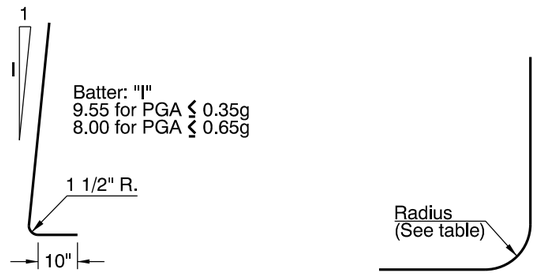
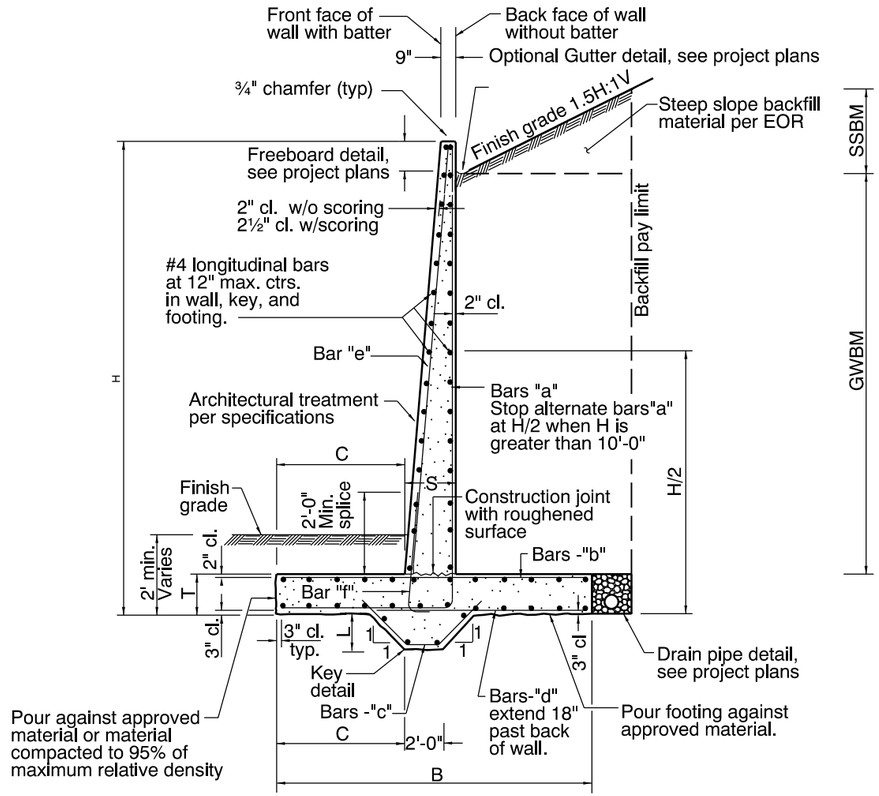


BAR "f"

BAR "a"

BAR	RADIUS
#4	1 1/2"
#5	1 7/8"
#6	2 1/4"
#7	2 5/8"
#8	3"
#9	4 3/4"
#10	5 3/8"

BAR	MIN. SPLICE
#4	2' - 0"
#5	2' - 0"
#6	2' - 0"
#7	2' - 6"
#8	3' - 3"
#9	4' - 2"
#10	5' - 3"



