ANY ADDRESS
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REPORT ON THE CCTV SURVEY OF THE DRAINAGE

BY

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FOR

ANY CONSULTING ENGINEERS/OTHER
ANY ADDRESS
ANY COUNTRY
ANY POST CODE

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INDEX

1.0 DESCRIPTION OF THE PREMISES

The premises comprise a commercial office building with upper floors, a ground floor, a lower ground floor and a basement.

The building faces ...., its left flank faces ...., its right flank and the rear of the building adjoins adjacent premises.

There is a former Public House within the building at the .... side. The public house has a ground floor and a lower ground floor.

The area of interest for this survey is the ground floor, lower ground floor and the basement.

At the time of survey the premises were unoccupied and undergoing a 'light' strip out'.

2.0 EXTENT AND METHOD OF THE SURVEY

The extent and method of the survey was as requested by .... of .... by an email dated 05/04/2016 and as discussed on site with .... 00/00/2016 and as shown in the Spaflow Limited proposal dated 00/00/2016.

Confirmation to proceed with the survey was given by email from .... of .... on 14/04/2016.

The purpose of the survey is to record the installation in its current form, to provide information to the Consulting Engineers and the Project Team, to assist them with their proposals for the redevelopment of the existing property.

The survey comprised the following:-

To locate, trace, map and CCTV survey, the drainage located below ground floor level, lower ground floor level and basement level, including suspended drainage.

The survey was carried out on the 28th & 29th .... and 1st, 3rd, 4th, 5th, 6th, & 9th 2016

A meeting was held on site on 00/00/2016 with ...., Senior Public Health Engineer of .... Engineers, to discuss the extent and details of the survey being carried out to ensure it was in accordance with the requirements, this was confirmed.

3.0 LIMITATIONS OF THE SURVEY

The scope of the survey was limited to that shown in section 2.0 or otherwise referred to in the text.

No drain cleaning was done, no level checks, flow checks, [apart from route checking tests], leakage tests or other tests were carried out.

Some parts of the system could not be surveyed either due to lack of access to areas, lack of access into pipes or due to debris or scale.

As the upper floors were not part of the survey we could not always confirm for certain whether pipes from above received only rainwater or foul drainage, in such cases they were designated as stacks
The ground water ingress drainage system below the basement floor could not be surveyed due to the manholes/catchpits and pipe-work having been used as cable ducts, also the system was flooded in places.

When we commenced the survey we did not have current floor plans, so we had to draw the walls and rooms etc. onto the prints we had, in order to create a meaningful record of the system. Up to date building survey plans were provided subsequently, however there are areas of interest for drainage purposes which are not shown on other plans, including voids around the lower ground floor and the basement. We have drawn these on to the plans by eye only.

At the time of the survey the electrical power supply was turned off at lower ground floor level and there was no lighting. We carried out the survey by torch and rechargeable lamps.

The work was carried out on days of dry weather.

No responsibility can be accepted for any deficiencies, events or circumstances which may occur and which due to the foregoing circumstances were not identified during the survey.

4.0 HEALTH AND SAFETY

The work was carried out in accordance with the requirements of the Spaflow Method Statement and Health and Safety Procedures Document, and in accordance with the requirements of the client.

No events or incidents occurred during the survey.

No particular findings, which could have an immediate or reasonably foreseeable effect on health and safety were noted.

5.0 INFORMATION UTILISED

The following drawings by Point 2 Surveyors were provided in digital form.

DRAWING NO:	000/B/01-RevA	BASEMENT FLOOR PLAN
	000/G/01-RevA	GROUND FLOOR PLAN
	000/LG/01-RevA	LOWER GROUND FLOOR PLAN

6.0 RECORD DRAWINGS PRODUCED

The following survey record drawings were produced on CAD based on the survey drawings referred to above.

DRAWING NO:	PH01	Record of Tracing, Mapping & CCTV Survey of Drainage - Basement Level
	PH02	Record of Tracing, Mapping & CCTV Survey of Drainage - Lower Ground Floor

	PH03	Record of Tracing, Mapping & CCTV Survey of Drainage - Ground Floor

7.0 DESCRIPTION OF THE SYSTEM

This description will commence at ground floor level in accordance with the extent of the survey and extend down through the lower ground floor and basement levels.

7.1 Ground Floor Level

This description will commence at the right hand end of the building, when facing from ....

At the male toilets, 2 washbasins [WBs] connect to a 42 Ø copper [cu] waste pipe [WP] to a 54 Ø cu WP to below. A 42 Ø cu WP from a urinal also connects to the 54 Ø cu to below. 2 No. WCs connect to a 100 Ø CI pipe which drops to below and which rises and offsets at high level.

Adjacent to the men's toilets, a 100 Ø CI vent pipe [VP] rises from below to above.

A 100 Ø CI stack drops from above to below adjacent to the VP.

At the ladies toilets, 2 No. WBs connect to a 54 Ø cu WP at low level, which connects to a 54 Ø cu WP from above, offsets at low level and drops to below.

