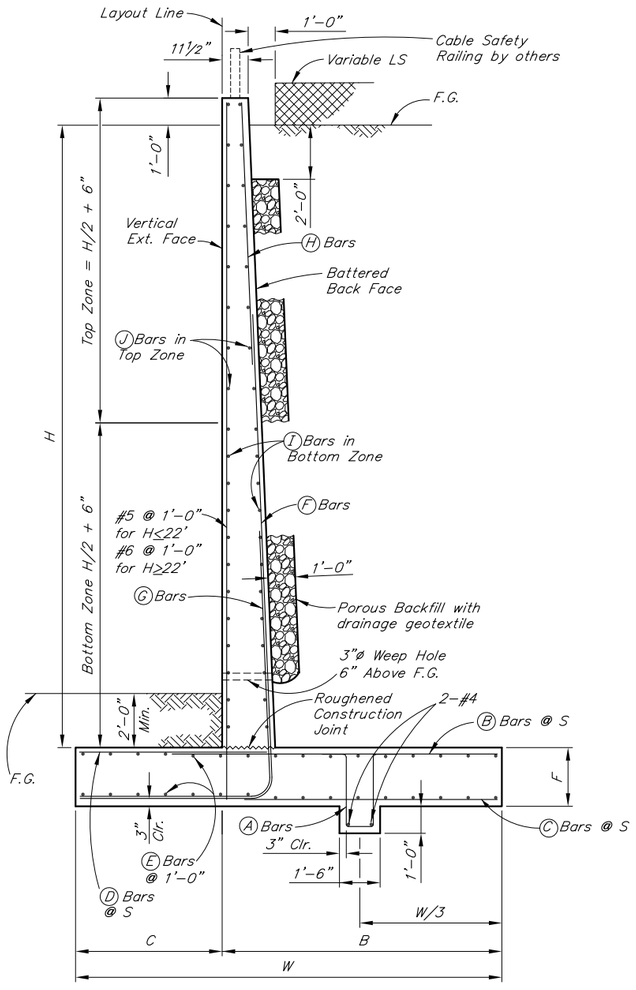
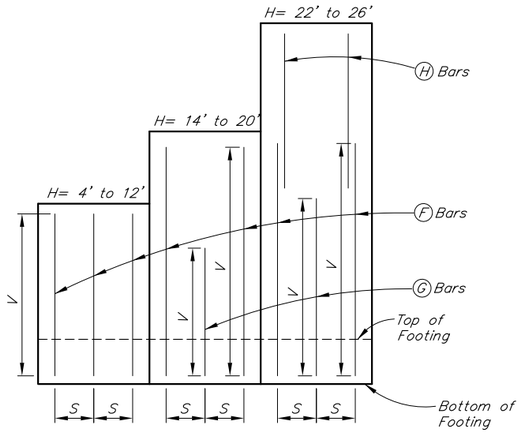


TYPICAL SECTION
No Scale



BACK FACE ELEVATION
No Scale

GENERAL NOTES

DESIGN: AASHTO LRFD Bridge Design Specifications, 2017 Edition, with latest interim specifications.

LIVE LOAD SURCHARGE: Up to 2' of fill on level ground surface.

ADDITIONAL DEAD LOAD: Up to 2" Non-Structural Concrete on exterior face included.

SEISMIC PARAMETERS: $0.40g < A_S \leq 0.60g$

FOUNDATION SOIL: $\phi \geq 28°$; Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

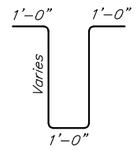
RETAINED SOIL: $32° \leq \phi \leq 36°$
$120\ pcf \leq \gamma \leq 140\ pcf$

REINFORCED CONCRETE: Class A Concrete, f'c = 4,000 psi

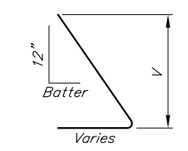
REINFORCEMENT: ASTM A706 or A615, Grade 60, Fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:
Service I = 1.0DC +1.0EV +1.0EH +1.0LS
Strength I = αDC +βEV +ηEH +1.75LS
Extreme I = 1.0DC +1.0EV +1.0EH +1.0EQD +1.0EQE

Where:
α: 1.25 or 0.90, Whichever Controls Design
β: 1.35 or 1.00, Whichever Controls Design
η: 1.50 or 0.90, Whichever Controls Design
DC: Dead Load of Structure Components
EH: Horizontal Earth Fill Pressure
EV: Vertical Earth Pressure from Earth Fill Weight
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structural and Nonstructural Components Inertia



Ⓐ BARS



Ⓕ BARS AND Ⓖ BARS

See "B-07.10" for details not shown

ABBREVIATIONS:

Ser I – Service I limit state
Str I – Strength I limit state
B' – Effective footing width (ft)
qo – Gross uniform bearing stress (ksf)
F.G. – Finished grade

