

BAB 5

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Hal-hal yang dapat disimpulkan dari penelitian ini dijabarkan sebagai berikut:

1. Berdasarkan hasil analisis balik, diperoleh bahwa nilai modulus tanah hasil uji *pressuremeter* pada studi kasus ini terlampau kecil jika dibandingkan dengan modulus tanah hasil analisis balik.
2. Nilai OCR dari hasil uji konsolidasi dan uji *pressuremeter* masih berada pada interval yang sama sehingga perhitungan besaran K_0 menggunakan pendekatan empiris, yaitu $K_0 = (1 - \sin \phi')OCR^{\sin \phi'}$ relevan digunakan sebagai acuan.
3. Dengan menggunakan parameter input yang sama, hasil analisis 3D menghasilkan defleksi *d-wall* yang *underestimate*. Analisis yang dilakukan menghasilkan nilai PSR sebesar 0,59 yang mana nilai tersebut tergolong rendah sehingga diindikasikan pada kasus galian ini efek 3D berpengaruh secara signifikan.
4. Perlu dilakukan penyesuaian parameter tanah dari analisis 2D ke 3D karena terdapat perbedaan perilaku pada analisis 2D dan 3D. Dalam kasus ini, perbedaan parameter modulus tanah pada analisis 2D dan 3D mencapai hingga 80% untuk memperoleh besaran defleksi yang kurang lebih sama.

5. Pada kasus galian ini, gaya geser dan momen yang bekerja pada *d-wall* paling dominan terjadi pada saat pekerjaan galian B4.
6. Fenomena *heaving* tidak terjadi secara signifikan pada kasus galian ini karena berdasarkan hasil analisis, diperoleh *heave* hanya mencapai 15,7 mm.
7. Defleksi *d-wall* dan deformasi tanah dipengaruhi oleh kedalaman galian. Hal ini dibuktikan dengan verifikasi hasil analisis terhadap *chart* yang dikemukakan oleh Clough dan O'Rourke (1990) dan Ou dkk. (1993). Hasil defleksi *d-wall* dan deformasi tanah berada pada rentang yang diusulkan.
8. Selain faktor kedalaman tanah, defleksi *d-wall* juga dipengaruhi oleh faktor jenis tanah. Hal ini dibuktikan dengan penyederhanaan pelapisan tanah yang menghasilkan defleksi yang berbeda pada beberapa zona galian.

5.2 Saran

Adapun saran yang dapat diberikan berdasarkan penelitian yang telah dilakukan, yaitu:

1. Pemodelan galian sebaiknya mengikuti urutan galian yang sebenarnya sesuai dengan kondisi di lapangan dan dilengkapi dengan ketersediaan data jadwal konstruksi yang lengkap.
2. Pemodelan lapisan tanah sebaiknya sesuai dengan data penyelidikan tanah terdekat pada setiap zona agar dihasilkan defleksi *d-wall* yang lebih akurat pada tiap zona.
3. Untuk meninjau interaksi tanah struktur secara lebih komprehensif, sebaiknya *king post* beserta tiang pondasi ikut dimodelkan.

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