2 No. WCs connect to a 100 Ø CI stack, which offsets at high level and drops to below.

Also in the ladies toilets, an assumed 75 Ø CI stack drops from above to below [boxed in].

At the lobby behind the ladies toilets, as assumed 100 Ø CI stack drops from above to below, [boxed in]

In the general area of a stairwell towards Gresham Street, 2 No. 100 Ø CI pipes are cut-off at low level, these were old cable ducts.

At a duct in the same area located at an office, there are the following pipes:-

100 Ø CI rises from below to below assumed to be a vent pipe [VP].

100 Ø CI stack drops from above to below.

100 Ø CI VP rises from below to above.

At a column, at the offices in the same area, 2 No. 100 Ø CI assumed rainwater pipes [RWPs] drop from above to below.

At a large office, approximately centrally in the building, a 54 Ø cu pipe drops to below, but is not visible at this level.

At an office, towards the main entrance, a 100 Ø CI stack drops from above to below.

External to the main entrance, there are 2 No. planter beds, each with an assumed rainwater outlet [RWO] with a 100 Ø CI outlet pipe to below.

Adjacent to the front entrance lobby, there are 2 No. planters, each with an assumed rainwater outlet with a 100 Ø CI outlet to below.

At the lobby entrance, revolving door, there is an assumed RWO, with a 100 Ø CI outlet to below.

At the corner of .... with .... there is a planter with 2 No. assumed RWO's with 100 Ø CI outlet to below.

At the Public House bar, a 100 Ø CI pipe at high level offsets at high level into a duct and drops to low level and offsets, to drop to below.

Also at the bar, a 42 Ø UPVC WP offsets at low level, connects to 54 Ø cu, which offsets at low level and drops to below.

Also at the bar, there are 2 No. 54 Ø cu WPs which drop to below.

At a disabled persons toilet, at the public house a 100 Ø CI stack from above offsets at mid level, receives a 36 Ø UPVC WB WP at low level and a 110 Ø UPVC connection from a WC and drops to below.

At a toilet adjacent to the rear stairwell, there are the following pipes:-

A 100 Ø CI stack which offsets at high level and drops to below.

A 150 Ø CI stack which offset at high level and drops to below.

A 100 Ø CI stub stack, which receives a WB WP and a connection from a WC and drops to below.

In the services area at the rear of the lifts, near the ramp, there are the following pipes:-

2 No. 100 Ø CI stacks drop from above to below.

2 No. 100 Ø CI VPs rise from below to above.

A 150 Ø CI assumed RWP drops from above to below.

A 100 Ø CI possible VP rises from below to above.

At the left hand side of the ramp, leading from ...., a drain formerly dropped to below, but is not visible, being covered by concrete, however the connection to pipe-work is visible below.

7.2 Lower Ground Floor

At this level there is a complex arrangement of drainage, some of which connects to outfalls to sewer from this level, and other sections which drop to below.

The major systems have been numbered 1 to 4; minor systems have not been numbered, but are described based on their location.

7.2.1 System 1

This system is located at the right hand side of the building and connects to a manhole, MH7.

MH7 is located in a basement room and receives at its head, a 150 Ø CI connection. The 150 Ø CI commences as 100 Ø CI, where a 100 Ø CI stack drops from above into a cleaners room, to offset over the ladies toilet and connect to a 100 Ø CI offset, at high level headed with a rodding eye [AC8].

The 100 Ø CI offset receives a branch connection from 100 Ø CI from above and continues at high level. It then receives a connection from 75 Ø CI from above, and then a branch connection from 50 Ø CI from above, and then a 54 Ø cu connection from above, from over the men's toilet.

The 100 Ø CI offset continues at high level to over a lobby, where it turns 90° and receives a branch connection from a 100 Ø galvanised mild steel pumped discharge pipe which rises from Pumping Station PC1 below to high level , offsets and drops onto the 100 Ø CI.

The 100 Ø CI soil pipe [SP] offset continues at high level to turn and run adjacent to the right hand side of the building, sloping to mid level and runs via an access, AC2, and via two changes of direction into a room where it connects at low level into 150 Ø CI which drops from mid level, to drop and connect into the head of MH7.

The 150 Ø CI which drops into the head of MH7 also receives a 150 Ø CI RWP connection, the 150 Ø CI RWP commences at high level at a rodding eye over a corridor, where it receives a150 Ø CI branch connection, headed by a rodding eye. The branch receives a 100 Ø CI RWP [assumed] from above, the branch increases to 150 Ø CI and receives another 100 Ø CI RWP [assumed] from above, which also increases to 150 Ø at the main branch.

The main 150 Ø CI RWO offsets at high level to the right hand side of the building, where it turns to offset [assumed] at high level to run to mid level via an access [AC1] and runs via a running trap to connect to the 150 Ø CI SP drop to MH7 as previously described.

The 150 Ø CI outfall from MH7 is via a CI intercepting trap to the public sewer below ....