TABLE OF DIMENSIONS, REINFORCING STEEL, AND DATA

DIMENSIONS							Ⓐ BARS			Ⓑ BARS		Ⓒ BARS		Ⓓ BARS		Ⓔ BARS	Ⓕ BARS			Ⓖ BARS			Ⓗ BARS		Ⓘ BARS		Ⓙ BARS		EFFECTIVE FOOTING WIDTHS AND BEARING PRESSURES			Steel (Lbs/ft) Concrete (CF/ft)
H	W	F	C	B	Batter	Spacing S	Size	Spacing	Length	Size	Length	Size	Length	Size	Length	Size	Size	V	Length	Size	V	Length	Size	Length	Size	Spacing	Size	Spacing	Ser I B'-qo	Str I B'-qo	Ext I B'-qo	
4'-0"	4'-0"	1'-0"	1'-0"	3'-0"	1/2":12"	12"	#4	1'-6"	6'-2"	#4	2'-11"	#4	2'-6"	#4	1'-8"	#4	#4	5'-7"	7'-5"	–	–	–	–	–	#4	1'-6"	#4	1'-6"	3.6-1.0	3.5-1.4	2.7-1.2	30-10.9
6'-0"	4'-3"	1'-0"	1'-3"	3'-0"	1/2":12"	12"	#4	1'-6"	6'-2"	#4	2'-10"	#4	2'-5"	#4	1'-11"	#4	#4	7'-7"	9'-9"	–	–	–	–	–	#4	1'-0"	#4	1'-6"	3.4-1.4	3.2-2.0	2.4-1.9	38-13.5
8'-0"	4'-9"	1'-3"	1'-6"	3'-3"	1/2":12"	12"	#4	1'-6"	6'-8"	#4	3'-4"	#4	2'-7"	#4	2'-2"	#4	#5	9'-10"	12'-4"	–	–	–	–	–	#4	1'-0"	#4	1'-6"	3.4-2.0	3.0-3.0	2.0-3.1	50-17.8
10'-0"	5'-6"	1'-3"	1'-9"	3'-9"	1/2":12"	9"	#4	1'-6"	6'-8"	#4	3'-9"	#4	3'-0"	#4	2'-5"	#4	#5	11'-10"	14'-8"	–	–	–	–	–	#4	1'-0"	#4	1'-0"	3.9-2.3	3.5-3.5	2.1-4.0	69-21.5
12'-0"	6'-3"	1'-3"	2'-0"	4'-3"	1/2":12"	9"	#4	1'-6"	6'-8"	#4	4'-2"	#4	3'-5"	#4	2'-8"	#4	#6	13'-10"	17'-0"	–	–	–	–	–	#4	1'-0"	#4	1'-0"	4.4-2.7	3.9-4.1	2.2-5.1	89-25.3
14'-0"	7'-6"	1'-6"	2'-4"	5'-2"	1/2":12"	9"	#4	1'-6"	7'-2"	#5	5'-5"	#4	4'-3"	#4	3'-0"	#4	#7	16'-1"	19'-8"	#7	8'-9"	12'-4"	–	–	#4	1'-0"	#4	1'-0"	5.6-2.9	5.1-4.3	2.8-5.5	110-31.9
16'-0"	8'-3"	1'-8"	2'-9"	5'-6"	5/8":12"	9"	#4	1'-6"	7'-6"	#5	5'-6"	#4	4'-4"	#4	3'-5"	#4	#7	18'-3"	22'-7"	#7	10'-7"	14'-10"	–	–	#5	1'-0"	#4	1'-0"	6.0-3.3	5.4-4.9	3.0-7.0	131-39.1
18'-0"	9'-6"	1'-8"	3'-0"	6'-6"	5/8":12"	9"	#4	1'-6"	7'-6"	#7	7'-2"	#4	5'-3"	#4	3'-8"	#4	#8	20'-3"	24'-11"	#8	11'-10"	16'-6"	–	–	#5	1'-0"	#4	1'-0"	7.3-3.4	6.7-5.0	3.8-6.9	174-45.0
20'-0"	10'-3"	1'-10"	3'-4"	6'-11"	5/8":12"	6"	#4	1'-6"	7'-10"	#6	7'-1"	#4	5'-6"	#4	4'-0"	#5	#8	22'-5"	27'-6"	#8	11'-0"	16'-1"	–	–	#5	1'-0"	#4	1'-0"	7.7-3.8	7.1-5.6	3.7-8.4	239-52.0
22'-0"	11'-6"	2'-0"	3'-6"	8'-0"	5/8":12"	6"	#4	1'-6"	8'-2"	#7	8'-5"	#4	6'-6"	#4	4'-2"	#5	#9	18'-11"	24'-3"	#9	12'-5"	17'-9"	#5	16'-10"	#5	1'-0"	#4	1'-0"	9.0-4.1	8.3-6.0	4.5-8.6	305-60.4
24'-0"	12'-9"	2'-3"	4'-3"	8'-6"	3/4":12"	6"	#4	1'-6"	8'-8"	#7	8'-7"	#4	6'-8"	#4	4'-11"	#5	#9	21'-1"	27'-6"	#9	13'-4"	19'-9"	#5	18'-2"	#5	1'-0"	#5	1'-0"	10.2-4.2	9.5-6.1	5.2-8.8	356-73.7
26'-0"	14'-0"	2'-6"	4'-9"	9'-3"	3/4":12"	6"	#4	1'-6"	9'-2"	#7	9'-3"	#4	7'-3"	#4	5'-5"	#5	#10	24'-6"	31'-7"	#10	15'-0"	22'-0"	#5	19'-6"	#6	1'-0"	#5	1'-0"	11.5-4.4	10.7-6.4	6.0-9.0	455-85.2

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CANTILEVER RETAINING WALL
TYPE I – HIGH SEISMIC

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 07/17/2020

Last Code and Stds. Review
By: NWM Date: 7/17/20

Next Code and Standards Review date: 07/17/2030

DESIGNED BY: NWM
CHECKED BY: BAS
DRAWN BY: MCM

B-04.10HS