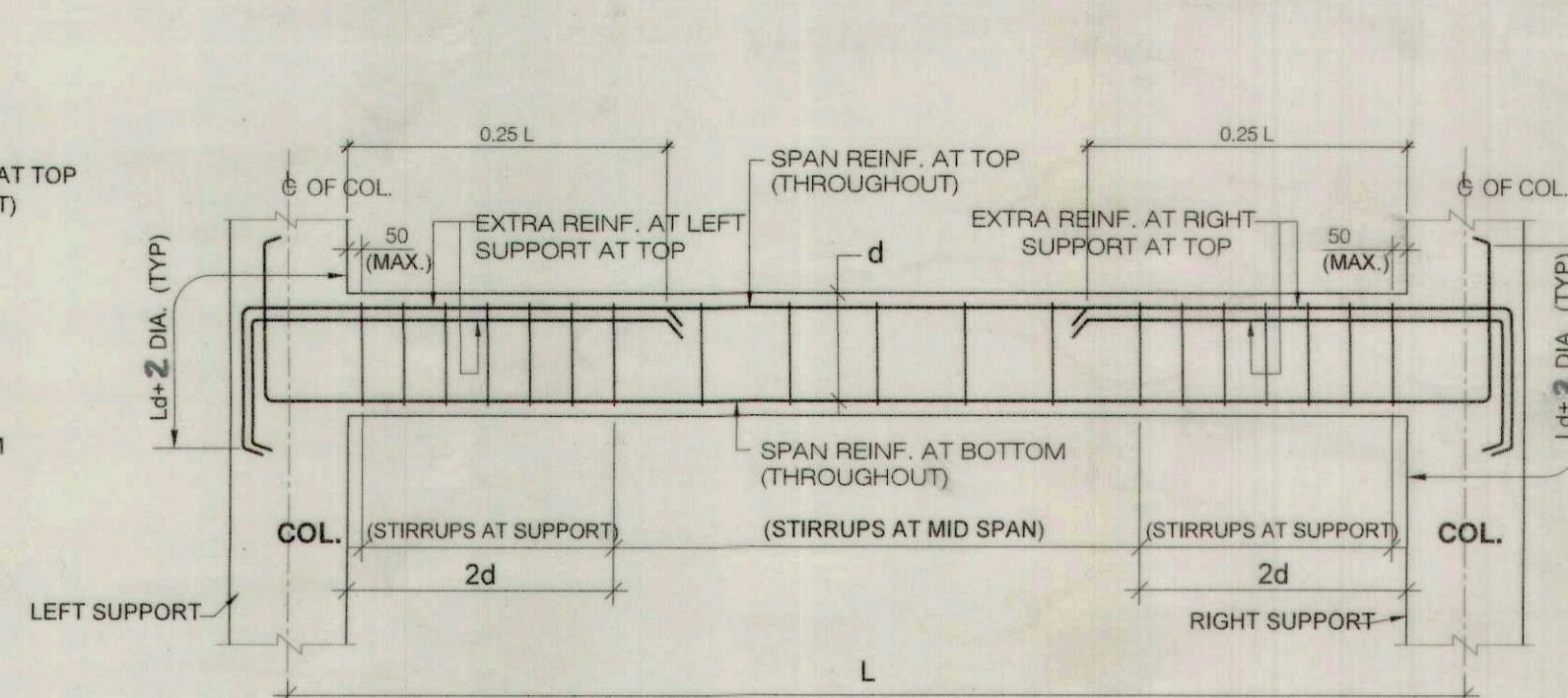
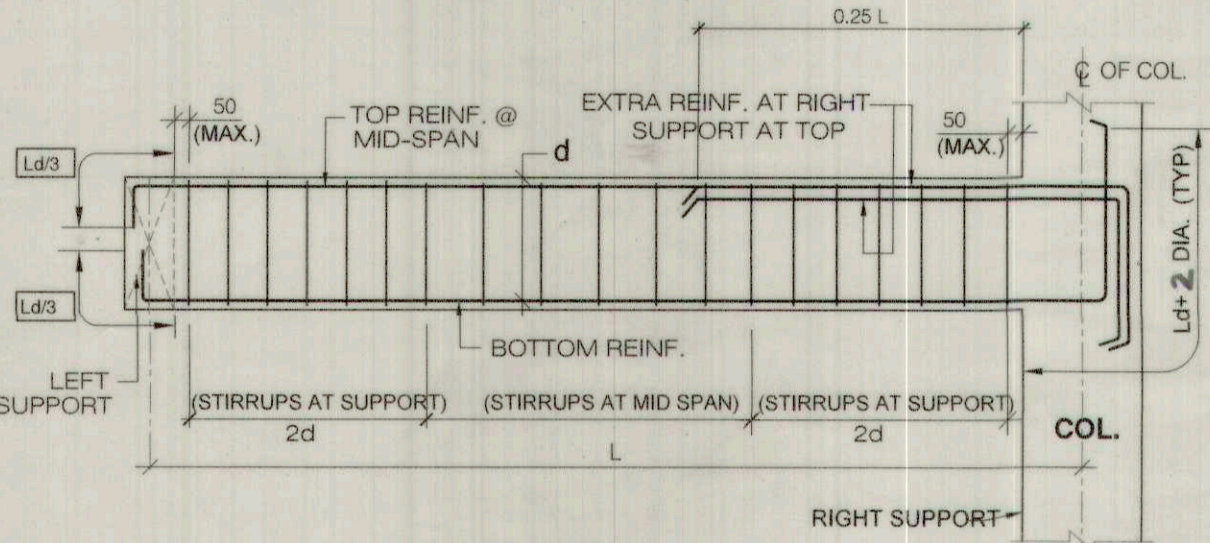


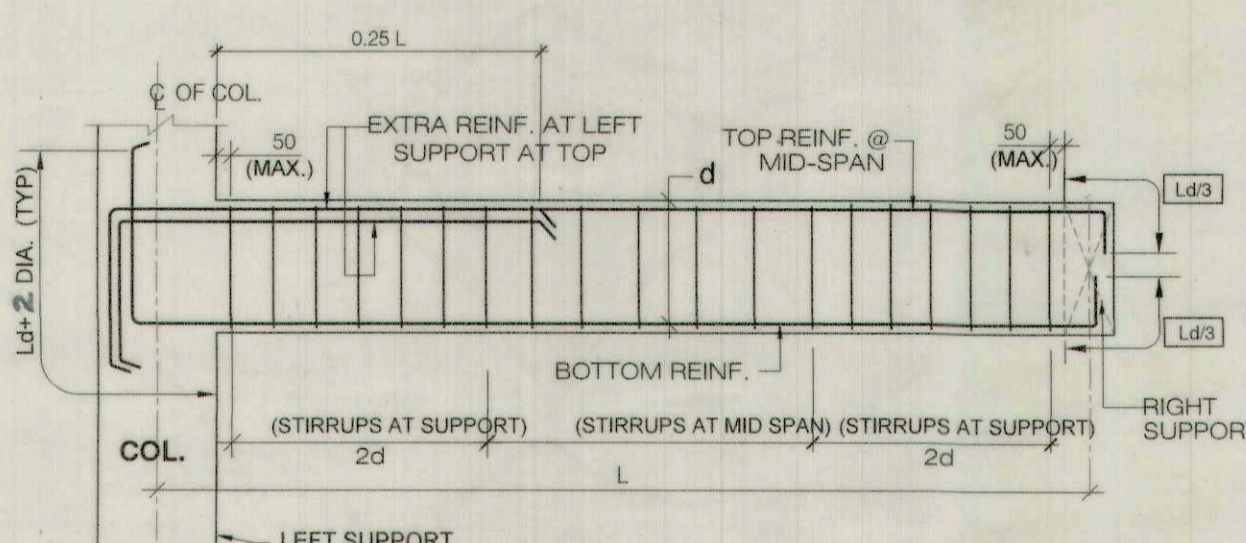
TYP. DETAIL OF GRID BEAM (CONTINUOUS)



