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DIGITALLY VERIFIED RECORD

**V.JAGEN**
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CHARTERED ENGINEER, CONSULTANT
CIVIL & STRUCTURAL, APPROVED VALUER,
CMDA REGN NOS: SE / GR - I / 19 / 03 / 24 , QA / 19 / 04 / 21.
CORPORATION OF CHENNAI , REGN NO: RSE100172019.

FLAT NO:3B, RAMANIYAM GAURAVV 2
BLOCK-2, MODEL SCHOOL ROAD,
SHOLINGANALLUR, CHENNAI –107.
MOBILE : 98412 69154

**01/03/2025**

# CERTIFICATE

**IT IS CERTIFIED THAT THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT - 18.30m) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT NO-134, BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI – 600 042, COMPRISED IN S.NO.317/1 AS PER DOCUMENT AND T.S.NO.1/26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI COPORATION, ZONE – XIII, DIVISION – 177, IS DESIGNED TO RESIST EARTHQUAKE. CHECK HAS BEEN MADE AND FOUND SAFE AND I HEREBY CERTIFY THAT,**

1. The minimum grade of concrete is M25.

2. The design and analysis using the code of practice for loading Standards as per IS-875 Part I to V and seismic force as per code IS 1893, is carried out.

   The building will be sound and stable when used for the purpose for which it is designed.

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FLAT NO:3B, RAMANIYAM GAURAVV 2
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SHOLINGANALLUR, CHENNAI –107.
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**THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT - 18.30m) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT NO-134, BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI – 600 042, COMPRISED IN S.NO.317/1 AS PER DOCUMENT AND T.S.NO.1/26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI COPORATION, ZONE – XIII, DIVISION – 177.**

## GENERAL NOTE ON STRUCTURAL DESIGN.

### 1.0 GENERAL.

### 1.1 DESIGN BASIS

Service Apartment Building having Stilt + 5 Floors.
The design of this building is carried out based on frame analysis using STAAD PRO CONNECT EDITION.

### 1.2 CODES AND STANDARDS

All structural design is carried out conforming to the provisions in National Building Code of India and other relevant Indian Codes and Standards.

1. I.S. 456 - 2000
2. I.S. 875 - Part I to V
3. I.S.1893 - Part -1: 2016.
4. I.S.13920 : 2016.

### 2.0 BASIC CIVIL DESIGN LOADS

### 2.1 DEAD LOADS & LIVE LOADS

Typical slab dead load is calculated as follows

**Residential Building**

| | | |
|---|---|---|
| Self weight of slab | = | 3 0kN/m² |
| Floor finish | = | 2.0kN/m² |
| Live load | = | 2.0kN/m² |
| | | 7.0kN/m² |

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## 3.0 SOIL DETAILS

Based on Soil Test Report Pile foundation is adopted.

## 4.0 DESIGN METHODS

General design and detailing of concrete members/elements are done conforming to the provisions of I.S: 456 and other relevant I.S codes. Limit State method is followed for the design.

Seismic Zone III load is taken into account for the analysis. The predominant direction of vibration is horizontal. Relevant combination of forces has been taken into account. Ductile detailing of Reinforcement as per I.S.13920 - 2016 is considered.

**4.1**

| Load Combination | Ultimate Limit Load | Serviceability Limit State |
|---|---|---|
| DL+LL+WL<br>Or<br>DL+LL+EL | 1.2DL+1.2LL+1.2WL<br>Or<br>1.2DL+1.2LL+1.2EL | DL+LL+WL<br>Or<br>DL+LL+EL |

### 4.2.1 MINIMUM COVER

| | |
|---|---|
| Slab | 15 mm |
| Beam | 25 mm |
| Columns | 40 mm |
| Foundations | 50 mm |

Structure will be sound and stable when used for the purpose for which it is designed.

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*          Version  23.00.03.25                  *
*          Proprietary Program of                *
*          Bentley Systems, Inc.                 *
*          Date=    MAR  1, 2025                 *
*          Time=    10: 8: 6                     *
*                                                *
*  Licensed to: Ramaniyam Real Estates Pvt Ltd   *
**************************************************
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INPUT FILE: F:\Ramaniyam\Ramaniyam stadd\RRE STAAD 2024\Bhuvaneshwari Nagar\Bhuvaneshwari Nagar Final.STD
    2. START JOB INFORMATION
    3. *REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS
    4. *(HEIGHT - 18.30M) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING
    5. *PREMIUM FSI WITH TOD  BENEFIT AT PLOT NO. 134,BHUVANESHWARI NAGAR SECOND MAIN
    6. *ROAD,CHANDRU STREET,BHUVANESHWARI NAGAR, VELACHERY, CHENNAI - 600 042,
    7. *COMPRISED IN S.NO. 317/1 AS PER DOCUMENT AND T.S.NO. 1/26
    8. *AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE,VELACHERY TALUK, WITHIN THE
    9. *LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII ,DIVISION - 177.
   10. ENGINEER DATE 12-FEB-24
   11. END JOB INFORMATION
   12. INPUT WIDTH 79
   13. UNIT METER KN
   14. JOINT COORDINATES
   15. 1 0 0 0; 2 5.05 0 0; 3 8.42 0 0; 4 -2.94 0 3.18; 5 0 0 3.18; 6 5.05 0 4.59
   16. 7 8.42 0 4.59; 8 -5 0 4.68; 9 -2.94 0 4.68; 10 -5 0 6.56; 11 -2.94 0 6.56
   17. 12 -5 0 8.24; 13 0 0 8.24; 14 -9.07 0 9.44; 15 5.05 0 9.99; 16 7.42 0 9.99
   18. 17 -10.7 0 11.34; 18 -9.07 0 11.34; 19 -4.54 0 11.34; 20 -12.93 0 12.42
   19. 21 -12.93 0 14.71; 22 -8.34 0 14.71; 23 -4.54 0 14.71; 24 -1.16 0 14.71
   20. 25 5.05 0 14.71; 26 7.42 0 14.71; 27 0 1.2 0; 28 5.05 1.2 0; 29 8.42 1.2 0
   21. 30 -2.94 1.2 3.18; 31 0 1.2 3.18; 32 5.05 1.2 4.59; 33 8.42 1.2 4.59
   22. 34 -5 1.2 4.68; 35 -2.94 1.2 4.68; 36 -5 1.2 6.56; 37 -2.94 1.2 6.56
   23. 38 -5 1.2 8.24; 39 0 1.2 8.24; 40 -9.07 1.2 9.44; 41 5.05 1.2 9.99
   24. 42 7.42 1.2 9.99; 43 -10.7 1.2 11.34; 44 -9.07 1.2 11.34; 45 -4.54 1.2 11.34
   25. 46 -12.93 1.2 12.42; 47 -12.93 1.2 14.71; 48 -8.34 1.2 14.71
   26. 49 -4.54 1.2 14.71; 50 -1.16 1.2 14.71; 51 5.05 1.2 14.71; 52 7.42 1.2 14.71
   27. 53 0 4.3 0; 54 5.05 4.3 0; 55 8.42 4.3 0; 56 -2.94 4.3 3.18; 57 0 4.3 3.18
   28. 58 5.05 4.3 4.59; 59 8.42 4.3 4.59; 60 -5 4.3 4.68; 61 -2.94 4.3 4.68
   29. 62 -5 4.3 6.56; 63 -2.94 4.3 6.56; 64 -5 4.3 8.24; 65 0 4.3 8.24
   30. 66 -9.07 4.3 9.44; 67 5.05 4.3 9.99; 69 -10.7 4.3 11.34; 70 -9.07 4.3 11.34
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   32. 74 -8.34 4.3 14.71; 75 -4.54 4.3 14.71; 76 -1.16 4.3 14.71; 77 5.05 4.3 14.71
   33. 78 7.42 4.3 14.71; 79 0 4.3 4.59; 80 0 4.3 6.56; 81 3.37 4.3 0
   34. 82 3.37 4.3 4.59; 83 3.37 4.3 3.58; 84 5.05 4.3 3.58; 85 3.37 4.3 0.62
   35. 86 5.05 4.3 0.62; 87 -1.635 4.3 3.18; 88 -1.635 4.3 1.655; 89 -3.73 4.3 3.18
   36. 90 -3.73 4.3 4.68; 91 -1.16 4.3 8.24; 92 -1.16 4.3 9.18; 93 7.42 4.3 9.99
   37. 94 -1.16 4.3 9.99; 95 2.37 4.3 8.24; 96 2.37 4.3 9.99; 97 2.37 4.3 14.71
   38. 98 4.05 4.3 9.99; 99 4.05 4.3 14.71; 100 2.37 4.3 13.99; 101 4.05 4.3 13.99
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Mobile: 9841269154

39. 102 2.37 4.3 11.16; 103 4.05 4.3 11.16; 104 6.95 4.3 9.99; 105 6.95 4.3 4.59
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Mobile: 9841269154

STAAD SPACE -- PAGE NO. 3

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141. 449 0.18 19.8 8.98; 450 -1.16 19.8 8.98; 451 -4.54 19.8 9.99
142. 452 -3.64 19.8 9.99; 453 -3.64 19.8 8.24; 454 -8.34 19.8 11.34
143. 455 -8.34 19.8 13.64; 456 -4.54 19.8 13.64; 457 -8.34 19.8 9.44
144. 458 -10.12 19.8 9.44; 459 -10.7 19.8 10.17; 460 -14.96 19.8 14.71
145. 461 -14.96 19.8 14.43; 462 -11.92 19.8 11.34; 463 -4.54 1.2 8.24
146. 464 -1.16 1.2 8.24; 465 -9.07 1.2 14.71; 466 0 1.2 4.59; 467 5.05 1.2 8.24
147. 468 -1.16 1.2 11.34; 469 -4.54 1.2 9.44; 470 -5 1.2 9.44; 471 0 1.2 6.56
148. 472 -3.73 1.2 3.18; 473 -3.73 1.2 4.68; 474 -2.94 22.9 3.18; 475 0 22.9 3.18
149. 476 -5 22.9 4.68; 477 -2.94 22.9 4.68; 478 -5 22.9 6.56; 479 -2.94 22.9 6.56
150. 480 -5 22.9 8.24; 481 0 22.9 8.24; 482 0 22.9 4.59; 483 0 22.9 6.56



V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
SE / GR-I / 2019/03/024, QA/2019/04/021
CHARTERED ENGINEER & APPROVED VALUER
3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

151. 484 -1.635 22.9 3.18; 485 -3.73 22.9 4.68; 486 -1.16 22.9 8.24
152. 487 -3.64 22.9 8.24; 488 -5 24.1 4.68; 489 -2.94 24.1 4.68; 490 -5 24.1 6.56
153. 491 -2.94 24.1 6.56; 492 -3.73 24.1 4.68; 493 8.42 16.7 2.55
154. 494 8.42 19.8 2.55; 495 5.05 19.8 2.55; 496 5.05 22.9 0; 497 8.42 22.9 0
155. 498 5.05 22.9 4.59; 499 8.42 22.9 4.59; 500 5.05 22.9 3.58; 501 5.05 22.9 0.62
156. 502 6.95 22.9 4.59; 503 8.42 22.9 2.55; 504 5.05 22.9 2.55
157. 510 5.05 22.9 2.30875; 511 5.05 22.9 2.0675; 512 5.05 22.9 1.82625
158. 513 5.05 22.9 1.585; 514 5.05 22.9 1.34375; 515 5.05 22.9 1.1025
159. 516 5.05 22.9 0.86125; 517 5.05 22.9 0.465; 518 5.05 22.9 0.31
160. 519 5.05 22.9 0.155; 595 8.17929 22.9 2.55; 596 7.93857 22.9 2.55
161. 597 7.69786 22.9 2.55; 598 7.45714 22.9 2.55; 599 7.21643 22.9 2.55
162. 600 6.97571 22.9 2.55; 601 6.735 22.9 2.55; 602 6.49429 22.9 2.55
163. 603 6.25357 22.9 2.55; 604 6.01286 22.9 2.55; 605 5.77214 22.9 2.55
164. 606 5.53143 22.9 2.55; 607 5.29071 22.9 2.55; 691 8.42 22.9 2.3375
165. 692 8.42 22.9 2.125; 693 8.42 22.9 1.9125; 694 8.42 22.9 1.7
166. 695 8.42 22.9 1.4875; 696 8.42 22.9 1.275; 697 8.42 22.9 1.0625
167. 698 8.42 22.9 0.85; 699 8.42 22.9 0.6375; 700 8.42 22.9 0.425
168. 701 8.42 22.9 0.2125; 786 8.17929 22.9 0; 787 7.93857 22.9 0
169. 788 7.69786 22.9 0; 789 7.45714 22.9 0; 790 7.21643 22.9 0; 791 6.97571 22.9 0
170. 792 6.735 22.9 0; 793 6.49429 22.9 0; 794 6.25357 22.9 0; 795 6.01286 22.9 0
171. 796 5.77214 22.9 0; 797 5.53143 22.9 0; 798 5.29071 22.9 0
172. 864 -2.94 22.9 8.24; 865 -2.34 22.9 3.18; 866 -2.34 22.9 8.24; 968 0 22.9 8.03
173. 969 0 22.9 7.82; 970 0 22.9 7.61; 971 0 22.9 7.4; 972 0 22.9 7.19
174. 973 0 22.9 6.98; 974 0 22.9 6.77; 975 0 22.9 6.31375; 976 0 22.9 6.0675
175. 977 0 22.9 5.82125; 978 0 22.9 5.575; 979 0 22.9 5.32875; 980 0 22.9 5.0825
176. 981 0 22.9 4.83625; 982 0 22.9 4.355; 983 0 22.9 4.12; 984 0 22.9 3.885
177. 985 0 22.9 3.65; 986 0 22.9 3.415; 3635 5.05 22.9 2.42937
178. 3636 5.05 22.9 2.18813; 3637 5.05 22.9 1.94688; 3638 5.05 22.9 1.70563
179. 3639 5.05 22.9 1.46438; 3640 5.05 22.9 1.22312; 3641 5.05 22.9 0.981875
180. 3642 5.05 22.9 0.740625; 3643 5.05 22.9 0.5425; 3644 5.05 22.9 0.3875
181. 3645 5.05 22.9 0.2325; 3646 5.05 22.9 0.0775001; 3647 5.17035 22.9 0
182. 3648 5.41107 22.9 0; 3649 5.65178 22.9 0; 3650 5.8925 22.9 0
183. 3651 6.13321 22.9 0; 3652 6.37393 22.9 0; 3653 6.61465 22.9 0
184. 3654 6.85536 22.9 0; 3655 7.09607 22.9 0; 3656 7.33679 22.9 0
185. 3657 7.5775 22.9 0; 3658 7.81821 22.9 0; 3659 8.05893 22.9 0
186. 3660 8.29964 22.9 0; 3661 8.42 22.9 0.10625; 3662 8.42 22.9 0.31875
187. 3663 8.42 22.9 0.53125; 3664 8.42 22.9 0.74375; 3665 8.42 22.9 0.95625
188. 3666 8.42 22.9 1.16875; 3667 8.42 22.9 1.38125; 3668 8.42 22.9 1.59375
189. 3669 8.42 22.9 1.80625; 3670 8.42 22.9 2.01875; 3671 8.42 22.9 2.23125
190. 3672 8.42 22.9 2.44375; 3673 8.29964 22.9 2.55; 3674 8.05893 22.9 2.55
191. 3675 7.81821 22.9 2.55; 3676 7.5775 22.9 2.55; 3677 7.33679 22.9 2.55
192. 3678 7.09607 22.9 2.55; 3679 6.85536 22.9 2.55; 3680 6.61465 22.9 2.55
193. 3681 6.37393 22.9 2.55; 3682 6.13321 22.9 2.55; 3683 5.8925 22.9 2.55
194. 3684 5.65178 22.9 2.55; 3685 5.41107 22.9 2.55; 3686 5.17035 22.9 2.55
195. 4296 5.05 22.9 2.48969; 4297 5.05 22.9 2.36906; 4298 5.05 22.9 2.24844
196. 4299 5.05 22.9 2.12781; 4300 5.05 22.9 2.00719; 4301 5.05 22.9 1.88656
197. 4302 5.05 22.9 1.76594; 4303 5.05 22.9 1.64531; 4304 5.05 22.9 1.52469
198. 4305 5.05 22.9 1.40406; 4306 5.05 22.9 1.28344; 4307 5.05 22.9 1.16281
199. 4308 5.05 22.9 1.04219; 4309 5.05 22.9 0.921562; 4310 5.05 22.9 0.800937
200. 4311 5.05 22.9 0.680312; 4312 5.05 22.9 0.58125; 4313 5.05 22.9 0.50375
201. 4314 5.05 22.9 0.42625; 4315 5.05 22.9 0.34875; 4316 5.05 22.9 0.27125
202. 4317 5.05 22.9 0.19375; 4318 5.05 22.9 0.11625; 4319 5.05 22.9 0.0387499
203. 4320 5.11018 22.9 0; 4321 5.23053 22.9 0; 4322 5.35089 22.9 0
204. 4323 5.47125 22.9 0; 4324 5.59161 22.9 0; 4325 5.71196 22.9 0
205. 4326 5.83232 22.9 0; 4327 5.95268 22.9 0; 4328 6.07304 22.9 0
206. 4329 6.19339 22.9 0; 4330 6.31375 22.9 0; 4331 6.43411 22.9 0



V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
SE / GR-I / 2019/03/024, QA/2019/04/021
CHARTERED ENGINEER & APPROVED VALUER
3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

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207. 4332 6.55447 22.9 0; 4333 6.67482 22.9 0; 4334 6.79518 22.9 0
208. 4335 6.91553 22.9 0; 4336 7.03589 22.9 0; 4337 7.15625 22.9 0
209. 4338 7.27661 22.9 0; 4339 7.39696 22.9 0; 4340 7.51732 22.9 0
210. 4341 7.63768 22.9 0; 4342 7.75804 22.9 0; 4343 7.87839 22.9 0
211. 4344 7.99875 22.9 0; 4345 8.11911 22.9 0; 4346 8.23947 22.9 0
212. 4347 8.35982 22.9 0; 4348 8.42 22.9 0.0531251; 4349 8.42 22.9 0.159375
213. 4350 8.42 22.9 0.265625; 4351 8.42 22.9 0.371875; 4352 8.42 22.9 0.478125
214. 4353 8.42 22.9 0.584375; 4354 8.42 22.9 0.690625; 4355 8.42 22.9 0.796875
215. 4356 8.42 22.9 0.903125; 4357 8.42 22.9 1.00937; 4358 8.42 22.9 1.11563
216. 4359 8.42 22.9 1.22187; 4360 8.42 22.9 1.32813; 4361 8.42 22.9 1.43437
217. 4362 8.42 22.9 1.54062; 4363 8.42 22.9 1.64688; 4364 8.42 22.9 1.75313
218. 4365 8.42 22.9 1.85938; 4366 8.42 22.9 1.96563; 4367 8.42 22.9 2.07188
219. 4368 8.42 22.9 2.17812; 4369 8.42 22.9 2.28438; 4370 8.42 22.9 2.39063
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221. 4374 8.11911 22.9 2.55; 4375 7.99875 22.9 2.55; 4376 7.87839 22.9 2.55
222. 4377 7.75804 22.9 2.55; 4378 7.63768 22.9 2.55; 4379 7.51732 22.9 2.55
223. 4380 7.39696 22.9 2.55; 4381 7.27661 22.9 2.55; 4382 7.15625 22.9 2.55
224. 4383 7.03589 22.9 2.55; 4384 6.91553 22.9 2.55; 4385 6.79518 22.9 2.55
225. 4386 6.67482 22.9 2.55; 4387 6.55447 22.9 2.55; 4388 6.43411 22.9 2.55
226. 4389 6.31375 22.9 2.55; 4390 6.19339 22.9 2.55; 4391 6.07304 22.9 2.55
227. 4392 5.95268 22.9 2.55; 4393 5.83232 22.9 2.55; 4394 5.71196 22.9 2.55
228. 4395 5.59161 22.9 2.55; 4396 5.47125 22.9 2.55; 4397 5.35089 22.9 2.55
229. 4398 5.23053 22.9 2.55; 4399 5.11018 22.9 2.55; 4400 -9.07 4.3 14.71
230. MEMBER INCIDENCES
231. 1 1 27; 2 2 28; 3 3 29; 4 4 30; 5 5 31; 6 6 32; 7 7 33; 8 8 34; 9 9 35
232. 10 10 36; 11 11 37; 12 12 38; 13 13 39; 14 14 40; 15 15 41; 16 16 42; 17 17 43
233. 18 18 44; 19 19 45; 20 20 46; 21 21 47; 22 22 48; 23 23 49; 24 24 50; 25 25 51
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235. 34 34 60; 35 35 61; 36 36 62; 37 37 63; 38 38 64; 39 39 65; 40 40 66; 41 41 67
236. 42 42 93; 43 43 69; 44 44 70; 45 45 71; 46 46 72; 47 47 73; 48 48 74; 49 49 75
237. 50 50 76; 51 51 77; 52 52 78; 53 53 81; 54 54 55; 55 56 87; 56 58 105
238. 57 67 104; 58 73 4400; 59 74 75; 60 75 76; 61 76 97; 62 77 78; 63 78 93
239. 65 59 55; 66 58 84; 67 65 80; 68 57 53; 69 60 90; 70 62 63; 71 62 60; 72 63 61
240. 73 61 56; 74 64 112; 75 64 62; 76 66 60; 77 75 115; 78 73 72; 79 79 57
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243. 97 90 61; 98 90 89; 99 91 65; 100 76 94; 101 92 109; 102 94 92; 103 94 107
244. 104 93 59; 105 65 106; 106 96 98; 107 96 95; 108 97 99; 109 97 100; 110 98 67
245. 111 99 77; 112 99 101; 113 100 102; 114 101 103; 115 100 101; 116 102 96
246. 117 103 98; 118 102 103; 119 104 93; 120 105 59; 121 104 105; 122 106 95
247. 123 107 96; 124 107 108; 125 108 106; 126 109 91; 127 109 108; 128 71 110
248. 129 110 111; 130 111 94; 131 112 91; 132 111 112; 133 69 70; 135 70 113
249. 137 115 71; 141 113 117; 142 66 117; 143 69 119; 144 119 118; 145 118 66
250. 146 120 73; 147 120 121; 148 121 72; 149 72 122; 150 122 69; 151 53 123
251. 152 54 124; 153 55 125; 154 56 126; 155 57 127; 156 58 128; 157 59 129
252. 158 60 130; 159 61 131; 160 62 132; 161 63 133; 162 64 134; 163 65 135
253. 164 66 136; 165 67 137; 166 93 162; 167 69 138; 168 70 139; 169 71 140
254. 170 72 141; 171 73 142; 172 74 143; 173 75 144; 174 76 145; 175 77 146
255. 176 78 147; 177 123 150; 178 124 125; 179 126 156; 180 128 174; 181 137 173
256. 182 142 143; 183 143 144; 184 144 145; 185 145 166; 186 146 147; 187 147 162
257. 188 129 125; 189 128 153; 190 135 149; 191 127 123; 192 130 159; 193 132 133
258. 194 132 130; 195 133 131; 196 131 126; 197 134 181; 198 134 132; 199 136 130
259. 200 144 184; 201 142 141; 202 148 127; 203 149 148; 204 133 149; 205 148 151
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262. 218 158 126; 219 159 131; 220 159 158; 221 160 135; 222 145 163; 223 161 178
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V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
SE / GR-I / 2019/03/024, QA/2019/04/021
CHARTERED ENGINEER & APPROVED VALUER
3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

263. 224 163 161; 225 163 176; 226 162 129; 227 135 175; 228 165 167; 229 165 164
264. 230 166 168; 231 166 169; 232 167 137; 233 168 146; 234 168 170; 235 169 171
265. 236 170 172; 237 169 170; 238 171 165; 239 172 167; 240 171 172; 241 173 162
266. 242 174 129; 243 173 174; 244 175 164; 245 176 165; 246 176 177; 247 177 175
267. 248 178 160; 249 178 177; 250 140 179; 251 179 180; 252 180 163; 253 181 160
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277. 308 197 193; 309 196 221; 310 203 217; 311 195 191; 312 198 227; 313 200 201
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318. 554 336 334; 555 337 335; 556 335 330; 557 338 385; 558 338 336; 559 340 334

V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
SE / GR-I / 2019/03/024, QA/2019/04/021
CHARTERED ENGINEER & APPROVED VALUER
3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

319. 560 348 388; 561 346 345; 562 352 331; 563 353 352; 564 337 353; 565 352 355
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324. 590 370 372; 591 370 373; 592 371 341; 593 372 350; 594 372 374; 595 373 375
325. 596 374 376; 597 373 374; 598 375 369; 599 376 371; 600 375 376; 601 377 366
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333. 644 340 408; 645 341 409; 646 366 434; 647 342 410; 648 343 411; 649 344 412
334. 650 345 413; 651 346 414; 652 347 415; 653 348 416; 654 349 417; 655 350 418
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339. 680 416 456; 681 414 413; 682 420 399; 683 421 420; 684 405 421; 685 420 423
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341. 692 426 422; 693 427 396; 694 426 427; 695 428 399; 696 428 429; 697 429 395
342. 698 430 398; 699 431 403; 700 431 430; 701 432 407; 702 417 435; 703 433 450
343. 704 435 433; 705 435 448; 706 434 401; 707 407 447; 708 437 439; 709 437 436
344. 710 438 440; 711 438 441; 712 439 409; 713 440 418; 714 440 442; 715 441 443
345. 716 442 444; 717 441 442; 718 443 437; 719 444 439; 720 443 444; 721 445 434
346. 722 446 401; 723 445 446; 724 447 436; 725 448 437; 726 448 449; 727 449 447
347. 728 450 432; 729 450 449; 730 412 451; 731 451 452; 732 452 435; 733 453 432
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364. 835 491 489; 836 492 489; 837 493 329; 838 494 397; 839 495 427; 840 396 496
365. 841 397 497; 842 400 498; 843 401 499; 844 496 4320; 845 498 502; 846 499 503
366. 847 498 500; 848 500 504; 849 501 4312; 850 502 499; 851 503 4371
367. 852 504 4296; 853 504 4399; 859 510 4298; 860 511 4300; 861 512 4302
368. 862 513 4304; 863 514 4306; 864 515 4308; 865 516 4310; 866 517 4314
369. 867 518 4316; 868 519 4318; 951 595 4373; 952 596 4375; 953 597 4377
370. 954 598 4379; 955 599 4381; 956 600 4383; 957 601 4385; 958 602 4387
371. 959 603 4389; 960 604 4391; 961 605 4393; 962 606 4395; 963 607 4397
372. 1061 691 4369; 1062 692 4367; 1063 693 4365; 1064 694 4363; 1065 695 4361
373. 1066 696 4359; 1067 697 4357; 1068 698 4355; 1069 699 4353; 1070 700 4351
374. 1071 701 4349; 1168 786 4346; 1169 787 4344; 1170 788 4342; 1171 789 4340

V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
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3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

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375. 1172 790 4338; 1173 791 4336; 1174 792 4334; 1175 793 4332; 1176 794 4330
376. 1177 795 4328; 1178 796 4326; 1179 797 4324; 1180 798 4322; 1265 864 866
377. 1266 865 484; 1267 866 486; 1374 968 969; 1375 969 970; 1376 970 971
378. 1377 971 972; 1378 972 973; 1379 973 974; 1380 974 483; 1381 975 976
379. 1382 976 977; 1383 977 978; 1384 978 979; 1385 979 980; 1386 980 981
380. 1387 981 482; 1388 982 983; 1389 983 984; 1390 984 985; 1391 985 986
381. 1392 986 475; 4167 3635 4297; 4168 3636 4299; 4169 3637 4301; 4170 3638 4303
382. 4171 3639 4305; 4172 3640 4307; 4173 3641 4309; 4174 3642 4311; 4175 3643 4313
383. 4176 3644 4315; 4177 3645 4317; 4178 3646 4319; 4179 3647 4321; 4180 3648 4323
384. 4181 3649 4325; 4182 3650 4327; 4183 3651 4329; 4184 3652 4331; 4185 3653 4333
385. 4186 3654 4335; 4187 3655 4337; 4188 3656 4339; 4189 3657 4341; 4190 3658 4343
386. 4191 3659 4345; 4192 3660 4347; 4193 3661 4348; 4194 3662 4350; 4195 3663 4352
387. 4196 3664 4354; 4197 3665 4356; 4198 3666 4358; 4199 3667 4360; 4200 3668 4362
388. 4201 3669 4364; 4202 3670 4366; 4203 3671 4368; 4204 3672 4370; 4205 3673 4372
389. 4206 3674 4374; 4207 3675 4376; 4208 3676 4378; 4209 3677 4380; 4210 3678 4382
390. 4211 3679 4384; 4212 3680 4386; 4213 3681 4388; 4214 3682 4390; 4215 3683 4392
391. 4216 3684 4394; 4217 3685 4396; 4218 3686 4398; 4247 4296 3635; 4248 4297 510
392. 4249 4298 3636; 4250 4299 511; 4251 4300 3637; 4252 4301 512; 4253 4302 3638
393. 4254 4303 513; 4255 4304 3639; 4256 4305 514; 4257 4306 3640; 4258 4307 515
394. 4259 4308 3641; 4260 4309 516; 4261 4310 3642; 4262 4311 501; 4263 4312 3643
395. 4264 4313 517; 4265 4314 3644; 4266 4315 518; 4267 4316 3645; 4268 4317 519
396. 4269 4318 3646; 4270 4319 496; 4271 4320 3647; 4272 4321 798; 4273 4322 3648
397. 4274 4323 797; 4275 4324 3649; 4276 4325 796; 4277 4326 3650; 4278 4327 795
398. 4279 4328 3651; 4280 4329 794; 4281 4330 3652; 4282 4331 793; 4283 4332 3653
399. 4284 4333 792; 4285 4334 3654; 4286 4335 791; 4287 4336 3655; 4288 4337 790
400. 4289 4338 3656; 4290 4339 789; 4291 4340 3657; 4292 4341 788; 4293 4342 3658
401. 4294 4343 787; 4295 4344 3659; 4296 4345 786; 4297 4346 3660; 4298 4347 497
402. 4299 4348 497; 4300 4349 3661; 4301 4350 701; 4302 4351 3662; 4303 4352 700
403. 4304 4353 3663; 4305 4354 699; 4306 4355 3664; 4307 4356 698; 4308 4357 3665
404. 4309 4358 697; 4310 4359 3666; 4311 4360 696; 4312 4361 3667; 4313 4362 695
405. 4314 4363 3668; 4315 4364 694; 4316 4365 3669; 4317 4366 693; 4318 4367 3670
406. 4319 4368 692; 4320 4369 3671; 4321 4370 691; 4322 4371 3672; 4323 4372 503
407. 4324 4373 3673; 4325 4374 595; 4326 4375 3674; 4327 4376 596; 4328 4377 3675
408. 4329 4378 597; 4330 4379 3676; 4331 4380 598; 4332 4381 3677; 4333 4382 599
409. 4334 4383 3678; 4335 4384 600; 4336 4385 3679; 4337 4386 601; 4338 4387 3680
410. 4339 4388 602; 4340 4389 3681; 4341 4390 603; 4342 4391 3682; 4343 4392 604
411. 4344 4393 3683; 4345 4394 605; 4346 4395 3684; 4347 4396 606; 4348 4397 3685
412. 4349 4398 607; 4350 4399 3686; 4351 113 71; 4352 4400 74; 4353 4400 70
413. START GROUP DEFINITION
414. FLOOR
415. _WT1 844 849 851 TO 853 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 4167 -
416. 4168 TO 4218 4247 TO 4350
417. _WT 811 812 814 816 TO 821 823 825 826 1265 TO 1267 1374 TO 1392
418. END GROUP DEFINITION
419. DEFINE MATERIAL START
420. ISOTROPIC CONCRETE
421. E 2.17185E+07
422. POISSON 0.17
423. DENSITY 23.5616
424. ALPHA 1E-05
425. DAMP 0.05
426. G 9.28139E+06
427. TYPE CONCRETE
428. STRENGTH FCU 27579
429. END DEFINE MATERIAL
430. MEMBER PROPERTY
```



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```
431. 10 11 36 37 160 161 280 281 400 401 520 521 640 641 807 808 829 -
432. 830 PRIS YD 0.38 ZD 0.23
433. 9 35 159 279 399 519 639 806 828 PRIS YD 0.23 ZD 0.38
434. 2 3 6 TO 8 13 15 17 18 21 TO 26 28 29 32 TO 34 39 41 43 44 47 TO 52 152 153 -
435. 156 TO 158 163 165 167 168 171 TO 176 272 273 276 TO 278 283 285 287 288 -
436. 291 TO 296 392 393 396 TO 398 403 405 407 408 411 TO 416 512 513 516 TO 518 -
437. 523 525 527 528 531 TO 536 632 633 636 TO 638 643 645 647 648 651 TO 656 -
438. 805 810 827 840 TO 843 PRIS YD 0.45 ZD 0.23
439. 14 40 164 284 404 524 644 PRIS YD 0.23 ZD 1
440. 16 42 166 286 406 526 646 PRIS YD 0.65 ZD 0.23
441. 1 4 5 12 19 20 27 30 31 38 45 46 151 154 155 162 169 170 271 274 275 282 289 -
442. 290 391 394 395 402 409 410 511 514 515 522 529 530 631 634 635 642 649 650 -
443. 803 804 809 PRIS YD 0.23 ZD 0.45
444. 53 TO 55 58 TO 63 65 66 68 TO 73 75 77 78 82 84 86 TO 98 108 109 111 TO 118 -
445. 124 125 127 129 130 132 133 135 137 141 TO 145 147 TO 150 177 TO 179 182 -
446. 183 TO 189 191 TO 196 198 200 201 204 206 208 TO 220 230 231 233 TO 240 246 -
447. 247 249 251 252 254 TO 265 267 TO 270 297 TO 299 302 TO 309 311 TO 316 318 -
448. 320 321 324 326 328 TO 340 350 351 353 TO 360 366 367 369 371 372 -
449. 374 TO 385 387 TO 390 417 TO 419 422 TO 429 431 TO 436 438 440 441 444 446 -
450. 448 TO 460 470 471 473 TO 480 486 487 489 491 492 494 TO 505 507 TO 510 537 -
451. 538 TO 539 542 TO 549 551 TO 556 558 560 561 564 566 568 TO 580 590 591 593 -
452. 594 TO 600 606 607 609 611 612 614 TO 625 627 TO 630 657 TO 659 662 TO 669 -
453. 671 TO 676 678 680 681 684 686 688 TO 700 710 711 713 TO 720 726 727 729 -
454. 731 732 734 TO 745 747 TO 750 811 813 TO 817 819 822 TO 824 832 TO 839 844 -
455. 846 TO 849 851 TO 853 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 1266 -
456. 4167 TO 4218 4247 TO 4353 PRIS YD 0.45 ZD 0.23
457. 56 57 67 74 76 79 81 83 85 99 TO 103 105 TO 107 110 119 TO 123 126 128 131 -
458. 180 181 190 197 199 202 203 205 207 221 TO 225 227 TO 229 232 241 TO 245 -
459. 248 250 253 300 301 310 317 319 322 323 325 327 341 TO 345 347 TO 349 352 -
460. 361 TO 365 368 370 373 420 421 430 437 439 442 443 445 447 461 TO 465 467 -
461. 468 TO 469 472 481 TO 485 488 490 493 540 541 550 557 559 562 563 565 567 -
462. 581 TO 585 587 TO 589 592 601 TO 605 608 610 613 660 661 670 677 679 682 -
463. 683 685 687 701 TO 705 707 TO 709 712 721 TO 725 728 730 733 751 TO 802 812 -
464. 818 820 821 825 826 845 850 1265 1267 1374 TO 1392 PRIS YD 0.6 ZD 0.23
465. 104 146 226 266 346 386 466 506 586 626 706 746 PRIS YD 0.525 ZD 0.23
466. CONSTANTS
467. MATERIAL CONCRETE ALL
468. SUPPORTS
469. 1 TO 26 FIXED
470. CUT OFF MODE SHAPE 15
471. DEFINE REFERENCE LOADS
472. LOAD R1 LOADTYPE MASS  TITLE REF MASS MODEL
473. SELFWEIGHT X 1 LIST 1 TO 63 65 TO 79 81 TO 133 135 137 141 TO 830 832 TO 853 -
474. 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 1265 TO 1267 1374 TO 1392 -
475. 4167 TO 4218 4247 TO 4350 4352
476. SELFWEIGHT Y 1 LIST 1 TO 63 65 TO 79 81 TO 133 135 137 141 TO 830 832 TO 853 -
477. 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 1265 TO 1267 1374 TO 1392 -
478. 4167 TO 4218 4247 TO 4350 4352
479. SELFWEIGHT Z 1 LIST 1 TO 63 65 TO 79 81 TO 133 135 137 141 TO 830 832 TO 853 -
480. 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 1265 TO 1267 1374 TO 1392 -
481. 4167 TO 4218 4247 TO 4350 4352
482. MEMBER LOAD
483. 56 57 66 68 83 TO 89 96 98 100 106 TO 108 110 113 114 116 TO 118 122 123 128 -
484. 129 TO 130 132 133 135 137 141 142 180 181 189 191 205 TO 211 218 220 222 -
485. 228 TO 230 232 235 236 238 TO 240 244 245 250 TO 252 254 255 257 TO 262 300 -
486. 301 309 311 325 TO 331 338 340 342 348 TO 350 352 355 356 358 TO 360 364 -
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487. 365 370 TO 372 374 375 377 TO 382 420 421 429 431 445 TO 451 458 460 462 -
488. 468 TO 470 472 475 476 478 TO 480 484 485 490 TO 492 494 495 497 TO 502 540 -
489. 541 549 551 565 TO 571 578 580 582 588 TO 590 592 595 596 598 TO 600 604 -
490. 605 610 TO 612 614 615 617 TO 622 UNI GX 5
491. 56 57 66 68 83 TO 89 96 98 100 106 TO 108 110 113 114 116 TO 118 122 123 128 -
492. 129 TO 130 132 133 135 137 141 142 180 181 189 191 205 TO 211 218 220 222 -
493. 228 TO 230 232 235 236 238 TO 240 244 245 250 TO 252 254 255 257 TO 262 300 -
494. 301 309 311 325 TO 331 338 340 342 348 TO 350 352 355 356 358 TO 360 364 -
495. 365 370 TO 372 374 375 377 TO 382 420 421 429 431 445 TO 451 458 460 462 -
496. 468 TO 470 472 475 476 478 TO 480 484 485 490 TO 492 494 495 497 TO 502 540 -
497. 541 549 551 565 TO 571 578 580 582 588 TO 590 592 595 596 598 TO 600 604 -
498. 605 610 TO 612 614 615 617 TO 622 UNI GY 5
499. 56 57 66 68 83 TO 89 96 98 100 106 TO 108 110 113 114 116 TO 118 122 123 128 -
500. 129 TO 130 132 133 135 137 141 142 180 181 189 191 205 TO 211 218 220 222 -
501. 228 TO 230 232 235 236 238 TO 240 244 245 250 TO 252 254 255 257 TO 262 300 -
502. 301 309 311 325 TO 331 338 340 342 348 TO 350 352 355 356 358 TO 360 364 -
503. 365 370 TO 372 374 375 377 TO 382 420 421 429 431 445 TO 451 458 460 462 -
504. 468 TO 470 472 475 476 478 TO 480 484 485 490 TO 492 494 495 497 TO 502 540 -
505. 541 549 551 565 TO 571 578 580 582 588 TO 590 592 595 596 598 TO 600 604 -
506. 605 610 TO 612 614 615 617 TO 622 UNI GZ 5
507. MEMBER LOAD
508. 53 54 58 60 TO 63 65 74 76 TO 78 82 90 TO 92 94 95 99 101 TO 103 105 109 111 -
509. 112 115 119 TO 121 124 TO 127 131 143 TO 145 149 150 177 178 182 184 TO 188 -
510. 197 199 TO 201 204 212 TO 214 216 217 221 223 TO 225 227 231 233 234 237 -
511. 241 TO 243 246 TO 249 253 256 263 TO 265 269 270 297 298 302 304 TO 308 317 -
512. 319 TO 321 324 332 TO 334 336 337 341 343 TO 345 347 351 353 354 357 361 -
513. 362 TO 363 366 TO 369 373 376 383 TO 385 389 390 417 418 422 424 TO 428 437 -
514. 439 TO 441 444 452 TO 454 456 457 461 463 TO 465 467 471 473 474 477 481 -
515. 482 TO 483 486 TO 489 493 496 503 TO 505 509 510 537 538 542 544 TO 548 557 -
516. 559 TO 561 564 572 TO 574 576 577 581 583 TO 585 587 591 593 594 597 601 -
517. 602 TO 603 606 TO 609 613 616 623 TO 625 629 630 684 752 775 777 780 TO 782 -
518. 794 795 798 837 4352 UNI GX 6
519. 53 54 58 60 TO 63 65 74 76 TO 78 82 90 TO 92 94 95 99 101 TO 103 105 109 111 -
520. 112 115 119 TO 121 124 TO 127 131 143 TO 145 149 150 177 178 182 184 TO 188 -
521. 197 199 TO 201 204 212 TO 214 216 217 221 223 TO 225 227 231 233 234 237 -
522. 241 TO 243 246 TO 249 253 256 263 TO 265 269 270 297 298 302 304 TO 308 317 -
523. 319 TO 321 324 332 TO 334 336 337 341 343 TO 345 347 351 353 354 357 361 -
524. 362 TO 363 366 TO 369 373 376 383 TO 385 389 390 417 418 422 424 TO 428 437 -
525. 439 TO 441 444 452 TO 454 456 457 461 463 TO 465 467 471 473 474 477 481 -
526. 482 TO 483 486 TO 489 493 496 503 TO 505 509 510 537 538 542 544 TO 548 557 -
527. 559 TO 561 564 572 TO 574 576 577 581 583 TO 585 587 591 593 594 597 601 -
528. 602 TO 603 606 TO 609 613 616 623 TO 625 629 630 684 752 775 777 780 TO 782 -
529. 794 795 798 837 4352 UNI GY 6
530. 53 54 58 60 TO 63 65 74 76 TO 78 82 90 TO 92 94 95 99 101 TO 103 105 109 111 -
531. 112 115 119 TO 121 124 TO 127 131 143 TO 145 149 150 177 178 182 184 TO 188 -
532. 197 199 TO 201 204 212 TO 214 216 217 221 223 TO 225 227 231 233 234 237 -
533. 241 TO 243 246 TO 249 253 256 263 TO 265 269 270 297 298 302 304 TO 308 317 -
534. 319 TO 321 324 332 TO 334 336 337 341 343 TO 345 347 351 353 354 357 361 -
535. 362 TO 363 366 TO 369 373 376 383 TO 385 389 390 417 418 422 424 TO 428 437 -
536. 439 TO 441 444 452 TO 454 456 457 461 463 TO 465 467 471 473 474 477 481 -
537. 482 TO 483 486 TO 489 493 496 503 TO 505 509 510 537 538 542 544 TO 548 557 -
538. 559 TO 561 564 572 TO 574 576 577 581 583 TO 585 587 591 593 594 597 601 -
539. 602 TO 603 606 TO 609 613 616 623 TO 625 629 630 684 752 775 777 780 TO 782 -
540. 794 795 798 837 4352 UNI GZ 6
541. MEMBER LOAD
542. 70 193 313 433 553 673 771 UNI GX 7
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543. 70 193 313 433 553 673 771 UNI GY 7
544. 70 193 313 433 553 673 771 UNI GZ 7
545. MEMBER LOAD
546. 59 104 146 TO 148 183 226 266 TO 268 303 346 386 TO 388 423 466 506 TO 508 -
547. 543 586 626 TO 628 657 658 662 TO 668 679 686 696 697 706 710 713 -
548. 743 TO 750 838 UNI GX 3
549. 59 104 146 TO 148 183 226 266 TO 268 303 346 386 TO 388 423 466 506 TO 508 -
550. 543 586 626 TO 628 657 658 662 TO 668 679 686 696 697 706 710 713 -
551. 743 TO 750 838 UNI GY 3
552. 59 104 146 TO 148 183 226 266 TO 268 303 346 386 TO 388 423 466 506 TO 508 -
553. 543 586 626 TO 628 657 658 662 TO 668 679 686 696 697 706 710 713 -
554. 743 TO 750 838 UNI GZ 3
555. MEMBER LOAD
556. 55 67 69 71 TO 73 75 79 81 93 97 179 190 192 194 TO 196 198 202 203 215 219 -
557. 299 310 312 314 TO 316 318 322 323 335 339 419 430 432 434 TO 436 438 442 -
558. 443 455 459 539 550 552 554 TO 556 558 562 563 575 579 659 670 672 -
559. 674 TO 678 682 683 695 699 701 733 765 767 TO 770 772 TO 774 776 778 786 -
560. 797 800 UNI GX 13
561. 55 67 69 71 TO 73 75 79 81 93 97 179 190 192 194 TO 196 198 202 203 215 219 -
562. 299 310 312 314 TO 316 318 322 323 335 339 419 430 432 434 TO 436 438 442 -
563. 443 455 459 539 550 552 554 TO 556 558 562 563 575 579 659 670 672 -
564. 674 TO 678 682 683 695 699 701 733 765 767 TO 770 772 TO 774 776 778 786 -
565. 797 800 UNI GY 13
566. 55 67 69 71 TO 73 75 79 81 93 97 179 190 192 194 TO 196 198 202 203 215 219 -
567. 299 310 312 314 TO 316 318 322 323 335 339 419 430 432 434 TO 436 438 442 -
568. 443 455 459 539 550 552 554 TO 556 558 562 563 575 579 659 670 672 -
569. 674 TO 678 682 683 695 699 701 733 765 767 TO 770 772 TO 774 776 778 786 -
570. 797 800 UNI GZ 13
571. FLOOR LOAD
572. YRANGE 4.2 19.9 FLOAD 5.125 GX
573. YRANGE 4.2 19.9 FLOAD 5.125 GY
574. YRANGE 4.2 19.9 FLOAD 5.125 GZ
575. FLOOR LOAD
576. YRANGE 19.7 19.9 FLOAD 1.8 GX
577. YRANGE 19.7 19.9 FLOAD 1.8 GY
578. YRANGE 19.7 19.9 FLOAD 1.8 GZ
579. FLOOR LOAD
580. YRANGE 4.2 16.8 FLOAD 0.5 GX
581. YRANGE 4.2 16.8 FLOAD 0.5 GY
582. YRANGE 4.2 16.8 FLOAD 0.5 GZ
583. END DEFINE REFERENCE LOADS

*** NOTE: MASS MODEL FORMED WILL BE USED IN SEISMIC/RESPONSE/TIME HISTORY LOADING, IF ANY.
          IF MASS MODEL IS SEPARATELY PROVIDED IN INDIVIDUAL LOADING, THE GENERATED MASS
          WILL BE REPLACED BY THE MASS PROVIDED IN INDIVIDUAL LOADING.

584. FLOOR DIAPHRAGM
585. DIA 1 TYPE RIG HEI 4.3
586. DIA 2 TYPE RIG HEI 7.4
587. DIA 3 TYPE RIG HEI 10.5
588. DIA 4 TYPE RIG HEI 13.6
589. DIA 5 TYPE RIG HEI 16.7
590. DIA 6 TYPE RIG HEI 19.8
```

