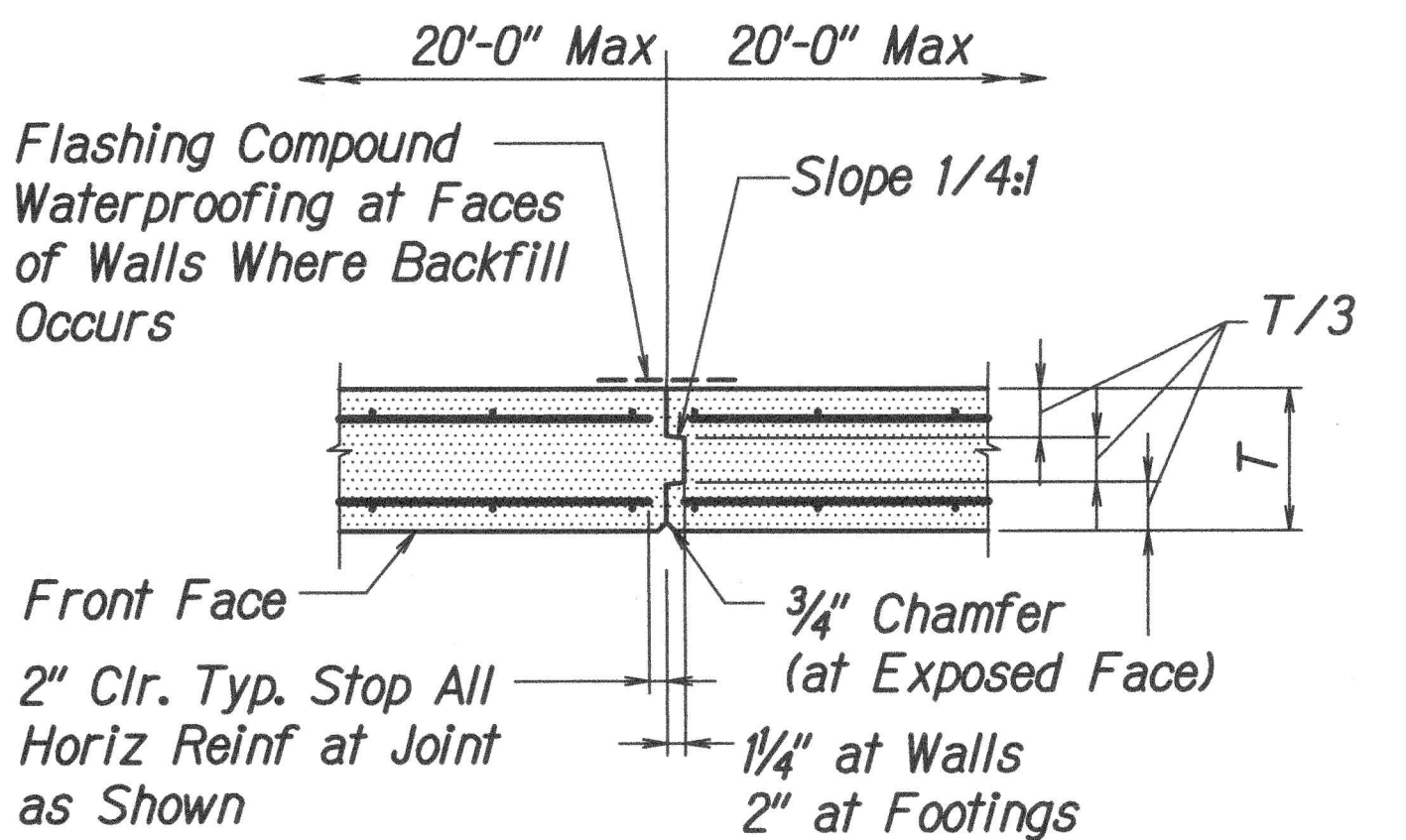
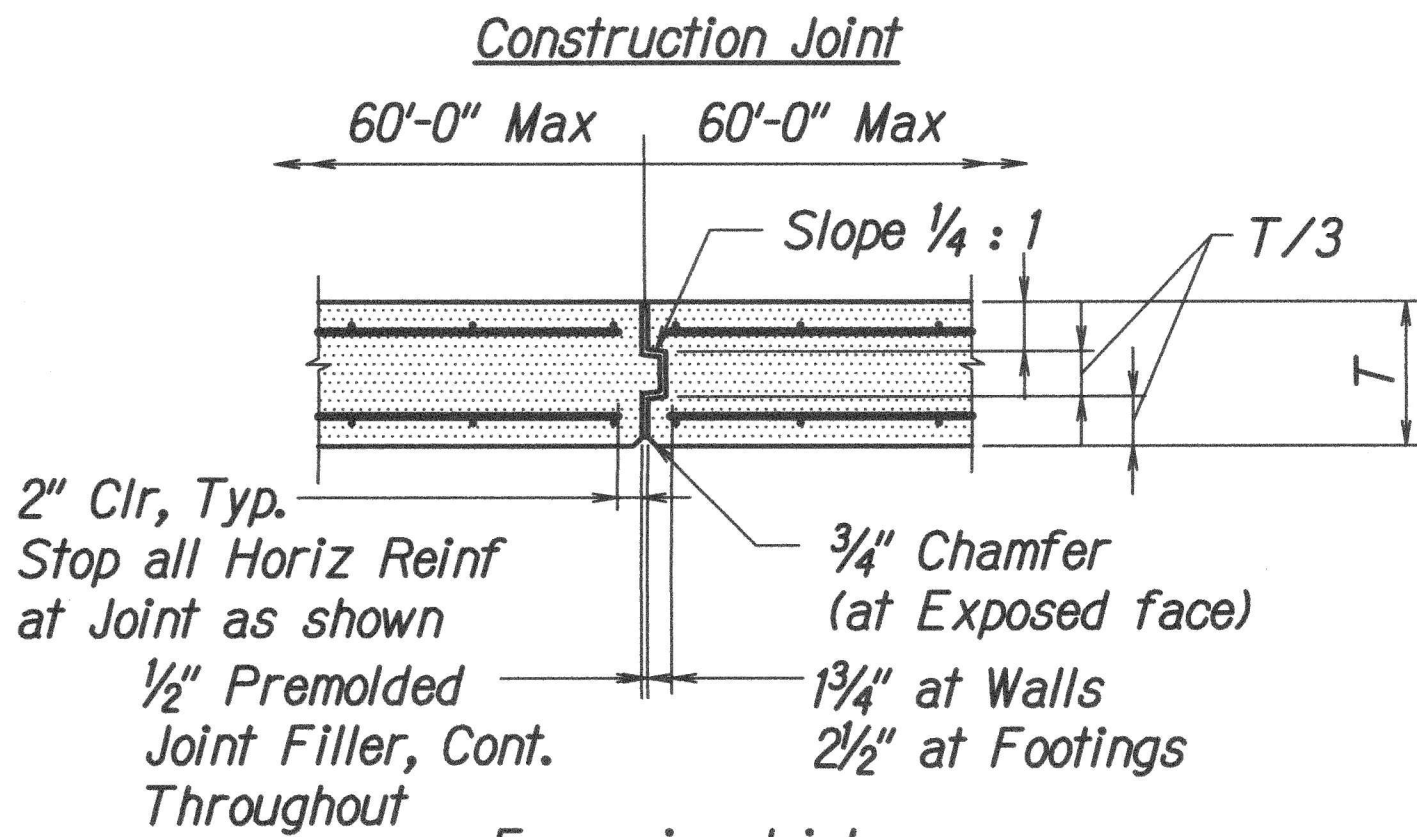
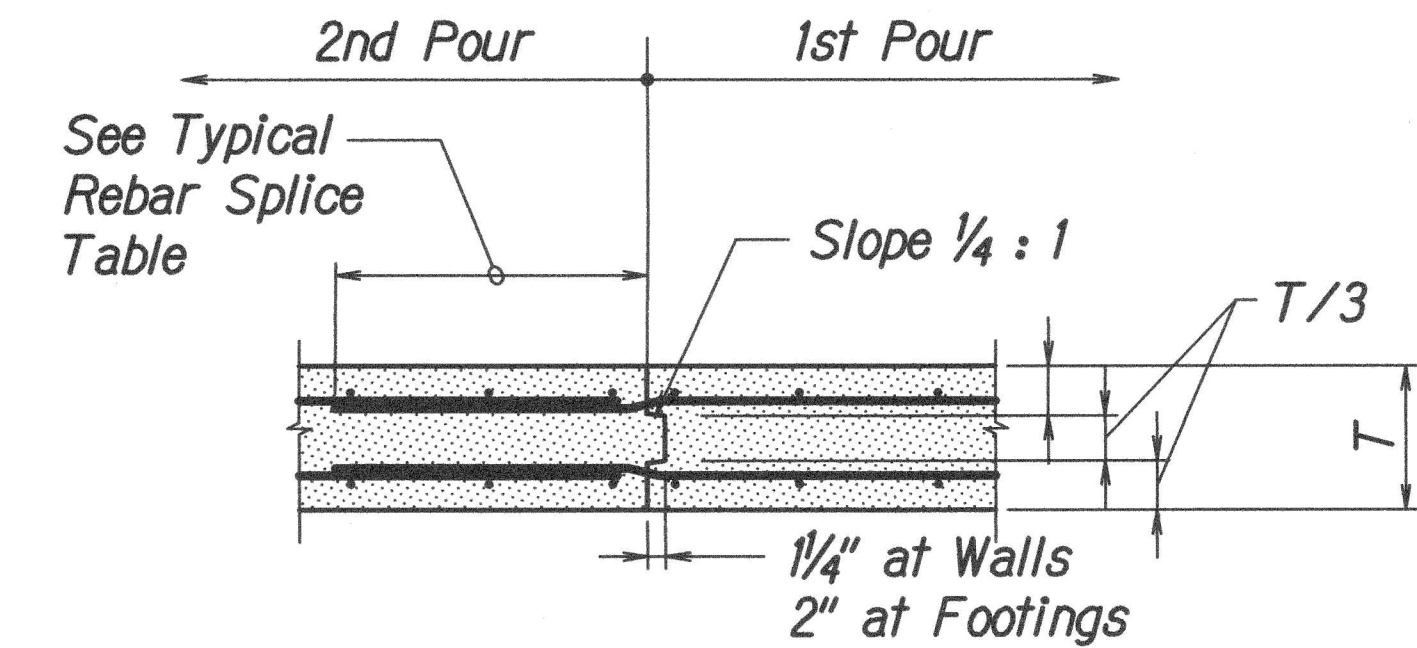


