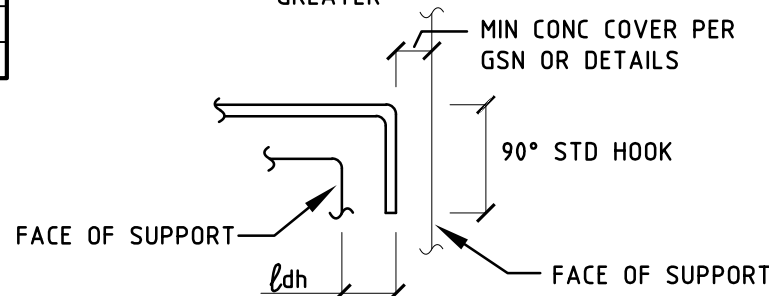


11 LIGHT POLE FOOTING

l _{dh} (IN INCHES)	
BAR SIZE	f'c = 3000 psi
#3	9
#4	12
#5	15
#6	18
#7	21
#8	24
#9	27

- THIS TABLE FOR USE WITH NORMAL-WEIGHT HARDROCK CONCRETE AND GRADE 60 UNCOATED REINFORCING BARS.
- FOR LIGHT-WEIGHT AGGREGATE USE 1.3 l_{dh}
- FOR GRADE 40 BARS, USE 0.67 l_{dh}
- l_{dh} SHALL BE A MINIMUM OF 8 BAR DIAMETERS OR 6 INCHES, THE GREATER



12 TENSION DEVELOPMENT FOR HOOKED BARS

BAR SIZE	LAP CLASS	TOP BARS CATEGORY						OTHER BARS CATEGORY					
		1	2	3	4	5	6	1	2	3	4	5	6
#3	A	16	16	16	16	16	16	13	13	13	13	13	13
	B	21	21	21	21	21	21	16	16	16	16	16	16
#4	A	23	22	22	22	22	22	18	17	17	17	17	17
	B	30	28	28	28	28	28	23	22	22	22	22	22
#5	A	36	29	27	27	27	27	27	22	21	21	21	21
	B	46	37	35	35	35	35	36	29	27	27	27	27
#6	A	50	40	35	32	32	32	39	31	27	25	25	25
	B	65	52	46	42	42	42	50	40	35	32	32	32
#7	A	69	55	48	39	38	38	53	42	37	30	29	29
	B	89	71	63	50	49	49	69	55	48	39	38	38
#8	A	90	72	63	51	45	43	70	56	49	39	35	33
	B	117	94	82	66	59	56	90	72	63	51	45	43
#9	A	114	91	80	64	57	48	88	70	62	49	44	37
	B	148	119	104	83	74	63	114	91	80	64	57	48
#10	A	145	116	102	81	73	58	112	89	78	63	56	45
	B	188	151	132	106	94	76	145	116	102	81	73	58
#11	A	178	142	125	100	89	71	137	110	96	77	69	55
	B	231	185	162	130	116	93	178	142	125	100	89	71

TENSION LAP SPICE LENGTHS, l (IN INCHES), FOR GRADE 60 UNCOATED BARS NORMAL WEIGHT CONCRETE

NOTES:

- TABLE FOR USE WITH NORMAL WEIGHT HARDROCK CONCRETE AND GRADE 60 UNCOATED REINFORCING BARS. FOR LIGHTWEIGHT AGGREGATE USE 1.3 l
- CLASS A - HALF OR LESS OF THE BARS ARE SPICED WITHIN A REQUIRED LAP LENGTH. CLASS B - MORE THAN HALF OF THE BARS ARE SPICED WITHIN A REQUIRED LAP LENGTH
- TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE CAST IN THE MEMBER BELOW THE BAR.
- FOR BARS ENCLOSED IN STANDARD COLUMN SPIRALS, USE 0.75 l_d OR 12" MINIMUM.
- LAP SPICES OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE 1.2 l_d FOR THAT BAR IN A 3-BAR BUNDLE AND 1.3 l_d FOR A 4-BAR BUNDLE. ENTIRE BUNDLES SHALL NOT BE LAP SPICED AT THE SAME LOCATION. SPICES FOR INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE STAGGERED SUCH THAT THEY DO NOT OVERLAP.

6 l - BASIC LAP LENGTH, SHOWN AT LEFT

7. CATEGORY SELECTION:

- FOR FOUNDATION REINFORCEMENT USE CATEGORY 5 U.N.O.
- FOR COLUMN REINFORCEMENT AND DOWELS USE CATEGORY 3 U.N.O.
- FOR BEAM REINFORCEMENT USE CATEGORY 3 U.N.O.
- FOR STRUCTURAL SLAB REINFORCEMENT USE CATEGORY 3 U.N.O.
- FOR SLAB ON GRADE REINFORCEMENT USE CATEGORY 6 U.N.O.
- FOR WALL REINFORCEMENT AND DOWELS USE CATEGORY 3 (EXCEPT AS NOTED BELOW) U.N.O.
- FOR WALLS WITH A SINGLE MAT OF STEEL CENTERED IN THE WALL, USE CATEGORY 5 FOR WALL REINFORCEMENT AND DOWELS U.N.O.
- FOR CHORD STEEL REINFORCEMENT USE CATEGORY 1 U.N.O.

BAR SIZE	TOP BARS CATEGORY						OTHER BARS CATEGORY					
	1	2	3	4	5	6	1	2	3	4	5	6
#3	16	16	16	16	16	16	13	13	13	13	13	13
#4	23	22	22	22	22	22	18	17	17	17	17	17
#5	36	29	27	27	27	27	27	22	21	21	21	21
#6	50	40	35	32	32	32	39	31	27	25	25	25
#7	69	55	48	39	38	38	53	42	37	30	29	29
#8	90	72	63	51	45	43	70	56	49	39	35	33
#9	114	91	80	64	57	48	88	70	62	49	44	37
#10	145	116	102	81	73	58	112	89	78	63	56	45
#11	178	142	125	100	89	71	137	110	96	77	69	55
#14	242	242	170	170	121	121	187	187	131	131	93	93
#18	356	356	250	250	178	178	274	274	192	192	137	137

TENSION DEVELOPMENT LENGTH, d_B (IN INCHES) FOR GRADE 60 UNCOATED BARS

NOTES:

- TABLE FOR USE WITH NORMAL WEIGHT HARDROCK CONCRETE AND GRADE 60 UNCOATED REINFORCING BARS. FOR LIGHTWEIGHT AGGREGATE USE 1.3 l_d
- TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE CAST IN THE MEMBER BELOW THE BAR.
- FOR BARS ENCLOSED IN STANDARD COLUMN SPIRALS, USE 0.75 l_d OR 12" MINIMUM.
- DEVELOPMENT LENGTH OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE 1.2 l_d FOR THAT BAR IN A 3-BAR BUNDLE AND 1.33 l_d FOR A 4-BAR BUNDLE.
- SEE DETAIL 12/SO.2 FOR BARS TERMINATED W/ A STANDARD HOOK.

6. CATEGORY SELECTION:

- FOR FOUNDATION REINFORCEMENT USE CATEGORY 5 U.N.O.
- FOR COLUMN REINFORCEMENT AND DOWELS USE CATEGORY 3 U.N.O.
- FOR BEAM REINFORCEMENT USE CATEGORY 3 U.N.O.
- FOR STRUCTURAL SLAB REINFORCEMENT USE CATEGORY 3 U.N.O.
- FOR SLAB ON GRADE REINFORCEMENT USE CATEGORY 6 U.N.O.
- FOR WALL REINFORCEMENT AND DOWELS USE CATEGORY 3 (EXCEPT AS NOTED BELOW) U.N.O.
- FOR WALLS WITH A SINGLE MAT OF STEEL CENTERED IN THE WALL, USE CATEGORY 5 FOR WALL REINFORCEMENT AND DOWELS U.N.O.
- FOR CHORD STEEL REINFORCEMENT USE CATEGORY 1 U.N.O.