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FLOOR DIAPHRAGM

**********

FLOOR DIAPHRAGM UNIT - KN METE

| NO. | TYPE | FL. LEVEL | FL. WT | CENTRE OF MASS X | Z | CONTROL JOINT NO. |
|---|---|---|---|---|---|---|
| 1 | RIGID | 4.300 | 3012.45 | -0.575 | 8.198 | 4401 |
| 2 | RIGID | 7.400 | 3069.75 | -0.706 | 8.289 | 4402 |
| 3 | RIGID | 10.500 | 3069.75 | -0.706 | 8.289 | 4403 |
| 4 | RIGID | 13.600 | 3069.75 | -0.706 | 8.289 | 4404 |
| 5 | RIGID | 16.700 | 3069.75 | -0.706 | 8.289 | 4405 |
| 6 | RIGID | 19.800 | 2711.36 | -0.804 | 8.161 | 4406 |

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592. DEFINE IS1893 2016 LOAD
593. ZONE 0.16 RF 5 I 1 SS 2 ST 1 DM 0.05 PX 0.61 PZ 0.37
594. DEFINE WIND LOAD
595. TYPE 1 IS875 RECT CLAD (+X)
596. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
597. IS875-2015:PARAMS 1 0 0 25.150 0.000 5.000 0 CHENNAI 50.000 0 1.000 1 7 -
598. 1.000 1.000 1.000 1.050 1.070 1.095 1.096 1.000 2 1.000 0.020 0 23.380 -
599. 14.710 25.150 1 1 1 0.200 0 0 4 0 4 1.000 0.000 0.000 0.000 NA NA 6 0.000 -
600. 0.000 0.000 0.000 0.000 0.000 1 1 4 0.000 1.000 0.000 0.000 NA NA 6 0.000 -
601. 0.000 0.000 0.000 0.000 0.000 1 2 4 0.000 0.000 1.000 0.000 NA NA 6 0.000 -
602. 0.000 0.000 0.000 0.000 0.000 1 3 4 0.000 0.000 0.000 1.000 NA NA 6 0.000 -
603. 0.000 0.000 0.000 0.000 0.000 1 0.900 1.000 0.900 TYPES 4 1 2 3 4 LOADS 4 9 -
604. 10 11 12
605. !> END GENERATED DATA BLOCK
606. INT 1.215 1.215 1.215 1.33954 1.39105 1.45682 1.45881 HEIG 0 5 10 15 20 25 -
607. 25.15
608. TYPE 2 IS875 RECT CLAD (-X)
609. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
610. IS875-2015:PARAMS 1  1
611. !> END GENERATED DATA BLOCK
612. INT 1.215 1.215 1.215 1.33954 1.39105 1.45682 1.45881 HEIG 0 5 10 15 20 25 -
613. 25.15
614. TYPE 3 IS875 RECT CLAD (+Z)
615. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
616. IS875-2015:PARAMS 1  1
617. !> END GENERATED DATA BLOCK
618. INT 1.215 1.215 1.215 1.33954 1.39105 1.45682 1.45881 HEIG 0 5 10 15 20 25 -
619. 25.15
620. TYPE 4 IS875 RECT CLAD (-Z)
621. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
622. IS875-2015:PARAMS 1  1
623. !> END GENERATED DATA BLOCK
```



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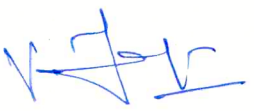
```
624. INT 1.215 1.215 1.215 1.33954 1.39105 1.45682 1.45881 HEIG 0 5 10 15 20 25 -
625. 25.15
626. LOAD 5 LOADTYPE SEISMIC-H  TITLE EQ X
627. 1893 LOAD X 1
628. LOAD 6 LOADTYPE SEISMIC-H  TITLE EQ Z
629. 1893 LOAD Z 1
630. LOAD 1 LOADTYPE DEAD  TITLE DL
631. SELFWEIGHT Y -1 LIST 1 TO 63 65 TO 79 81 TO 133 135 137 141 TO 830 -
632. 832 TO 853 859 TO 868 951 TO 963 1061 TO 1071 1168 TO 1180 1265 TO 1267 -
633. 1374 TO 1392 4167 TO 4218 4247 TO 4350 4352
634. MEMBER LOAD
635. 56 57 66 68 83 TO 89 96 98 100 106 TO 108 110 113 114 116 TO 118 122 123 128 -
636. 129 TO 130 132 133 135 137 141 142 180 181 189 191 205 TO 211 218 220 222 -
637. 228 TO 230 232 235 236 238 TO 240 244 245 250 TO 252 254 255 257 TO 262 300 -
638. 301 309 311 325 TO 331 338 340 342 348 TO 350 352 355 356 358 TO 360 364 -
639. 365 370 TO 372 374 375 377 TO 382 420 421 429 431 445 TO 451 458 460 462 -
640. 468 TO 470 472 475 476 478 TO 480 484 485 490 TO 492 494 495 497 TO 502 540 -
641. 541 549 551 565 TO 571 578 580 582 588 TO 590 592 595 596 598 TO 600 604 -
642. 605 610 TO 612 614 615 617 TO 622 UNI GY -5
643. 53 54 58 60 TO 63 65 74 76 TO 78 82 90 TO 92 94 95 99 101 TO 103 105 109 111 -
644. 112 115 119 TO 121 124 TO 127 131 143 TO 145 149 150 177 178 182 184 TO 188 -
645. 197 199 TO 201 204 212 TO 214 216 217 221 223 TO 225 227 231 233 234 237 -
646. 241 TO 243 246 TO 249 253 256 263 TO 265 269 270 297 298 302 304 TO 308 317 -
647. 319 TO 321 324 332 TO 334 336 337 341 343 TO 345 347 351 353 354 357 361 -
648. 362 TO 363 366 TO 369 373 376 383 TO 385 389 390 417 418 422 424 TO 428 437 -
649. 439 TO 441 444 452 TO 454 456 457 461 463 TO 465 467 471 473 474 477 481 -
650. 482 TO 483 486 TO 489 493 496 503 TO 505 509 510 537 538 542 544 TO 548 557 -
651. 559 TO 561 564 572 TO 574 576 577 581 583 TO 585 587 591 593 594 597 601 -
652. 602 TO 603 606 TO 609 613 616 623 TO 625 629 630 684 752 775 777 780 TO 782 -
653. 794 795 798 837 4352 UNI GY -6
654. 70 193 313 433 553 673 771 UNI GY -7
655. 59 104 146 TO 148 183 226 266 TO 268 303 346 386 TO 388 423 466 506 TO 508 -
656. 543 586 626 TO 628 657 658 662 TO 668 679 686 696 697 706 710 713 -
657. 743 TO 750 838 UNI GY -3
658. 55 67 69 71 TO 73 75 79 81 93 97 179 190 192 194 TO 196 198 202 203 215 219 -
659. 299 310 312 314 TO 316 318 322 323 335 339 419 430 432 434 TO 436 438 442 -
660. 443 455 459 539 550 552 554 TO 556 558 562 563 575 579 659 670 672 -
661. 674 TO 678 682 683 695 699 701 733 765 767 TO 770 772 TO 774 776 778 786 -
662. 797 800 UNI GY -13
663. FLOOR LOAD
664. YRANGE 4.2 19.9 FLOAD -5.125 GY
**NOTE** about Floor/OneWay Loads/Weights.
  Please note that depending on the shape of the floor you may
  have to break up the FLOOR/ONEWAY LOAD into multiple commands.
  For details please refer to Technical Reference Manual
  Section 5.32.4.2 Note d and/or "5.32.4.3 Note f.
```



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```
  665. YRANGE 19.7 19.9 FLOAD -1.8 GY
  666. FLOOR LOAD
  667. _WT1 FLOAD -15 GY
**NOTE** about FLOOR GROUP command
  All floor panels in a floor group should lie in a single plane.
  If not lying in a single plane break single FLOOR GROUP
  command into multiple FLOOR GROUP commands where each
  floor group lie in a single plane / height.

  668. _WT FLOAD -15 GY
  669. LOAD 2 LOADTYPE LIVE  TITLE LL
  670. FLOOR LOAD
  671. YRANGE 4.2 16.8 FLOAD -2 GY
  672. YRANGE 19.7 19.9 FLOAD -1.5 GY
  673. LOAD 7 LOADTYPE SEISMIC-H  TITLE RS X
  674. SPECTRUM CQC IS1893 2016 X 0.016 SCALE 2.7397 DAMP 0.05
  675. SOIL TYPE 2
  676. LOAD 8 LOADTYPE SEISMIC-H  TITLE RS Z
  677. SPECTRUM CQC IS1893 2016 Z 0.016 SCALE 4.4428 DAMP 0.05
  678. SOIL TYPE 2
  679. LOAD 9 LOADTYPE WIND  TITLE WIND (+X) IS875 RECT CLAD
  680. WIND LOAD X 1 TYPE 1
  **WARNING-fx fy fz wind forces:  2.1456E+00  0.0000E+00  0.0000E+00
           at coordinates:        5.0500E+00  1.9800E+01  3.1800E+00 ignored.
  **WARNING-fx fy fz wind forces:  2.1508E+00  0.0000E+00  0.0000E+00
           at coordinates:        5.0500E+00  2.2900E+01  3.1800E+00 ignored.
  681. LOAD 10 LOADTYPE WIND  TITLE WIND (-X) IS875 RECT CLAD
  682. WIND LOAD X -1 TYPE 2
  683. LOAD 11 LOADTYPE WIND  TITLE WIND (+Z) IS875 RECT CLAD
  684. WIND LOAD Z 1 TYPE 3
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  1.4835E+00
           at coordinates:       -5.0000E+00  1.2000E+00  1.1340E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  1.4835E+00
           at coordinates:       -5.0000E+00  0.0000E+00  1.1340E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  2.0998E+00
           at coordinates:       -1.0700E+01  1.2000E+00  1.4710E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  4.1997E+00
           at coordinates:       -1.0700E+01  4.3000E+00  1.4710E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  4.1997E+00
           at coordinates:       -1.0700E+01  7.4000E+00  1.4710E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  4.4843E+00
           at coordinates:       -1.0700E+01  1.0500E+01  1.4710E+01 ignored.
  **WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  4.6387E+00
           at coordinates:       -1.0700E+01  1.3600E+01  1.4710E+01 ignored.
```



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```
**WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  4.8082E+00
          at coordinates:       -1.0700E+01  1.6700E+01  1.4710E+01 ignored.
**WARNING-fx fy fz wind forces:  0.0000E+00  0.0000E+00  2.4041E+00
          at coordinates:       -1.0700E+01  1.9800E+01  1.4710E+01 ignored.
685. LOAD 12 LOADTYPE WIND  TITLE WIND (-Z) IS875 RECT CLAD
686. WIND LOAD Z -1 TYPE 4
687. LOAD COMB 3 DL+LL
688. 1 1.0 2 1.0
689. LOAD COMB 4 1.5DL+1.5LL
690. 1 1.5 2 1.5
691. LOAD COMB 13 DL+RSX
692. 1 1.0 7 1.0
693. LOAD COMB 14 DL+RSZ
694. 1 1.0 8 1.0
695. LOAD COMB 15 DL+WL(+X)
696. 1 1.0 9 1.0
697. LOAD COMB 16 DL+WL(-X)
698. 1 1.0 10 1.0
699. LOAD COMB 17 DL+WL(+Z)
700. 1 1.0 11 1.0
701. LOAD COMB 18 DL+WL(-Z)
702. 1 1.0 12 1.0
703. LOAD COMB 19 0.8DL+0.8LL+0.8RSX
704. 1 0.8 2 0.8 7 0.8
705. LOAD COMB 20 0.8DL+0.8LL+0.8RSZ
706. 1 0.8 2 0.8 8 0.8
707. LOAD COMB 21 0.8DL+0.8LL+0.8WL(+X)
708. 1 0.8 2 0.8 9 0.8
709. LOAD COMB 22 0.8DL+0.8LL+0.8WL(-X)
710. 1 0.8 2 0.8 10 0.8
711. LOAD COMB 23 0.8DL+0.8LL+0.8WL(+Z)
712. 1 0.8 2 0.8 11 0.8
713. LOAD COMB 24 0.8DL+0.8LL+0.8WL(-Z)
714. 1 0.8 2 0.8 12 0.8
715. LOAD COMB 25 1.5DL+1.5RSX
716. 7 1.5 1 1.5
717. LOAD COMB 26 1.5DL+1.5RSZ
718. 1 1.5 8 1.5
719. LOAD COMB 27 1.5DL+1.5WL(+X)
720. 1 1.5 9 1.5
721. LOAD COMB 28 1.5DL+1.5WL(-X)
722. 1 1.5 10 1.5
723. LOAD COMB 29 1.5DL+1.5WL(+Z)
724. 1 1.5 11 1.5
725. LOAD COMB 30 1.5DL+1.5WL(-Z)
726. 1 1.5 12 1.5
727. LOAD COMB 31 1.2DL+1.2LL+1.2RSX
728. 1 1.2 2 1.2 7 1.2
729. LOAD COMB 32 1.2DL+1.2LL+1.2RSZ
730. 1 1.2 2 1.2 8 1.2
731. LOAD COMB 33 1.2DL+1.2LL+1.2WL(+X)
732. 1 1.2 2 1.2 9 1.2
733. LOAD COMB 34 1.2DL+1.2LL+1.2WL(-X)
```

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```
734. 1 1.2 2 1.2 10 1.2
735. LOAD COMB 35 1.2DL+1.2LL+1.2WL(+Z)
736. 1 1.2 2 1.2 11 1.2
737. LOAD COMB 36 1.2DL+1.2LL+1.2WL(-Z)
738. 1 1.2 2 1.2 12 1.2
739. LOAD COMB 37 0.9DL+1.5RSX
740. 1 0.9 7 1.5
741. LOAD COMB 38 0.9DL+1.5RSZ
742. 1 0.9 8 1.5
743. LOAD COMB 39 0.9DL+1.5WL(+X)
744. 1 0.9 9 1.5
745. LOAD COMB 40 0.9DL+1.5WL(-X)
746. 1 0.9 10 1.5
747. LOAD COMB 41 0.9DL+1.5WL(+Z)
748. 1 0.9 11 1.5
749. LOAD COMB 42 0.9DL+1.5WL(-Z)
750. 1 0.9 12 1.5
751. PERFORM ANALYSIS


         P R O B L E M   S T A T I S T I C S
         -----------------------------------

  NUMBER OF JOINTS        733  NUMBER OF MEMBERS    1073
  NUMBER OF PLATES          0  NUMBER OF SOLIDS        0
  NUMBER OF SURFACES        0  NUMBER OF SUPPORTS     26

        Using 64-bit analysis engine.

        SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

TOTAL      PRIMARY LOAD CASES =    10, TOTAL DEGREES OF FREEDOM =    3009
TOTAL LOAD COMBINATION  CASES =    32  SO FAR.


*** NOTE- APPLIED SELFWEIGHT IS LESS THAN TOTAL WEIGHT OF ALL
          STRUCTURAL ELEMENTS IN LOAD CASE      1 ALONG Y.
          THIS COULD BE DUE TO SELFWEIGHT APPLIED TO SPECIFIC
          LIST OF MEMBERS/PLATES/SOLIDS/SURFACES.
   TOTAL UNFACTORED WEIGHT OF THE STRUCTURE =              4966.356 KN
   TOTAL UNFACTORED WEIGHT OF THE STRUCTURE APPLIED =      4948.872 KN


***NOTE: MASSES DEFINED UNDER LOAD#       7 WILL FORM
         THE FINAL MASS MATRIX FOR DYNAMIC ANALYSIS.


**WARNING: IF THIS UBC/IBC ANALYSIS HAS TENSION/COMPRESSION
OR REPEAT LOAD OR RE-ANALYSIS OR SELECT OPTIMIZE, THEN EACH
UBC/IBC CASE SHOULD BE FOLLOWED BY PERFORM ANALYSIS & CHANGE.
```



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***NOTE: Equivalent Static Analysis should preferably be performed for regular structures with approximate natural time period less than 0.4s and regular structures with height less than 15m in Seismic Zone II. Ref Cl.6.4.3 and 7.6
BASE SHEAR AND TIME PERIOD IN X

```
*********************************************************
* UNITS - KN    METE                                    *
* TIME PERIOD FOR X 1893 LOADING =    0.61000 SEC       *
* SA/G PER 1893=    2.230, LOAD FACTOR= 1.000           *
* VB PER 1893=    0.0357 X    19288.75=     688.07 KN   *
* VB Act Based on Clause 7.2.1 =      688.07 KN         *
* VB Min based on Clause 7.2.2 =      212.18 KN         *
*                                                       *
*********************************************************
```

***NOTE: Equivalent Static Analysis should preferably be performed for regular structures with approximate natural time period less than 0.4s and regular structures with height less than 15m in Seismic Zone II. Ref Cl.6.4.3 and 7.6
BASE SHEAR AND TIME PERIOD IN Z

```
*********************************************************
* UNITS - KN    METE                                    *
* TIME PERIOD FOR Z 1893 LOADING =    0.37000 SEC       *
* SA/G PER 1893=    2.500, LOAD FACTOR= 1.000           *
* VB PER 1893=    0.0400 X    19288.75=     771.55 KN   *
* VB Act Based on Clause 7.2.1 =      771.55 KN         *
* VB Min based on Clause 7.2.2 =      212.18 KN         *
*                                                       *
*********************************************************
```

```
 EIGEN METHOD   : SUBSPACE
 -------------------------
 NUMBER OF MODES REQUESTED              =    15
 NUMBER OF EXISTING MASSES IN THE MODEL =  1299
 NUMBER OF MODES THAT WILL BE USED      =    15

   *** EIGENSOLUTION: ADVANCED METHOD ***
```



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CALCULATED FREQUENCIES FOR LOAD CASE 7

| MODE | FREQUENCY(CYCLES/SEC) | PERIOD(SEC) |
|---|---|---|
| 1 | 0.607 | 1.64612 |
| 2 | 0.798 | 1.25317 |
| 3 | 0.817 | 1.22434 |
| 4 | 1.867 | 0.53565 |
| 5 | 2.469 | 0.40499 |
| 6 | 2.594 | 0.38552 |
| 7 | 3.222 | 0.31035 |
| 8 | 4.325 | 0.23119 |
| 9 | 4.550 | 0.21976 |
| 10 | 4.769 | 0.20969 |
| 11 | 5.678 | 0.17611 |
| 12 | 5.811 | 0.17207 |
| 13 | 6.178 | 0.16186 |
| 14 | 6.698 | 0.14929 |
| 15 | 6.872 | 0.14552 |

1893 RESPONSE SPECTRUM LOAD 7

RESPONSE LOAD CASE 7

| MODE | MODAL WEIGHT (MODAL MASS TIMES g) IN KN X | Y | Z | GENERALIZED WEIGHT |
|---|---|---|---|---|
| 1 | 5.451603E+02 | 8.577814E-03 | 1.205397E+04 | 4.478713E+03 |
| 2 | 1.475076E+04 | 6.378618E-01 | 3.286397E+02 | 7.414469E+03 |
| 3 | 7.409319E+01 | 7.893409E-05 | 2.951181E+03 | 1.863853E+03 |
| 4 | 7.498416E+01 | 2.192291E-01 | 1.470610E+03 | 3.687598E+03 |
| 5 | 1.885975E+03 | 2.421307E+00 | 8.509217E+01 | 6.266069E+03 |
| 6 | 5.123190E+01 | 1.351097E-02 | 3.841072E+02 | 2.105497E+03 |
| 7 | 1.955474E+01 | 6.033897E-01 | 4.711114E+02 | 2.716320E+03 |
| 8 | 5.591964E+02 | 1.190871E+00 | 3.701850E+01 | 4.532707E+03 |
| 9 | 2.994273E+00 | 4.392200E+00 | 1.030291E+02 | 2.499124E+03 |
| 10 | 3.362241E+01 | 2.114461E-02 | 2.417444E+02 | 2.397620E+03 |
| 11 | 6.953212E-01 | 5.620147E+03 | 2.555524E+00 | 1.344653E+03 |
| 12 | 4.001422E-01 | 2.644243E+02 | 6.466082E+01 | 1.093521E+03 |
| 13 | 2.457370E+02 | 4.060309E-01 | 1.067305E+01 | 2.461476E+03 |
| 14 | 9.519814E-01 | 1.024576E+02 | 6.546662E+00 | 1.615505E+02 |
| 15 | 1.167695E-02 | 9.578154E+02 | 3.152530E+00 | 1.116559E+03 |

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CQC MODAL COMBINATION METHOD USED.
DYNAMIC WEIGHT X Y Z 1.924895E+04 1.924895E+04 1.924895E+04 KN
MISSING WEIGHT X Y Z -1.003588E+03 -1.229420E+04 -1.034866E+03 KN
MODAL WEIGHT X Y Z 1.824537E+04 6.954759E+03 1.821409E+04 KN

RESPONSE LOAD CASE 7

| MODE | SPECTRAL ACCELERATION | DESIGN SEISMIC COEFFICIENT | | |
|---|---|---|---|---|
| | | X | Y | Z |
| 1 | 0.82619 | 0.0362 | 0.0000 | 0.0000 |
| 2 | 1.08525 | 0.0476 | 0.0000 | 0.0000 |
| 3 | 1.11080 | 0.0487 | 0.0000 | 0.0000 |
| 4 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 5 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 6 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 7 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 8 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 9 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 10 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 11 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 12 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 13 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 14 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |
| 15 | 2.50000 | 0.1096 | 0.0000 | 0.0000 |

PEAK STORY SHEAR

| STORY | LEVEL IN METE | PEAK STORY SHEAR IN KN | | |
|---|---|---|---|---|
| | | X | Y | Z |
| 6 | 19.80 | 228.32 | 0.00 | 0.00 |
| 5 | 16.70 | 393.41 | 0.00 | 0.00 |
| 4 | 13.60 | 508.89 | 0.00 | 0.00 |
| 3 | 10.50 | 601.21 | 0.00 | 0.00 |
| 2 | 7.40 | 682.97 | 0.00 | 0.00 |
| 1 | 4.30 | 740.97 | 0.00 | 0.00 |
| BASE | 0.00 | 743.01 | 0.00 | 0.00 |

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| MODE | ACCELERATION-G | DAMPING |
|---|---|---|
| 1 | 2.26351 | 0.05000 |
| 2 | 2.97326 | 0.05000 |
| 3 | 3.04327 | 0.05000 |
| 4 | 6.84925 | 0.05000 |
| 5 | 6.84925 | 0.05000 |
| 6 | 6.84925 | 0.05000 |
| 7 | 6.84925 | 0.05000 |
| 8 | 6.84925 | 0.05000 |
| 9 | 6.84925 | 0.05000 |
| 10 | 6.84925 | 0.05000 |
| 11 | 6.84925 | 0.05000 |
| 12 | 6.84925 | 0.05000 |
| 13 | 6.84925 | 0.05000 |
| 14 | 6.84925 | 0.05000 |
| 15 | 6.84925 | 0.05000 |

MODAL BASE ACTIONS

MODAL BASE ACTIONS FORCES IN KN LENGTH IN METE

| | | | | | MOMENTS ARE ABOUT THE ORIGIN | | |
|---|---|---|---|---|---|---|---|
| MODE | PERIOD | FX | FY | FZ | MX | MY | MZ |
| 1 | 1.646 | 19.74 | -0.08 | 92.84 | 1327.10 | 222.56 | -288.22 |
| 2 | 1.253 | 701.72 | 4.61 | -104.74 | -1487.34 | 5686.77 | -10039.58 |
| 3 | 1.224 | 3.61 | 0.00 | -22.77 | -331.84 | 8.49 | -51.81 |
| 4 | 0.536 | 8.22 | 0.44 | 36.39 | -66.87 | 98.13 | -0.57 |
| 5 | 0.405 | 206.68 | -7.41 | -43.90 | 191.71 | 1732.14 | 327.07 |
| 6 | 0.386 | 5.61 | -0.09 | 15.37 | -9.99 | 51.13 | -5.99 |
| 7 | 0.310 | 2.14 | -0.38 | 10.52 | 44.93 | 18.04 | -5.91 |
| 8 | 0.231 | 61.28 | 2.83 | -15.77 | -90.47 | 457.44 | -238.22 |
| 9 | 0.220 | 0.33 | 0.40 | 1.92 | -7.20 | 4.49 | 0.49 |
| 10 | 0.210 | 3.68 | -0.09 | 9.88 | 28.70 | 47.91 | -9.83 |
| 11 | 0.176 | 0.08 | -6.85 | 0.15 | 66.42 | 0.40 | -8.23 |
| 12 | 0.172 | 0.04 | 1.13 | 0.56 | -9.08 | -0.71 | 1.07 |
| 13 | 0.162 | 26.93 | -1.09 | -5.61 | 20.22 | 228.35 | -5.51 |
| 14 | 0.149 | 0.10 | 1.08 | 0.27 | -1.84 | 4.71 | 3.51 |
| 15 | 0.146 | 0.00 | -0.37 | 0.02 | -0.34 | -0.14 | -0.50 |