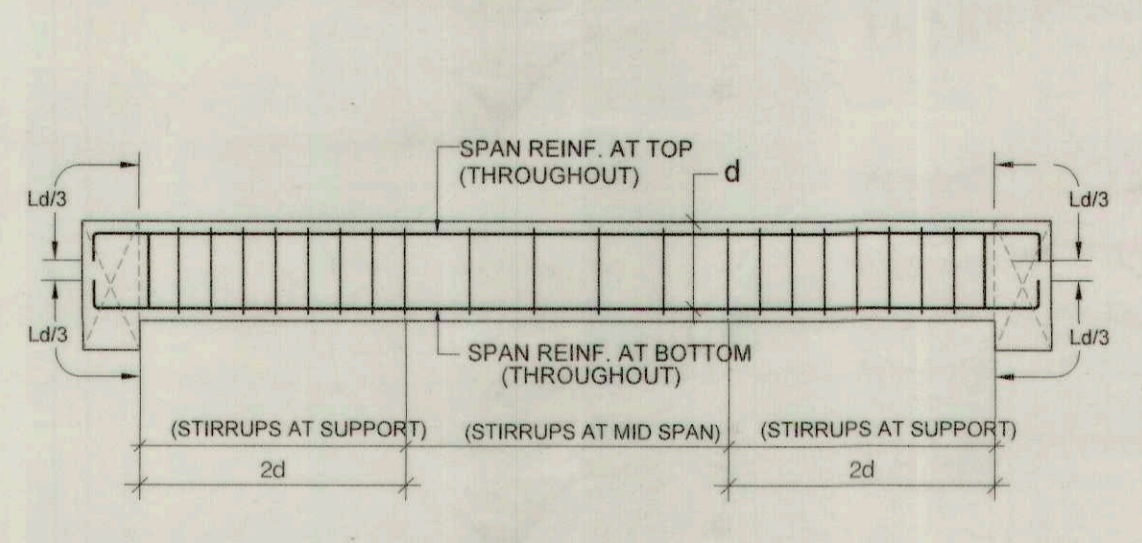
TYP. DETAIL OF GRID BEAM (DISCONTINUOUS / FIXED)



