ROAD IMPROVEMENT PLAN FLEXIBLE PAVEMENT SUFFERED BY MADURAN STA 2+000 – STA 5+000 GRESIK DISTRICT - EAST JAVA PROVINCE

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Abstract
Roads in this Maduran have a condition field with a total pavement width of 12 m (4-lane two-way, each strip 3 m) where the surface / layer of asphalt was found to wavy and cracked at some point, wide shoulder of the road with sidewalk 1.5 m with the type of road and there 4/2UD roadside channels (drainage). Under these conditions it is necessary to plan widening, road upgrading (overlay) and planning of drainage on the road Maduran STA 2 +000 – 5 +000 STA is to overcome these problems and is one of the treatment plan optimization of regional transport infrastructure functions.

This road improvement plan includes the calculation of pavement on the road structure by using Planning Flexural Highway Pavement Thickness with Component Analysis Methods, 1987, planning extra thick layer (overlay) with Manual Examination Pavement Road With Tool Benkleman Beam. Analysis of road capacity by using the method of Road Capacity Manual Indonesia (MKJI) (city streets), 1997. Geometric control path by using the Indonesia Road Capacity Manual (MKJI) (city streets), 1997 and Basic - Basic Geometric Road Planning by Silvia Sukirman. Planning drainage using SNI-03-342-1994
(Procedures for Road Surface Drainage Plan), and the budget plan costs using HSPK (Unit Price Principal Activities) Gresik city.

Results Maduran road improvement planning to age 10 years this plan, obtained the value of DS (Degree of Saturation) <0.75, but still there are widening the road to the end of life plan only maintenance only. Widening of the obtained results from 12 m to 14 m and 1.5 m shoulders planned Construction and widening of the thickness of the pavement for as high as 4 cm Laston (MS 744), 6 cm ATB (MS 590), 20 cm kls A Broken Stone (CBR 100%) and 35 cm sirtu kls b (CBR 50%). While the calculation results obtained 4 cm overlay Laston (MS 744). Controls the horizontal alignment that generates alternative horizontal and curved geometric curved vertical. Planning edge channel (drainage) rectangular with stone material obtained from two types of channel dimensions. Plan budget for the planning of this road upgrading Maduran Rp 6,293,000,000.00 (Two Billion Six Hundred Ninety Three Million Rupiah). With this Maduran road construction, these roads are expected to function properly and serve the traffic load is heavy enough age-appropriate planned.

Keywords: Overlay, Drainage.