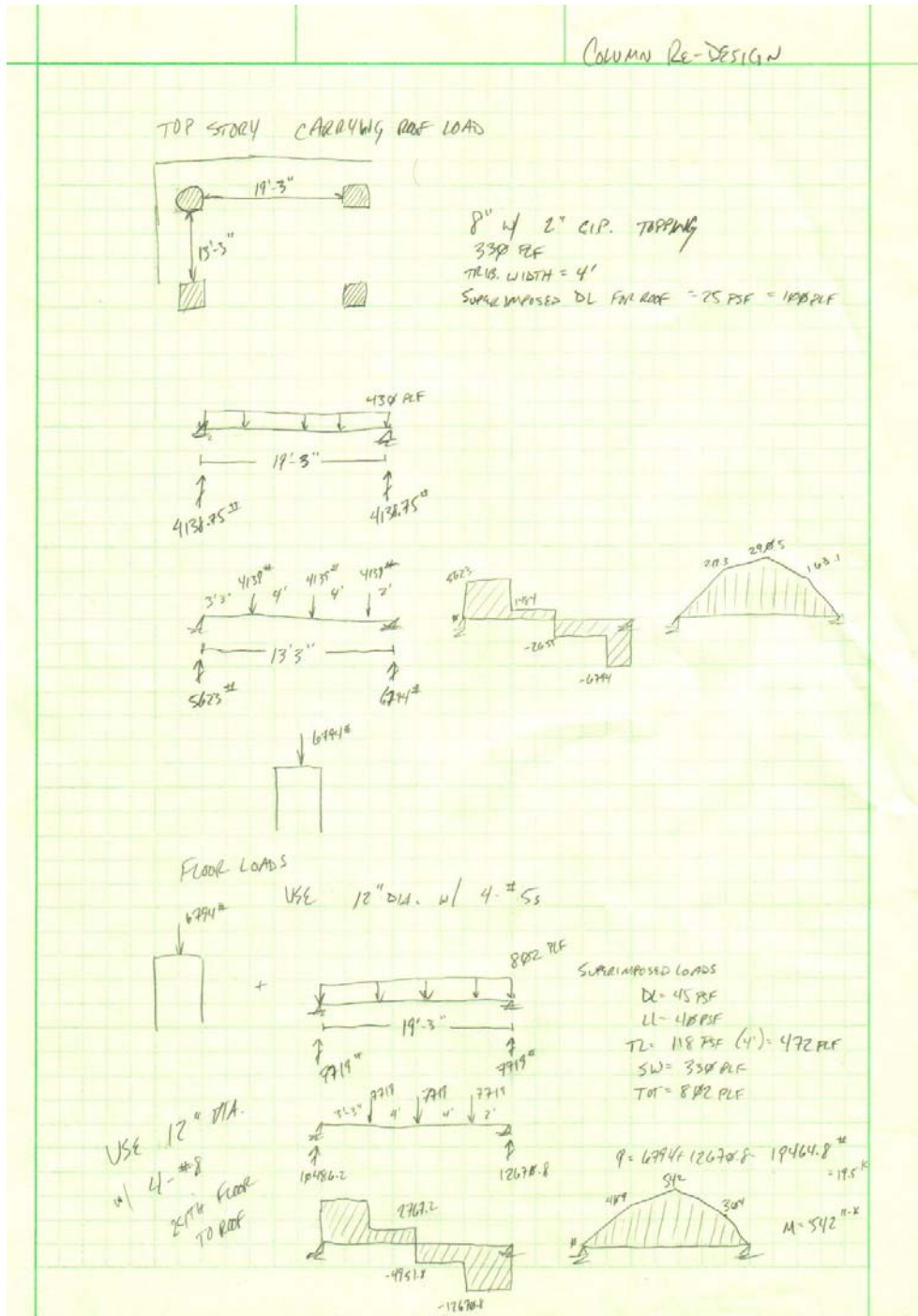




Appendix III





$M = 542 \text{ kft}$ FOR REST OF RESIDENTIAL FLOORS

KEEP RE-CALCULATING P

SAME LAYOUT & LOADS FOR THIS COLUMN THROUGHOUT FLOORS 2-38

∴ KEEP ADDING ADDING 12.7 k ONTO P LOAD CAPACITY

19.5 k @ 3RD FLOOR

$$19.5 \text{ k} + 12.7(x) = 259 \text{ k}$$
$$x = 18.8 \sim 19 \text{ FLOORS}$$

@ 18TH FLOOR COLUMN MUST BE RE-SIZED

LAYOUT CHANGES @ 18TH FLOOR SO DESIGN COLUMN FOR 11TH FLOOR LOAD

$$19.5 \text{ k} + 12.7 \text{ k}(26 \text{ FLOORS}) = 349.7 \text{ k}$$

USE 12" DIA w/ 5-#9'S 11TH FLOOR TO 23RD FLOOR

LAYOUT CHANGES AGAIN @ 7TH FLOOR ∴ DESIGN @ 8TH FLOOR

$$349.7 \text{ k} + 12.7(3) = 387.8 \text{ k}$$

USE 12" DIA w/ 6-#9'S

FROM 8TH TO 18TH FLOOR

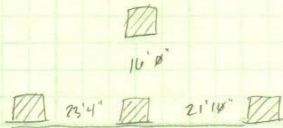
LAYOUT CHANGE @ GROUND FLOOR ∴ DESIGN @ 2ND FLOOR

$$387.8 + 12.7(6) = 466.4 \text{ k}$$

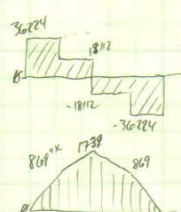
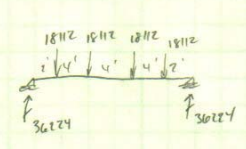
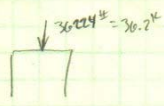
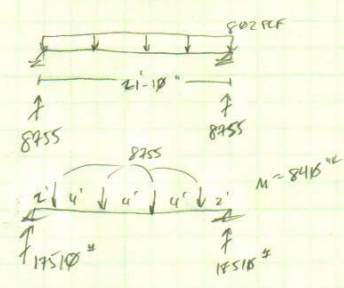
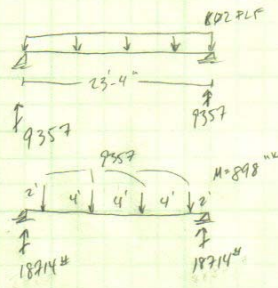
USE 12" DIA w/ 4-#14'S FROM 2ND - 7TH FLOOR



Column Re-Design



DL = 45 PSF
LL = 40 PSF
TL = 118 PSF (4') = 472 PCF
SW = 338 PCF
TOT = 882 PCF



USE 14" x 16" w/ 6-#9's
24TH FLOOR TO ROOF

M = 1739^{AK} MAJOR AXIS
M = 58^{AK} MINOR AXIS

MAX COLUMN CAPACITY

$$36.2 + 36.2(x) = 617$$

x → 17 FLOORS

DESIGN @ 11TH FLOOR

$$36.2 + 36.2(26) = 977.4^k$$

USE 18" x 20" w/ 6-#11 P = 982^k FROM 11TH TO 23RD FLOOR

DESIGN @ 8TH FLOOR

$$977.4 + 36.2(3) = 1086^k$$

USE 18" x 20" w/ 10-#11 P = 1188^k

DESIGN @ 2ND FLOOR

$$1086 + 36.2(6) = 1303.2^k$$

USE 18" x 20" w/ 16-#11 P = 1330^k

