180	1600	#5	150	5600	4400	1220											4100	2.707	116.344	4.6
4.9	2500	690	380		460	1120	910	200	#6	130	1800	#5	150	5900	4700	1320											4400	2.998	133.283	4.9
5.2	2700	690	460		460	1190	990	200	#7	130	1900	#5	130	6300	5100	1350											4700	3.416	155.614	5.2
5.5	2800	690	460		460	1190	990	200	#7	150	2300	#6	150	6600	5400	1370		BAR M						BAR J			5000	3.738	188.184	5.5
5.8	2900	760	530		460	1270	1070	200	#7	150	2200	#6	130	7000	5700	1470	SIZE	SPACING (mm)	LENGTH (mm)	h (mm)	b (mm)	SIZE	SPACING (mm)	LENGTH (mm)	5200	4.129	216.849	5.8
6.1	3000	910	610		460	1350	1140	200	#7	150	2200	#6	130	7500	6000	1680									5400	4.618	225.945	6.1
6.4	3200	1070	610		460	1350	1140	200	#7	150	2200	#7	300	5300	3600	1850	#7	300	3100	1500	1900	#7	300	5800	5700	4.952	233.122	6.4
6.7	3400	1140	610		460	1350	1140	200	#7	150	2200	#7	280	5500	3800	1960	#7	280	3200	1500	2000	#7	280	6000	6000	5.295	280.106	6.7
7.0	3500	1140	690		460	1420	1220	200	#8	150	2400	#8	300	6000	4200	1980	#8	300	3600	1900	2000	#8	300	6300	6300	5.850	311.553	7.0
7.3	3700	1220	690		460	1420	1220	200	#8	180	2800	#8	280	6200	4400	2080	#8	280	3700	1900	2000	#8	280	6600	6600	6.274	357.424	7.3
7.6	3900	1220	760		460	1500	1300	200	#8	150	2900	#8	250	6500	4500	2130	#8	250	3800	1900	2100	#8	250	6800	6800	6.881	420.620	7.6
7.9	4000	1370	760	610	460	1500	1300	200	#8	150	2800	#8	250	6700	4600	2310	#8	250	4000	1900	2300	#8	250	7100	7100	7.779	439.511	7.9
8.2	4100	1450	760	610	460	1500	1300	200	#8	150	2900	#9	280	7300	5100	2410	#9	280	4400	2300	2400	#9	280	7400	7400	8.187	494.450	8.2
8.5	4300	1520	840	610	460	1570	1370	200	#8	150	2900	#9	250	7500	5200	2510	#9	250	4600	2300	2500	#9	250	7700	7600	8.855	544.224	8.5
8.8	4400	1680	840	610	460	1570	1370	200	#8	150	2900	#9	250	7800	5400	2690	#9	250	4700	2300	2700	#9	250	8000	8000	9.291	585.855	8.8
9.1	4600	1830	840	610	460	1570	1370	200	#8	150	2800	#9	230	8100	5500	2900	#9	230	5000	2300	2900	#9	230	8300	8300	9.738	655.294	9.1
9.4	4800	1910	910	610	460	1650	1450	200	#8	150	2900	#10	250	8800	6000	3000	#10	250	5500	2800	3000	#10	250	8500	8500	10.470	731.386	9.4
9.8	4900	1980	910	610	460	1650	1450	200	#8	150	2900	#10	230	9000	6100	3100	#10	230	5600	2800	3100	#10	230	8800	8800	10.944	817.033	9.8
10.1	5100	2060	990	610	460	1730	1520	200	#9	180	3400	#10	230	9200	6300	3200	#10	250	5800	2900	3200	#10	230	9000	9000	11.800	856.229	10.1
10.4	5300	2210	1070	610	460	1800	1600	200	#9	180	3400	#10	230	9600	6500	3380	#10	230	6100	3000	3400	#10	230	9300	9200	12.612	880.923	10.4
10.7	5400	2290	1070	610	460	1800	1600	200	#9	180	3400	#10	230	9800	6600	3510	#10	200	6200	3000	3500	#10	200	9600	9600	13.134	991.880	10.7

NOTES

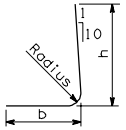
1. All concrete shall be Class 28.
2. For backfill requirements, see Standard Plan "Backfill for Retaining Walls".
3. When Wall Type 5-SW (saltwater) is specified, the concrete cover over steel in the front face and the total wall thickness shall be increased by 25 mm.
4. When Wall Type 5-SW (saltwater) is specified, concrete in the table column "Material Quantity" shall be increased by 0.0254 x H m^3/m.