14 TENSION DEVELOPMENT LENGTH

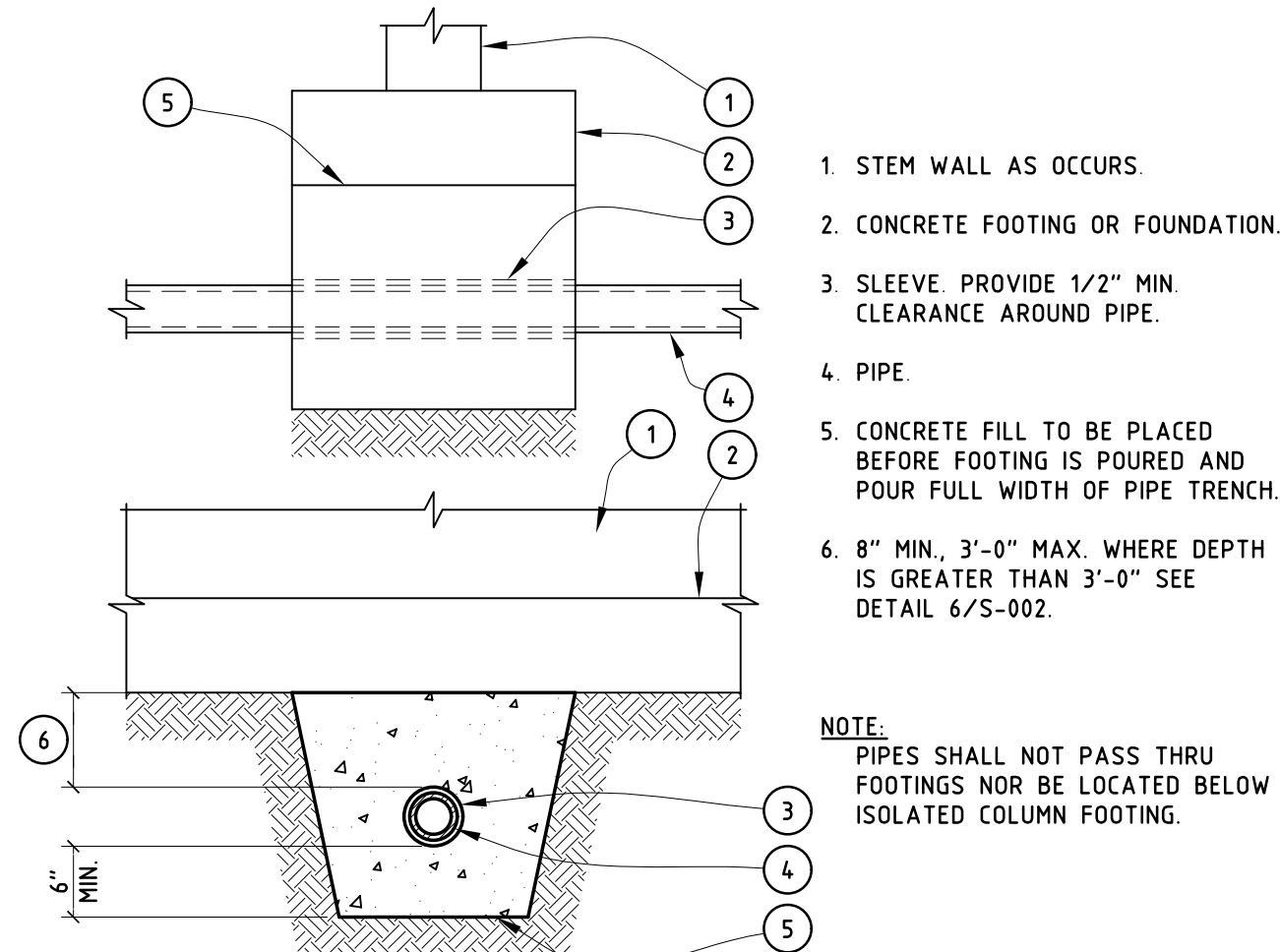
TENSION DEVELOPMENT LENGTH

- CENTERLINE OF COLUMN
- CONC. C.J. WHERE SHOWN ON PLAN
- KEYED JOINT - SEE TYP. CONTROL JOINT DETAIL
- RADIUS 6'-0" MAX., 1'-6" MIN.