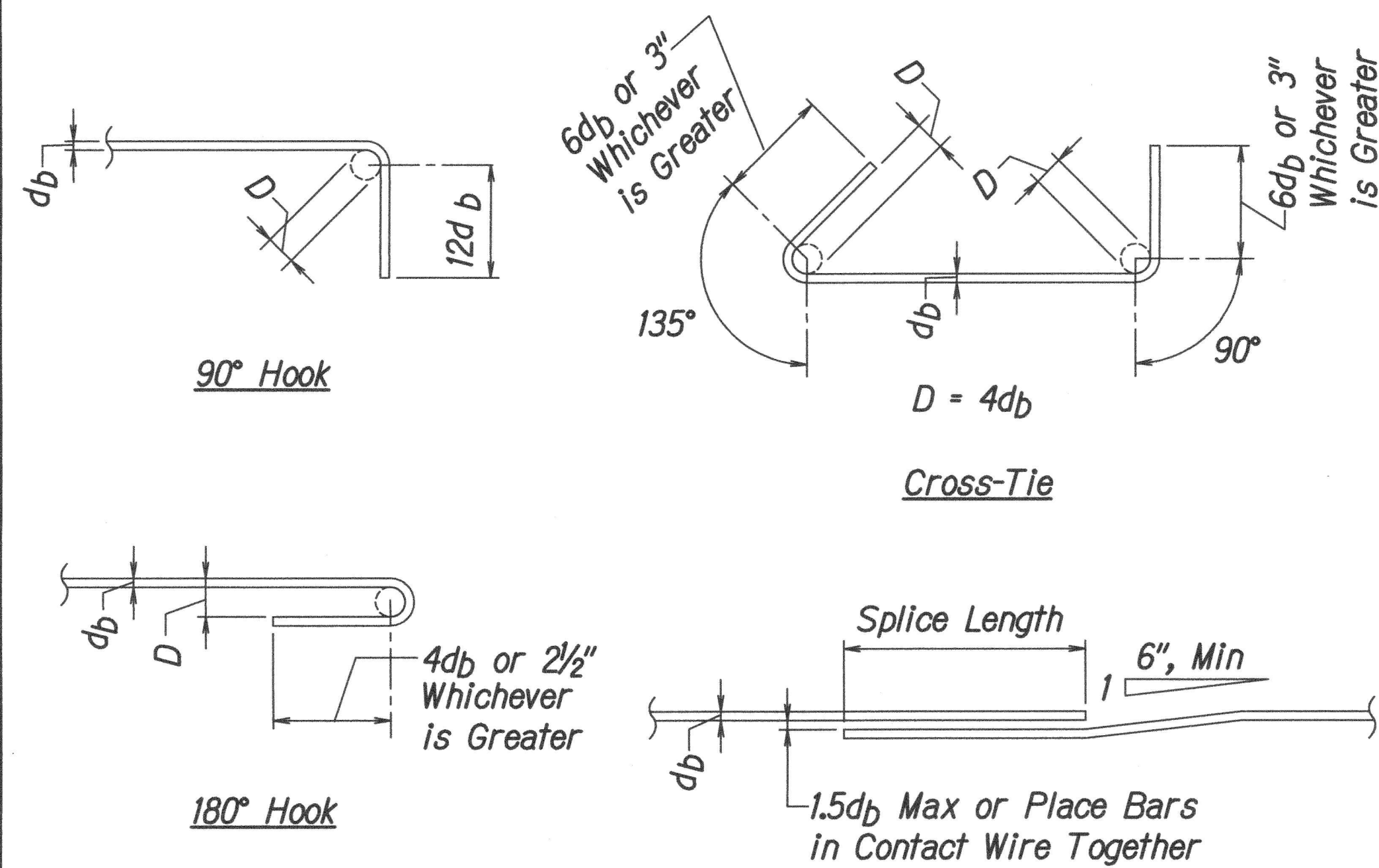
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0190(016)	2016	30	36



