

CCTV Drain Survey

Date: 7th July, 2023

Prepared by Matthew McClusky

Client: Terra Nova Developments Ltd
Site: 63-65 Upper Chorlton Road
Whalley Range
Manchester
M16 7RQ



Clearwater House, Unit 20a, Newby Road Industrial Estate,
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Chris McManus
Terra Nova Developments Ltd
Derwent Avenue
West Didsbury
Manchester
M21 7QP

Dear Chris,

Re: CCTV Drain Survey - 63-65 Upper Chorlton Road, Whalley Range, Manchester, M16 7RQ

Following our receipt of your order and as requested our engineers have attended the above mentioned site. The purpose of our visit was to carry out a CCTV Survey of the required drainage lines in order to establish the condition, location and connectivity.

The following report highlights our findings on site, and where necessary we have put forward recommendations for repairs to be carried out on the drainage system. We would strongly recommend that all repairs that have been identified are completed to prevent further defects arising. The drainage system has been designed to work in a particular way – any defects identified could be preventing the drainage system from performing as it should.

Here at Drainage Consultants Ltd. we regularly research the market to ensure that our clients are receiving extremely competitive quotations for drain repairs.

Please find below our summary of the survey, along with the detailed survey log sheets, and the survey footage.



Findings & Recommendations

Manhole-1 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.5m – Fine roots at the joint

1.2m – Fine roots at the joint

1.5m – Material changes to PVCu

9.7m – Obstruction from 05 to 07 o'clock, 20%

10.7m – The survey was abandoned, (unable to pass obstruction).

We recommend the below work:

Carry out High Pressure Water Root Cutting in order to clear the drainage line and a resurvey will be required to establish the full condition of the pipework.

Please see the end of the summary for the cost.

Manhole-1 Branch-1 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting surface water.

The below observations have been made:

0.0m – Water level, 0-5%

0.3m – Fine roots at the joint

0.7m – Fine roots at the joint

1.8m – Mass root, 20%

2.1m – The survey was abandoned, (unable to pass roots).

We recommend the below work:

Carry out High Pressure Water Root Cutting in order to clear the drainage line and a resurvey will be required to establish the full condition of the pipework.

Please see the end of the summary for the cost.



Manhole-1 Branch-2 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting foul waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.8m – Mass roots, 100%

0.8m – The survey was abandoned, (unable to pass roots).

We recommend the below work:

Carry out High Pressure Water Root Cutting in order to clear the drainage line and a resurvey will be required to establish the full condition of the pipework.

Please see the end of the summary for the cost.

Manhole-1 downstream to Discharge

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

0.0m – Water level, 0-5%

1.0m – Mass roots at the joint, 80%

1.1m – Line deviates left, 45°

2.3m – Water level, 40%

3.6m – Mass roots, 75%

3.6m – The survey was abandoned, (unable to pass roots).

We recommend the below work:

Carry out High Pressure Water Root Cutting in order to clear the drainage line and a resurvey will be required to establish the full condition of the pipework.

Please see the end of the summary for the cost.

Manhole-2 downstream to Discharge

The drain surveyed is a circular 150mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

0.0m – Water level, 0-5%

1.6m – Fine roots

2.6m – The survey finished at the discharge.

We recommend the below work:

Undertake high-pressure water-jetting to thoroughly clean the pipework.

Carry out a CCTV survey to establish precise location of defect on drainage system.

Supply and install 1 x 100mm diameter, ambient cured epoxy resin structural patch liner(s) over the defective section of pipework using cured-in-place pipe lining bladder system. (all materials used are approved by the Water Research Council).

The cost for this is £490.00 plus VAT.

Manhole-4 upstream to Head of Line

The drain surveyed is a circular 150mm diameter vitrified clay pipe transporting surface water.

The below observations have been made:

0.0m – Water level, 0-5%

0.0m – Diameter changes to 100mm

0.5m – Line deviates left, slight

2.4m – Displaced joint, medium

2.5m – Water level, 10%

2.6m – Line deviates left, slight

3.4m – Line deviates left, 45°

4.3m – Line deviates up, 90°

4.4m – The survey finished at the vertical section of the drain.

We recommend the below work:

Undertake an excavation to a maximum depth of 1.5m over the settled section of pipework from 2.5m to 4.4m and replace with new 100mm diameter pipework (allowing up to 2.0m of connecting pipework to be replaced).

Backfill the excavation and reinstate to match the existing surface finish (tarmac).

The cost for this is £785.00 plus VAT.



Manhole-4 Branch-1 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting foul waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.7m – Line deviates left, slight

1.8m – Line deviates up, 90°

1.8m – The survey finished at the vertical section of the drain.

The above drainage line does not exhibit any evident defects at this present time.

Manhole-4 Branch-2 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting foul waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.4m – Circumferential crack from 08 to 04 o'clock

0.9m – Large displaced joint

1.2m – Line deviates left, slight

2.9m – Line deviates up, 90°

3.0m – The survey finished at the vertical section of the drain.

We recommend the below work:

Undertake high-pressure water-jetting to thoroughly clean the pipework.

Carry out a CCTV survey to establish precise location of defect on drainage system.

