A&T Drain Services Ltd
T/A Drain Doctor
Unit 2A
Chestnut Road,
Western Ind. Est., Dublin 12
01-426 0701
info@draindoctordublin.ie

Drain Doctor
DRAINAGE & PLUMBING

Emergency Plumbing and Drainage Service, CCTV Surveys, Drain Repairs, Blocked Drains

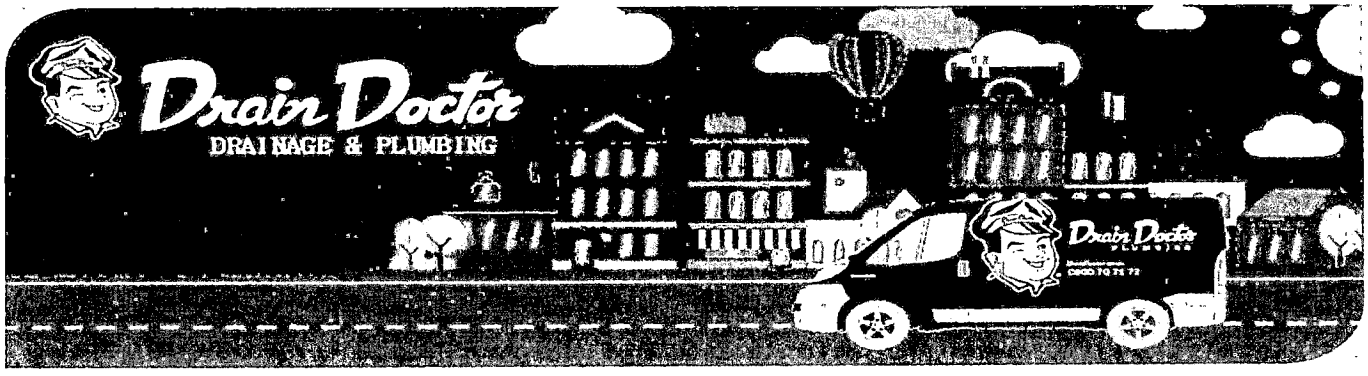
# Inspection Report
# Paul Keogh Architects

## Coric House

## Tallaght

## Dublin 24

Dated: 31/10/2018



Drain Doctor
DRAINAGE & PLUMBING

## Summary Report

| Page | Start | Finish | Recommendations |
|---|---|---|---|
| 9 | AJ1 | Con A | After our survey and jetting here we found this line is in good condition. It takes a gully which is buried under the stone |
| 13 | AJ1 | Con B | After jetting and surveying this line to remove lots of stone we found this line has a hole on the top of the pipe. There is no other problems to report here |
| 17 | AJ1 | MH2 | After jetting this line we found that it flows down to a MH in the car park (MH2). There is a car parked on this but we could hear the jet in the MH. We could not fully clean the line back jetting from the AJ. We need access to the manhole that has a car parked on it in order to jet the line out from here. No other issues to report |
| 21 | MH1 | Con A | After our survey here we found the line is in good condition, no problems to report. This is the foul pop up (pop up 3) for unit2 |
| 25 | MH1 | Con B | After our survey on this line we found it is in good condition. This takes the toilets from upstairs and downstairs in unit3. No problems to report |
| 29 | MH1 | Con C | After our survey here we found this line is in good condition. This takes a gully in the courtyard area |
| 33 | MH1 | MH3 | Line in good condition |
| 37 | Pop up 1 | Downstream | After our survey on Popup1 we found that the line is holding a WL for the majority of the run. We pulled the hose into the unit and jetted downstream, this dropped the levels a bit, but there is still a WL in the line. The line turns left at approx 15m and then turns right at approx 17.5m. There is damage after it turns right. We jetted numerous times but this did not move. This looks like the pipe is collapsed here |

| | | | |
|---|---|---|---|
| 41 | Pop up 2 | MH1 | After our survey on this line we found that it has a WL of 5-10% in it, This line drops into MH1. No other problems to report. This was blocked on arrival so we pulled hose in and jetted to enable us to survey the line. This is the foul pop up (pop up 2) for unit1 |
| 46 | Stack 2 | Downstream | After surveying this line we found that it is holding a WL for the majority of the run with the camera under water for parts of the run. We found that the line runs to a buried A outside the shop and this has a broken pipe in it. It may be collapsed. This is the same area where Popup1 is blocked. |
| 50 | Stack 3 | AJ1 | After jetting this line we found that it goes out to an AJ outside. (AJ1). The line is in good condition. No problems to report |

## Report details

Drain Doctor
DRAINAGE & PLUMBING

| | |
|---|---|
| Address: | Unit 2A Chestnut Road<br>Western Industrial Estate<br>Dublin 12 |
| Tel: 01-4260701 | Fax: |
| Email: | Info@draindoctordublin.ie |
| Survey Crew: | |

## Client Details

| | |
|---|---|
| Client Name: | Paul Keogh Architects |
| Client Ref: | |
| Address: | |
| Telephone: | |
| Email: | |

## Site Details

| | |
|---|---|
| Site Contact: | |
| Site Reference: | |
| Site Address: | Coric House |
| Town | Tallaght<br>Dublin |
| ZIP/PostCode | |
| Telephone: | |
| Email: | |

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

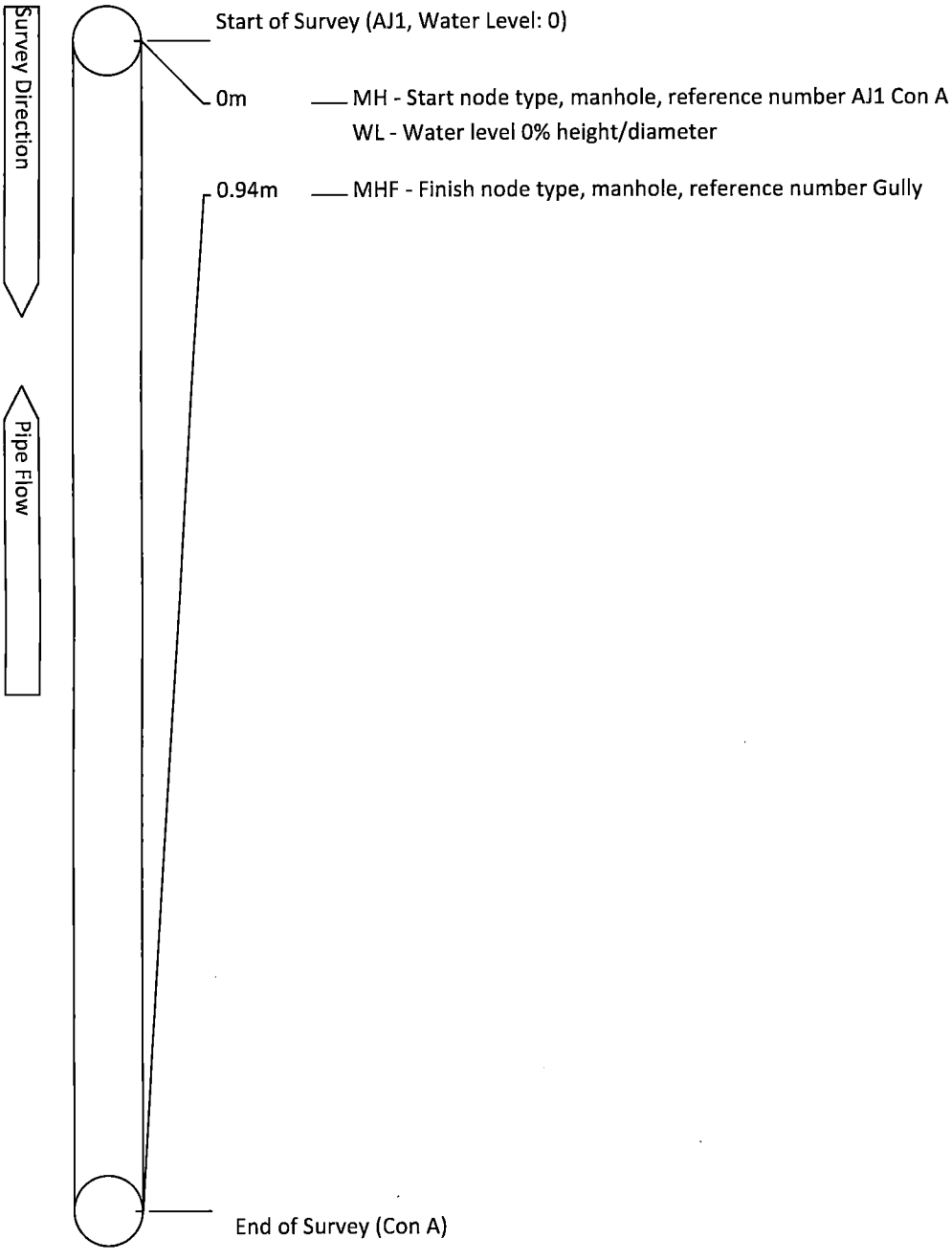
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | Con A | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number AJ1 Con A | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 0.94m | MHF | Finish node type, manhole, reference number Gully | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | Con A | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | AJ1 | **Finish:** | Con A |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 0.94m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