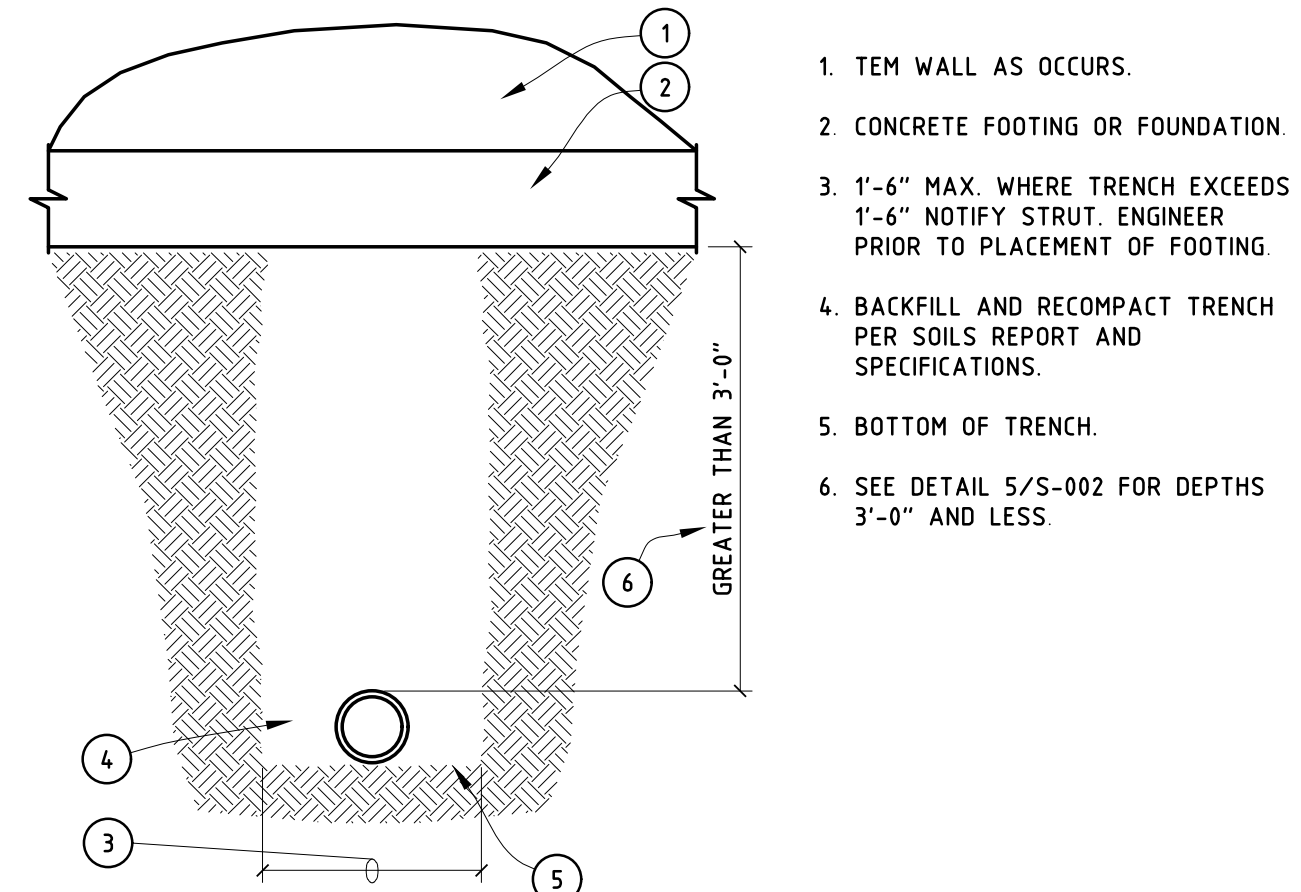
NOTE:

A COLUMNS OMITTED FOR CLARITY FOR CONFIGURATION OF SPECIFIC CLOSURE POURS - SEE PLAN

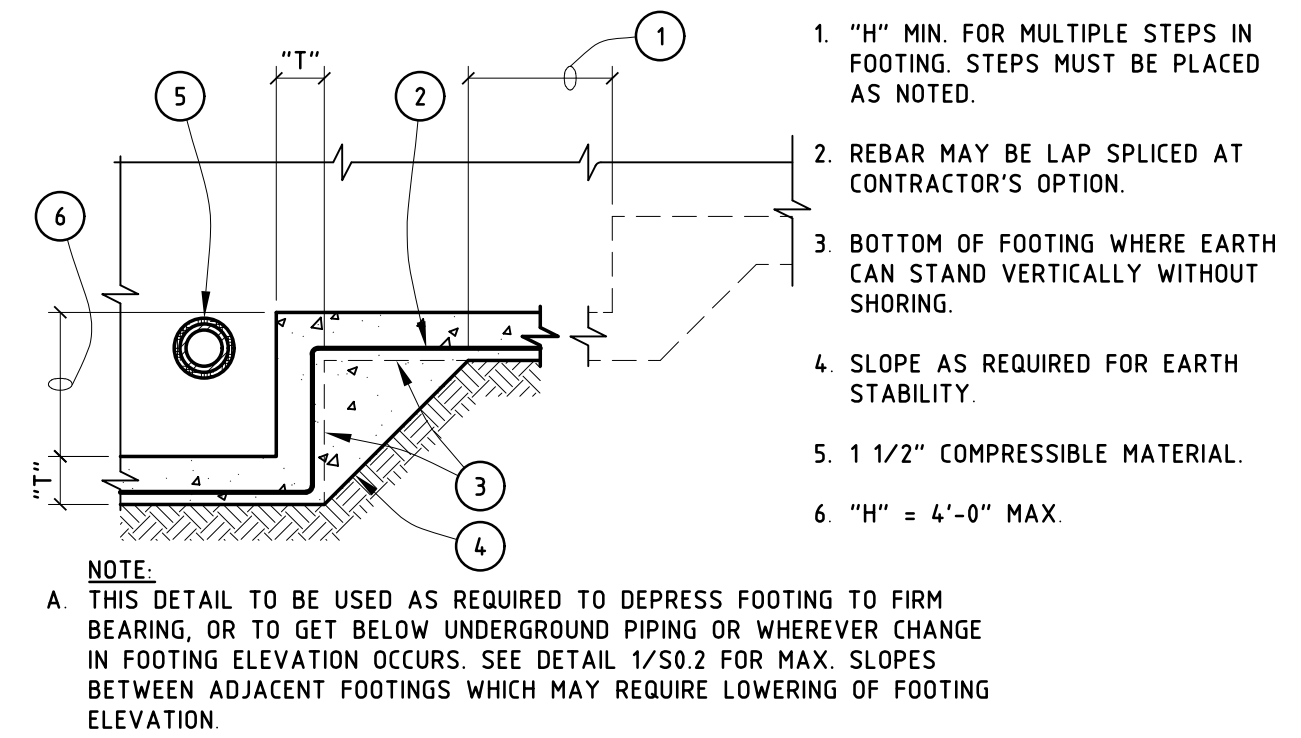
9 TYP. CLOSURE POUR AT SLAB ON GRADE



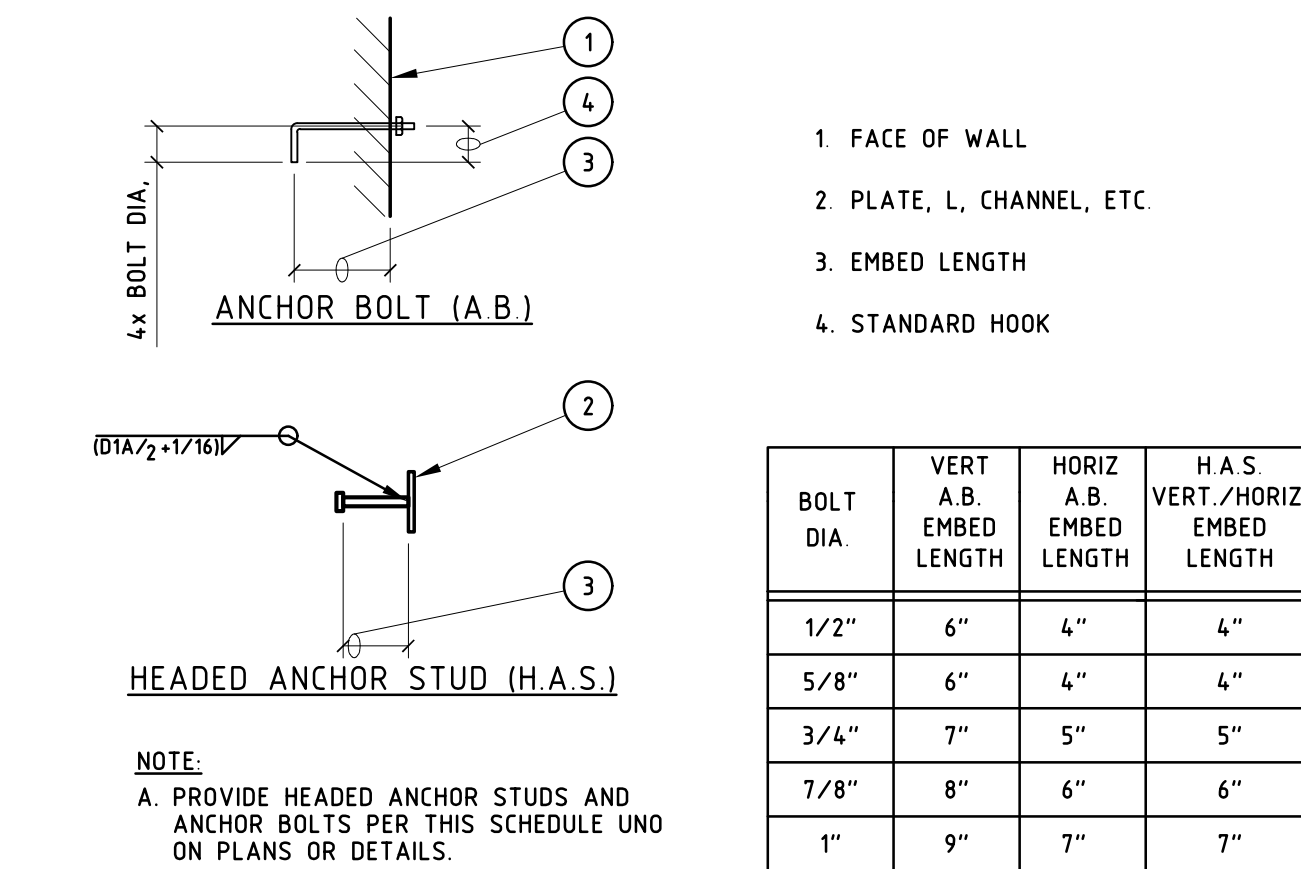
5 PIPE PASSING UNDER CONT. FOOTING



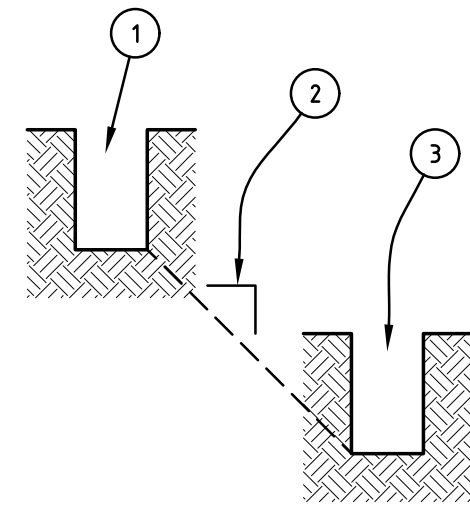
6 PIPE PASSING BELOW CONT. FOOTING



7 STEP IN FOOTING

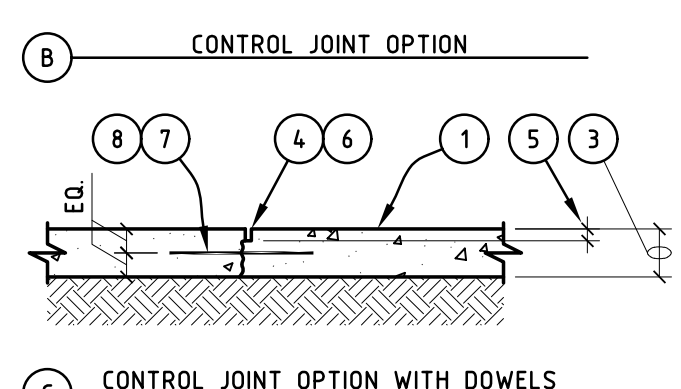
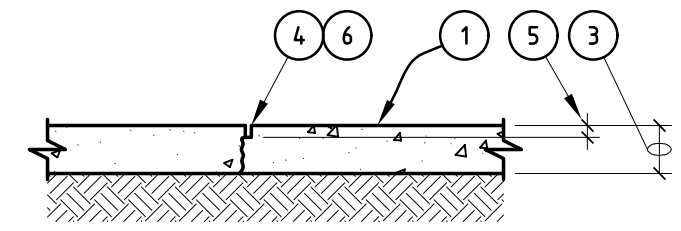
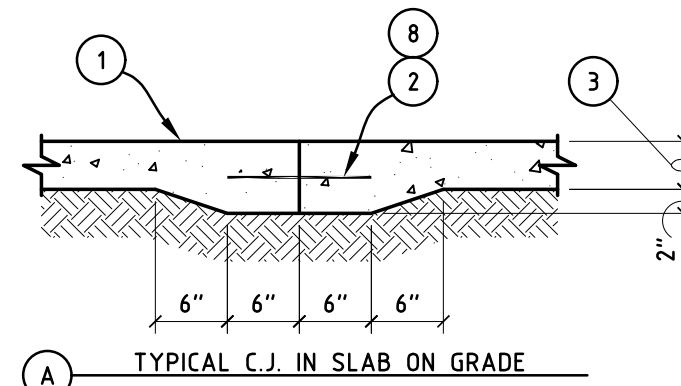