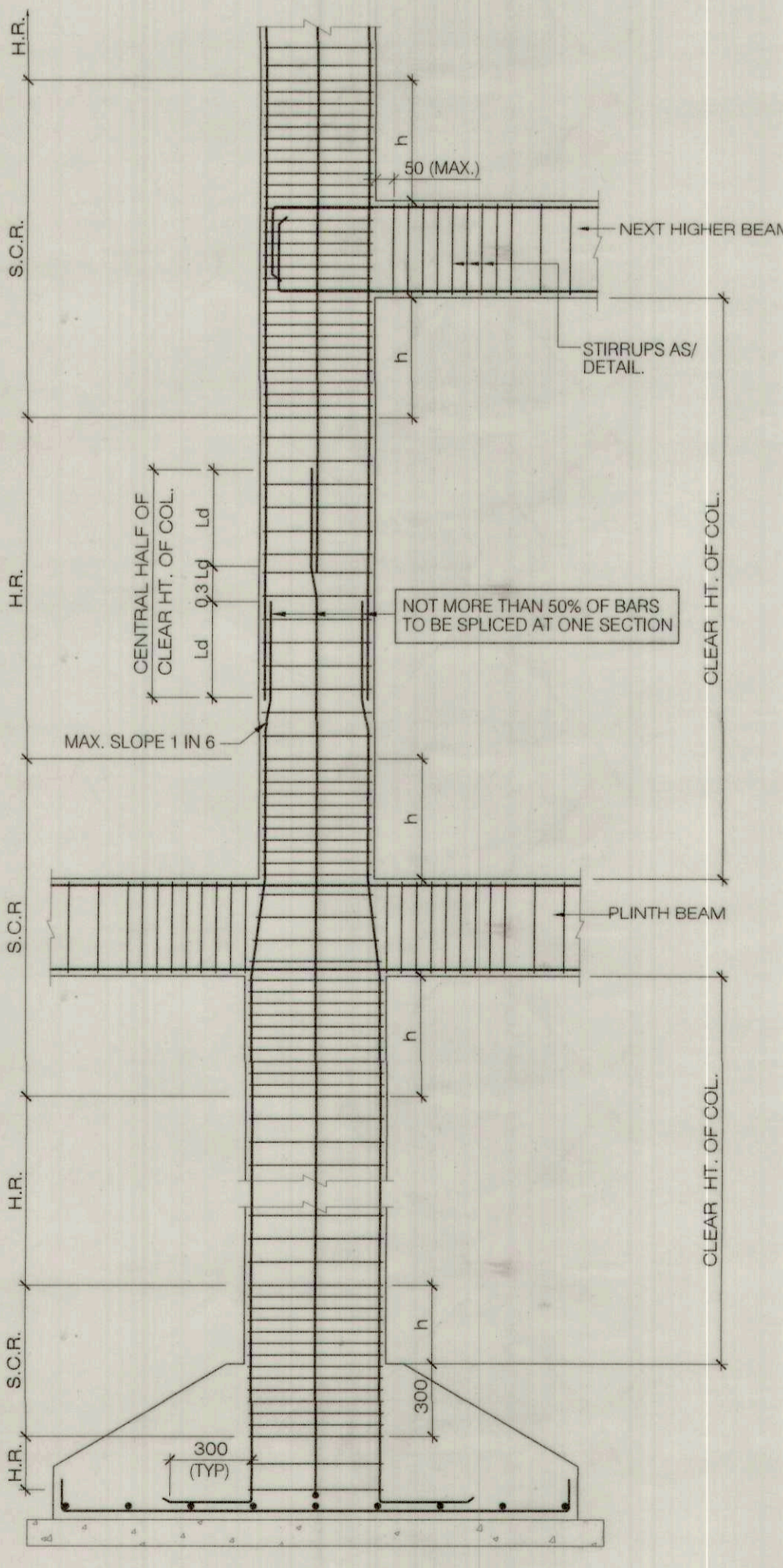
TYP. DETAIL OF BEAM SIMPLY SUPPORTED AT LEFT SUPPORT



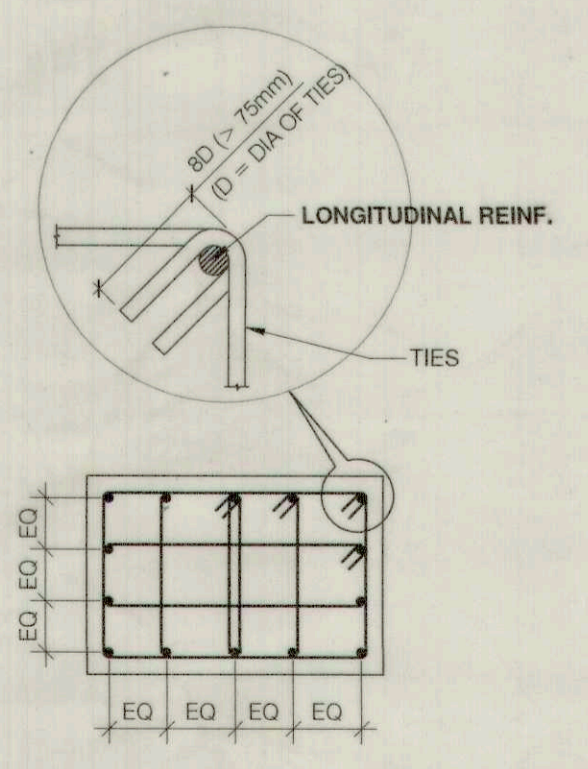
TYP. DETAIL OF BEAM SIMPLY SUPPORTED AT RIGHT SUPPORT



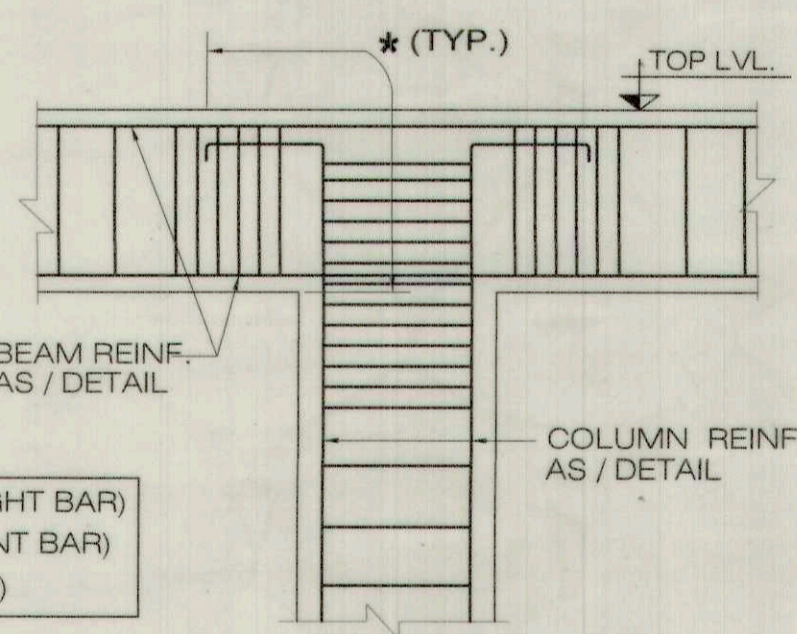
TYPICAL DETAILING FOR S.S. BEAMS



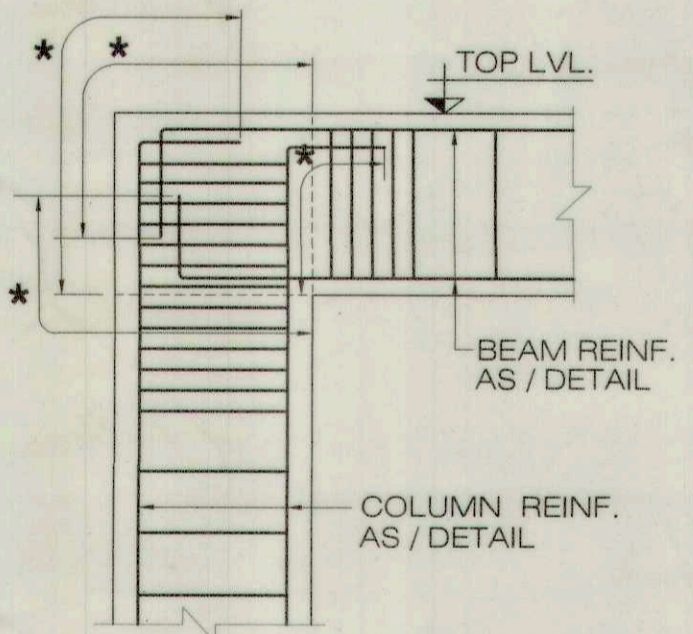
TYP. DUCTILE DETAILING OF COLUMNS



REBAR ARRANGEMENT OF COLUMNS

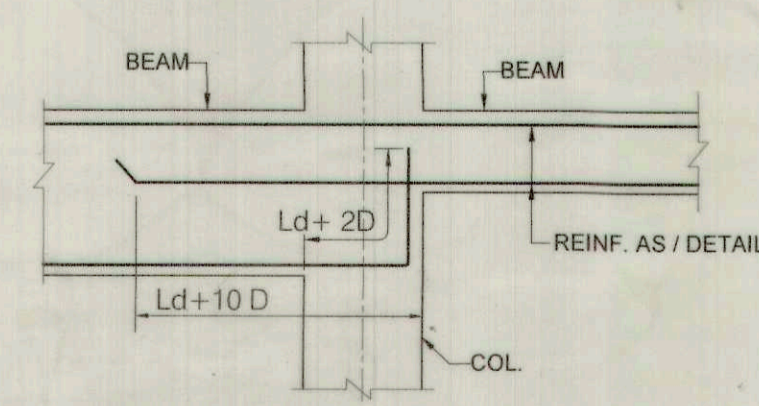


INTERNAL COLUMN