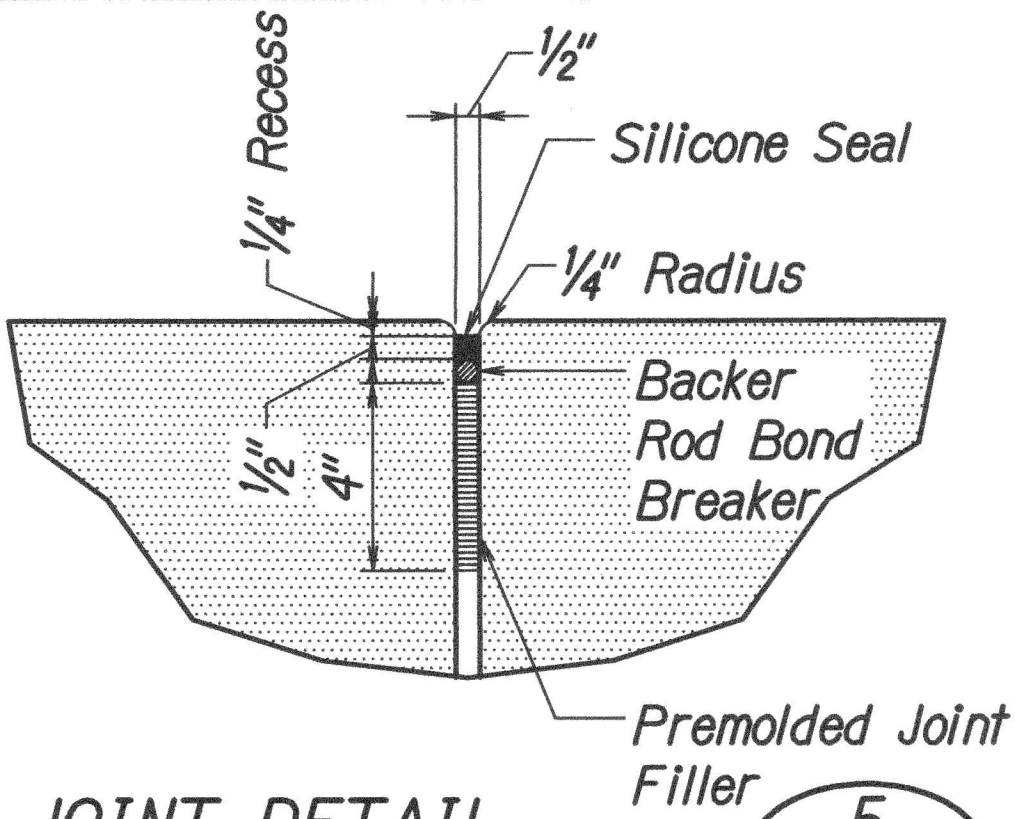
TYPICAL JOINT DETAILS
Not to Scale

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TYPICAL DETAILS
MAMALAHOA HIGHWAY
DRAINAGE IMPROVEMENTS
 Vicinity of Puuwaawaa Ranch Road
 Federal Aid Project No. STP-0190(016)
 Scale: As Noted Date: April 2016