Bar	Radius (mm)
#5	230
#6	280
#7	330
#8	380
#9	460
#10	510

Bar	MIN Splice (mm)
#4	610
#5	610
#6	640
#7	890
#8	1140
#9	1450
#10	1850

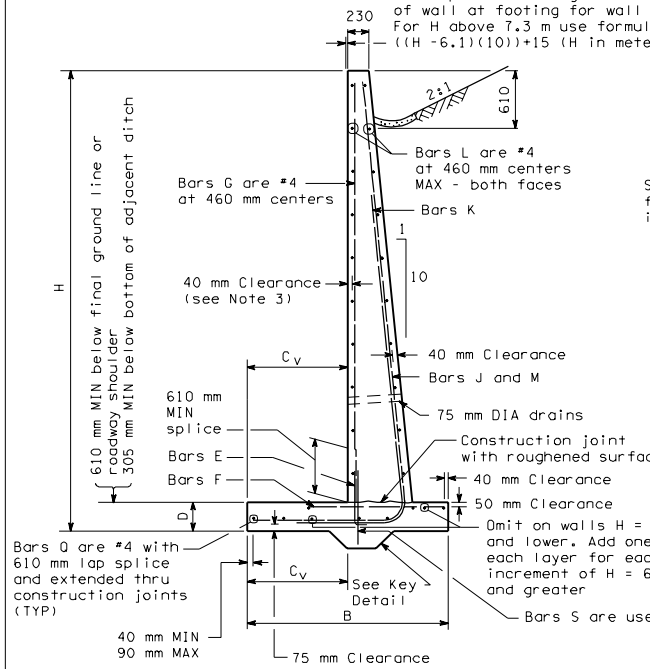


BAR E

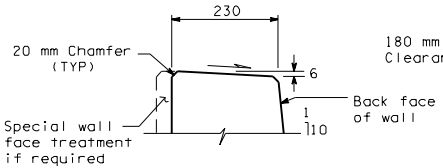


BARS K AND M

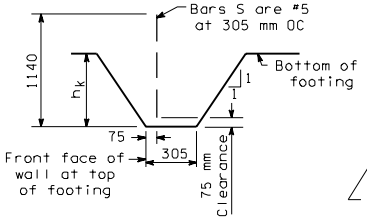
Set top of retaining wall back 15 mm from face of wall at footing for wall heights H to 6.1 m. For H above 7.3 m use formula: offset (mm) = ((H -6.1)(10))+15 (H in meters)



SECTION - VERTICAL FACE

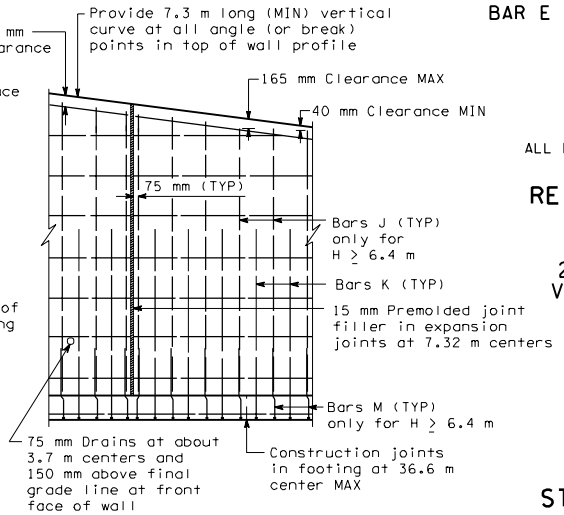


WALL TOP DETAIL



KEY DETAIL

Not required on walls H = 1.5 m thru H = 7.6 m



ELEVATION

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

REINFORCED CONCRETE RETAINING WALL TYPE 5 AND 5 SW

2:1 BACKSLOPE WITH VERTICAL FRONT FACE

STANDARD PLAN D-1e

APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER — DATE

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON