Water supply to homes

Different piping systems (mains, yellow, black):

1. Main Water Reticulation Network:
    - This is the pipe network for supplying potable i.e. drinking water to each home.
    - The pipe network is owned by the estate but is currently exclusively being used for the water supply from the City of Cape Town (CoCT).
    - It could be used by the estate to supply water from its own system but with certain preconditions set by CoCT:
    - The water quality must adhere to the standards of drinking water as contained in SANS 241 i.e. the requirements for potable water.
    - CVE must complete the prescribed application form WSI and supply the same to the Water Inspector of CoCT.
    - The Water Inspector will inspect the connection for his approval before allowing the connection to take place.
    - The connection must be fitted with a non-return valve to ensure that no water from the estate could flow back into the CoCT system.
    - The water from CVE's own supplying system must be tested on a continuous basis and the results be supplied to CoCT to ensure that the standards set in SANS 241 is always being adhered to.
2. Yellow Pipe Network:
    - These pipes were originally used for the watering of the verges.
    - It forms part of the same pipe network and pump system for the irrigation of the vineyards.
    - The cost of separating the abovementioned pipe network into two i.e. one to supply say borehole water to each house and another for irrigating the vineyards will be more or less the same as for installing an separate pipe system – see details iro a Black Pipe Network below.
    - The existing pipe network would also be needed as it is if in future enough water would again become available for also watering the verges.
3. Black Pipe Network:
    - This pipe network is an envisaged new reticulation system for distributing water from the borehole(s) to each home.
    - The intention is to lay the pipes on the vineyard side of the houses with a connection point available at each house.
    - Each homeowner will be responsible for the cost of connecting to the system if the homeowner wants to make use of the system.
    - The pipe network will enable the pumping of water from the existing borehole – supported by a small booster tank - to each house on a predefined schedule - the details of which still have to be finalized.
    - In future i.e. with more than one borehole supplying water, an automated pump system - with a large enough storage tank - is needed to feed water to the houses.

Volume of water and why an additional borehole(s) is required

1. Currently the only usable borehole is the one adjacent to the dam next to Croydon Olive Estate.
2. The main reason for having another borehole(s) is to have a backup supply if (1) the current borehole would supply less water and even dry up and/or if anything go wrong with the pumping system at the borehole and no water will be available while the system is being repaired.

3. This borehole could - according to testing done by a company named GEOSS - deliver 54000 liters per 10 hour day after which it will have to be rested for the remainder of the day.
4. Note that this water would only more-or-less adhere to domestic water standards inclusive of warnings and restrictions to the homeowners on the uses thereof.
5. Thus without refining and purifying the water, 260 liter of water could be supplied per day to each property on the estate. If this supply is measured against the current Level 6 and immediately past Level 4 restriction the borehole could provide as follows:

- On Level 6: 2.6 times the allowance (260/(4 persons x 50 liter per person)),or;
- On Level 4: Only 0.75 times the allowance (260/(4 persons x 87 liter per person)).

6. If however the water is purified through a Reverse Osmosis (RO) system to potable i.e. SANS241 standards the output will only be about 35420 liter per 10 hour day or 173 liter per property, thus:
    - On Level 6: Only 0.87 times the allowance (173/(4 persons x 50 liter per person)),or;
    - On Level 4: Only 0.50 times the allowance (173/(4 persons x 87 liter per person)).
7. Lastly, the tariff for the lowest level of domestic water provision, i.e. for 0 to 6 kiloliter, increased from R4,39 per kiloliter for Level 4 to R25.65 per kiloliter for the current Level 6 i.e. an increase of 484%. This is the best motivation for the estate to get independent in providing domestic water to the homeowners but in this case water from more boreholes will be needed.