

**PERENCANAAN
SISTEM PENYEDIAAN AIR BERSIH PERDESAAN
DI KELURAHAN BUNGUS TIMUR
KECAMATAN BUNGUS TELUK KABUNG KOTA PADANG**

LAPORAN TEKNIK

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SEKOLAH PASCASARJANA
UNIVERSITAS ANDALAS
2025**

ABSTRACT

Water is a basic human need. Bungus Timur Village, Bungus Teluk Kabung District, Padang City, is one of the recipients of assistance for Community-Based Infrastructure Activities to improve access to clean water and proper sanitation in rural areas. The identified problems include: clean water services provided by the Regional Water Company (PDAM) have not yet reached the Bungus Timur Village government center; the unavailability of a piped clean water supply system in the Bungus Timur Village government center; and the majority of residents rely on dug wells, which are often cloudy, as well as the river flowing through Bungus Timur Village. Therefore, it is necessary to plan and measure the sustainability of the rural clean water supply system, consisting of a piped network, in Bungus Timur Village, especially in the Kelurahan government center. The total population served by the Clean Water Supply System is 825 people, with a service flow rate of 1.5 L/second, with a planned house connection service system. The Timbulun water source is utilized as raw water, with a flow rate measured using the float method of 8 liters/second. Based on the results of the raw water quality tests, the physical and chemical quality of the raw water meets the requirements. The planned pipeline network consists of a 3-inch transmission pipe with a diameter of 378 m, a distribution pipe with a diameter of 200 m, a 2-inch pipe with a diameter of 1,390 m, a 1.5-inch pipe with a diameter of 659 m, and a 1-inch pipe with a diameter of 417 m. The water pressure within the pipeline network, according to analysis using the Epanet 2.0 application, is 22.35 m - 42.7 m. The planned reservoir capacity is approximately 25 m³.

Keywords: clean water supply system, population projection, Epanet 2.0, pipe network planning, bungus timur.