8 TYP ANCHOR & ANCHOR BOLT SCHED



- ISOLATED OR CONT. FOOTING
- THIS SLOPE SHALL NOT EXCEED 1 VERTICAL TO 1 HORIZONTAL. IF EXCAVATIONS CAN STAND VERTICALLY WITHOUT SHORING AND 1 VERTICAL TO 1 1/2" HORIZONTAL IF EXCAVATIONS NEED TO SLOPE OR BE SHORED
- ISOLATED OR CONT. FOOTING. PIT OR PIPE TRENCH UNDERMINING FOOTING ABOVE.

1 MAX. SLOPES BETWEEN ADJ. EXCAVATIONS



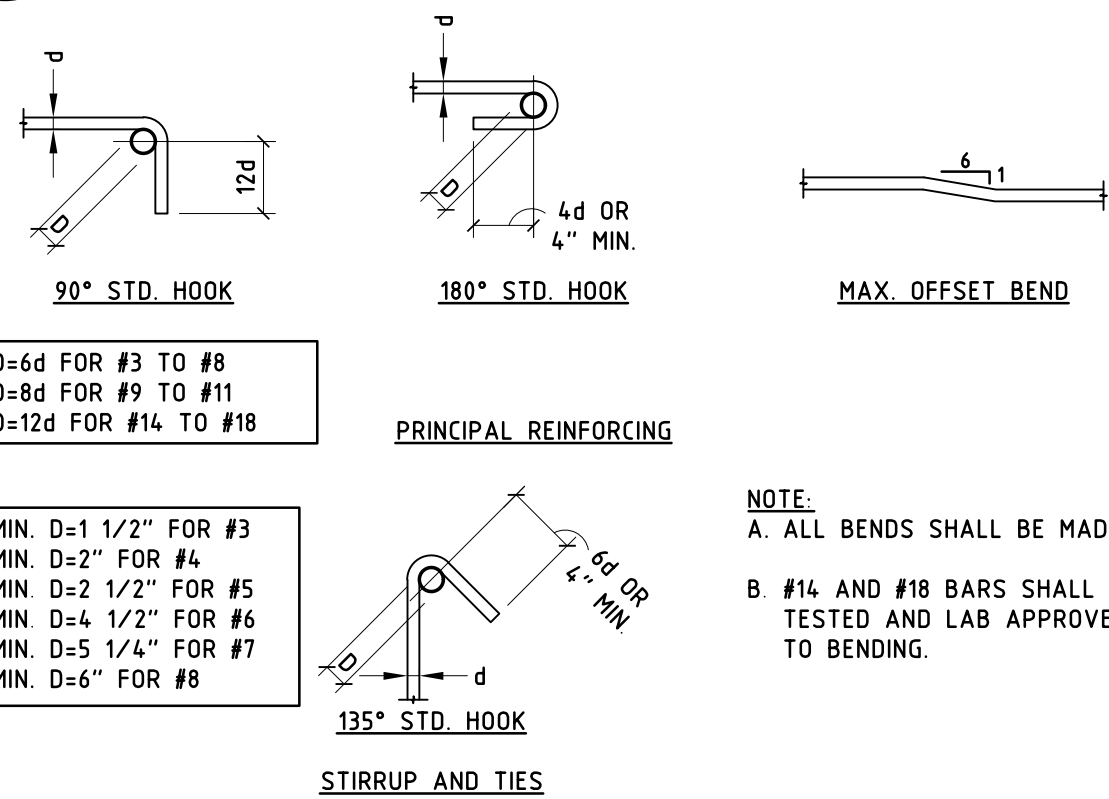
- SLAB ON GRADE PER PLAN.
- SMOOTH BAR DOWELS PER SCHEDULE AT 12" O.C. AT SLAB MID-DEPTH GREASE ONE END PROVIDE EQUIPMENT DIAMOND DOWEL PLATES IN LIEU OF DOWELS AT CONTRACTORS OPTION.
- "T", SEE PLANS FOR SLAB THICKNESS
- SAW-CUT CONC. AS SOON AS THE SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE TORN OR DAMAGED BY THE BLADE, AND IN A TIMELY MANNER TO PROHIBIT RANDOM CRACKING OF SLAB. CONTROL JOIST SHALL BE SAWCUT WITHIN 12 HOURS AFTER PLACING AND FINISHING CONCRETE.
- 1/4 X "T" = DEPTH OF CUT. 1/8" = WIDTH OF CUT.
- IF SLAB IS REINFORCED W/ WWF OR REBAR, CUT ALL REINFORCING AT JOINT.
- SMOOTH BAR DOWEL PER SCHEDULE AT 12" O.C. IN DOWEL BASKET. GREASE DOWELS
- DO NOT LOCATE DOWEL WITHIN 6" OF A JOINT INTERSECTION.

SLAB THICKNESS (IN.)	DIA (IN.)	LENGTH (IN.)
5-6	3/4	16
7-8	1	18

NOTE:

AT CONTRACTOR'S OPTION, THIS DETAIL ANTICIPATES "STRIP" PLACING W/THE CONTROL JOINTS CUTTING ACROSS THE STRIP. IF OTHER PLACING PATTERNS ARE USED, DO NOT USE THIS TYPE OF C.J. AT COVERED FLOORS.

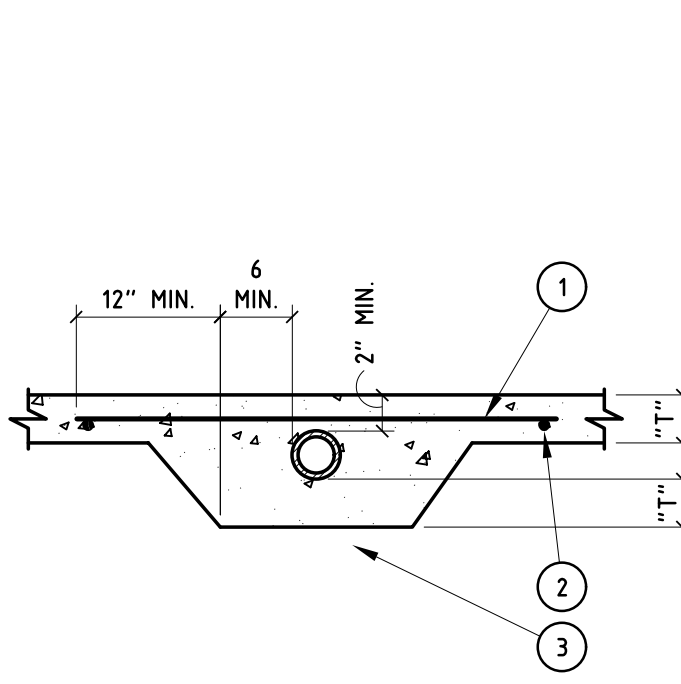
2 TYP. C.J. AND STEP IN SLAB ON GRADE



NOTE:

- ALL BENDS SHALL BE MADE COLD.
- #14 AND #18 BARS SHALL BE BEND TESTED AND LAB APPROVED PRIOR TO BENDING.

3 BAR BENDS



- #3 AT 18" O.C.
- #3 TYP
- FIRM UNDISTURBED SOIL ON COMPACTED BASE

NOTE:

A. THIS DETAIL APPLIES ONLY IF SPECIFICALLY REQ'D IN SLAB. DO NOT NORMALLY EMBED PIPES IN SLAB.

4 PIPE IN SLAB ON GRADE