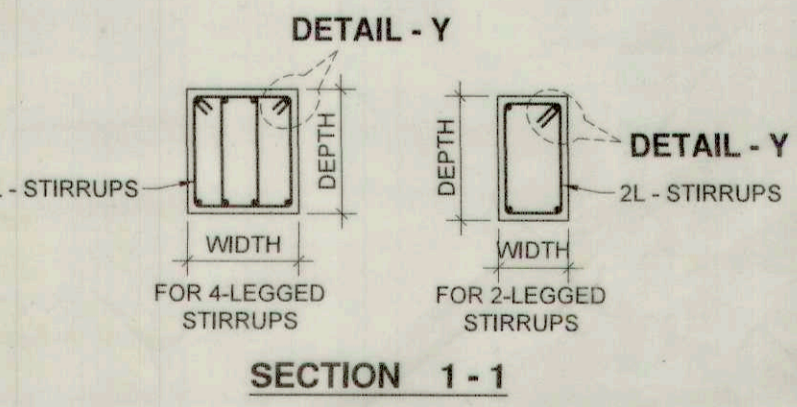


EXTERNAL COLUMN

TYP. DETAILS OF TERMINATION OF COLUMN REINF. AT ROOF LVL.



TYP. DETAIL AT JUNCTION OF COL. & BEAMS OF DIFFERENT DEPTHS [D = DIA OF BAR]



SECTION 1-1

DETAIL - Y

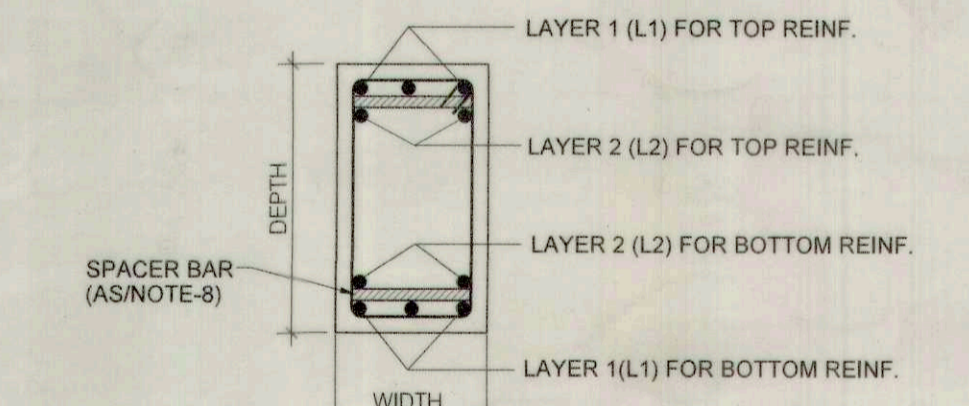
LAP SPLICES IN BEAM REINFORCEMENT

- LAP SPLICES IN TOP REINF. OF BEAM (OTHER THAN RAFT BEAMS) TO BE PROVIDED ONLY IN THE CENTRAL HALF OF MEMBER LENGTH & LAP SPLICES IN BOTTOM REINF. OF BEAMS (OTHER THAN RAFT BEAMS) TO BE PROVIDED AT 1/4TH OF SPAN DISTANCE FROM EITHER SUPPORT.
- C/C SPACING OF STIRRUPS IN BEAMS OVER ENTIRE LAP LENGTH SHALL NOT EXCEED 150MM.

- C/C SPACING OF TIES IN COLUMN OVER ENTIRE LAP LENGTH SHALL NOT BE GREATER THAN 100 MM
- SCR = SPECIAL CONFINEMENT REINFORCEMENT
HR = HOOP REINFORCEMENT
- h = MAX. OF (LARGER LATERAL COLUMN DIMENSION, 1/6 TH OF CLEAR HT. OF COL., 450 MM)