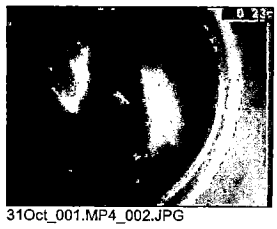
After our survey and jetting here we found this line is in good condition. It takes a gully which is buried under the stone.

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

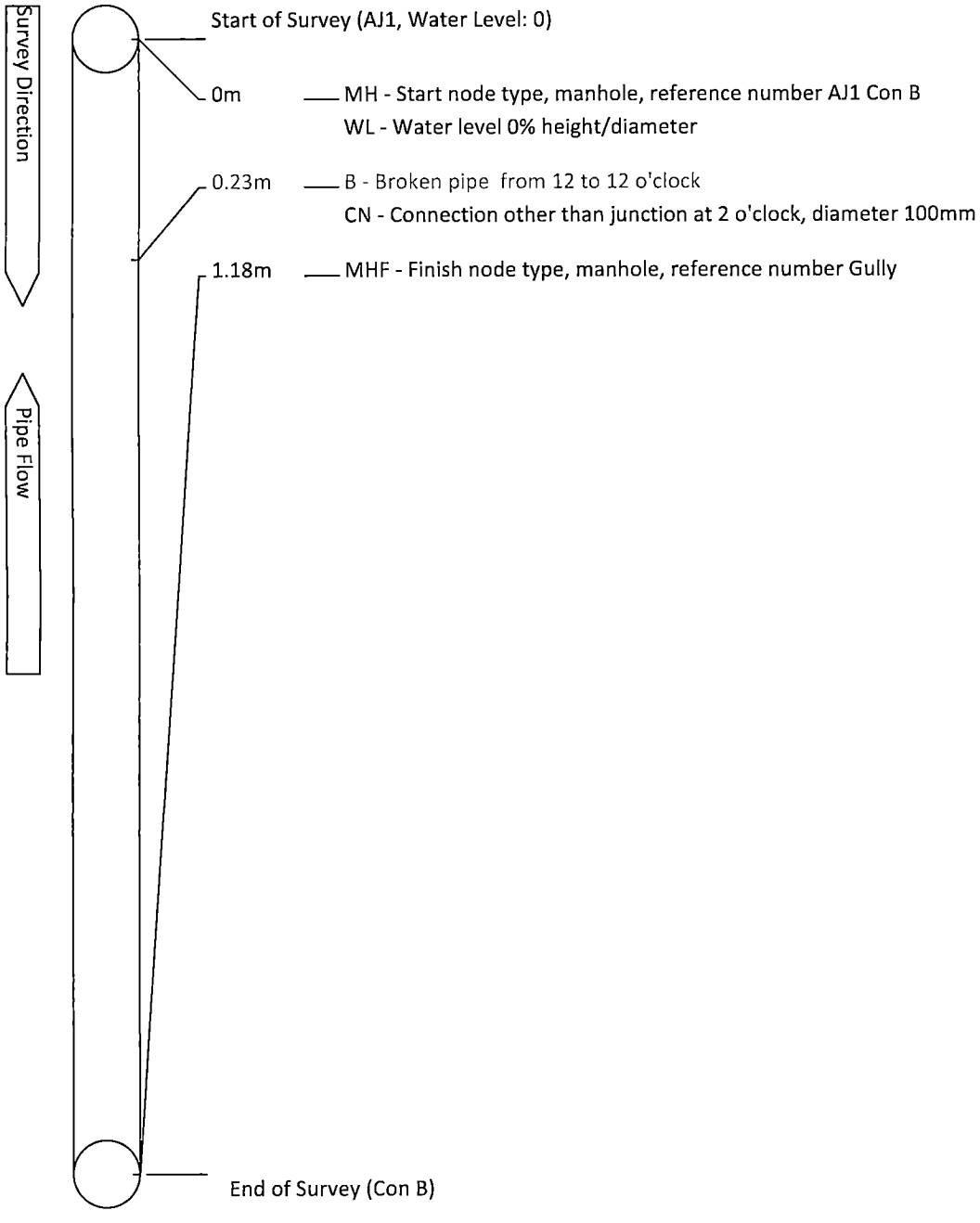
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | Con B | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number AJ1 Con B | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 0.23m | B | Broken pipe from 12 to 12 o'clock. Hole | 2 |  31Oct_001.MP4_002.JPG |
| 0.23m | CN | Connection other than junction at 2 o'clock, diameter 100mm. | | |
| 1.18m | MHF | Finish node type, manhole, reference number Gully | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | Con B | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



## Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | AJ1 | **Finish:** | Con B |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 0.23m | B | Broken pipe at ... (OR from ... to ...) o'clock | 2 | | | | | | | 12 | 12 |
| 0.23m | CN | Connection other than junction at ... o'clock, diameter ...mm | | | | | 100 | | | 2 | |
| 1.18m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

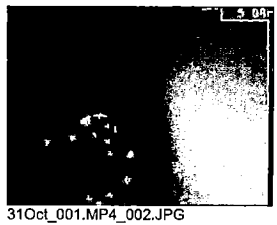
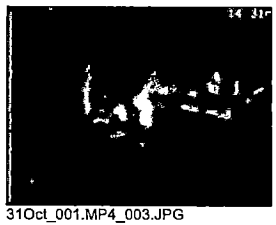
After jetting and surveying this line to remove lots of stone we found this line has a hole on the top of the pipe. There is no other problems to report here.

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Downstream |

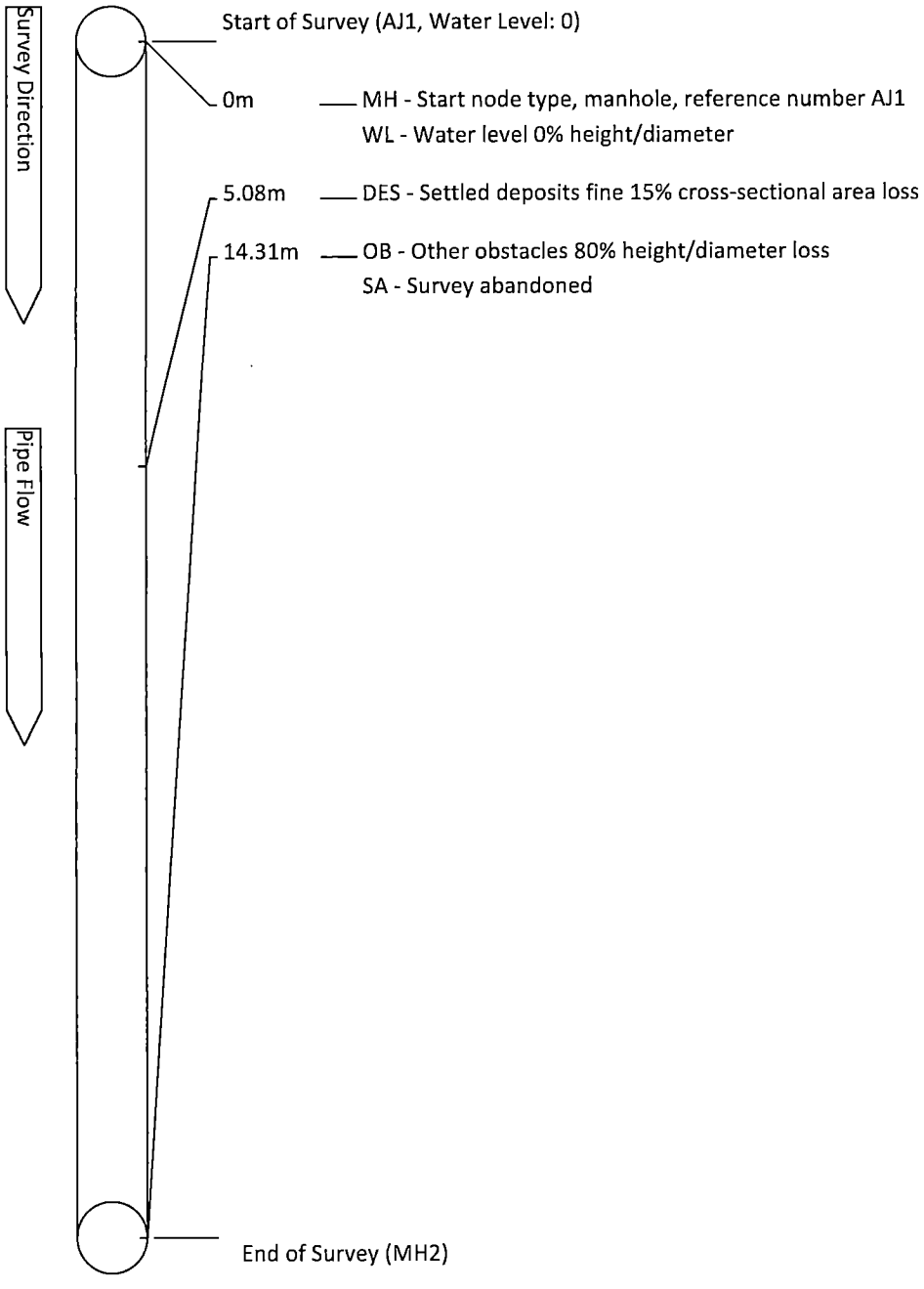
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | MH2 | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number AJ1 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 5.08m | DES | Settled deposits fine 15% cross-sectional area loss. Debris | |  31Oct_001.MP4_002.JPG |
| 14.31m | OB | Other obstacles 80% height/diameter loss. Rubble | |  31Oct_001.MP4_003.JPG |
| 14.31m | SA | Survey abandoned. Camera wont pass | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | AJ1 | **Finish:** | MH2 | | |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



## Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | AJ1 | **Finish:** | MH2 |
| **Depth at Start Node:** | 580 | **Depth at Finish Node:** | N/A |
| **Direction:** | Downstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| **Position** | **Code** | **Description** | | | | **SML** | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 5.08m | DES | Settled deposits fine ...% cross-sectional area loss | | | | | | | 15 | | |
| 14.31m | OB | Other obstacles ...% height/diameter loss | | | | | | | 80 | | |
| 14.31m | SA | Survey abandoned | | | | | | | | | |

## Comments

After jetting this line we found that it flows down to a MH in the car park (MH2). There is a car parked on this but we could hear the jet in the MH. We could not fully clean the line back jetting from the AJ. We need access to the manhole that has a car parked on it in order to jet the line out from here. No other issues to report.

## Survey details

| | |
|---|---|
| Survey Date: | 01/11/2018 |
| Our Reference: | |
| Use: | Foul |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

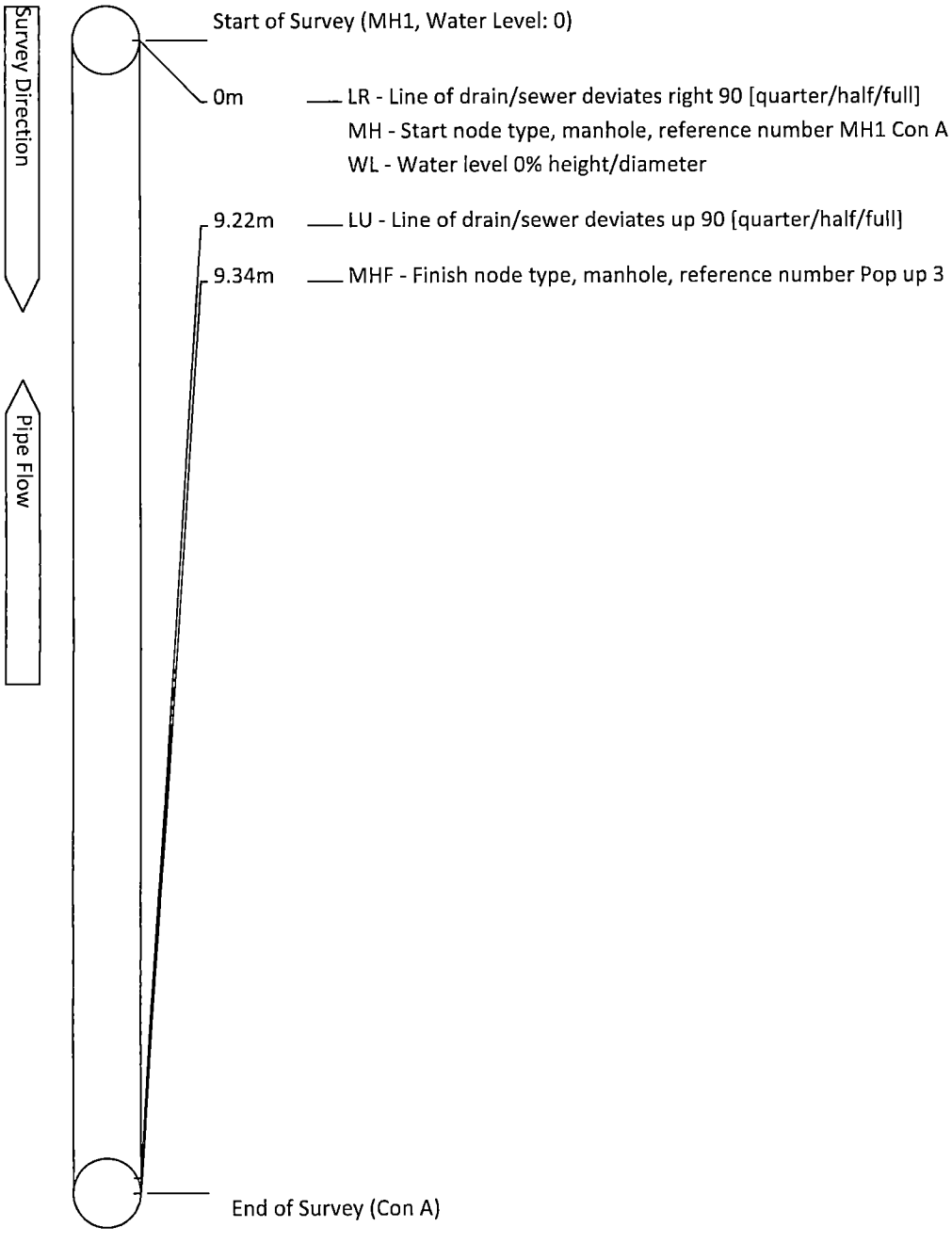
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con A | | |
| **Depth at Start Node:** | 400 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | LR | Line of drain/sewer deviates right 90 [quarter/half/full] | | |
| 0m | MH | Start node type, manhole, reference number MH1 Con A | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 9.22m | LU | Line of drain/sewer deviates up 90 [quarter/half/full] | | |
| 9.34m | MHF | Finish node type, manhole, reference number Pop up 3 | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con A | | |
| **Depth at Start Node:** | 400 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | MH1 | **Finish:** | Con A |
| **Depth at Start Node:** | 400 | **Depth at Finish Node:** | N/A |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | LR | Line of drain/sewer deviates right ... [quarter/half/full] | | | | | | | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 9.22m | LU | Line of drain/sewer deviates up ... [quarter/half/full] | | | | | | | | | |
| 9.34m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

After our survey here we found the line is in good condition, no problems to report. This is the foul pop up (pop up 3) for unit2.

## Survey details

| | |
|---|---|
| Survey Date: | 01/11/2018 |
| Our Reference: | |
| Use: | Foul |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

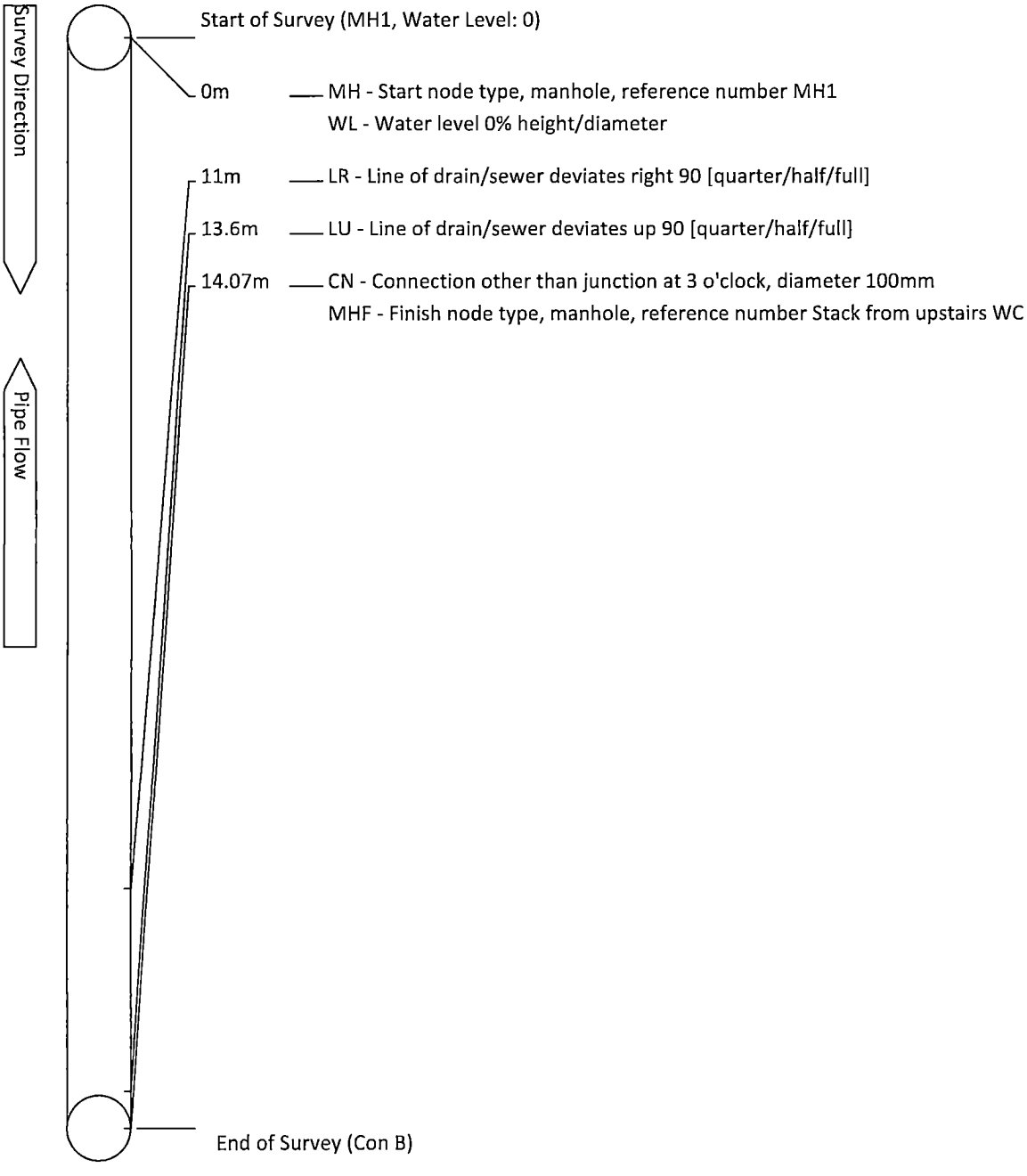
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con B | | |
| **Depth at Start Node:** | 410 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number MH1 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 11m | LR | Line of drain/sewer deviates right 90 [quarter/half/full] | | |
| 13.6m | LU | Line of drain/sewer deviates up 90 [quarter/half/full] | | |
| 14.07m | CN | Connection other than junction at 3 o'clock, diameter 100mm. Downstairs toilet | | |
| 14.07m | MHF | Finish node type, manhole, reference number Stack from upstairs WC | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con B | | |
| **Depth at Start Node:** | 410 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | MH1 | **Finish:** | Con B |
| **Depth at Start Node:** | 410 | **Depth at Finish Node:** | N/A |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 11m | LR | Line of drain/sewer deviates right ... [quarter/half/full] | | | | | | | | | |
| 13.6m | LU | Line of drain/sewer deviates up ... [quarter/half/full] | | | | | | | | | |
| 14.07m | CN | Connection other than junction at ... o'clock, diameter ...mm | | | | | 100 | | | 3 | |
| 14.07m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

After our survey on this line we found it is in good condition. This takes the toilets from upstairs and downstairs in unit3. No problems to report.

## Survey details

| | |
|---|---|
| Survey Date: | 01/11/2018 |
| Our Reference: | |
| Use: | Foul |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

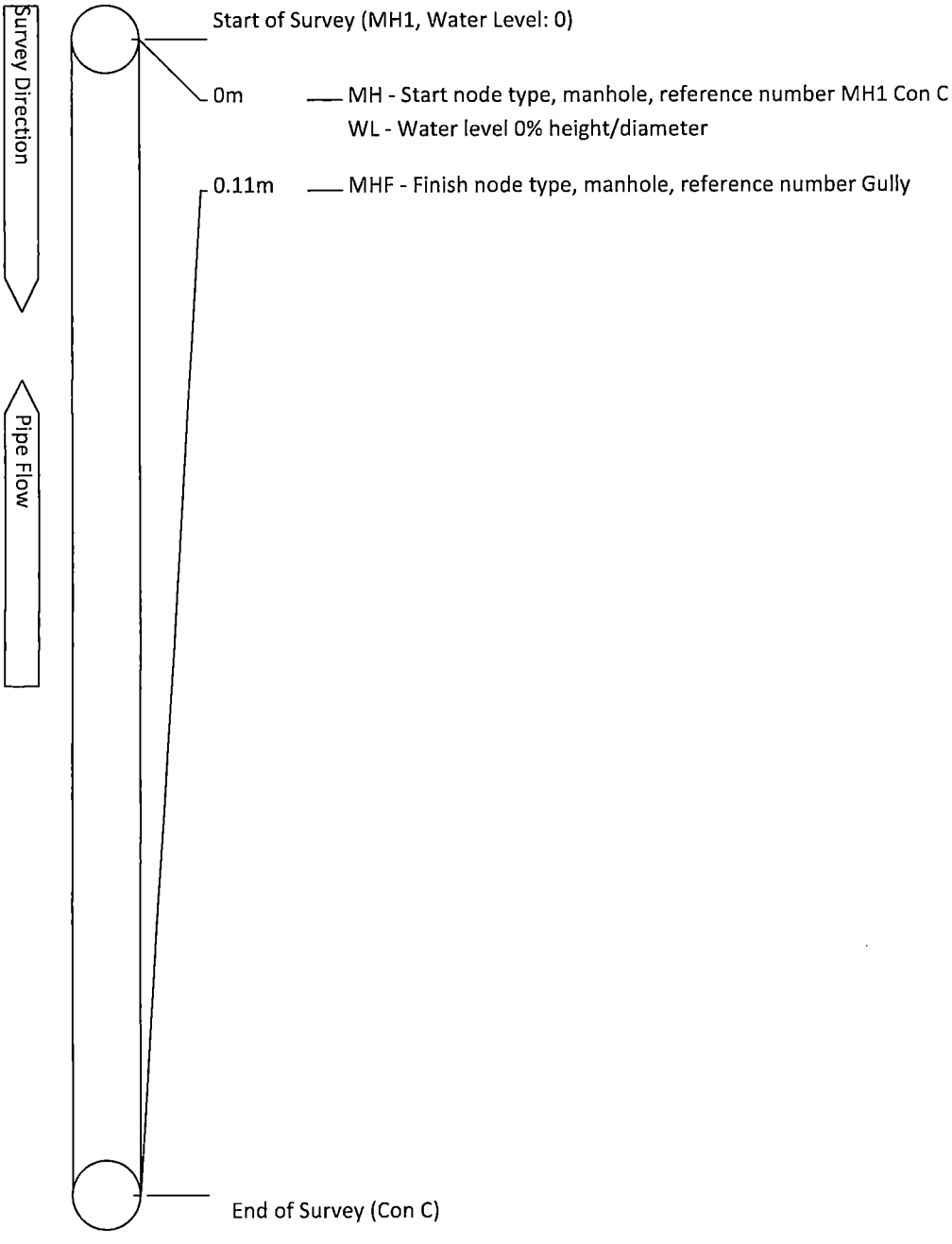
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con C | | |
| **Depth at Start Node:** | 200 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number MH1 Con C | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 0.11m | MHF | Finish node type, manhole, reference number Gully | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | Con C | | |
| **Depth at Start Node:** | 200 | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



## Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | MH1 | **Finish:** | Con C |
| **Depth at Start Node:** | 200 | **Depth at Finish Node:** | N/A |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| **Position** | **Code** | **Description** | | | | **SML** | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 0.11m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

After our survey here we found this line is in good condition. This takes a gully in the courtyard area.

## Survey details

| | |
|---|---|
| Survey Date: | 01/11/2018 |
| Our Reference: | |
| Use: | Foul |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Upstream |

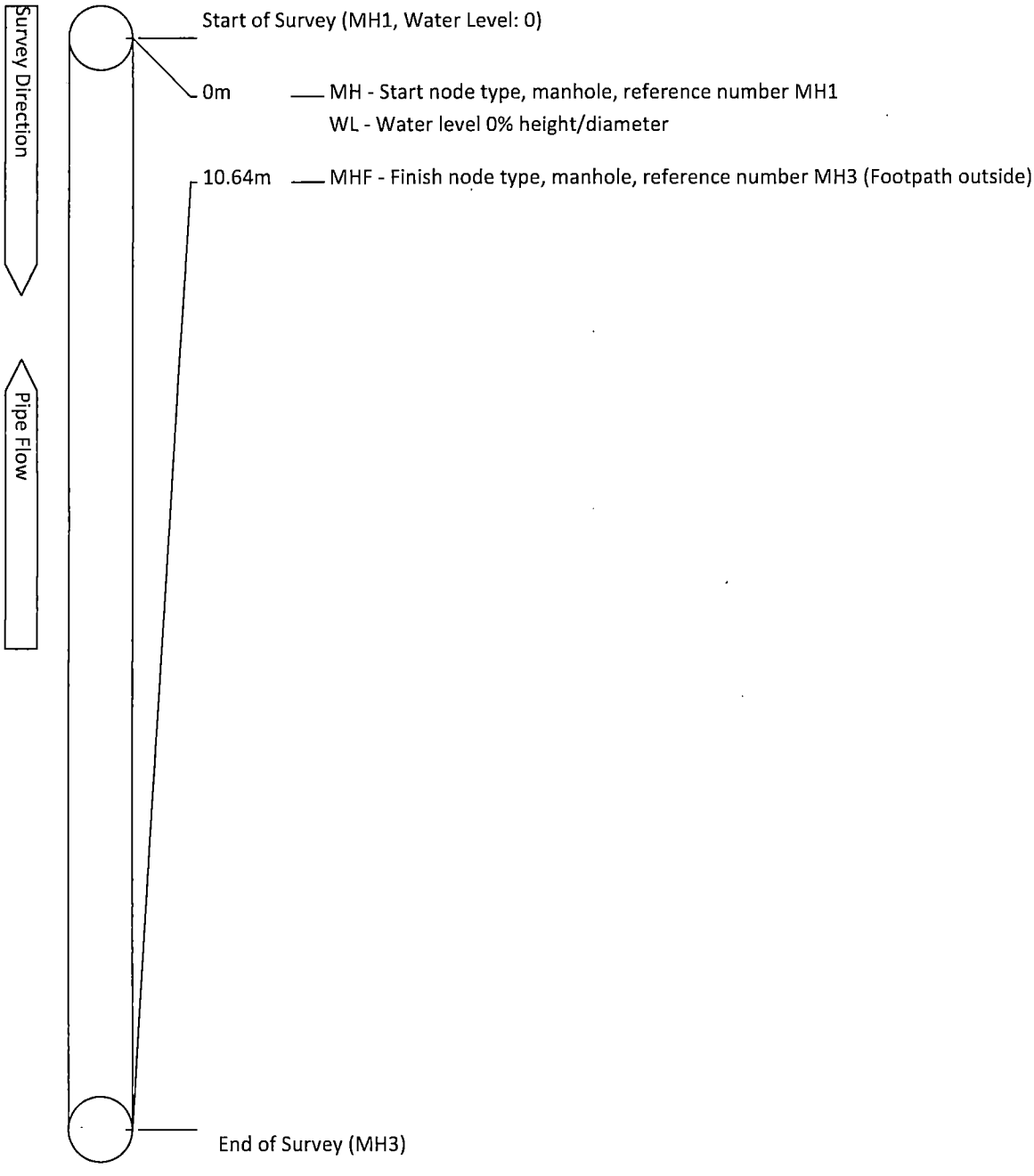
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | MH3 | | |
| **Depth at Start Node:** | 420 | **Depth at Finish Node:** | Unable to open. | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number MH1 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 10.64m | MHF | Finish node type, manhole, reference number MH3 (Footpath outside) | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | MH1 | **Finish:** | MH3 | | |
| **Depth at Start Node:** | 420 | **Depth at Finish Node:** | Unable to open. | | |
| **Direction:** | Upstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 01/11/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | MH1 | **Finish:** | MH3 |
| **Depth at Start Node:** | 420 | **Depth at Finish Node:** | Unable to open. |
| **Direction:** | Upstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 10.64m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

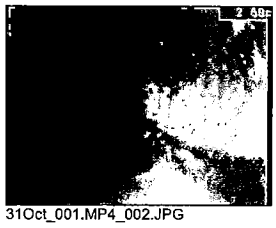
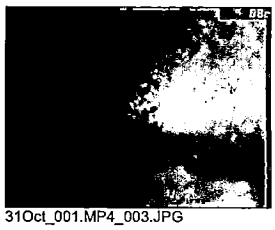
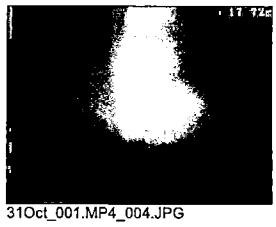
**Line in good condition**

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Downstream |

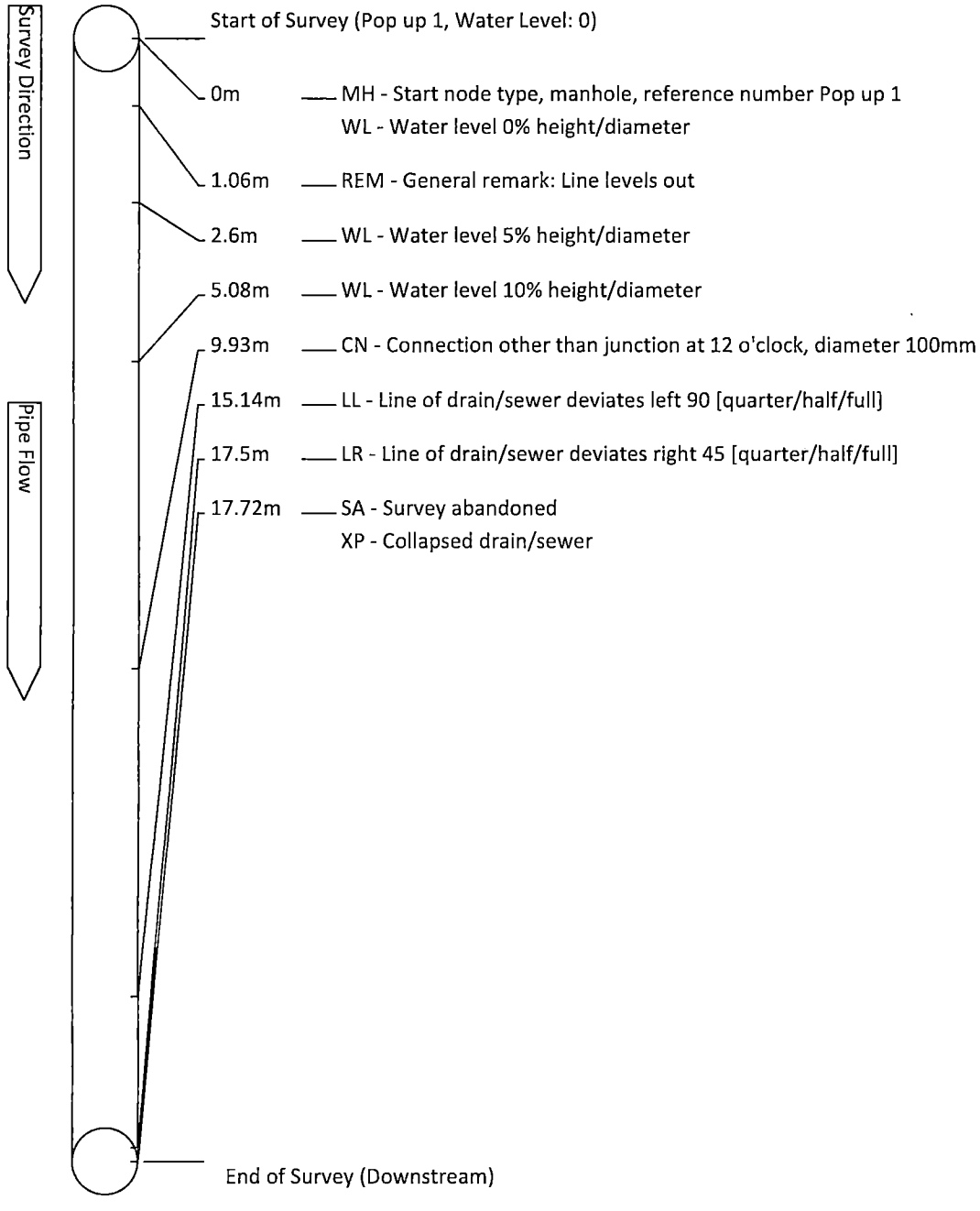
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Pop up 1 | **Finish:** | Downstream | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number Pop up 1 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 1.06m | REM | General remark: Line levels out | | |
| 2.6m | WL | Water level 5% height/diameter. | |  31Oct_001.MP4_002.JPG |
| 5.08m | WL | Water level 10% height/diameter. | |  31Oct_001.MP4_003.JPG |
| 9.93m | CN | Connection other than junction at 12 o'clock, diameter 100mm. Stack 1 | | |
| 15.14m | LL | Line of drain/sewer deviates left 90 [quarter/half/full] | | |
| 17.5m | LR | Line of drain/sewer deviates right 45 [quarter/half/full] | | |
| 17.72m | SA | Survey abandoned. Camera wont pass obstruction | | |
| 17.72m | XP | Collapsed drain/sewer. | 5 |  31Oct_001.MP4_004.JPG |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Pop up 1 | **Finish:** | Downstream | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | Pop up 1 | **Finish:** | Downstream |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A |
| **Direction:** | Downstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| **Position** | **Code** | **Description** | | | | **SML** | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 1.06m | REM | General remark: ... | | | | | | | | | |
| 2.6m | WL | Water level ...% height/diameter | | | | | | | 5 | | |
| 5.08m | WL | Water level ...% height/diameter | | | | | | | 10 | | |
| 9.93m | CN | Connection other than junction at ... o'clock, diameter ...mm | | | | | 100 | | | 12 | |
| 15.14m | LL | Line of drain/sewer deviates left ... [quarter/half/full] | | | | | | | | | |
| 17.5m | LR | Line of drain/sewer deviates right ... [quarter/half/full] | | | | | | | | | |
| 17.72m | SA | Survey abandoned | | | | | | | | | |
| 17.72m | XP | Collapsed drain/sewer | 5 | | | | | | | | |

## Comments

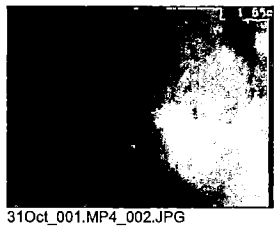
After our survey on Popup1 we found that the line is holding a WL for the majority of the run. We pulled the hose into the unit and jetted downstream, this dropped the levels a bit, but there is still a WL in the line. The line turns left at approx 15m and then turns right at approx 17.5m. There is damage after it turns right. We jetted numerous times but this did not move. This looks like the pipe is collapsed here.

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Foul |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Downstream |

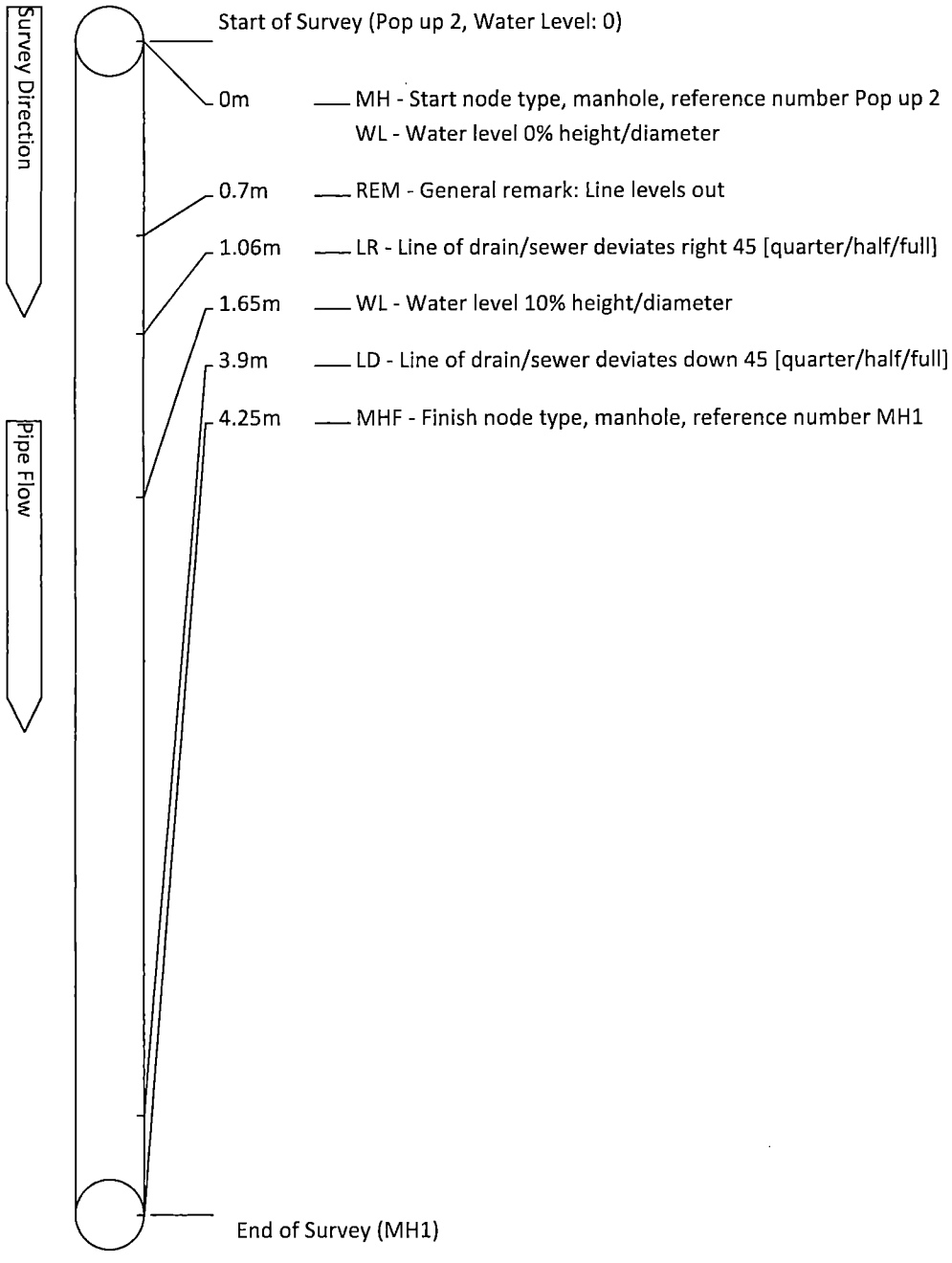
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Pop up 2 | **Finish:** | MH1 | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number Pop up 2 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 0.7m | REM | General remark: Line levels out | | |
| 1.06m | LR | Line of drain/sewer deviates right 45 [quarter/half/full] | | |
| 1.65m | WL | Water level 10% height/diameter. | |  31Oct_001.MP4_002.JPG |
| 3.9m | LD | Line of drain/sewer deviates down 45 [quarter/half/full] | | |
| 4.25m | MHF | Finish node type, manhole, reference number MH1 | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Pop up 2 | **Finish:** | MH1 | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



## Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | Pop up 2 | **Finish:** | MH1 |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A |
| **Direction:** | Downstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| **Position** | **Code** | **Description** | | | | **SML** | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 0.7m | REM | General remark: ... | | | | | | | | | |
| 1.06m | LR | Line of drain/sewer deviates right ... [quarter/half/full] | | | | | | | | | |
| 1.65m | WL | Water level ...% height/diameter | | | | | | | 10 | | |
| 3.9m | LD | Line of drain/sewer deviates down ... [quarter/half/full] | | | | | | | | | |
| 4.25m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

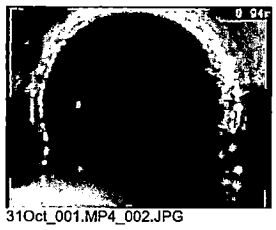
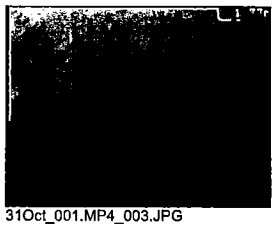
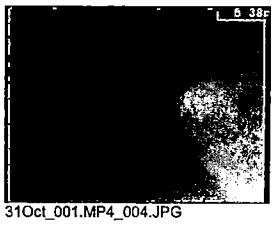
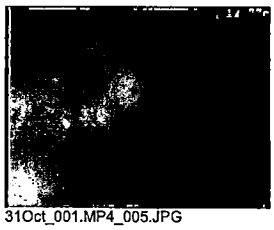
After our survey on this line we found that it has a WL of 5-10% in it, This line drops into MH1. No other problems to report. This was blocked on arrival so we pulled hose in and jetted to enable us to survey the line. This is the foul pop up (pop up 2) for unit1.

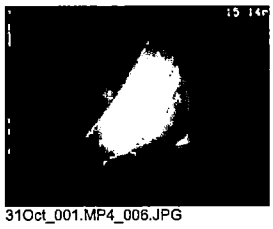
## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Downstream |

## Observations

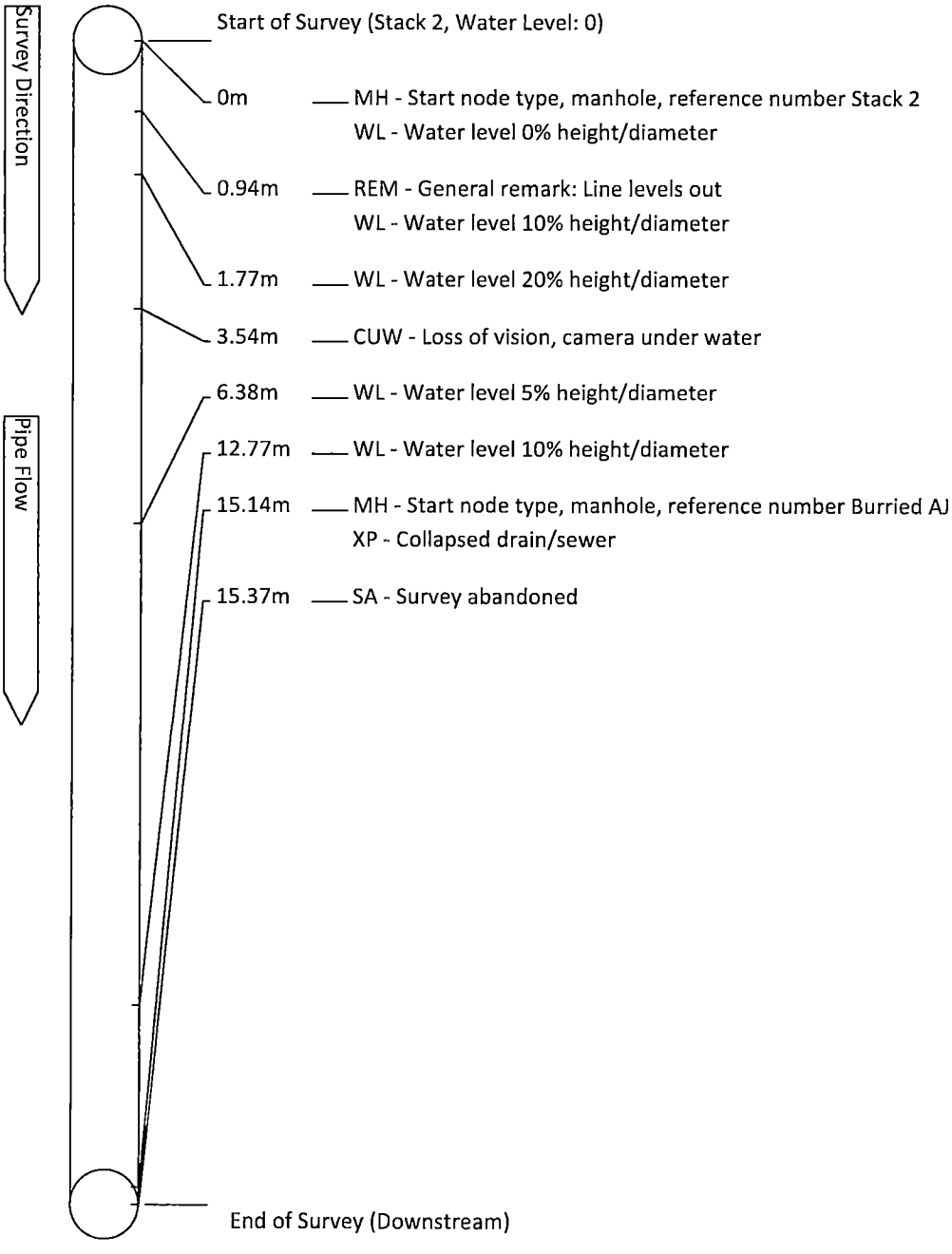
| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Stack 2 | **Finish:** | Downstream | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number Stack 2 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 0.94m | REM | General remark: Line levels out | | |
| 0.94m | WL | Water level 10% height/diameter. | |  31Oct_001.MP4_002.JPG |
| 1.77m | WL | Water level 20% height/diameter. | |  31Oct_001.MP4_003.JPG |
| 3.54m | CUW | Loss of vision, camera under water. | | |
| 6.38m | WL | Water level 5% height/diameter. | |  31Oct_001.MP4_004.JPG |
| 12.77m | WL | Water level 10% height/diameter. | |  31Oct_001.MP4_005.JPG |
| 15.14m | MH | Start node type, manhole, reference number Burried AJ | | |

| | | | |
|---|---|---|---|
| 15.14m | XP | Collapsed drain/sewer. Broke in the AJ |  31Oct_001.MP4_006.JPG |
| 15.37m | SA | Survey abandoned. Burried AJ | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Stack 2 | **Finish:** | Downstream | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | Stack 2 | **Finish:** | Downstream |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A |
| **Direction:** | Downstream | **Height:** | 100 |
| **Length Surveyed:** | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 0.94m | REM | General remark: ... | | | | | | | | | |
| 0.94m | WL | Water level ...% height/diameter | | | | | | | 10 | | |
| 1.77m | WL | Water level ...% height/diameter | | | | | | | 20 | | |
| 3.54m | CUW | Loss of vision, camera under water | | | | | | | | | |
| 6.38m | WL | Water level ...% height/diameter | | | | | | | 5 | | |
| 12.77m | WL | Water level ...% height/diameter | | | | | | | 10 | | |
| 15.14m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 15.14m | XP | Collapsed drain/sewer | | | | | | | | | |
| 15.37m | SA | Survey abandoned | | | | | | | | | |

## Comments

After surveying this line we found that it is holding a WL for the majority of the run with the camera under water for parts of the run. We found that the line runs to a buried A outside the shop and this has a broken pipe in it. It may be collapsed. This is the same area where Popup1 is blocked.

