GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 2017 edition with California Amendments updated April 2019

DEAD LOAD:
2" Concrete Surface Texture added to stem (DC)

WIND LOADING:
Wind perpendicular to plane of Sound Wall and Barrier
Exposure Category D (WS)

LIVE LOADING:
Varied surcharge on level ground surface (LS)

54 Kip transverse force on sound wall applied at 6'-0" above finished grade, distributed over 3'-6" and 1:1 distribution down and outward. Load distribution of 1V:0.6H applied at beginning of wall, end wall and on either side of expansion joints (CT)

SEISMIC LOADING (EQE):
K_h = 0.3

SOIL PARAMETERS (BACKFILL):
ϕ = 34°
γ = 0.120 kcf
ϕ = 32° (used for footing friction)

REINFORCED CONCRETE:
f_y = 60 ksi
f'_c = 3.6 ksi

LOAD COMBINATIONS AND LIMIT STATES

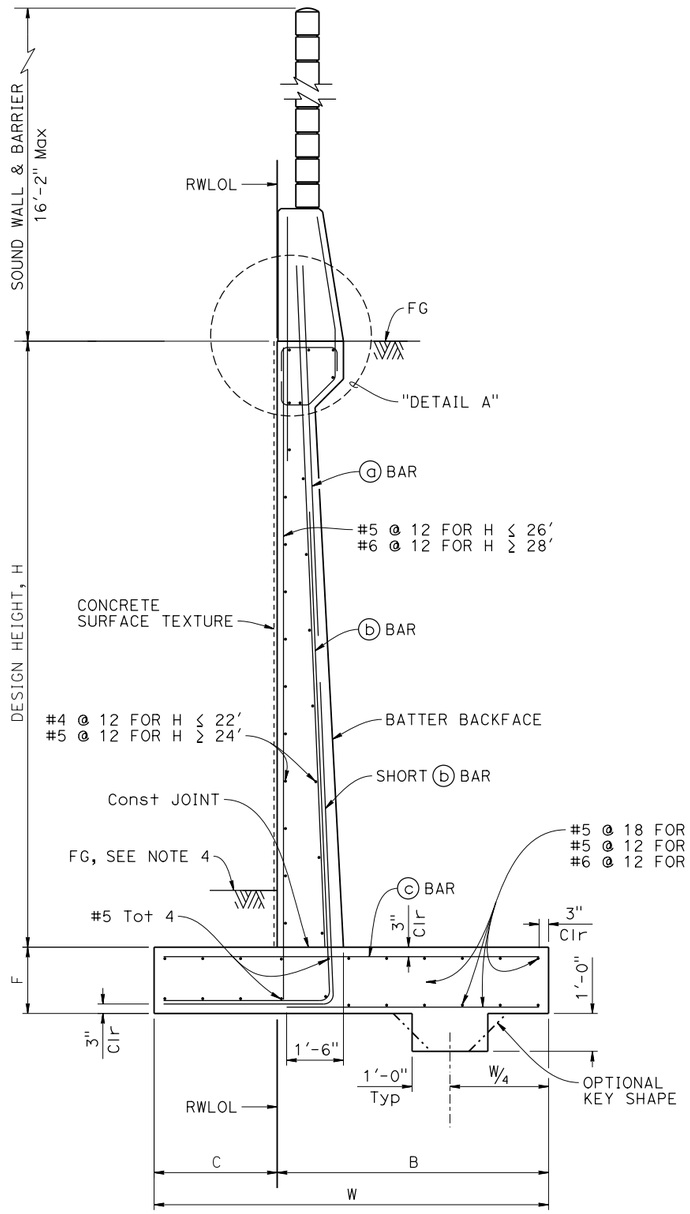
Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS+1.00WS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Strength III	Q = αDC+βEV+1.50EH+1.00WS
Strength V	Q = αDC+βEV+1.50EH+1.35LS+1.00WS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

WHERE:

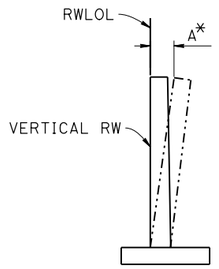
Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	0.9 or 1.5, Whichever Controls Design
DC:	Dead Load of Structure Components
EV:	Vertical Earth Fill Pressure
EH:	Horizontal Earth Fill Pressure
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structure Components Inertia (Soil inertia ignored for stem design)
WS:	Wind Load on Sound Wall
CT:	Vehicular Collision Force

NOTES:

1. For reinforcement layout details, see "RETAINING WALL (TYPE 1SWB) DETAILS No. 2" sheet.
2. For Sound Wall and Retaining Wall Concrete Surface Texture, see "ARCHITECTURAL DETAILS" sheet.
3. For Retaining Wall details not shown and drainage notes, see Standard Plan B0-3 and B3-5.
4. Footing cover, 1'-6" minimum.
5. For Sound Wall reinforcement details, see "SOUND WALL MASONRY BLOCK WITH BARRIER ON RETAINING WALL DETAILS No. 1", "SOUND WALL MASONRY BLOCK WITH BARRIER ON RETAINING WALL DETAILS No. 2" and "SOUND WALL MASONRY BLOCK WITH BARRIER ON RETAINING WALL DETAILS No. 3"sheets.
6. H = 6' and 8', extend ⓑ bars into barrier for stem with haunch.
7. For H ≥ 10', extend ⓐ bars into barrier for stem with haunch.
8. Provide additional #6 x 18'-0" @ 6 bars over a distance of 8'-0" measured from all expansion joints, beginning and end of wall locations. For H ≤ 14', hook the additional #6 bars into footing and reduce bar length as needed to maintain minimum clear cover.



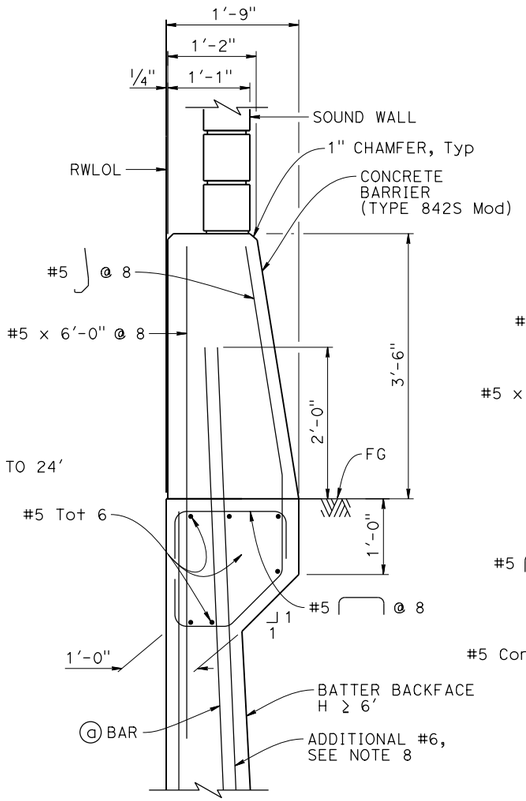
TYPICAL SECTION



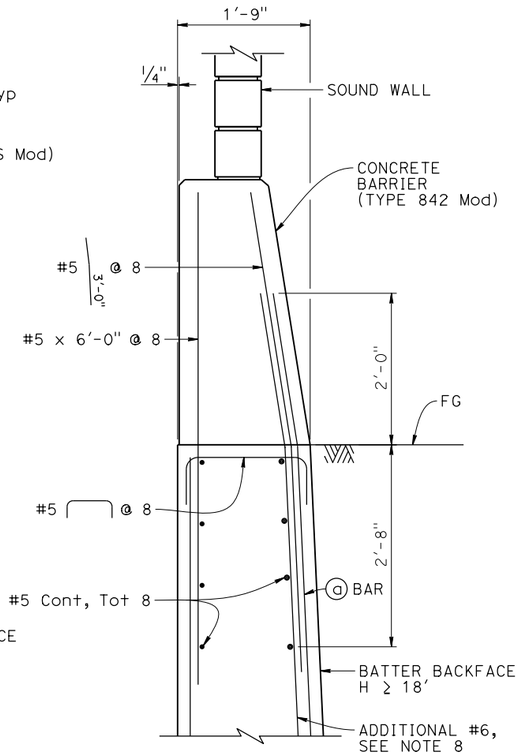
WALL OFFSET

NOTES:

1. A* offset = ½" per 10' of wall stem height.
2. Values for offsetting forms to be approved by the Engineer.



WALL STEM WITH HAUNCH



WALL STEM WITH NO HAUNCH

NOTE:
For details not shown, see "WALL STEM WITH HAUNCH".

DETAIL A

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER — DATE X

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — X — No. X — Exp. X — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

THE REGISTERED CIVIL ENGINEER FOR THE PROJECT IS RESPONSIBLE FOR THE SELECTION AND PROPER APPLICATION OF THE COMPONENT DESIGN AND ANY MODIFICATIONS SHOWN.

BRIDGE STANDARD DETAILS							
xs14-220-1 (FILE NO.)	August 2026 (APPROVAL DATE)	DESIGN	BY X	CHECKED X	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE No. XX-XXXX
		DETAILS	BY X	CHECKED X			POST MILE X.X
		QUANTITIES	BY X	CHECKED X			X

RETAINING WALL (TYPE 1SWB) DETAILS No. 1

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

DATE PLOTTED => 31-AUG-2026 TIME PLOTTED => 14:09
FILE => xs14-220-1.dgn USERNAME => s136247
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX COUNTY/ROUTE/ZONE: XXX/XXX/X
PROJECT NUMBER & PHASE: XXXXXXXXXX1 CONTRACT No.: XX-XXXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
				X	X