LAP SPLICES IN COLUMN REINFORCEMENT

- LAPS TO BE PROVIDED ONLY IN CENTRAL HALF OF CLEAR HEIGHT OF COLUMN.
- LAPS SHALL BE STAGGERED SUCH THAT C/C DISTANCE BETWEEN THEM SHALL BE MIN. 1.3 Ld & NOT MORE THAN 50% OF BARS TO BE LAPPED AT ONE PARTICULAR SECTION.
- IF SUFFICIENT LENGTH IS NOT AVAILABLE TO HAVE STAGGERED LAPPING IN CENTRAL HALF OF CLEAR HT. OF COLUMN, THEN, EITHER 50% OF BARS TO BE LAPPED IN ONE FLOOR & REMAINING 50% ON UPPER FLOOR OR PROVIDE MECHANICAL COUPLERS OF CLASS 'L' CONFORMING TO IS: 16172 - 2014. FURTHER, MECHANICAL COUPLERS TO BE TESTED AS PER IS CODE / SPECIFICATION.
- C/C SPACING OF TIES IN COLUMNS OVER ENTIRE LAP LENGTH SHALL NOT EXCEED 100MM.



TYP. DETAIL SHOWING LAYER L1 & L2 FOR BEAM REINF.

NOTES -

- ALL DIMENSIONS & LEVELS ARE IN MM UNLESS NOTED OTHERWISE. NO DIMENSION SHALL BE SCALED OFF. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- THE WORK SHALL BE STRICTLY IN ACCORDANCE WITH IS : 456 - (2000), IS : 13920 (2016) & IS : 3370 - (2009) UNLESS NOTED OTHERWISE.
- ALL LEVELS AND DIMENSIONS INDICATED IN THIS DRG. ARE FROM THE CONCRETE SURFACE WITHOUT ANY FINISHES UNLESS NOTED OTHERWISE.
- THIS DRG. SHALL BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL, PH, ELECTRICAL, MECHANICAL AND STRUCTURAL DRAWINGS.
- IN THE EVENT OF ANY DISCREPANCY BETWEEN STRUCTURAL DRGS. AND BASIC ARCHITECTURAL / PH / ELECTRICAL & MECHANICAL OR BETWEEN DIFFERENT STRUCTURAL DRGS., UNDERSIGNED SHALL BE IMMEDIATELY INFORMED PRIOR TO TAKING FURTHER ACTION.
- FOR LOCATION OF CONCEALED CONDUITS, PIPES AND OTHER CIVIL, PH, ELECTRICAL AND AIRCONDITIONING WORKS, INSERTS, CUTOUTS, HOLES, OPENINGS, ETC., REFER SEPARATE DRGS. BUT THESE SHALL BE LOCATED / FIXED PRIOR TO CONCRETING.
- ALL THE DIMENSIONS SHALL BE RECONFIRMED BY ARCHITECT / MECHANICAL SECTION (INCLUDING THE AGENCY) PRIOR TO CONCRETING.
- WHEREVER REINF. IS PLACED IN 2 LAYERS, SPACER BAR OF MIN. 16 DIA. OR DIA. OF MAIN BAR WHICHEVER IS MORE TO BE PROVIDED AT 1000 C/C DISTANCE.

THIS DRAWING CONTAINS GENERAL DETAILING OF BEAMS & COLUMNS AS PER IS13920 AND IS NOT APPLICABLE FOR SPECIAL CASES LIKE RAFT BEAMS, ETC.

CLEARANCE MUST BE OBTAINED FROM ALL CONCERNED SECTIONS PRIOR TO EXECUTION

REV. NO.	DESCRIPTION	INITIAL	DATE
REVISIONS			

GOVT. OF INDIA
DIRECTORATE OF CONSTRUCTION
SERVICES AND ESTATE MANAGEMENT
STRUCTURAL DESIGN SECTION
VIKRAM SARABHAI BHAVAN, ANUSHAKTI NAGAR, MUMBAI - 400094

DRN. BY	R.S. NEGI	TITLE -
DRG. CHKD.	M. AGRAWAL	STANDARD DETAILS FOR DUCTILE DETAILING IN BEAMS & COLUMNS
DESIGN BY	A. AGRAWAL	
CHKD. BY	A. SINGH	
RECOMMENDED	A.P. BAVASKAR	
APPROVED	R. NAYAN	
SCALE	1:50, 1:25	DRG. NO.-
DATE	05.01.2024	DCSEM / SDS / STD. DRG. / COL. & BEAM - 01 / 9501