Supply and install 1 x 100mm diameter, ambient cured epoxy resin structural patch liner(s) over the defective section of pipework at 0.4m – 0.9m, using cured-in-place pipe lining bladder system (all materials used are approved by the Water Research Council).

The cost for this is £450.00 plus VAT.

Manhole-4 Branch-3 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting surface water.

The below observations have been made:

0.0m – Water level, 0-5%

0.8m – Line deviates up, 90°

0.9m – The survey finished at the vertical section of the drain.

The above drainage line does not exhibit any evident defects at this present time.

Manhole-4 downstream to Discharge

The drain surveyed is a circular 150mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.1m – Circumferential crack from 08 to 04 o'clock

1.2m – Large displaced joint

3.8m – Large displaced joint

13.2m – The survey finished inside of Manhole-5.

We recommend the below work:

Undertake an excavation to a maximum depth of 1.5m over the defective sections of pipework from Manhole-4 to 3.8m and replace with new 150mm diameter pipework (allowing up to 4.0m of connecting pipework to be replaced).

Backfill the excavation and reinstate to match the existing surface finish (tarmac).

The cost for this is £895.00 Plus VAT.

Manhole-5 downstream to Discharge

The drain surveyed is a circular 150mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

- 0.0m – Water level, 0-5%
- 0.5m – Large displaced joint
- 0.8m – Line deviates left, slight
- 1.7m – Line deviates right, slight
- 2.3m – Water level, 10%
- 3.4m – Large displaced joint

3.4m – The survey was abandoned, (unable to pass joint).

We recommend the below work:

Undertake an excavation to a maximum depth of 1.5m over the defective sections of pipework from Manhole-5 to 3.4m and replace with new 150mm diameter pipework (allowing up to 4.0m of connecting pipework to be replaced).
Backfill the excavation and reinstate to match the existing surface finish (tarmac/soil).

The cost for this is £895.00 plus VAT.

PLEASE NOTE in order for the above excavation to be undertaken, the heavy vegetation within the area of Manhole-5 will be required to be removed by a separate contractor prior to our arrival on site.

Manhole-5 Branch-1 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting surface water.

The below observations have been made:

- 0.0m – Water level, 0-5%
- 1.7m – Line deviates up, 90°

1.9m – The survey finished at the vertical section of the drain.

The above drainage line does not exhibit any evident defects at this present time.

Manhole-5 Branch-2 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting foul waste.

The below observations have been made:

- 0.0m – Water level, 0-5%
- 0.4m – Line deviates right, 45°
- 5.6m – Line deviates left, 45°
- 6.2m – Line deviates up, 90°

6.3m – The survey finished at the vertical section of the drain.

The above drainage line does not exhibit any evident defects at this present time.

Manhole-3 downstream to Discharge

The drain surveyed is a circular 150mm diameter vitrified clay pipe transporting combined waste.

The below observations have been made:

- 0.0m – Water level, 0-5%
- 0.0m – Large displaced joint
- 0.2m – Large displaced joint
- 1.2m – Collapsed drain, 75%

1.2m – The survey was abandoned, (unable to pass collapse).

We recommend the below work:

Undertake an excavation to a maximum depth of 3.0m over the defective sections of pipework from Manhole-3 to 1.2m and replace with new 150mm diameter pipework (allowing up to 3.0m of connecting pipework to be replaced).
While the excavation is open carry out a resurvey in order to establish the full condition of the pipework.
Backfill the excavation and reinstate to match the existing surface finish (tarmac).

The cost for the excavation is £3,890.00 plus VAT.

The cost for the resurvey is £240.00 Plus VAT.

PLEASE NOTE that the collapse is located within the area of the sunken tarmac at ground level.

Manhole-3 Branch-1 upstream to Head of Line

The drain surveyed is a circular 100mm diameter vitrified clay pipe transporting foul waste.

The below observations have been made:

0.0m – Water level, 0-5%

0.2m – Line deviates right, slight

0.4m – Longitudinal crack at 09 o'clock

1.7m – Large displaced joint

3.9m – Silt build up, 10%

4.5m – The survey was abandoned, (unable to pass silt).

We recommend the below work:

Carry out High Pressure Water Jetting in order to clear the drainage line and a resurvey will be required to establish the full condition of the pipework.

Please see the end of the summary for the cost.

Drainage Lines which require High Pressure Water Root Cutting / Jetting:

*Manhole-1 upstream to Head of Line

*Manhole-1 Branch-2 upstream to Head of Line

*Manhole-3 Branch-1 upstream to Head of Line

*Manhole-1 Branch-1 upstream to Head of Line

*Manhole-1 downstream to Discharge

*Resurvey Required

The cost for this is £495.00 Plus VAT (2 man team required).

While on site our engineers found there to be several gullies which are visibly damaged above ground, we recommend the below work to replace the defective gullies (G2, G4, G5 & G7):

Undertake an excavation over each defective gully, replace with a new PVCU access gully and carry out a CCTV Survey to establish the full condition of the pipework.

Backfill each excavation and reinstate to match the existing surface finish (tarmac / flags).

The cost per excavation is £785.00 plus VAT (4 X Excavations required).

The cost for the CCTV Survey Team is £290.00 plus VAT.