CROSS - SECTION
NTS

WALL DATA FOR PGA ≤ 0.35g

H	B	C	S	T	L	Bars a	Bars b	Bars c	Bars d	Bars e	Conc. Cu. Yd./Lin.Ft	Factored Soil Pressure, psf		
												Service	Strength-I	Extreme-I
4' - 0"	4' - 0"	1' - 0"	12 3/4"	12"	___	#4 @ 18"	#4 @ 18"	___	#4 @ 18"	#4 @ 18"	0.25	537	789	520
6' - 0"	5' - 0"	1' - 0"	15 1/4"	12"	___	#4 @ 12"	#4 @ 14"	___	#4 @ 18"	#4 @ 18"	0.37	811	1149	872
8' - 0"	6' - 0"	1' - 0"	17 7/8"	12"	___	#4 @ 9"	#4 @ 12"	___	#4 @ 14"	#4 @ 14"	0.51	1104	1569	1289
10' - 0"	7' - 0"	1' - 3"	20 1/4"	12"	___	#4 @ 6"	#4 @ 9"	___	#4 @ 12"	#4 @ 12"	0.67	1326	1890	1668
12' - 0"	8' - 0"	1' - 6"	22 7/8"	12"	___	#5 @ 6"	#5 @ 6"	___	#5 @ 18"	#5 @ 18"	0.84	1546	2209	2068
14' - 0"	9' - 0"	1' - 9"	25"	15"	___	#6 @ 9"	#5 @ 6"	___	#5 @ 16"	#5 @ 16"	1.09	1791	2560	2513
16' - 0"	10' - 6"	2' - 3"	27 1/4"	18"	___	#7 @ 9"	#6 @ 6"	___	#5 @ 14"	#5 @ 14"	1.39	1919	2723	2719
18' - 0"	12' - 0"	2' - 9"	29 1/2"	20"	___	#7 @ 6"	#6 @ 6"	___	#5 @ 12"	#5 @ 12"	1.71	2049	2892	2928
20' - 0"	13' - 6"	3' - 3"	31 7/8"	22"	___	#8 @ 9"	#7 @ 6"	___	#5 @ 12"	#5 @ 12"	2.06	2185	3072	3146
22' - 0"	14' - 9"	4' - 0"	34"	25"	___	#9 @ 9"	#7 @ 6"	___	#5 @ 10"	#5 @ 10"	2.46	2276	3196	3357
24' - 0"	16' - 0"	5' - 0"	36 3/8"	27"	1' - 0"	#9 @ 6"	#7 @ 6"	#4 @ 18"	#5 @ 10"	#5 @ 10"	2.97	2337	3278	3530

NOTE: PGA is Peak Ground Acceleration value for 1000-yr return period, AASHTO LRFD 2010.

GENERAL NOTES:

1. All concrete shall be Class 4000-1½", 1" or ¾".

2. Wall stem thickness at top does not depend upon scoring and architectural treatment.

3. All reinforcing steel shall conform to ASTM A706, or AASHTO M31, Grade 60.

4. All bars shall be placed 2" clear of the nearest face of concrete unless noted or shown otherwise.

5. Place expansion joints through wall and footing and contraction joints in wall only. See BR709 for location of joints and joint details. If not shown, place expansion joints at approx. 96'-0" ctrs. and contraction joints at approx. 32'-0" ctrs.

6. Complete all excavation, (including trenching), backfill and compaction in front of wall prior to retaining wall backfill placement.

7. See DET 3710 for drainage options and details.

DESIGN NOTES:

1. Retaining wall is designed in general accordance with AASHTO LRFD Bridge Design Specifications, 5th Edition, 2010 and ODOT GDM, 2010 and updates.

2. Intermediate values of "H", "B", "C", "S", "T", & "L" vary on a straight line basis. These dimensions shall be the minimum dimensions for construction of walls.

3. Wall is not designed for traffic barrier loading.

4. Key is considered only in sliding stability calculations.

5. Wall backfill is free-draining; unit weight = 125 pcf; friction angle = 34 degrees; cohesion = 0 psf. Friction angle = 38 degrees; unit weight = 130 pcf.

6. Foundation soil friction angle = 30 degrees; cohesion = 0 psf.

7. Peak ground acceleration (PGA) values are based on 1000-yr return period as per AASHTO LRFD 2010.

8. Foundation subgrade improvement or special foundation design is required when factored bearing resistance (capacity) is less than factored bearing pressure (demand). See typical values in wall data table.

9. Use geotechnical resistance factor of 0.8 to calculate extreme-I factored bearing resistance.

10. Wall is designed for lateral displacement (d). For PGA ≤ 0.35g, d = 2" max. For PGA ≥ 0.65g, d = 4" max.

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

OREGON DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES
DETAILS

STANDARD RETAINING WALL
CAST-IN-PLACE SEMI-GRAVITY
1.5H:1V BACKSLOPE

DETAIL NO.
DET 3711

det3711.dgn 01-30-2012

DET 3711