

# Blockbuster/Drain Corp Joint Venture Project.

## Sewer pipe replacement under a house – a technically difficult project

A house in Atlasville in Boksburg was in urgent need of a fibre/pitch sewer pipe replacement. The existing pipe ran directly under the lounge. The house had been extended over the years and the front door was now directly in line with the pipe as it passed under the foundations of the new lounge! There was no easy way to re-route this system – the house had essentially been extended to fill the available ground!



First – cut the tiles and a window into the concrete

The replacement of this pipe necessitated the cutting of a window into the small patio outside the front door. The pipe turned 90 degrees to go under the house here.



Digging the winch pit.

The winch pit took a while to prepare – it turned out that there was about 150mm of very hard concrete to cut through! The digging of the launch pit was in clear ground and was uneventful until a depth of about 1 metre was reached. We hit Ouklip that had almost returned to its natural state – even though it had obviously been dug

before! The two excavations took a day to complete – we are normally able to dig in the morning and pull by about lunchtime. Not this time!



The launch pit – Ouklip.

The next day we prepared the hole. Two major problems arose – the first was that the existing pipe was encased in (strong) concrete and that the surrounding soil was virtually incompressible. This dictated that the pipe could not be slit as is the norm but would have to be reamed instead. We had to assume that the concrete encasement was all the way under the building. This caused us to have to significantly re-evaluate our approach to this project.



HDPE leading in.

Multiple reaming passes were performed and finally the pipe string was attached to the pig and drawn through. It got stuck 2m from the winch pit! Some convincing was applied and the new pipe was finally through. A fairly nerve racking experience!



Pig and pipe arrives at the winch pit!

The reinstatement of the line took another hour or so and the sewer was fully operational by 4pm. This was technically our most challenging job to date – this was pure “tight re-lining”. The pipe was not burstable because of the concrete encasement and oukclip. There was also no plan B or C. Had we not succeeded we would have had a big problem. There was no way to re-route the system without digging through the house! These constraints dictated that the entire job was meticulously planned and executed.



The power pack doing the heavy work!

Website with more info on Santar used as sewer pipe is at [www.blockbusterdrain.co.za](http://www.blockbusterdrain.co.za)

## **Conclusion.**

**An extremely cost effective way of replacing sewer pipe that causes the minimum amount of destruction and disruption.**

**Pipes running under buildings can be easily replaced if you take note of the specific conditions.**

**Sewer system downtime was about 3 hours.**

**A Scalable solution from 6m to 600m!**

## **The Benefits of using BB&DC's pipe replacement method**

1. The most cost effective solution – especially if you need to go under buildings, walls, paving and tarred roads.
2. Minimal disruption to the property – we only dig a series of small pits.
3. Little or no contamination of the area we work in – we don't dig up all the contaminated earth and spread it around as you would have to using conventional methods.
4. We can replace the pipe in heavily contaminated ground that is in fact nothing less than a septic tank. The contaminants stay where they are and will ultimately become inert.
5. The replacement is quick and disruption to sewerage flow minimal.
6. Pipe is replaced. You thus have a brand new pipe that is round and smooth inside with no compromised structural integrity.
7. **Immensely strong HDPE (class 6-10) pipe with a minimum of joints will provide hassle free sewerage flow for the next 100 years!**

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