## Survey details

| | |
|---|---|
| Survey Date: | 31/10/2018 |
| Our Reference: | |
| Use: | Surface water |
| Purpose: | Routine inspection of condition |
| Weather: | No rain or snow |
| Pipe Height/Diameter: | 100 |
| Pipe Width: | |
| Pipe Size: | Medium |
| Pipe Shape: | Circular |
| Pipe Material: | Polyvinyl chloride |
| Direction: | Downstream |

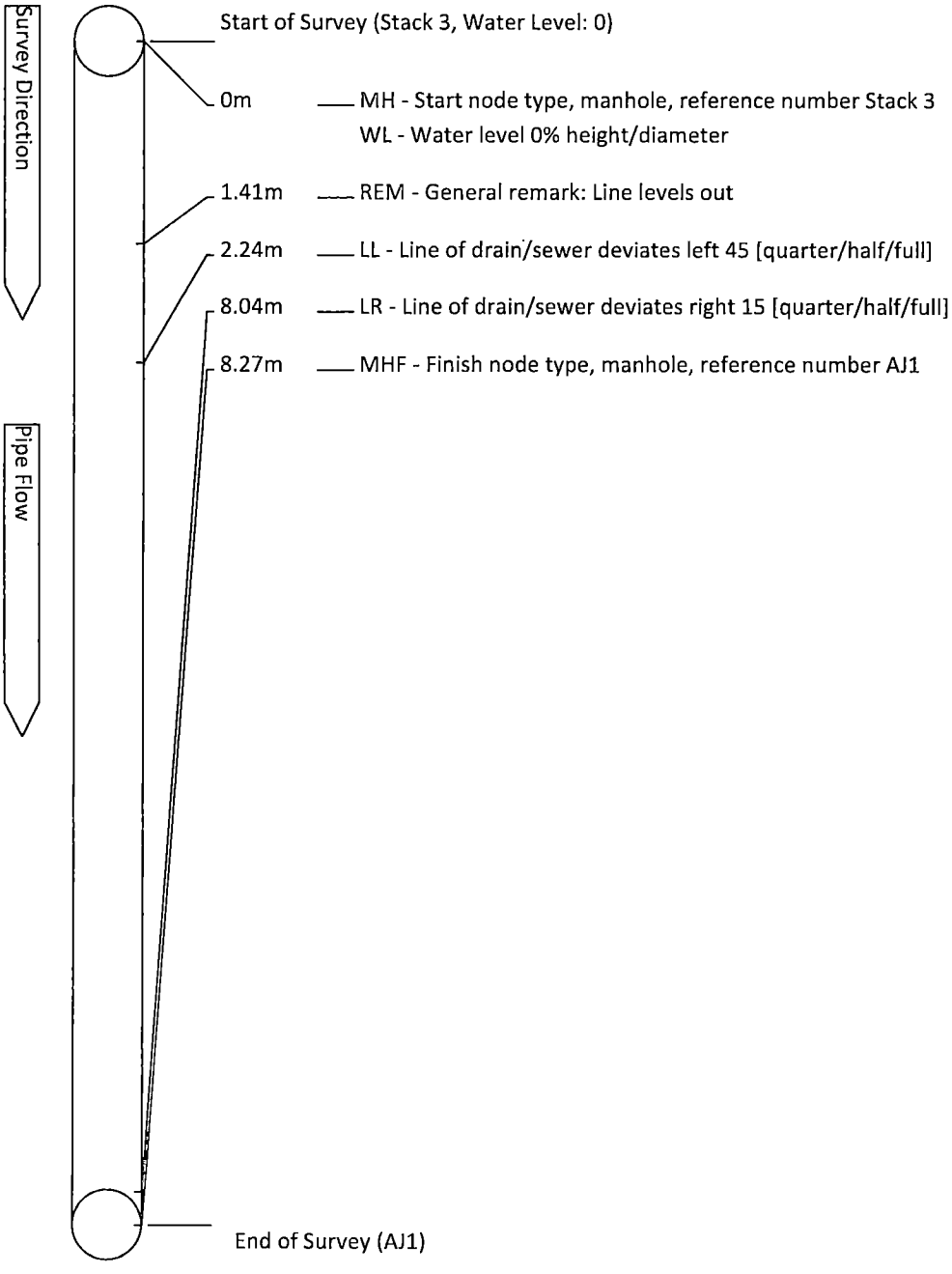
## Observations

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Stack 3 | **Finish:** | AJ1 | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |

| Position | Code | Description/Remarks | Grade | Photo |
|---|---|---|---|---|
| 0m | MH | Start node type, manhole, reference number Stack 3 | | |
| 0m | WL | Water level 0% height/diameter. | | |
| 1.41m | REM | General remark: Line levels out | | |
| 2.24m | LL | Line of drain/sewer deviates left 45 [quarter/half/full] | | |
| 8.04m | LR | Line of drain/sewer deviates right 15 [quarter/half/full] | | |
| 8.27m | MHF | Finish node type, manhole, reference number AJ1 | | |

## Pipe Graphic

| | | | | | |
|---|---|---|---|---|---|
| **Crew:** | Paul Murphy | | | | |
| **Survey Customer:** | Paul Keogh Architects | | | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 | | |
| **Survey Address:** | Coric House | | | | |
| **Start:** | Stack 3 | **Finish:** | AJ1 | | |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A | | |
| **Direction:** | Downstream | **Height:** | 100 | | |
| **Length Surveyed:** | | | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium | **Shape:** | Circular |



# Observation Table

| | | | |
|---|---|---|---|
| **Crew:** | Paul Murphy | | |
| **Survey Customer:** | Paul Keogh Architects | | |
| **Job Ref:** | | **Survey Date:** | 31/10/2018 |
| **Survey Address:** | Coric House | | |
| **Start:** | Stack 3 | **Finish:** | AJ1 |
| **Depth at Start Node:** | Above ground | **Depth at Finish Node:** | N/A |
| **Direction:** | Downstream | **Height:** | 100 |
| **Length Surveyed:** | | | |
| **Material:** | Polyvinyl chloride | **Size:** | Medium |
| **Shape:** | Circular | | |

| Code and Description | | | Grade | Joint | Cont. Defect | VALUE | | | | Clock | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | mm | | % | At/From | To |
| Position | Code | Description | | | | SML | 1st | 2nd | | | |
| 0m | MH | Start node type, manhole, reference number ... | | | | | | | | | |
| 0m | WL | Water level ...% height/diameter | | | | | | | 0 | | |
| 1.41m | REM | General remark: ... | | | | | | | | | |
| 2.24m | LL | Line of drain/sewer deviates left ... [quarter/half/full] | | | | | | | | | |
| 8.04m | LR | Line of drain/sewer deviates right ... [quarter/half/full] | | | | | | | | | |
| 8.27m | MHF | Finish node type, manhole, reference number ... | | | | | | | | | |

## Comments

After jetting this line we found that it goes out to an AJ outside. (AJ1). The line is in good condition. No problems to report.

## Glossary

| Code | Description |
|---|---|
| MH | Start node type, manhole, reference number ... |
| WL | Water level ...% height/diameter |
| REM | General remark: ... |
| LL | Line of drain/sewer deviates left ... [quarter/half/full] |
| LR | Line of drain/sewer deviates right ... [quarter/half/full] |
| MHF | Finish node type, manhole, reference number ... |