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PARTICIPATION FACTORS

| MODE | MASS PARTICIPATION FACTORS IN PERCENT X | Y | Z | SUMM-X | SUMM-Y | SUMM-Z | BASE SHEAR IN KN X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.83 | 0.00 | 62.62 | 2.832 | 0.000 | 62.621 | 19.74 | 0.00 | 0.00 |
| 2 | 76.63 | 0.00 | 1.71 | 79.464 | 0.003 | 64.329 | 701.72 | 0.00 | 0.00 |
| 3 | 0.38 | 0.00 | 15.33 | 79.849 | 0.003 | 79.660 | 3.61 | 0.00 | 0.00 |
| 4 | 0.39 | 0.00 | 7.64 | 80.238 | 0.004 | 87.300 | 8.22 | 0.00 | 0.00 |
| 5 | 9.80 | 0.01 | 0.44 | 90.036 | 0.017 | 87.742 | 206.68 | 0.00 | 0.00 |
| 6 | 0.27 | 0.00 | 2.00 | 90.302 | 0.017 | 89.738 | 5.61 | 0.00 | 0.00 |
| 7 | 0.10 | 0.00 | 2.45 | 90.404 | 0.020 | 92.185 | 2.14 | 0.00 | 0.00 |
| 8 | 2.91 | 0.01 | 0.19 | 93.309 | 0.026 | 92.378 | 61.28 | 0.00 | 0.00 |
| 9 | 0.02 | 0.02 | 0.54 | 93.324 | 0.049 | 92.913 | 0.33 | 0.00 | 0.00 |
| 10 | 0.17 | 0.00 | 1.26 | 93.499 | 0.049 | 94.169 | 3.68 | 0.00 | 0.00 |
| 11 | 0.00 | 29.20 | 0.01 | 93.503 | 29.247 | 94.182 | 0.08 | 0.00 | 0.00 |
| 12 | 0.00 | 1.37 | 0.34 | 93.505 | 30.620 | 94.518 | 0.04 | 0.00 | 0.00 |
| 13 | 1.28 | 0.00 | 0.06 | 94.781 | 30.622 | 94.573 | 26.93 | 0.00 | 0.00 |
| 14 | 0.00 | 0.53 | 0.03 | 94.786 | 31.155 | 94.607 | 0.10 | 0.00 | 0.00 |
| 15 | 0.00 | 4.98 | 0.02 | 94.786 | 36.131 | 94.624 | 0.00 | 0.00 | 0.00 |
| | | | | | TOTAL SRSS SHEAR | | 734.94 | 0.00 | 0.00 |
| | | | | | TOTAL 10PCT SHEAR | | 739.98 | 0.00 | 0.00 |
| | | | | | TOTAL ABS SHEAR | | 1040.18 | 0.00 | 0.00 |
| | | | | | TOTAL CSM SHEAR | | 1010.31 | 0.00 | 0.00 |
| | | | | | TOTAL CQC SHEAR | | 743.01 | 0.00 | 0.00 |

```
*********************************************************
* UNITS - KN    METE                                    *
* TIME PERIOD FOR X 1893 LOADING =    0.61000 SEC       *
* SA/G PER 1893=    2.230, LOAD FACTOR= 1.000           *
*      FACTOR V  PER 1893=    0.0357 X  19288.75        *
* VB Min based on Clause 7.2.2 =      212.18            *
*********************************************************
```

1893 RESPONSE SPECTRUM LOAD 8

RESPONSE LOAD CASE 8

| MODE | MODAL WEIGHT (MODAL MASS TIMES g) IN KN X | Y | Z | GENERALIZED WEIGHT |
|---|---|---|---|---|
| 1 | 5.451603E+02 | 8.577814E-03 | 1.205397E+04 | 4.478713E+03 |
| 2 | 1.475076E+04 | 6.378618E-01 | 3.286397E+02 | 7.414469E+03 |
| 3 | 7.409319E+01 | 7.893409E-05 | 2.951181E+03 | 1.863853E+03 |

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3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

STAAD SPACE -- PAGE NO. 22

| | | | | |
|---|---|---|---|---|
| 4 | 7.498416E+01 | 2.192291E-01 | 1.470610E+03 | 3.687598E+03 |
| 5 | 1.885975E+03 | 2.421307E+00 | 8.509217E+01 | 6.266069E+03 |
| 6 | 5.123190E+01 | 1.351097E-02 | 3.841072E+02 | 2.105497E+03 |
| 7 | 1.955474E+01 | 6.033897E-01 | 4.711114E+02 | 2.716320E+03 |
| 8 | 5.591964E+02 | 1.190871E+00 | 3.701850E+01 | 4.532707E+03 |
| 9 | 2.994273E+00 | 4.392200E+00 | 1.030291E+02 | 2.499124E+03 |
| 10 | 3.362241E+01 | 2.114461E-02 | 2.417444E+02 | 2.397620E+03 |
| 11 | 6.953212E-01 | 5.620147E+03 | 2.555524E+00 | 1.344653E+03 |
| 12 | 4.001422E-01 | 2.644243E+02 | 6.466082E+01 | 1.093521E+03 |
| 13 | 2.457370E+02 | 4.060309E-01 | 1.067305E+01 | 2.461476E+03 |
| 14 | 9.519814E-01 | 1.024576E+02 | 6.546662E+00 | 1.615505E+02 |
| 15 | 1.167695E-02 | 9.578154E+02 | 3.152530E+00 | 1.116559E+03 |

CQC MODAL COMBINATION METHOD USED.

| | | | | |
|---|---|---|---|---|
| DYNAMIC WEIGHT X Y Z | 1.924895E+04 | 1.924895E+04 | 1.924895E+04 | KN |
| MISSING WEIGHT X Y Z | -1.003588E+03 | -1.229420E+04 | -1.034866E+03 | KN |
| MODAL WEIGHT X Y Z | 1.824537E+04 | 6.954759E+03 | 1.821409E+04 | KN |

RESPONSE LOAD CASE 8

| MODE | SPECTRAL ACCELERATION | DESIGN SEISMIC COEFFICIENT | | |
|---|---|---|---|---|
| | | X | Y | Z |
| 1 | 0.82619 | 0.0000 | 0.0000 | 0.0587 |
| 2 | 1.08525 | 0.0000 | 0.0000 | 0.0771 |
| 3 | 1.11080 | 0.0000 | 0.0000 | 0.0790 |
| 4 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 5 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 6 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 7 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 8 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 9 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 10 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 11 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 12 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 13 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 14 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |
| 15 | 2.50000 | 0.0000 | 0.0000 | 0.1777 |

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BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

PEAK STORY SHEAR

| STORY | LEVEL IN METE | PEAK STORY SHEAR IN KN | | |
|---|---|---|---|---|
| | | X | Y | Z |
| 6 | 19.80 | 0.00 | 0.00 | 270.42 |
| 5 | 16.70 | 0.00 | 0.00 | 456.39 |
| 4 | 13.60 | 0.00 | 0.00 | 570.89 |
| 3 | 10.50 | 0.00 | 0.00 | 664.60 |
| 2 | 7.40 | 0.00 | 0.00 | 757.80 |
| 1 | 4.30 | 0.00 | 0.00 | 835.02 |
| BASE | 0.00 | 0.00 | 0.00 | 837.58 |

| MODE | ACCELERATION-G | DAMPING |
|---|---|---|
| 1 | 3.67059 | 0.05000 |
| 2 | 4.82155 | 0.05000 |
| 3 | 4.93508 | 0.05000 |
| 4 | 11.10700 | 0.05000 |
| 5 | 11.10700 | 0.05000 |
| 6 | 11.10700 | 0.05000 |
| 7 | 11.10700 | 0.05000 |
| 8 | 11.10700 | 0.05000 |
| 9 | 11.10700 | 0.05000 |
| 10 | 11.10700 | 0.05000 |
| 11 | 11.10700 | 0.05000 |
| 12 | 11.10700 | 0.05000 |
| 13 | 11.10700 | 0.05000 |
| 14 | 11.10700 | 0.05000 |
| 15 | 11.10700 | 0.05000 |

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MODAL BASE ACTIONS

MODAL BASE ACTIONS FORCES IN KN LENGTH IN METE

| MODE | PERIOD | FX | FY | FZ | MOMENTS ARE ABOUT THE ORIGIN MX | MY | MZ |
|---|---|---|---|---|---|---|---|
| 1 | 1.646 | 150.55 | -0.60 | 707.92 | 10119.53 | 1697.05 | -2197.73 |
| 2 | 1.253 | -169.85 | -1.12 | 25.35 | 360.01 | -1376.49 | 2430.09 |
| 3 | 1.224 | -36.92 | -0.04 | 233.03 | 3396.14 | -86.93 | 530.21 |
| 4 | 0.536 | 59.01 | 3.19 | 261.35 | -480.25 | 704.76 | -4.06 |
| 5 | 0.405 | -71.19 | 2.55 | 15.12 | -66.03 | -596.64 | -112.66 |
| 6 | 0.386 | 24.93 | -0.40 | 68.26 | -44.37 | 227.02 | -26.60 |
| 7 | 0.310 | 17.06 | -3.00 | 83.72 | 357.66 | 143.60 | -47.05 |
| 8 | 0.231 | -25.57 | -1.18 | 6.58 | 37.75 | -190.86 | 99.39 |
| 9 | 0.220 | 3.12 | 3.78 | 18.31 | -68.53 | 42.72 | 4.62 |
| 10 | 0.210 | 16.02 | -0.40 | 42.96 | 124.80 | 208.32 | -42.76 |
| 11 | 0.176 | 0.24 | -21.30 | 0.45 | 206.48 | 1.26 | -25.58 |
| 12 | 0.172 | 0.90 | 23.24 | 11.49 | -187.13 | -14.64 | 22.10 |
| 13 | 0.162 | -9.10 | 0.37 | 1.90 | -6.83 | -77.17 | 1.86 |
| 14 | 0.149 | 0.44 | 4.60 | 1.16 | -7.83 | 20.03 | 14.92 |
| 15 | 0.146 | 0.03 | -9.77 | 0.56 | -8.99 | -3.64 | -13.26 |

PARTICIPATION FACTORS

| MODE | MASS PARTICIPATION FACTORS IN PERCENT X | Y | Z | SUMM-X | SUMM-Y | SUMM-Z | BASE SHEAR IN KN X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.83 | 0.00 | 62.62 | 2.832 | 0.000 | 62.621 | 0.00 | 0.00 | 707.92 |
| 2 | 76.63 | 0.00 | 1.71 | 79.464 | 0.003 | 64.329 | 0.00 | 0.00 | 25.35 |
| 3 | 0.38 | 0.00 | 15.33 | 79.849 | 0.003 | 79.660 | 0.00 | 0.00 | 233.03 |
| 4 | 0.39 | 0.00 | 7.64 | 80.238 | 0.004 | 87.300 | 0.00 | 0.00 | 261.35 |
| 5 | 9.80 | 0.01 | 0.44 | 90.036 | 0.017 | 87.742 | 0.00 | 0.00 | 15.12 |
| 6 | 0.27 | 0.00 | 2.00 | 90.302 | 0.017 | 89.738 | 0.00 | 0.00 | 68.26 |
| 7 | 0.10 | 0.00 | 2.45 | 90.404 | 0.020 | 92.185 | 0.00 | 0.00 | 83.72 |
| 8 | 2.91 | 0.01 | 0.19 | 93.309 | 0.026 | 92.378 | 0.00 | 0.00 | 6.58 |
| 9 | 0.02 | 0.02 | 0.54 | 93.324 | 0.049 | 92.913 | 0.00 | 0.00 | 18.31 |
| 10 | 0.17 | 0.00 | 1.26 | 93.499 | 0.049 | 94.169 | 0.00 | 0.00 | 42.96 |
| 11 | 0.00 | 29.20 | 0.01 | 93.503 | 29.247 | 94.182 | 0.00 | 0.00 | 0.45 |
| 12 | 0.00 | 1.37 | 0.34 | 93.505 | 30.620 | 94.518 | 0.00 | 0.00 | 11.49 |
| 13 | 1.28 | 0.00 | 0.06 | 94.781 | 30.622 | 94.573 | 0.00 | 0.00 | 1.90 |
| 14 | 0.00 | 0.53 | 0.03 | 94.786 | 31.155 | 94.607 | 0.00 | 0.00 | 1.16 |
| 15 | 0.00 | 4.98 | 0.02 | 94.786 | 36.131 | 94.624 | 0.00 | 0.00 | 0.56 |
| | | | | | TOTAL SRSS SHEAR | | 0.00 | 0.00 | 799.16 |
| | | | | | TOTAL 10PCT SHEAR | | 0.00 | 0.00 | 808.96 |
| | | | | | TOTAL ABS SHEAR | | 0.00 | 0.00 | 1478.17 |
| | | | | | TOTAL CSM SHEAR | | 0.00 | 0.00 | 870.20 |
| | | | | | TOTAL CQC SHEAR | | 0.00 | 0.00 | 837.58 |

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BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154

```
*******************************************************
* UNITS - KN    METE                                  *
* TIME PERIOD FOR Z 1893 LOADING =    0.37000 SEC     *
* SA/G PER 1893=    2.500, LOAD FACTOR= 1.000         *
*      FACTOR V  PER 1893=    0.0400 X  19288.75      *
* VB Min based on Clause 7.2.2 =      212.18          *
*******************************************************
```

```
752. DEFINE ENVELOPE
753. 3 13 TO 24 ENVELOPE 1 TYPE SERVICEABILITY
754. 4 25 TO 42 ENVELOPE 2 TYPE STRENGTH
755. END DEFINE ENVELOPE
756. FINISH
```

********** END OF THE STAAD.Pro RUN **********

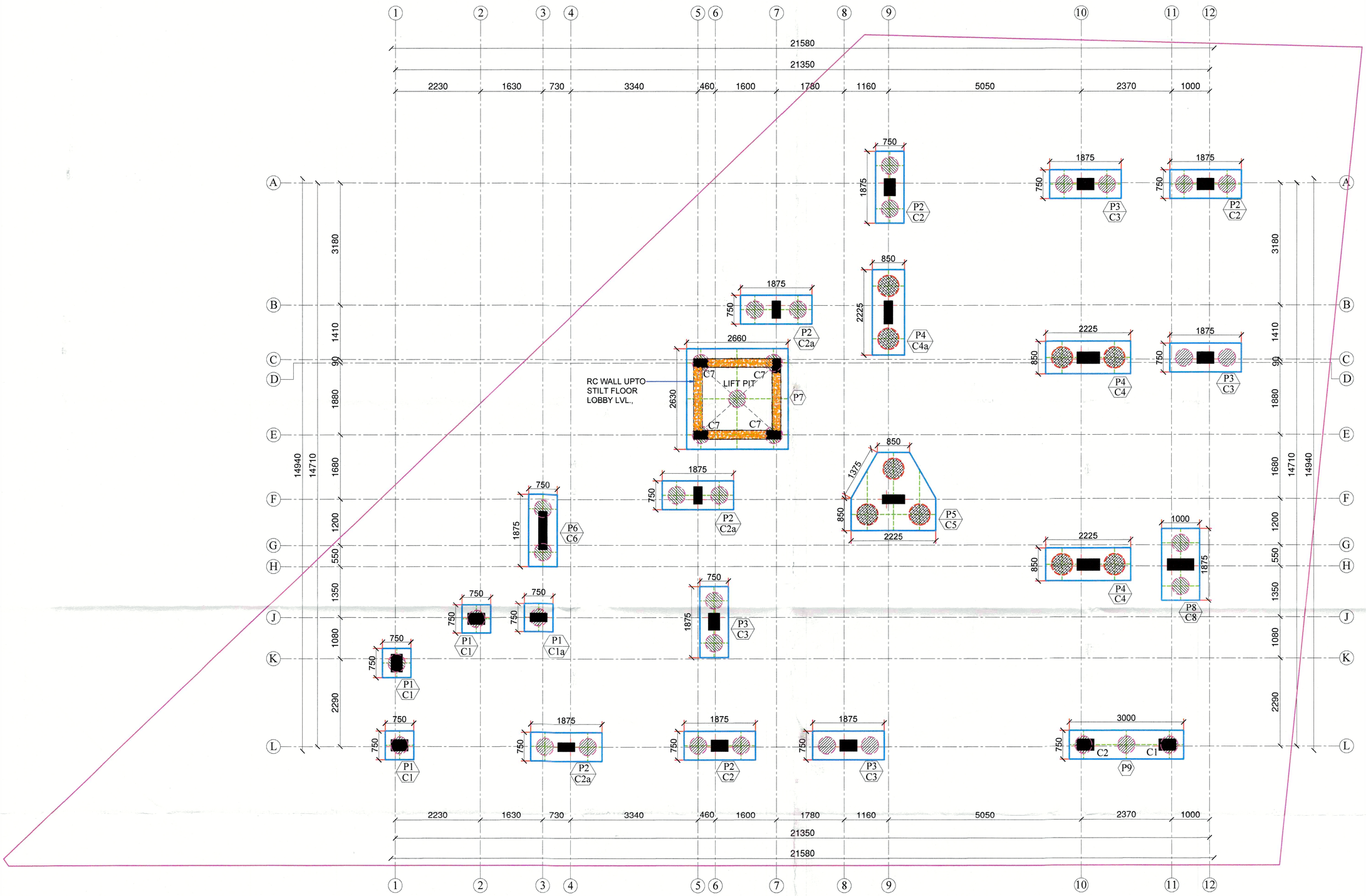
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Mobile: 9841269154

STAAD SPACE -- PAGE NO. 26

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*************************************************************
*   For technical assistance on STAAD.Pro, please visit     *
*   http://www.bentley.com/en/support/                      *
*                                                           *
*   Details about additional assistance from                *
*   Bentley and Partners can be found at program menu       *
*   Help->Technical Support                                 *
*                                                           *
*          Copyright (c) Bentley Systems, Inc.              *
*               http://www.bentley.com                      *
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```

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SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154




PILE LAYOUT

PROJECT TITLE :

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT-18.30 m ) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT No. 134,BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI - 600 042, COMPRISED IN S.No. 317 /1 AS PER DOCUMENT AND T.S.No. 1 / 26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII , DIVISION - 177.

NOTES

STILT+5

- REFER ARCH. DWG. FOR CENTRE LINE DIMENSIONS. CONCRETE MIX SHALL BE M25 FOR COLUMN & ALL OTHER R.C.C WORKS,
- ALL REINFORCEMENTS ARE OF Fe500 GRADE.
- CLEAR COVER TO MAIN REINFORCEMENT SHALL BE
  - (i) SLAB 20mm
  - (ii) COLUMN 40mm
  - (iii) BEAM 25mm
  - (iv) R.C WALL 25mm
  - (v) PILE 75mm
  - (vi) PILE CAP 50mm
- LAP LENGTH SHALL BE 50 x DIA OF THE BAR

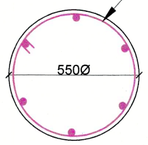
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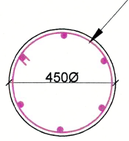
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Mobile: 9841269154

6 -Y16
Y8-@100C/C-3000mm / top - Helical reinforcement
Y8-@200C/C-5000mm / bottom- Helical reinforcement

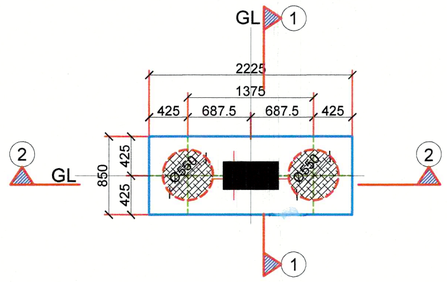



550 Ø PILE
(SAFE LOAD 75 TONNES)

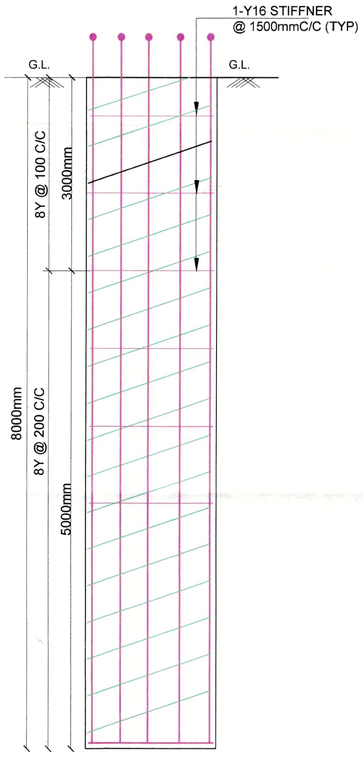
6 -Y12
Y8-@100C/C-3000mm / top - Helical reinforcement
Y8-@200C/C-5000mm / bottom- Helical reinforcement



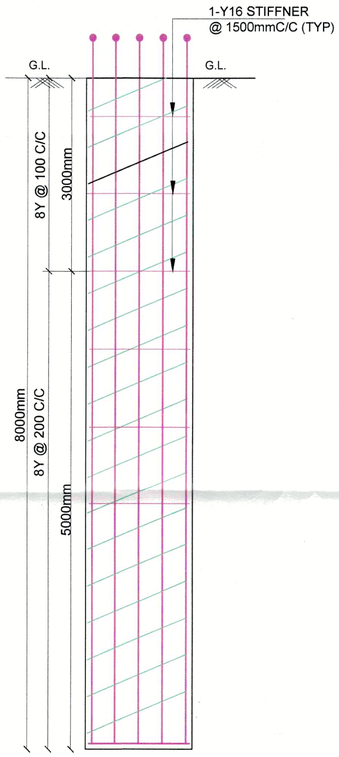

450 Ø PILE
(SAFE LOAD 55 TONNES)



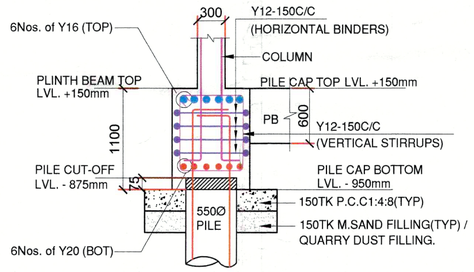

TYPICAL PLAN PILE CAP-P4- 550Ø PILE



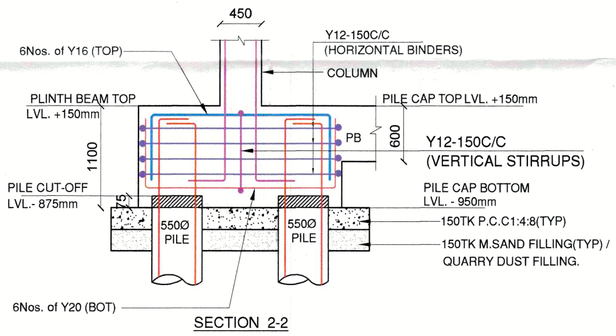

TYPICAL SECTION OF PILE
( BORED CAST IN-SITU PILE )




TYPICAL SECTION OF PILE
( BORED CAST IN-SITU PILE )



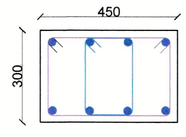

SECTION 1-1




SECTION 2-2

## SCHEDULE OF COLUMN

### REINFORCEMENT DETAIL

| COLUMN TYPE | |
|---|---|
| C1 |  |



8 Nos-16Y
8Y@100C/C

PROJECT TITLE :

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT-18.30 m ) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT No. 134,BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI - 600 042, COMPRISED IN S.No. 317 /1 AS PER DOCUMENT AND T.S.No. 1 / 26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII , DIVISION - 177.

NOTES

STILT+5

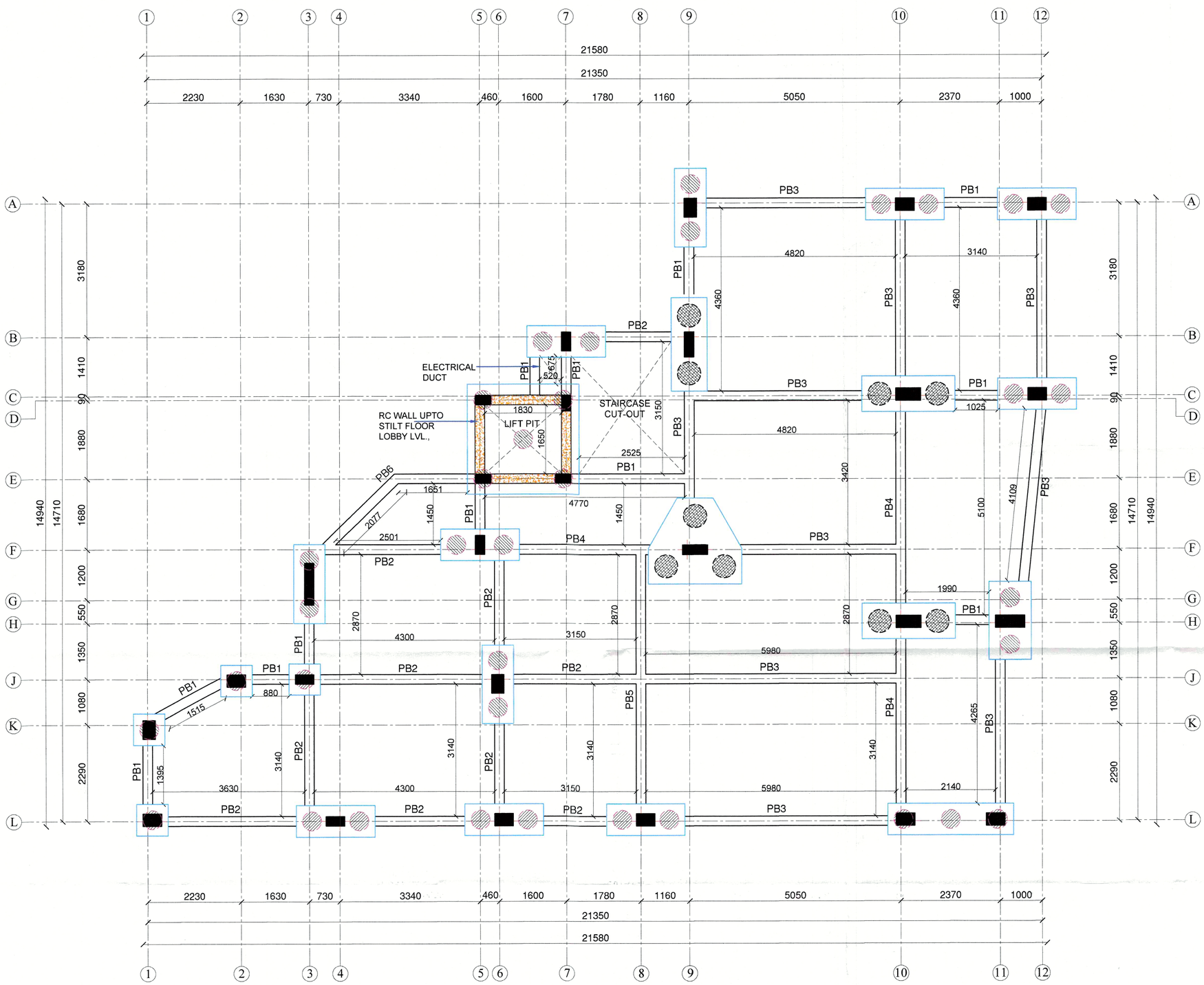
- REFER ARCH. DWG. FOR CENTRE LINE DIMENSIONS. CONCRETE MIX SHALL BE M25 FOR COLUMN & ALL OTHER R.C.C WORKS,
- ALL REINFORCEMENTS ARE OF Fe500 GRADE.
- CLEAR COVER TO MAIN REINFORCEMENT SHALL BE
  - (i) SLAB 20mm
  - (ii) COLUMN 40mm
  - (iii) BEAM 25mm
  - (iv) R.C WALL 25mm
  - (v) PILE 75mm
  - (vi) PILE CAP 50mm
- LAP LENGTH SHALL BE 50 x DIA OF THE BAR

NORTH POINT :

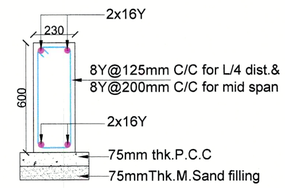
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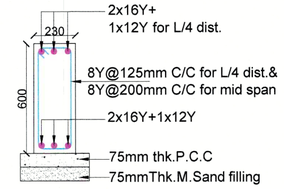
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Mobile: 9841269154



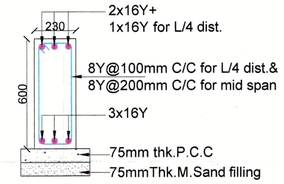

PLINTH BEAM LAYOUT



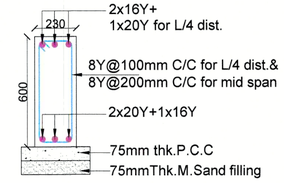

PB1 - 230 x 600



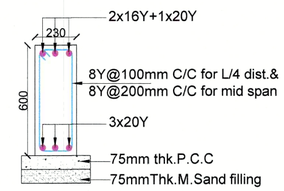

PB2 - 230 x 600



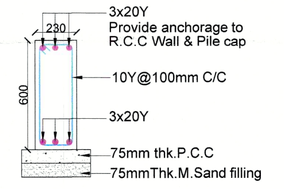

PB3 - 230 x 600




PB4 - 230 x 600




PB5 - 230 x 600




PB6 - 230 x 600

PROJECT TITLE :

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT-18.30 m ) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT No. 134,BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI - 600 042, COMPRISED IN S.No. 317 /1 AS PER DOCUMENT AND T.S.No. 1 / 26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII , DIVISION - 177.

