# Scope of Works Proposal Ref: GSQU-0366

Shire of Moora

Pump Station 5 Pressure Main Reline

FAO: Sai Katam

Manager Infrastructure Services

Shire of Moora

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Many thanks for the opportunity to quote.

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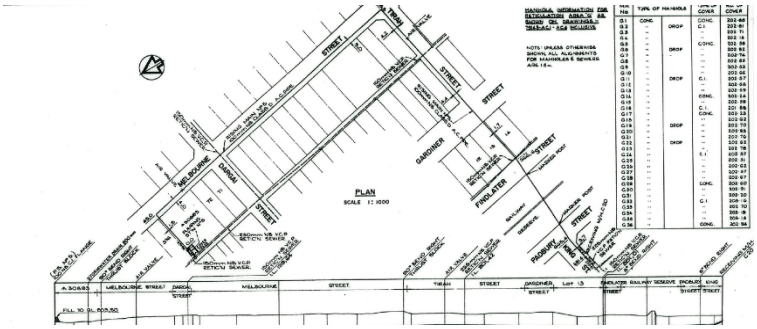
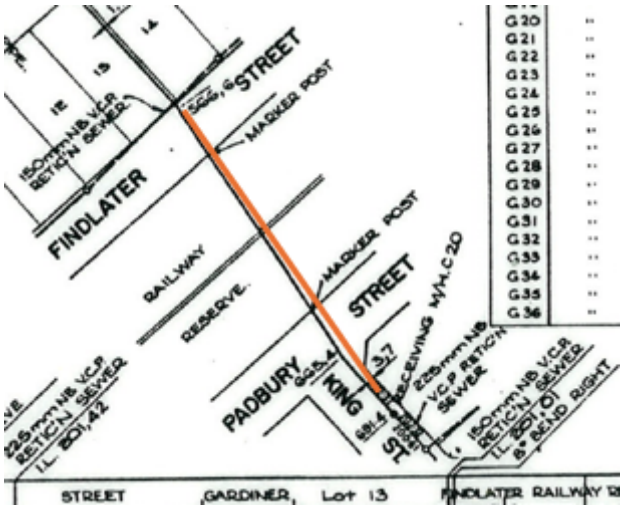
# 1. Scope of Works

Following testing of the DN100 AC pressure main leading from wastewater pump station 5 it was found that the pipe is in very poor condition. Goodstream proposes to install an internal pipe liner to extend the life of the pipe to a minimum design life of 50 years.



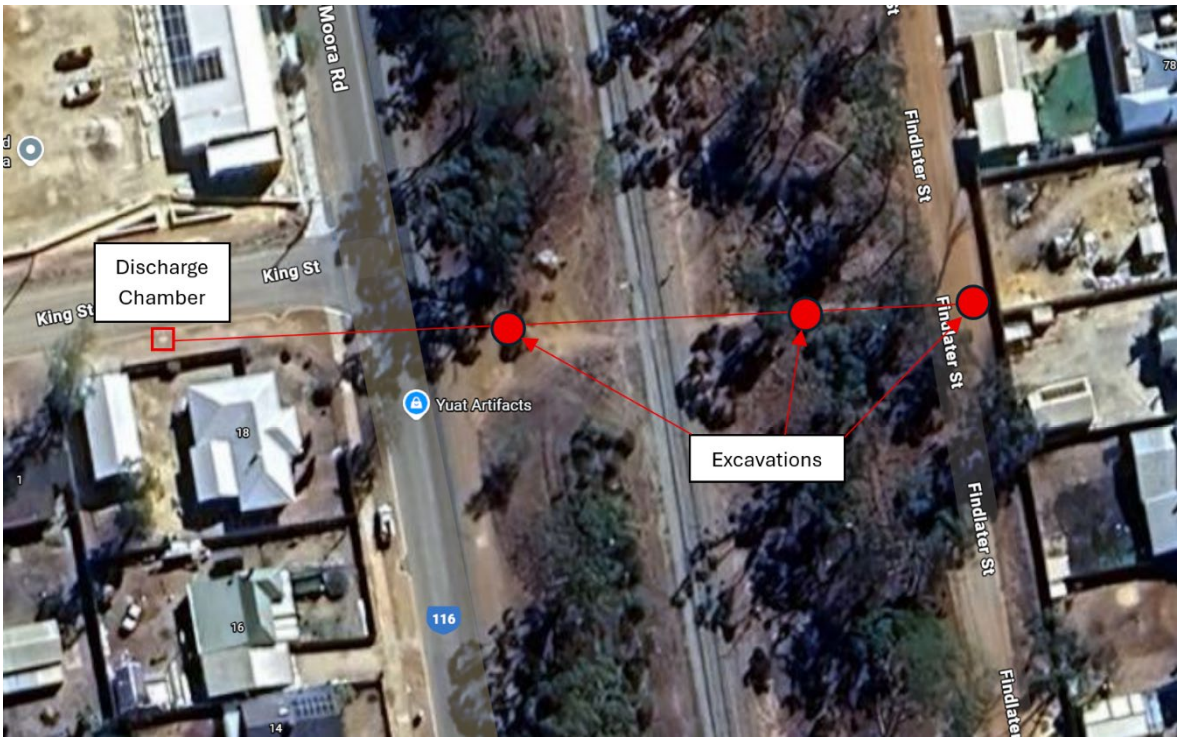
A section of the pipe runs underneath industrial rail between Findlater St and Padbury St leading to the discharge chamber.

A sense of priority would be to start by rehabilitating the pipe section from the discharge chamber to the fence line of the properties backing onto Findlater St. This is due to the impact on the rail in the chance event there was a failure of the pressure main. Approximately 125m of AC pipe.




# 2. Brief Methodology

The liner will be installed in 3 sections as shown in the plan below. 3 excavations are required to cut into the pipe to allow installation of the pipe liner. Once the liner is installed, the rehabilitated pipe is reconnected with gibaults.



## 3. Quotation Includes

- Cleaning/scouring prior to installation
- DN100 pressure main liner and attachments
- Installation equipment, tools and labour
- Accommodation for 3 technicians
- Allow 5 days for works

## 4. Estimate Excludes

- Excavation and fencing
- Pump truck for maintaining level of pump station during works
- Water corporation fire hydrant or water truck

## 5. Testing

Inspection Summary

RAIM were engaged to carry out asset condition assessment on DN100 AC pipework.

An asbestos cement pipe sample was obtained following planned works to inspect a DN100 SPM Records show that the pipeline was installed in 1977.

Alkalinity testing was performed on the AC pipe sample to determine the remaining effectiveness of the cement. Phenolphthalein solution, applied to a freshly broken edge of the sample, is used as a pH indicator to determine whether the profile of the cross-sectional face of the pipe is above a pH of approximately 10—where this is the case, a colour change will occur. A reduction in pH indicates leaching of calcium silicate and calcium hydroxide. In this case the tests showed that the pipework had fully leached on most of the pipe and 85-90% with little remaining on the top third of the pipe. See photos below.

Assumptions can be made for the rest of the asset, being in the same condition as the conditions are unlikely to vary significantly. The testings show remaining strength is very poor and that the asset is very close to, or at the end of its life.

### Test photos

## Locality Plan