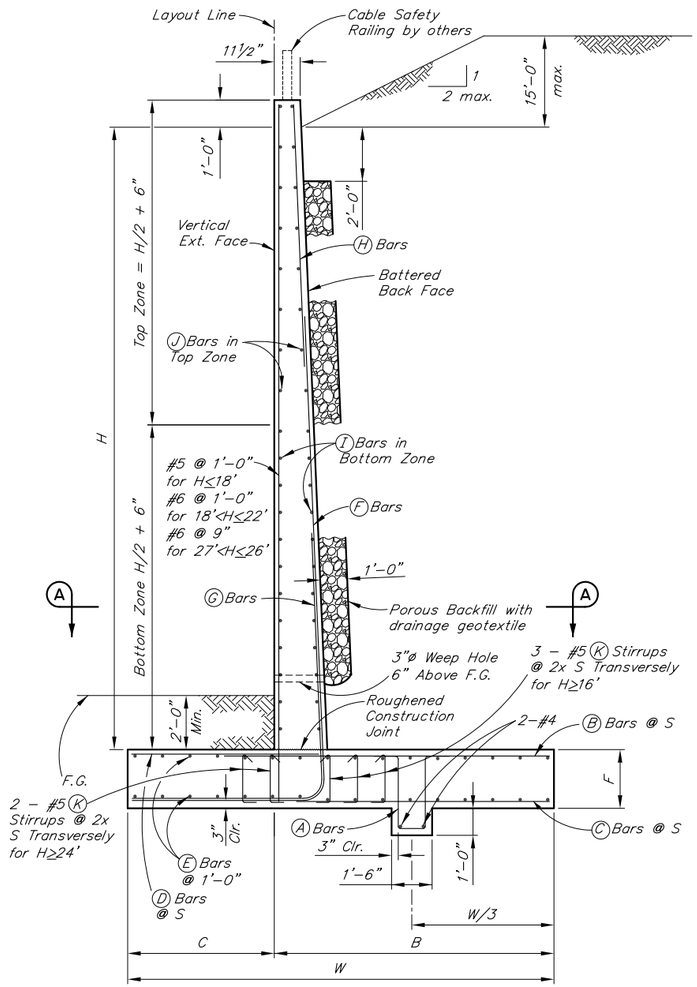
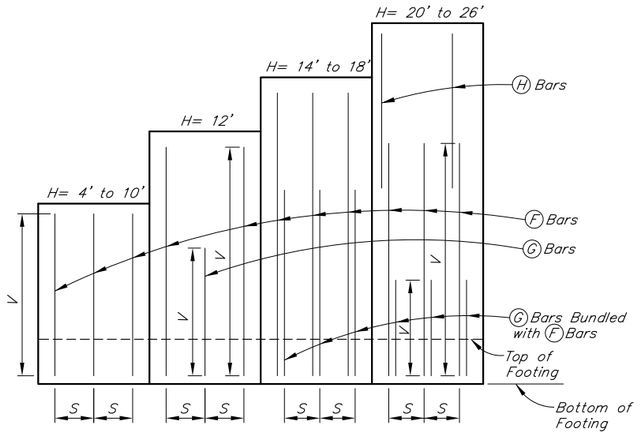
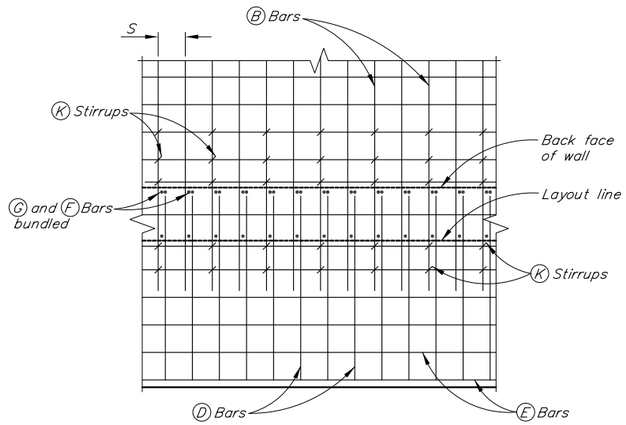


TYPICAL SECTION
No Scale



BACK FACE ELEVATION
No Scale



SECTION A-A
No Scale

GENERAL NOTES

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

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

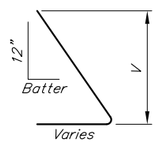
LOAD COMBINATIONS AND LIMIT STATES:

Service I	= 1.0DC +1.0EV +1.0EH
Strength I	= αDC +βEV +ηEH
Extreme I	= 1.0DC +1.0EV +1.0EH +1.0EQD +1.0EQE

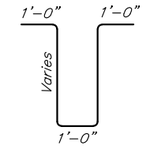
Where:

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
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

Ⓚ BARS



Ⓕ BARS AND Ⓖ BARS



Ⓐ BARS

See "B-07.10" for details not shown

ABBREVIATIONS:

Ser I	– Service I limit state
Str I	– Strength I limit state
Ext I	– Extreme event 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"	6'-0"	1'-3"	1'-6"	4'-6"	1/2":12"	12"	#4	1'-6"	6'-8"	#4	4'-9"	#4	4'-0"	#4	2'-2"	#4	#5	5'-10"	8'-2"	–	–	–	–	–	#4	1'-6"	#4	1'-6"	5.9-1.0	5.8-1.3	2.3-3.5	40-14.4
6'-0"	7'-0"	1'-3"	2'-0"	5'-0"	1/2":12"	9"	#4	1'-6"	6'-8"	#4	5'-2"	#4	4'-5"	#4	2'-8"	#4	#6	7'-10"	10'-9"	–	–	–	–	–	#4	1'-0"	#4	1'-6"	6.8-1.2	6.7-1.7	2.4-4.7	63-18.0
8'-0"	8'-6"	1'-8"	2'-9"	5'-9"	1/2":12"	9"	#4	1'-6"	7'-6"	#5	6'-3"	#4	5'-1"	#4	3'-5"	#4	#8	10'-3"	14'-0"	–	–	–	–	–	#4	1'-0"	#4	1'-6"	8.1-1.6	7.9-2.1	3.0-5.4	105-26.0
10'-0"	9'-9"	1'-9"	3'-3"	6'-6"	1/2":12"	6"	#4	1'-6"	7'-8"	#5	6'-11"	#4	5'-9"	#4	3'-11"	#4	#9	12'-4"	16'-8"	–	–	–	–	–	#4	1'-0"	#4	1'-0"	9.2-1.9	8.9-2.6	3.4-6.2	188-31.7
12'-0"	11'-3"	1'-10"	3'-3"	8'-0"	5/8":12"	6"	#4	1'-6"	7'-10"	#6	8'-7"	#4	7'-0"	#4	3'-11"	#5	#9	14'-5"	19'-0"	#9	9'-1"	13'-8"	–	–	#4	1'-0"	#4	1'-0"	10.2-2.3	9.9-3.2	4.2-6.9	214-39.0
14'-0"	12'-3"	1'-10"	3'-9"	8'-6"	5/8":12"	6"	#4	1'-6"	7'-10"	#7	9'-4"	#4	7'-5"	#4	4'-5"	#5	#8	16'-5"	21'-7"	#8	9'-0"	14'-2"	–	–	#5	1'-0"	#4	1'-0"	10.9-2.6	10.6-3.7	4.3-8.0	321-44.2
16'-0"	13'-6"	2'-0"	4'-0"	9'-6"	3/4":12"	6"	#4	1'-6"	8'-2"	#8	10'-6"	#4	8'-2"	#4	4'-8"	#5	#9	18'-7"	24'-4"	#9	10'-5"	16'-1"	–	–	#5	1'-0"	#4	1'-0"	11.7-3.1	11.3-4.4	4.7-9.0	440-53.9
18'-0"	15'-0"	2'-0"	4'-6"	10'-6"	7/8":12"	6"	#4	1'-6"	8'-2"	#9	11'-11"	#4	8'-10"	#4	5'-2"	#5	#9	20'-7"	27'-2"	#9	11'-1"	17'-7"	–	–	#5	1'-0"	#4	1'-0"	13.0-3.4	12.5-4.8	5.8-8.8	505-62.9
20'-0"	16'-3"	2'-0"	5'-3"	11'-0"	1":12"	6"	#4	1'-6"	8'-2"	#10	12'-11"	#4	8'-11"	#4	5'-11"	#5	#9	18'-11"	28'-4"	#9	11'-9"	19'-5"	#8	16'-5"	#6	1'-0"	#5	1'-0"	14.0-3.7	13.4-5.2	6.5-9.0	636-72.5
22'-0"	18'-0"	2'-0"	5'-6"	12'-6"	1":12"	6"	#4	1'-6"	8'-2"	2x#9	13'-4"	#4	10'-3"	#4	6'-2"	#5	#10	22'-5"	32'-3"	#10	13'-2"	21'-2"	#8	17'-9"	#6	1'-0"	#5	1'-0"	15.6-4.1	15.0-5.8	8.0-8.8	860-81.6
24'-0"	19'-6"	2'-3"	6'-6"	13'-0"	1":12"	6"	#4	1'-6"	8'-8"	2x#9	13'-8"	#4	10'-7"	#4	7'-2"	#6	#10	23'-7"	34'-10"	#10	15'-4"	24'-6"	#9	19'-8"	#6	1'-0"	#5	1'-0"	17.0-4.3	16.3-6.1	9.1-8.8	986-95.4
26'-0"	22'-0"	2'-6"	7'-6"	14'-6"	1 1/8":12"	6"	#4	1'-6"	9'-2"	2x#10	15'-8"	#4	11'-8"	#4	8'-2"	#6	#11	25'-3"	38'-2"	#11	15'-8"	26'-4"	#10	21'-9"	#6	1'-0"	#5	1'-0"	19.7-4.5	18.9-6.3	11.9-8.0	1291-116.6

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CANTILEVER RETAINING WALL TYPE II – 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
DRAWN BY: MCM
CHECKED BY: BAS

B-05.10HS