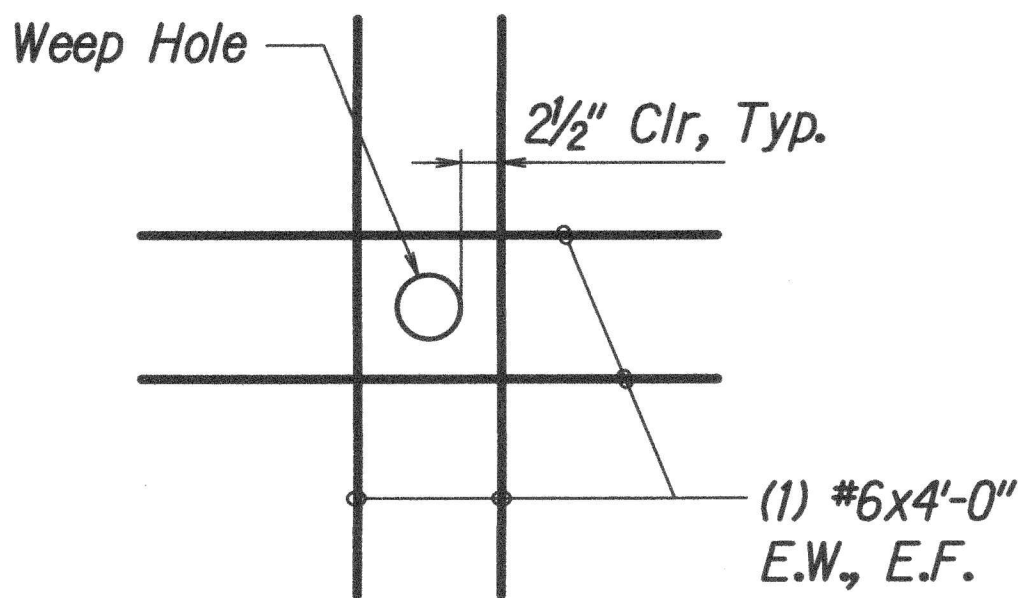
SHEET No. 2 OF 8 SHEETS
 30



STANDARD HOOKS AND CROSS-TIE DETAIL
Not to Scale



EXPANSION JOINT DETAIL
Not to Scale

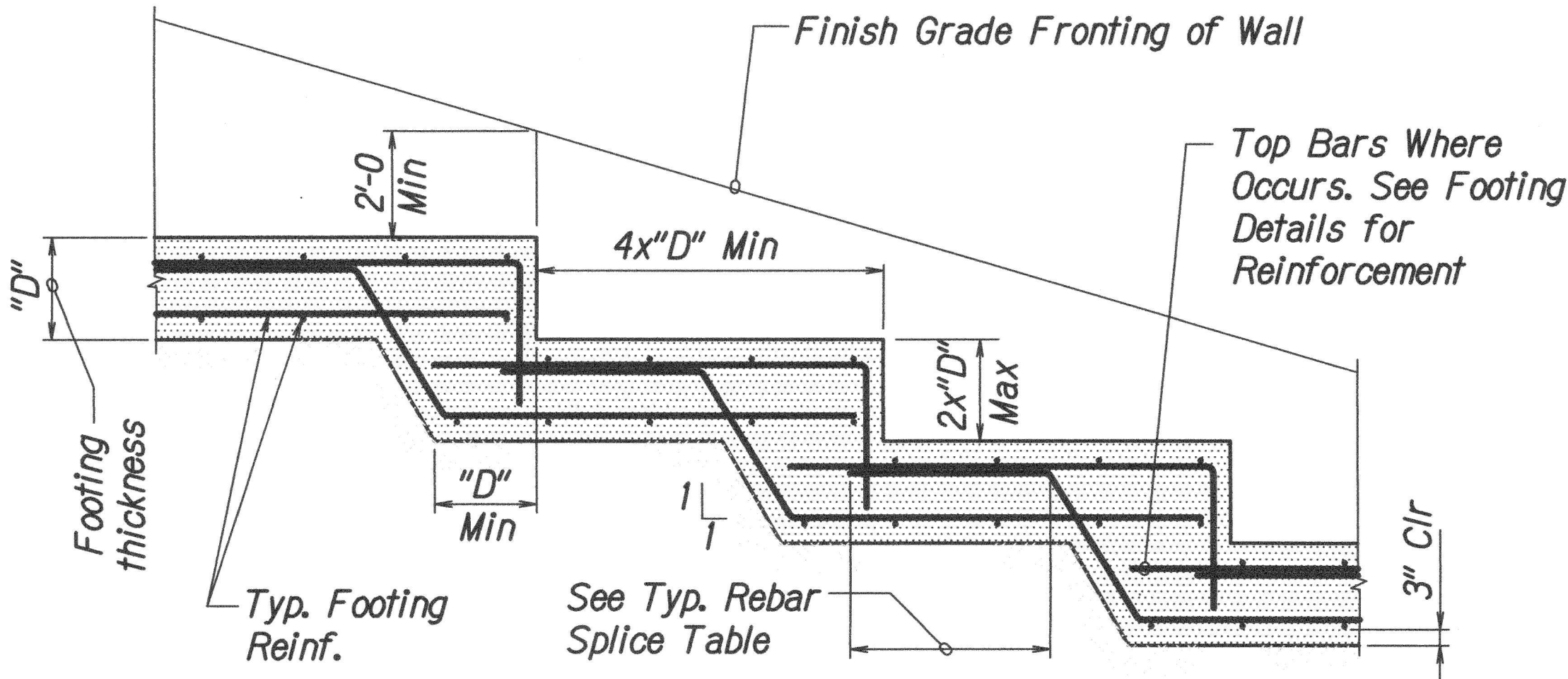


REINF AT WEEP HOLES
Not to Scale

MINIMUM SPLICE AND EMBEDMENT LENGTHS					
Concrete Strength = 4,000 PSI					
Bar Size	Lap Splice		Embedment		
	Other Bars	Top Bar	Straight		With Standard 90° Hook
			Other Bars	Top Bar	
#3, #4	21"	29"	12"	17"	10"
#5	26"	36"	15"	21"	12"
#6	31"	43"	18"	26"	16"
#7	39"	54"	23"	32"	18"
#8	51"	71"	30"	42"	20"
#9	64"	90"	38"	53"	22"
#10	81"	114"	48"	67"	26"
#11	100"	140"	59"	82"	28"

Note:
"Top Bars" are Horizontal Bars with 12" or more of Concrete cast below.

TYPICAL REBAR SPLICE AND EMBEDMENT LENGTH SCHEDULE
Not to Scale



TYPICAL STEPPED FOOTING DETAIL
Not to Scale

\\Drafting\2016-04-04_2838 HDOT Mamalahoa Highway Retaining Wall\2838_S-2.dwg, 6/30/2016 3:34:05 PM, tamamaha