PLANING ALTERNATIVE TO STRENGTHENING OPRIT AT KALI SIDODUWE BRIDGE MAIN ROAD SURABAYA-MOJOKERTO STA 37+300-37+600

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Abstrack

In the project construction of main road Surabaya-Mojokerto Section IV there is sidoduwe river that tobe discord of main road tol Surabaya - mojokerto, so this condition need a bridge to connected between main road. The bridge is connected by a heap (Oprit). The construction will be start with planning the number of settlement in the each station (STA). The STA are STA 37+575-37+325 with the highest heap (H final) side are 7,746 m, 6,787 m, 6,423 m, 6,90 m, 5,959 m, 5,492 m, 4,922 m, 4,088 m, 2,792 m, 2,427 m, 2,304 m.

To planing the hight of H initial and H final are use mathematic calculation graphic of H initial and H final. It also with exemple load 3 t/m², 5 t/m², 7 t/m², 9 t/m², 11 t/m², 13 t/m², 15 t/m², 17 t/m². Than it continue with analysis the number of settlements without PVD, from the calculations the settlements time are \( t = 64,72 \) years. It too long to get totally settlements with
consolidation degree Uv 70% , So it needed planning PVD to make the settlements time shorter than without PVD.

The deep of PVD at STA 37+575-37+325 are 17 m, 17 m, 17 m, 17 m, 16 m, 16 m, 14 m, 11 m, 10 m, 10 m. Then planning PVD with a = 0,10 m ; b = 0,05 m ; D = 1,050 m ; s = 1m and triangle design. From the calculation get number of times settlements as deep as PVD at each STA are 6,92 minggu, 6,92 minggu, 6,92 minggu, 6,92 minggu, 6,83 minggu, 6,83 minggu, 6,66 minggu, 6,17 minggu, 6,23 minggu, 6,23 minggu.

To strengthen heap (Oprit) is give by combination geotextile - sheet pile and retaining wall concrete kantilever – geotextile. From calculation it get the profil of Sheet pile W-500-A100 with cracking moment 35,2 tm the profil gets from calculation of STA 37+575 and it use by each STA. Then geotextile profile use type UW-250 with Tult = 52 Kn/m.

**Key word**: H initial and H final heap, number of settlement and settlements time, PVD, sheet pile, retaining wall concrete kantilever, geotextile.