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REBAR TENSION (Ldt)/COMPRESSION (Ldc) DEVELOPMENT LENGTH & HOOKS (Ldh) IN CONCRETE

BAR SIZE	MIN BAR SPACING (IN) NOTE 3	TENSION EMBEDMENT/ DEVELOPMENT LENGTH (Ldt) 3000 PSI TOP BARS NOTE 4	3000 PSI OTHER BARS	4000 PSI TOP BARS NOTE 4	4000 PSI OTHER BARS	≥ 5000 PSI TOP BARS NOTE 4	≥ 5000 PSI OTHER BARS	COMPRESSION EMBEDMENT/ DEVELOPMENT LENGTH (Ldc) 3000 PSI	4000 PSI	≥ 5000 PSI	HOOKED BARS (Ldh) (TENSION ONLY) 3000 PSI	4000 PSI	≥ 5000 PSI
3	1	22	17	19	15	17	13	8.5	7.5	7	8.5	7.5	6.5
4	1	29	22	25	19	23	17	11	9.5	9	11	9.5	8.5
5	1 1/4	36	28	31	24	28	22	14	12	11.5	14	12	11
6	1 1/2	43	33	37	29	34	26	16.5	14.5	13.5	16.5	14.5	13
7	1 3/4	63	48	54	42	49	38	19.5	17	16	19.5	17	15
8	2	71	55	62	48	56	43	22	19	18	22	19	17
9	2 1/4	81	62	70	54	63	48	25	21.5	20.5	25	21.5	19.5
10	2 1/2	91	70	79	61	71	54	28	24.5	23	28	24.5	22
11	3	101	78	87	67	78	60	31	27	25.5	31	27	24

GENERAL NOTES

1. LENGTHS SHOWN CONFORM TO NON-SEISMIC PROVISIONS OF ACI 318-14 FOR NORMAL WT CONCRETE AND UNCOATED BARS W/ Fy=60 KSI (YIELD STRENGTH OF REBARS).
2. ALL LENGTHS ARE IN INCHES.
3. BAR SPACING IS MEASURED AS CLEAR DISTANCE BETWEEN BARS. FOR BARS WITH A CLEAR SPACING OF LESS THAN 2db, MULTIPLY TABULATED VALUES BY 1.5.
4. TOP BARS ARE BARS SO PLACED THAT 12 INCHES OR MORE OF FRESH CONCRETE IS CAST IN MEMBER BELOW REINFORCEMENT.
5. SEE CONCRETE NOTES FOR SPECIFIED CONCRETE STRENGTH.
6. CLEAR COVER FOR REINFORCING SHALL NOT BE LESS THAN 1 BAR DIAMETER OR AS SPECIFIED IN SECTION 20.6.1.3 OF ACI 318-14.
7. MULTIPLY THE ABOVE LENGTHS BY 1.33 FOR CONCRETE WITH LIGHTWEIGHT AGGREGATE.
8. MULTIPLY THE ABOVE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCING.
9. COMPRESSION DEVELOPMENT LENGTH OF REBARS ENCLOSED WITHIN #3 SPIRAL REINFORCEMENT W/ NO MORE THAN @4" PITCH OR #4 TIES @4"OC MAY BE MULTIPLIED BY 0.75.

LAP SPLICE LENGTH (Lst& Lsc) IN CONCRETE

BAR SIZE	TENSION LAP SPLICE (Lst) 3000 PSI	4000 PSI	≥5000 PSI	COMPRESSION LAP SPLICE (Lsc) ≥ 3000 PSI
3	22	19	17	12
4	29	25	23	15
5	36	31	28	19
6	43	37	34	22.5
7	63	54	49	26.5
8	72	62	56	30
9	81	70	63	34
10	91	79	71	38.5
11	101	87	78	42.5

GENERAL NOTES

1. LENGTHS SHOWN CONFORM TO NON-SEISMIC PROVISIONS OF ACI 318-14 FOR NORMAL WT CONCRETE AND UNCOATED BARS W/ Fy=60 KSI (YIELD STRENGTH OF REBARS).
2. ALL LENGTHS ARE IN INCHES.
3. SPLICES SHALL BE STAGGERED MINIMUM OF 24" O.C.
4. SEE CONCRETE NOTES FOR SPECIFIED CONCRETE STRENGTH.
5. CLEAR COVER FOR REINFORCING SHALL NOT BE LESS THAN 1 BAR DIAMETER OR AS SPECIFIED IN SECTION 20.6.1.3 OF ACI 318-14.
6. MULTIPLY THE ABOVE LENGTHS BY 1.33 FOR CONCRETE WITH LIGHTWEIGHT AGGREGATE.
7. MULTIPLY THE ABOVE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCING.
8. MULTIPLY THE ABOVE LENGTHS BY 1.5 FOR BARS SPACED LESS THAN 2db CLEAR.
9. COMPRESSION DEVELOPMENT LENGTH OF REBARS ENCLOSED WITHIN #3 SPIRAL REINFORCEMENT W/ NO MORE THAN @4" PITCH OR #4 TIES @4" O.C. MAY BE MULTIPLIED BY 0.75.

TENSION DEVELOPMENT & TENSION LAP SPLICE LENGTH OF REBARS IN MASONRY

BAR SIZE	3	4	5	6	7	8	9
D&S LENGTH	18	32	49	98	143	216	296
HOOKS	5	7	8	10	12	13	15

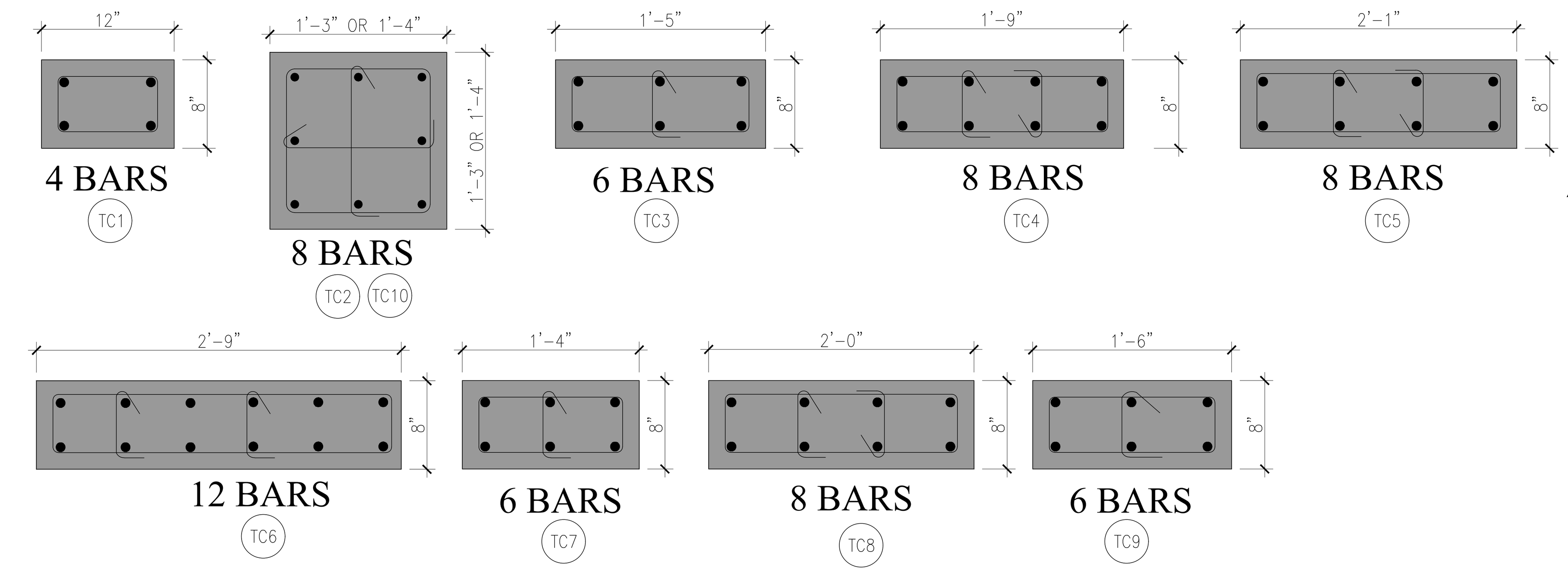
GENERAL NOTES

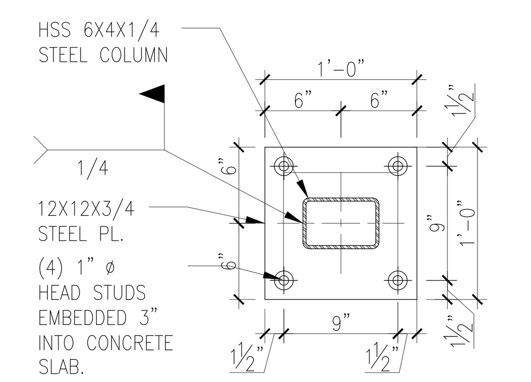
1. LENGTHS SHOWN CONFORM TO NON-SEISMIC PROVISIONS OF TMS 402-13/ACI 530-13/ FOR NORMAL WT MASONRY BLOCK (f'm=1500 PSI OR BETTER) AND UNCOATED BARS W/ Fy=60 KSI (YIELD STRENGTH OF REBARS).
2. ALL LENGTHS ARE IN INCHES.
3. SPLICED BARS SHALL NOT BE FARTHER APART THAN THE MINIMUM OF 8" OR ⅕ THE DEVELOPMENT LENGTH.
4. SEE MASONRY NOTES FOR SPECIFIED BLOCK STRENGTH.
5. MULTIPLY THE ABOVE LENGTHS BY 1.33 FOR CONCRETE WITH LIGHTWEIGHT AGGREGATE.
6. MULTIPLY THE ABOVE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCING.
7. AT WALL INTERSECTIONS HORIZONTAL REBARS SHALL BENT AROUND EDGE VERTICAL REINFORCEMENT W/ A 90° HOOK & SHALL EXTEND INTO INTERSECTING WALL FOR A DISTANCE OF, AT MINIMUM, THE DEVELOPMENT LENGTH.
8. AT ALL OTHER INTERSECTIONS HORIZONTAL REBARS SHALL BENT AROUND EDGE VERTICAL REINFORCEMENT W/ A 180° HOOK. THE ENDS OF SINGLE LEG OR U-STIRRUP SHALL BE ANCHORED BY A STANDARD HOOK PLUS AN EFFECTIVE EMBEDMENT OF ½ OF THE DEVELOPMENT LENGTH.

COLUMN SCHEDULE

MARK	SIZE	REINFORCEMENT VERTICAL OR BASE PLATE	REINFORCEMENT TIES OR CAP PLATE	REMARKS
TC1	8"x12"	4-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC2	15"x15"	8-#6	#3 @ 8" O.C	CONCRETE COLUMN
TC3	8"x17"	6-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC4	8"x21"	8-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC5	8"x25	8-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC6	8"x33	12-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC7	8"x16"	6-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC8	8"x24"	8-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC9	8"X18"	6-#5	#3 @ 8" O.C	CONCRETE COLUMN
TC10	16"X16"	8-#6		CONCRETE COLUMN
			#3 @ 8" O.C	
ST1	HSS 6"x4"x1/4"	12"x12"x1" THK STEEL PLATE, SEE COLUMN BAR ARRANGEMENT	12"x12"x1" THK STEEL PLATE, SEE COLUMN BAR ARRANGEMENT	STEEL COLUMN Fy= 46 KSI LOAD BEARING

COLUMN BAR ARRANGEMENT





BASE PLATE

ST1

FOOTING SCHEDULE

MARK	SIZE (W x L)	DEPTH	REINFORCEMENT SHORT BARS	REINFORCEMENT LONG BARS	REMARKS	f'c
MF-16	16" CONT.	12"	#5 @12"	3 #5 CONT.	MONOLITHIC FOOTING	3000 PSI
WF-36	36" CONT.	12"	#5 @ 12"	5 #5 CONT.	WALL FOOTING	3000 PSI
WF-48	48" CONT.	14"	#5 @ 12"	5 #5 CONT.	WALL FOOTING	3000 PSI
F3.0	3'-0" x 3'-0"	12"	3-#5	3-#5	ISOLATED FOOTING	3000 PSI
F3.5	3'-6" x 3'-6"	12"	3-#5	3-#5	ISOLATED FOOTING	3000 PSI
F3.5A	3'-6" x 3'-0"	12"	3-#5	3-#5	ISOLATED FOOTING	3000 PSI
F4.0	4'-0" x 4'-0"	12"	4-#5	4-#5	ISOLATED FOOTING	3000 PSI
F4.5	4'-6" x 4'-6"	12"	4-#5	4-#5	ISOLATED FOOTING	3000 PSI
F5.0	5'-0" x 5'-0"	12"	5-#5	5-#5	ISOLATED FOOTING	3000 PSI
F5.5	5'-6" x 5'-6"	14"	5-#5	5-#5	ISOLATED FOOTING	3000 PSI
F6.0	6'-0" x 6'-0"	14"	6-#5	6-#5	ISOLATED FOOTING	3000 PSI
F6.5	6'-6" x 6'-6"	15"	7-#5	7-#5	ISOLATED FOOTING	3000 PSI
F6.67	6'-8" x 3'-6"	12"	6-#5 T&B	4-#5 T&B	ISOLATED FOOTING	3000 PSI
F7.0	7'-0" x 5'-6"	12"	5-#5 T&B	5-#5 T&B	ISOLATED FOOTING	3000 PSI
F12.0	12'-0" x 8'-0"	15"	13-#5 T&B	12-#5 T&B	ISOLATED FOOTING	3000 PSI

NOTES

1. CONTRACTOR TO PROVIDE NUMBER OF CORNER BARS AS FOOTING LONGITUDINAL REINF. LAPPED MIN. 48" BAR DIAMETERS, WHEN FOOTING HAS MORE BARS, THE TOTAL OF CORNER BARS SHALL BE THE SAME AS THE NUMBER OF BARS IN THE LARGER FOOTING.
2. PROVIDE 2 # 5 CONTINUOUS WALL FOOTING TOP BARS (TYP) AT EACH OPENING GREATER THAN 6'-0". EXTEND 2'-0"(MIN) BEYOND EACH OPENING.

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PROJECT NAME

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FILE NAME
24-0609

DATE
NOVEMBER 7TH, 2024

REVISION	DATE	BY

DRAWING NAME

SCHEDULES

DESING BY:
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