



Fire flow velocities with demands at erf 2385

This project scope aims to address the requirements imposed by the City of Windhoek on developers for rezoning applications of erven 863, 864, 5471, 6533, & 2385 in Otjomuise, Windhoek. The Hydraulic Impact Assessment in terms of bulk water supply capacity entailed the following investigation and assessment:

- Determine and confirm whether the capacity of the existing bulk water infrastructure within the Western Pressure Zone will be sufficient to cater for the existing water demand as well as the additional water demand due to the applied rezoning and related bulk applied for to these developments.
- If the outcome of the Hydraulic Impact Assessments determined that the water infrastructure is insufficient, recommendations were provided for required water network upgrades.

The scope of services required is updating an existing Wadiso hydraulic model compiled by B&P, February 2013.

# HYDRAULIC IMPACT ASSESSMENT

## Otjomuise Western Reservoir

### PROJECT STATS

Value	N/A - Study
Location	Windhoek, Namibia
Client	Namibia Consulting Engineers
Start	2019
Finish	2020



Fire flow pressures with demand at Malmo/Kitchener Str.

In order to revise and update the hydraulic model; analyse the model and to make sensible recommendations while remaining sensitive to cost, the scope of works was limited to the following:

- Update existing hydraulic model by importing new infrastructure data. This mainly included reticulation and distribution pipelines 160mm and larger in diameter (considered bulk supply and distribution), not included in the base model, but has since been constructed or that are currently being constructed.
- Populate the model with the latest annual average daily demands and peak demands for newly developed (or developing) areas and where densification can be observed since the compilation of the base model;
- Calibrate model to reflect existing conditions by comparing the network draw-off with recorded reservoir draw-offs, as well as pressure recorded at site during certain times;
- Analyse the model with the Wadiso Software Package, prepare and present results of the upgraded model in concise reports indicating graphically (by means of colour coded drawings) the following:
  - o Hydraulic model layout and pipe diameters;
  - o Static water pressure distribution;
  - o Residual water pressure under peak and fire flow conditions illustrating network conditions prior to and after inclusion of new

### SERVICES

- Investigation
- Reporting
- Simulations

Project Management

Civil