DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
X	X	X	X	X	X

REGISTERED CIVIL ENGINEER X DATE

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 electronic copies of this plan sheet.

TABLE OF WALL DIMENSIONS, REINFORCING STEEL, AND BEARING STRESS

DESIGN H	STEM WITH HAUNCH				STEM WITHOUT HAUNCH								
	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′
W	6′-9"	7′-6"	7′-0"	7′-6"	8′-6"	9′-3"	10′-3"	11′-3"	12′-3"	13′-0"	14′-3"	15′-3"	16′-3"
C	5′-6"	6′-3"	5′-6"	6′-0"	6′-9"	7′-3"	8′-0"	8′-6"	9′-6"	10′-0"	10′-10"	11′-6"	12′-5"
B	1′-3"	1′-3"	1′-6"	1′-6"	1′-9"	2′-0"	2′-3"	2′-9"	2′-9"	3′-0"	3′-5"	3′-9"	3′-10"
F	1′-6"	2′-0"	2′-4"	2′-4"	2′-6"	2′-6"	2′-9"	2′-9"	3′-0"	3′-3"	3′-6"	3′-9"	4′-0"
STEM THICKNESS AT TOP					1′-7"	1′-9"	2′-0"	2′-0"	2′-0"	2′-0"	2′-0"	2′-3"	2′-3"
STEM THICKNESS AT HAUNCH	1′-0"	1′-0"	1′-3"	1′-3"									
BATTER	0	0	0	0	0	0	0	1/4:12	1/4:12	1/4:12	1/2:12	1/2:12	1/2:12
ⓐ BARS					#5 @ 14	#6 @ 13	#6 @ 13	#6 @ 13	#6 @ 11	#7 @ 12	#7 @ 11	#7 @ 10	#8 @ 11
ⓑ BARS	#5 @ 6	#5 @ 5.5	#6 @ 5	#6 @ 5	#8 @ 7	#8 @ 6.5	#9 @ 6.5	#9 @ 6.5	#9 @ 5.5	#10 @ 6	#10 @ 11℧	#10 @ 10℧	#11 @ 11℧
ha	7′-10"	9′-10"	5′-3"	6′-0"	6′-9"	7′-6"	7′-3"	9′-0"	9′-9"	9′-3"	11′-3"	13′-0"	13′-0"
hb					13′-0"	13′-0"	13′-0"	14′-6"	15′-6"	18′-6"	20′-6"	21′-6"	23′-0"
hx	5′-3"	6′-0"	5′-3"	5′-9"	6′-6"	7′-0"	7′-9"	7′-6"	8′-3"	9′-9"	10′-0"	11′-0"	12′-2"
ⓓ BARS	#5 @ 12	#5 @ 11	#5 @ 10	#5 @ 10	#5 @ 14	#5 @ 13	#5 @ 13	#5 @ 13	#5 @ 11	#5 @ 12	#5 @ 11	#5 @ 10	#5 @ 11
ⓓ BAR LENGTH	3′-6"	3′-6"	3′-6"	3′-6"	4′-6"	7′-0"	7′-6"	10′-9"	11′-9"	12′-6"	13′-9"	14′-9"	15′-9"
ⓔ BARS								#4 @ 13	#4 @ 11	#4 @ 12	#4 @ 11	#4 @ 10	#4 @ 11
ⓢ Bars	#4 @ 12	#4 @ 12	#5 @ 15	#5 @ 15	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ⓣ Bars	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Td (KIPS/FT)	0	0	5.25	7.5	9.0	11.25	12.75	15.0	16.5	21.0	21.75	24.75	27.75
To (KIPS/FT)	0	0	*	*	*	*	*	*	*	*	*	*	*
Tp= Larger of 1.33 Td & 1.25 To (KIPS/FT)	0	0	*	*	*	*	*	*	*	*	*	*	*
Max ANCHOR SPACING			10′-6"	9′-6"	7′-9"	6′-3"	7′-9"	6′-6"	8′-0"	6′-3"	6′-0"	5′-3"	4′-9"
SER I: B′(ft), q_0'(ksf)	6.3, 0.6	6.9, 0.7	5.7, 2.1	6.1, 2.4	7.4, 2.4	8.1, 2.7	9.1, 2.8	9.8, 3.0	10.9, 3.0	11.4, 3.5	12.6, 3.5	13.6, 3.7	14.7, 3.8
STR Ia: B′(ft), q_0(ksf)	6.5, 1.3	6.7, 1.6	5.4, 3.3	5.7, 3.7	6.7, 3.8	7.4, 4.2	8.2, 4.3	8.9, 4.8	9.8, 4.9	10.1, 5.5	11.2, 5.6	12.1, 5.9	12.8, 6.2
STR, Ib: B′(ft), q_0(ksf)	5.7, 1.2	5.7, 1.5	4.6, 3.3	5.0, 3.7	5.9, 3.8	6.6, 4.0	7.3, 4.2	7.9, 4.6	8.7, 4.7	9.1, 5.3	10.0, 5.4	10.8, 5.7	11.5, 6.0
STR, IIIa: B′(ft), q_0(ksf)	5.0, 1.9	5.7, 2.6	4.9, 4.0	5.4, 4.4	6.4, 4.0	7.2, 4.5	8.2, 4.6	9.0, 4.9	10.0, 4.9	10.4, 5.4	11.6, 5.4	12.6, 5.7	13.4, 5.8
STR, IIIb: B′(ft), q_0(ksf)	3.7, 2.3	4.2, 2.8	4.0, 4.2	4.5, 4.5	5.6, 4.2	6.3, 4.5	7.2, 4.5	8.0, 4.8	8.9, 4.7	9.4, 5.3	10.4, 5.3	11.3, 5.3	12.1, 5.6
STR, Va: B′(ft), q_0(ksf)	6.0, 1.4	6.4, 1.7	5.2, 3.4	5.5, 3.8	6.6, 3.9	7.3, 4.3	8.2, 4.5	8.8, 4.8	9.8, 4.9	10.2, 5.6	11.2, 5.5	12.2, 5.9	12.9, 6.1
STR, Vb: B′(ft), q_0(ksf)	5.0, 1.3	5.2, 1.6	4.4, 3.4	4.8, 3.8	5.7, 3.8	6.4, 4.2	7.2, 4.4	7.8, 4.7	8.7, 4.8	9.1, 5.5	10.0, 5.4	10.9, 5.8	11.6, 6.0
Ext I: B′(ft), q_0(ksf)	3.4, 2.0	3.1, 3.6	2.4, 6.5	2.6, 8.1	3.0, 7.7	3.3, 9.0	3.5, 9.4	3.9, 10.1	4.3, 10.4	4.4, 11.9	4.9, 11.9	5.3, 12.7	5.5, 13.4
Ext II: B′(ft), q_0(ksf)	2.0, 3.1	3.5, 2.6	4.1, 3.7	4.9, 3.6	6.4, 3.3	7.4, 3.6	8.6, 3.4	9.6, 3.7	10.8, 3.6	11.5, 4.1	12.8, 4.0	13.9, 4.2	15.0, 4.4

NOTE:

ⓔ Bar spacing shown is along the length of the retaining wall.
* denotes values to be determined by designer, and this note is removed afterwards.

SYMBOLS:

SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′: effective footing width (ft)
q_0': net bearing stress (ksf)
q_0: gross uniform bearing stress (ksf)
℧: 2 bar bundle
To: Anchor Lockoff Load
Tp: Anchor Factored Test Load

STANDARD DRAWING

FILE NO. xs14-390-2

APPROVAL DATE July 2014

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. X

POST MILE X

X

RETAINING WALL TYPE 7SWB - DETAILS No. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: X
PROJECT NUMBER & PHASE: X
CONTRACT NO.: X

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 6-19-14

SHEET X OF X

FILE => $REQUEST

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME