**DAFTAR ISI**

Cover

Halaman Judul

Lembar Pengesahan

Surat Keputusan Dosen Pembimbing

Surat Keputusan Dosen Penguji Ujian Tugas Akhir Formulir/Lembar Asistensi (KPPTA dan Dosen Pembimbing) Bukti Selesai Konsultasi Perbaikan Tugas Akhir

**Kata Pengantar** ......................................................................................................... ii **Abstrak** ...................................................................................................................... iv **Daftar Isi**..................................................................................................................... v **Daftar Gambar** ........................................................................................................ viii **Daftar Tabel** .............................................................................................................. xi **Daftar Lampiran** .................................................................................................... xii

**BAB I PENDAHULUAN .................................................................................. 1**

**BAB II**

|  |  |  |
| --- | --- | --- |
| 1.1 | Latar Belakang.................................................................................. | 1 |
| 1.2 | Maksud dan Tujuan Penulisan.......................................................... | 2 |
| 1.3 | Pembatasan Masalah ........................................................................ | 2 |
| 1.4 | Metodologi Penelitian ...................................................................... | 2 |
| 1.5 | Sistematika Penulisan ....................................................................... | 4 |
| **TINJAUAN PUSTAKA ........................................................................ 5** | | |
| 2.1 | Tanah ................................................................................................ | 5 |
|  | 2.1.1 Penyelidikan Tanah ................................................................. | 5 |
| 2.2 | Pondasi ............................................................................................. | 7 |
|  | 2.2.1 Dasar – Dasar Pemilihan jenis pondasi ................................... | 7 |
|  | 2.2.2 Jenis pondasi dangkal.............................................................. | 8 |
|  | 2.2.3 Pondasi dalam ......................................................................... | 10 |
| 2.3 | Pondasi Tiang ................................................................................... | 14 |
| 2.4 | Perhitungan Daya dukung Pondasi Berdasarkan Data SPT ............. | 16 |
|  | 2.4.1 Perhitungan daya dukung pondasi sumuran Data SPT ........... | 16 |

**BAB III**

|  |  |  |
| --- | --- | --- |
|  | 2.4.2 Perhitungan daya dukung pondasi tiang pancang .................... | 17 |
| 2.4.3 Perhitungan daya dukung pondasi bored pile ........................ | 19 |
| 2.5 | Penulangan Pondasi tiang *bored pile* ............................................... | 22 |
| 2.6 | *Pile cap* ............................................................................................. | 25 |
|  | 2.6.1 Dimensi *Pile cap* .................................................................... | 25 |
|  | 2.6.2 Kontrol gaya geser satu arah ................................................. | 26 |
|  | 2.6.3 Kontrol gaya geser dua arah ................................................... | 27 |
|  | 2.6.4 Menentukan Pembesian pondasi Pile Cap.............................. | 28 |
| 2.7 | Metode Pelaksanaan Pondasi tiang *bored pile* ................................ | 30 |
| 2.8 | Pembebanan Struktur....................................................................... | 34 |
|  | 2.8.1 Beban Mati (DL) .................................................................... | 34 |
|  | 2.8.2 Beban Hidup (LL) .................................................................. | 35 |
|  | 2.8.3 Beban Gempa .......................................................................... | 39 |
| 2.9 | SAP 2000 v16................................................................................... | 44 |
| **PEMBAHASAN ..................................................................................... 57** | | |
| 3.1 | Gambaran Umum Proyek ................................................................. | 57 |
|  | 3.1.1 Data Umum ............................................................................. | 58 |
|  | 3.1.2 Data Khusus ............................................................................ | 58 |
|  | 3.1.3 Data Teknis di lapangan.......................................................... | 59 |
|  | 3.1.4 Data Struktural ........................................................................ | 59 |
| 3.2 | Hasil Tinjauan .................................................................................. | 60 |
|  | 3.2.1 Perhitungan berat struktur atas menggunakan program SAP  2000 v16.................................................................................. | 60 |
|  | 3.2.2 Perhitungan daya dukung pondasi sumuran............................ | 67 |
|  | 3.2.3 Perhitungan daya dung pondasi tiang pancang ....................... | 68 |
|  | 3.2.4 Perhitungan daya dukung pondasi *bored pile* .......................... | 73 |
| 3.3 | Penulangan pondasi tiang *bored pile*................................................ | 75 |
| 3.4 | Menghitung Penulangan *Pile cap* .................................................... | 78 |
|  | 3.4.1 Kontrol Gaya Geser Satu Arah ............................................... | 79 |
|  | 3.4.2 Kontrol Gaya Geser Dua Arah ................................................ | 80 |
| 3.5 | Perhitungan tulangan *Pile cap* .......................................................... | 82 |
| 3.6 | Metode pelaksanaan pondasi tiang bor di lapangan ......................... | 87 |

|  |  |  |
| --- | --- | --- |
| **BAB IV** | **PENUTUP ..............................................................................................** | **98** |
|  | 4.1 Kesimpulan....................................................................................... | 98 |
|  | 4.2 Saran ................................................................................................. | 99 |

**DAFTAR PUSTAKA LAMPIRAN**