NOTES

STILT+5

- REFER ARCH. DWG. FOR CENTRE LINE DIMENSIONS. CONCRETE MIX SHALL BE M25 FOR COLUMN & ALL OTHER R.C.C WORKS,
- ALL REINFORCEMENTS ARE OF Fe500 GRADE.
- CLEAR COVER TO MAIN REINFORCEMENT SHALL BE

| | |
|---|---|
| (i) SLAB | 20mm |
| (ii) COLUMN | 40mm |
| (iii) BEAM | 25mm |
| (iv) R.C WALL | 25mm |
| (v) PILE | 75mm |
| (vi) PILE CAP | 50mm |

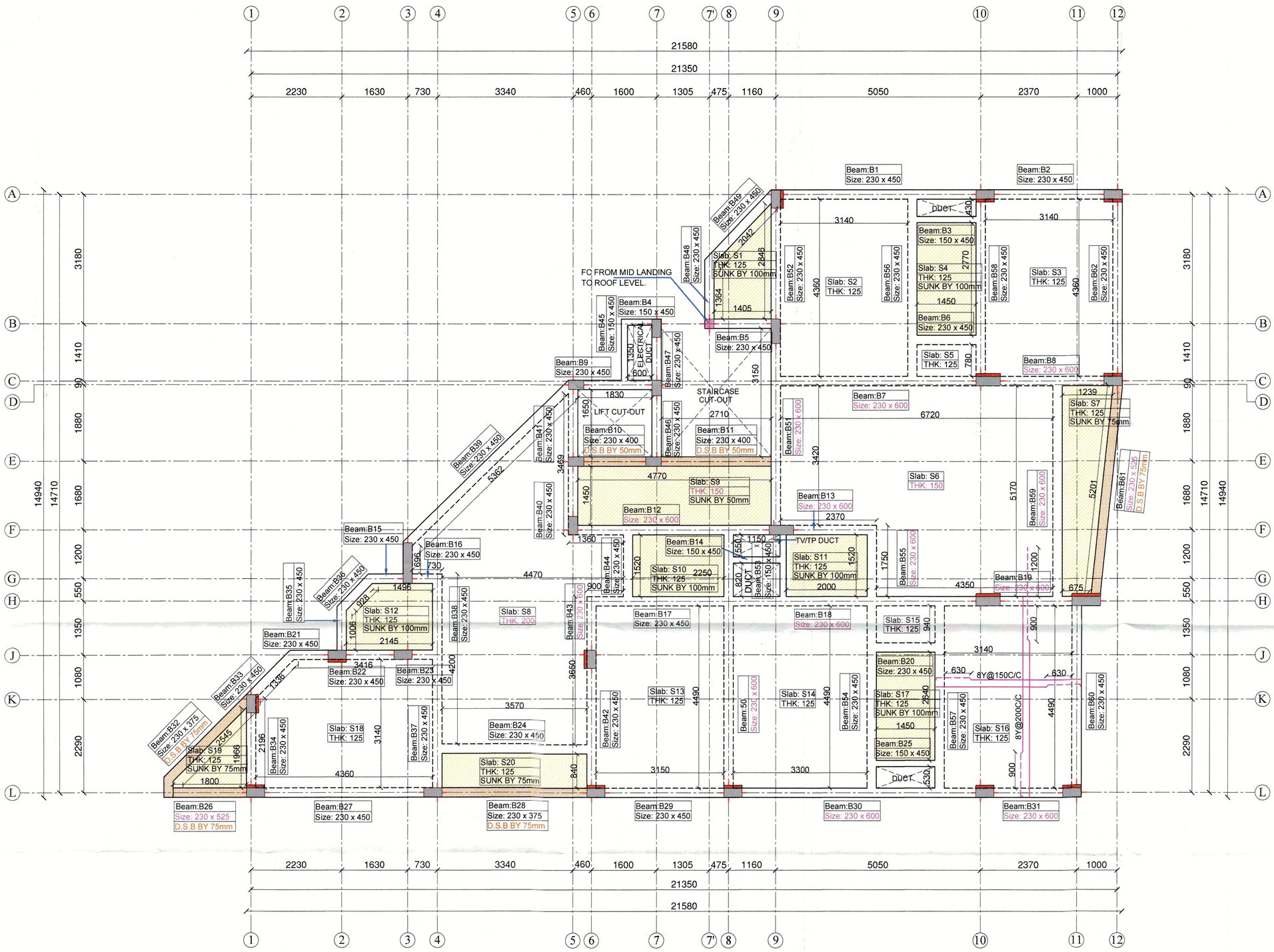
- LAP LENGTH SHALL BE 50 x DIA OF THE BAR

NORTH POINT :

N

SIGNATURE :

V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
SE / GR-I / 2019/03/024, QA/2019/04/021
CHARTERED ENGINEER & APPROVED VALUER
3-B, RAMANIYAM GAURAVV - 2
BLOCK-2, MODEL SCHOOL ROAD
SHOLINGANALLUR, CHENNAI - 600 119.
Mobile: 9841269154




STILT FLOOR ROOF BEAM LAYOUT

PROJECT TITLE :

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT-18.30 m ) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT No. 134,BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI - 600 042, COMPRISED IN S.No. 317 /1 AS PER DOCUMENT AND T.S.No. 1 / 26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII , DIVISION - 177.

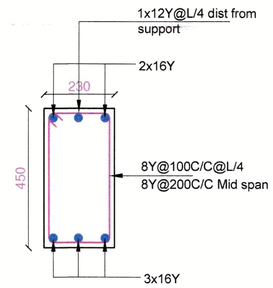
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STILT+5

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  - (i) SLAB 20mm
  - (ii) COLUMN 40mm
  - (iii) BEAM 25mm
  - (iv) R.C WALL 25mm
- LAP LENGTH SHALL BE 50 x DIA OF THE BAR

NORTH POINT :

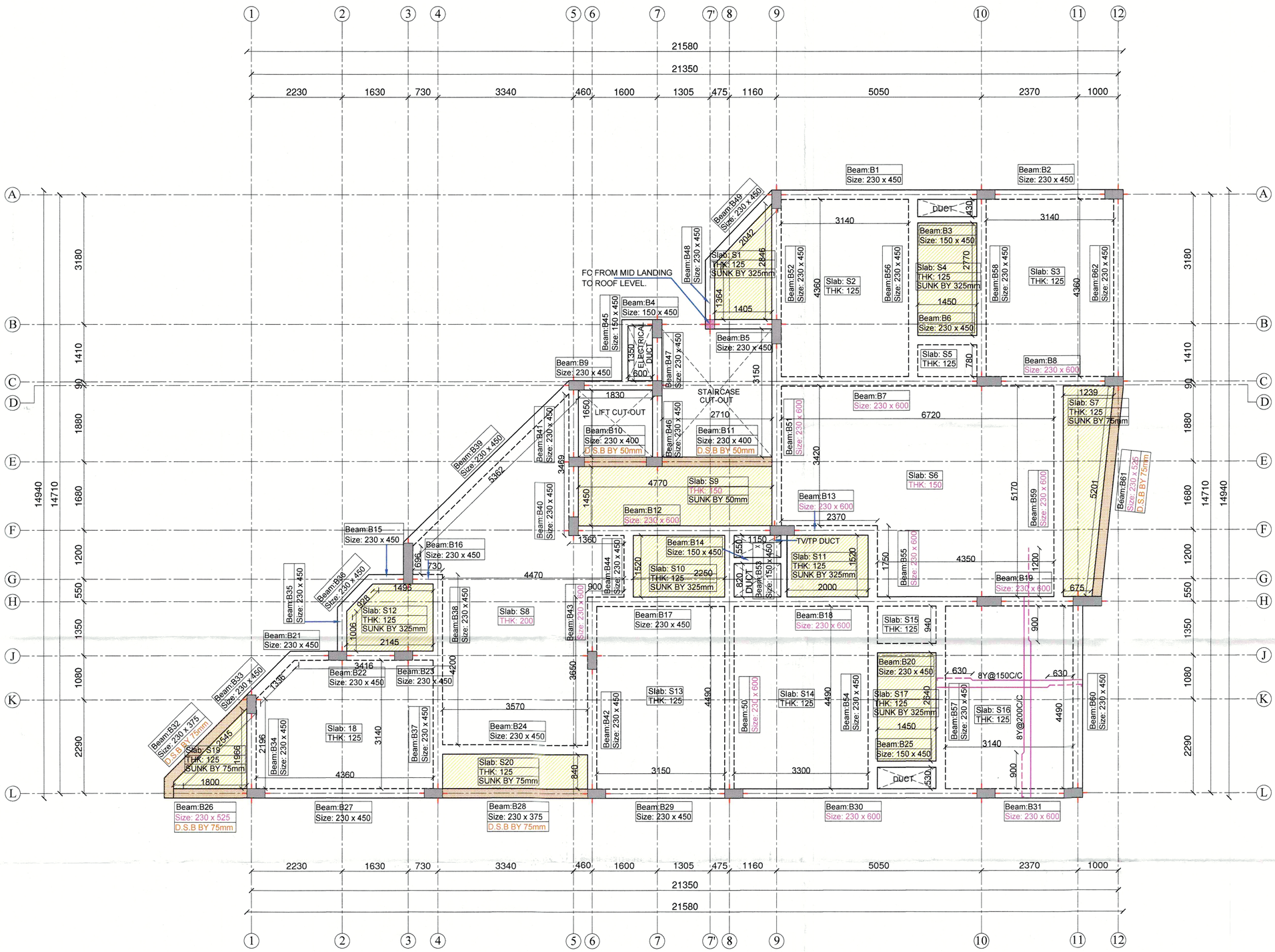



B2 - 230 X 450

SIGNATURE :

V. JAGEN, B.E.,M.E.,(Struct), M.I.E.,A.I.V.,
CMDA REGN NOS -
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Mobile: 9841269154




TYPICAL FLOOR ROOF BEAM LAYOUT
( FIRST, SECOND, THIRD AND FOURTH )

PROJECT TITLE :

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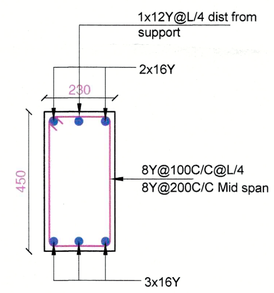
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  - (iv) R.C WALL 25mm
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NORTH POINT :

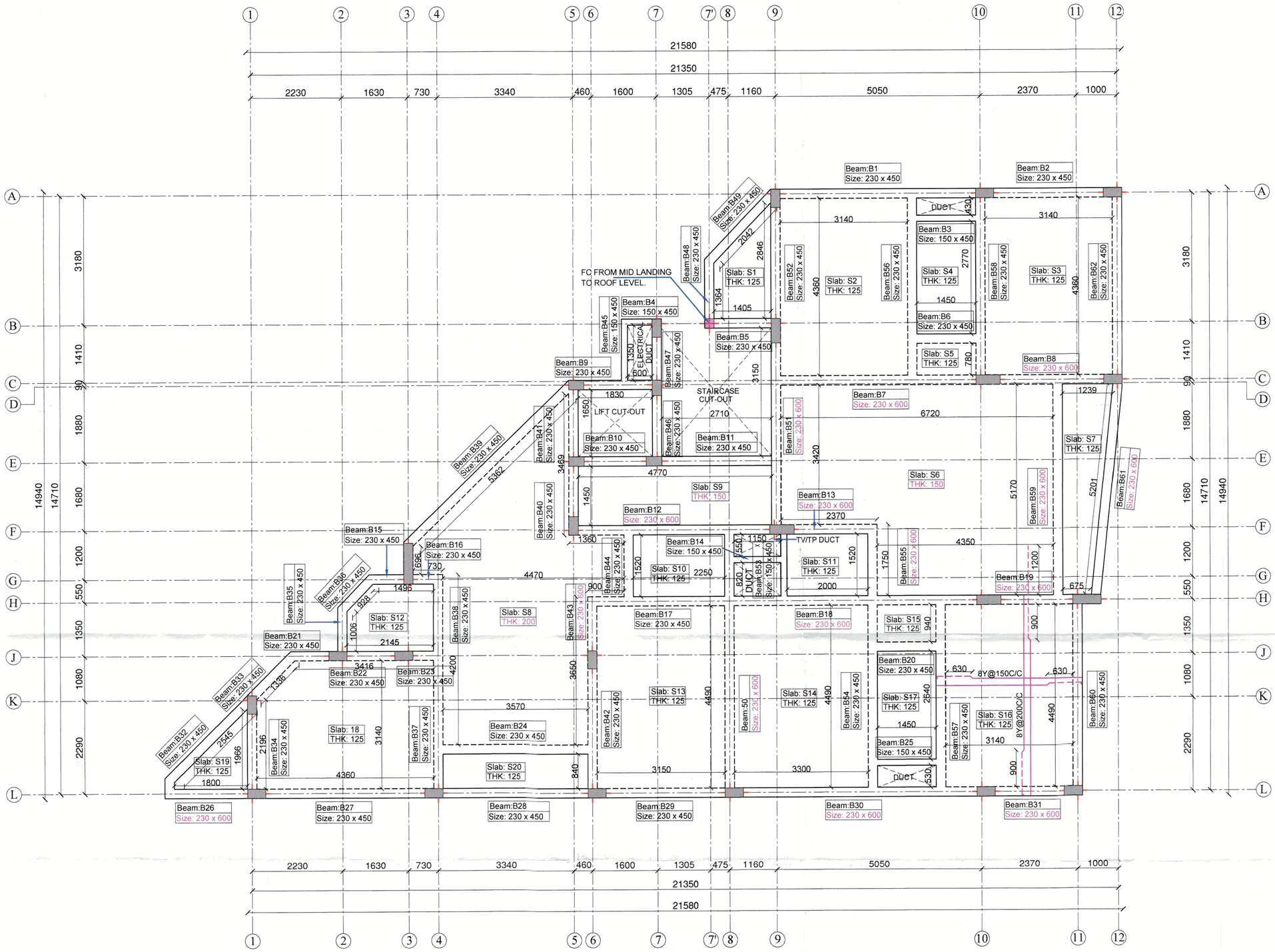
N




B2 - 230 X 450

SIGNATURE :

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Mobile: 9841269154




TERRACE FLOOR ROOF BEAM LAYOUT

PROJECT TITLE :

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF STILT FLOOR + 5 FLOORS (HEIGHT-18.30 m ) RESIDENTIAL BUILDING WITH 10 SERVICE APARTMENTS AVAILING PREMIUM FSI WITH TOD BENEFIT AT PLOT No. 134,BHUVANESWARI NAGAR SECOND MAIN ROAD, CHANDRU STREET, BHUVANESWARI NAGAR, VELACHERY, CHENNAI - 600 042, COMPRISED IN S.No. 317 /1 AS PER DOCUMENT AND T.S.No. 1 / 26 AS PER PATTA, BLOCK NO.189 OF VELACHERY VILLAGE, VELACHERY TALUK, WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, ZONE - XIII , DIVISION - 177.

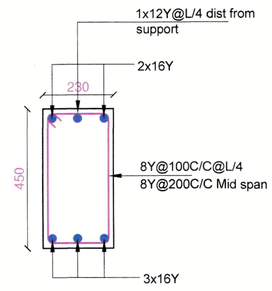
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  - (iii) BEAM 25mm
  - (iv) R.C WALL 25mm
- LAP LENGTH SHALL BE 50 x DIA OF THE BAR

NORTH POINT :

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B2 - 230 X 450

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THE LANDLENS SUITE

# Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

### LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
**/landlens/one**

### Verify My Land
Every record check run on one property and returned as a single report.
**/landlens/verify-my-land**

### Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
**/landlens**

### One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
**/landlens/one/map**

### PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
**/landlens/pricemap**

### Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
**/landlens/build-scope**

### Property Tracker
Watch a property and hear about it when something new is registered against it.
**/landlens/property-tracker**

### Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
**/landlens/deal-room**

FREE TOOLS · NO ACCOUNT NEEDED

# Twenty-four checks you can run yourself, at no cost.

## Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

## Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

## Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

## Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

**Every free tool**
/tools

**Services we run for you**
/services

**The LandLens suite**
/landlens/one

Verified RealEstate™

# Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
- Land survey, soil testing, architecture and construction

**Verified RealEstate**
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Chennai 600 097, India
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+91 9996 12 9996

Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.