

**THE GEOMETRIC DESIGN FOR RUNWAY, TAXIWAY,
AND APRON OF KUABANG KAO AIRPORT, NORTH
HALMAHERA**

Final Project Report
in fulfillment of the requirement for the degree
Bachelor of Civil Engineering

by:

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**INTERNATIONAL CIVIL ENGINEERING PROGRAM
DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING
UNIVERSITAS ATMA JAYA YOGYAKARTA
YOGYAKARTA
2018**

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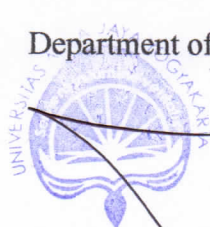
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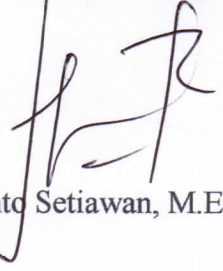
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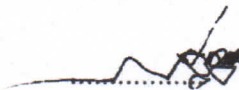
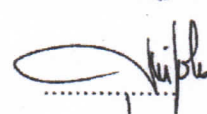
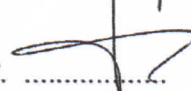
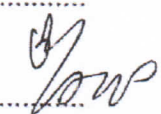
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Finally, I as the writer of this report realized that this report has many mistakes and may have space for further improvement. For that, any suggestion and critics will be accepted. Thank you.

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The Author

Dede Yona Sasingen



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ABSTRACT

THE GEOMETRIC DESIGN FOR RUNWAY, TAXIWAY, AND APRON OF KUABANG KAO AIRPORT, NORTH HALMAHERA, Dede Yona Sasigen, Student ID Number 14.13.15691, year of 2018, Transportations Engineering, International Civil Engineering Program, Department of Civil Engineering, Universitas Atma Jaya Yogyakarta.

The increasing demand of air transport, for domestic flight in Kuabang Kao Airport North Halmahera led to the airport is experiencing overload capacity, thus encouraging the development of a new design for the airport with a larger aircraft. The airport is planned to construct runway, taxiway and, apron that adequate to accommodate the largest reference plane and aircraft movements.

The purpose of this study is to design the geometry of Kuabang Kao Airport. The airport before only serve the ATR 72-600. In order to develop the airport capacity by using the Boeing 737-800 as the basic aircraft reference. The first step of this design is to calculate the dimension of runway and taxiway's geometrics by following the guidance provided by International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA). Then, design the dimensions of the apron is taken to understand if it can serve the estimated aircraft movement.

The study shows that the runway should be designed into 2818 x 45 meter square, the stopway dimension is 90 x 45 meter square and, runway strip is 3028 x 150 meter square. Based on the taxiway, the design is grouped as two types, which is the entrance taxiway and exit taxiway. And the taxiway width is 15 meters. And also, the apron dimension should be 215 x 64 meter square. By this design, airport is sufficient to serve the Boeing 737-800.

Key Words: Runway, Taxiway, Apron, ICAO, FAA, Airport, Boeing 737-800, ATR 72-600