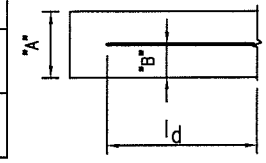
REINFORCING STEEL		CONCRETE STRENGTH								
		3000 PSI			40000 PSI			5000 PSI		
SIZE	POSITION	l_{dh}	l_d	l_s	l_{dh}	l_d	l_s	l_{dh}	l_d	l_s
4	TOP OTHER	11"	29" 22"	37" 29"	10"	25" 19"	32" 25"	9"	22" 17"	29" 22"
5	TOP OTHER	14"	36" 28"	47" 36"	12"	31" 24"	40" 31"	11"	28" 22"	36" 28"
6	TOP OTHER	17"	43" 33"	56" 43"	15"	37" 29"	48" 37"	13"	33" 26"	43" 33"
7	TOP OTHER	19"	63" 48"	81" 63"	17"	54" 42"	70" 54"	15"	49" 37"	63" 49"
8	TOP OTHER	22"	72" 55"	93" 72"	19"	62" 48"	80" 62"	17"	55" 43"	72" 55"
9	TOP OTHER	25"	81" 62"	105" 81"	22"	70" 54"	91" 70"	19"	63" 48"	81" 63"
10	TOP OTHER	28"	91" 70"	*	24"	79" 61"	*	22"	70" 54"	*
11	TOP OTHER	37"	101" 78"	*	27"	87" 67"	*	24"	78" 60"	*

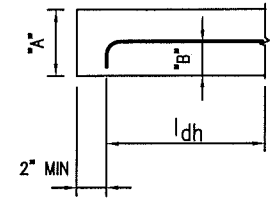
N O T E S :

1. DEVELOPMENT LENGTH (l_d) WHERE REQUIRED ON DRAWINGS AND FOR SPLICE CALCULATION PER ACI 318.
2. CLASS "B" SPLICES (l_s) SHALL BE USED TYPICALLY U.N. ON DRAWINGS.
3. ALL WALL HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS.
4. ALL BARS ARE DEFINED AS TOP BARS UNLESS DIMENSION "B" < "A"/2.
5. * DESIGNATES MECHANICAL COUPLER REQUIRED TO SPLICE BARS; MECHANICAL COUPLERS ARE OPTIONAL FOR #7 TO #9 BARS.
6. MULTIPLY l_{dh} BY 1.4 WHERE COVER IS < 2".
7. MULTIPLY TABULATED VALUES BY 1.3 FOR LIGHTWEIGHT CONCRETE.
8. ALL ADJACENT LAP SPLICES SHALL BE STAGGERED THE GREATER OF 3'-0" OR l_s WHERE THE DISTANCE IS MEASURED CENTER TO CENTER OF l_s.

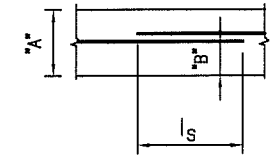
l_d = DEVELOPMENT LENGTH



l_{dh}= HOOK DEVELOPMENT LENGTH



l_s = LAP SPLICE LENGTH



CONCRETE REINFORCING

NONE

LBNL CIVIL STANDARDS

CONCRETE REINFORCING

UNIVERSITY OF CALIFORNIA LAWRENCE BERKELEY NATIONAL LABORATORY

FACILITIES DIVISION

DRAWN BY | DATE
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APPROVED BY
CAD FILE PATH
SCALE NTS
DRAWING NO. S106
PROJECT NO.
SHEET

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