The intercepting trap has a 100 Ø CI vent pipe [VP] connection, which rises from below ground to mid level and offsets adjacent to the right hand side of the building, rises from mid level to high level and via several changes of direction rises in a duct from high level to above.

Also in the area of System 1, there are the following pipes:-

A 110 Ø UPVC pipe drops from above, offsets at high level over the changing room, runs to a side room/vault adjacent to ...., drops from high level to mid level, to offset through vaults and ends open ended at mid level over MH7.

Also dropping from above over the changing rooms, a 100 Ø CI pipe, offsets at high level to the side room/vault adjacent to ...., where it drops to mid level, offsets through the side room/vault to pass out through the structure at mid level adjacent to the outfall from MH7.

Also in the general area of System 1 in "voids" a 100 Ø CI pipe enters at mid level from an inaccessible void to offset at mid level through the void, receives a branch connection from 2 No. 75 Ø CI pipes which rise from below to continue and connect to the 100 Ø CI offset and continue through into the side room/vault adjacent to ...., drop to below ground and could not be traced further in a structural void.

In the same area of the void and side room an open channel formed in concrete, runs through several vaults/voids to adjacent to MH7, no outlets were apparent from the channel.

Also in the general area of System 1, at changing rooms, there are 6 No. shower outlets to below, which connect to offset in the floor void, exact route un-confirmed.

Also in the general area of System 1, a 100 Ø CI VP [assumed] from Pumping Station PC1 below rises from below, adjacent to the 100 Ø galvanised mild steel pumped discharge pipe, offsets at high level, receives a 100 Ø CI [assumed] VP connection which rises from below in the central area of the building, this receives the following connections:-

At an office in the central area of the building, an old [obsolete] 36 Ø UPVC pumped discharge pipe rises to high level and offsets over the offices, connects to 54 Ø UPVC, which receives another 36 Ø UPVC pumped discharge pipe from a pump unit below a tea room sink. The branch offsets at high level and via changes of direction, connects to the aforementioned 54 Ø UPVC pipe, which then connects to the assumed 100 Ø CI VP at high level.

The 100 Ø CI assumed VP offsets continues at high level across the large office and via several changes of direction, connects to the 100 Ø CI WP [assumed] from below and rises to above in an electrical room.

Towards the rear of the building a 54 Ø cu pipe drops from above, offsets at low level and drops to below.

7.2.2 System 2

At the right hand side of the building at male and female toilets, there is a system which connects to MH5.

MH5 is located in a lobby to the toilet; it receives, at its head, a 100 Ø CI connection from a 100 Ø CI stack which receives connections from 2 No. WCs at the men's toilets to rise to high level and offset and connect to a main 100 Ø VP, receives a 50 CI VP connection from a 50 Ø WP serving a cleaners sink and 2 No., WBs at the ladies toilets, then a 100 Ø VP connection via AC5 which rises from 2 No., WCs at the men's toilets. The main 100 Ø CI VP continues as a high level offset over the men's toilets, where it receives a 100 Ø CI VP connection at AC3 from a 100 Ø CI WVP, and offsets at high level to where it rises to above.

At the ladies toilets a 54 Ø cu WP at low level receives a WP from a cleaner's sink and 2 No. WPs, it connects to 50 Ø CI, [which rises to above as a VP as previously described] and drops to below to connect to `100 Ø CI and connect to branch [A] into MH5.

MH5 also receives 2 No. further branch connections, including:-

100 Ø CI [B] from a 100 Ø CI stack which receives connections from 2 No. WCs in the men's toilets, and which rises to above as a VP to connect, via AC5 as previously described.

The other branch to MH5 is 100 Ø CI [C] from a 100 Ø CI waste, vent pipe [WVP] which receives a 54 Ø cu WP from 2 No. WBs at the men's toilets and a 42 Ø UPVC WP from a urinal. The WVP rises via AC3 as previously described.

The 100 Ø CI outlet from MH5 run below the floor, turns 90°, where it receives a branch connection at system 1 [from an unknown source], turns 90° to enter the basement to connect to a 100 Ø CI stack from System 1 which drops via AC15 to connect to Pumping Station PC1 as described in section 7.2.1.

7.2.3 System 3

In the central area of the building, a 100 Ø CI offset commences with an access at high level, receives a 42 Ø cu pumped discharge pipe [redundant] and then a 100 Ø CI pipe from above.

The 100 Ø CI offset continues at high level and branches, at high level into a 100 Ø CI offset at high level headed by a rodding eye.

The offset then receives a 100 Ø CI RWP from above via a running trap. The high level offset then ramps down via AC6, turns 90° to run adjacent to the side room/vault adjacent to .... It then receives a branch connection from a 100 Ø CI RWP from above via a running trap, and then another 100 Ø CI RWP from above via a running trap.

The 100 Ø CI offset, then branches into another 100 Ø CI offset, at high level headed by a rodding eye, which then receives, connections from 3 No. 100 Ø CI RWPs from above via running traps.

The 100 Ø CI offset continues at mid level around the corner to run adjacent to ...., where it receives a 100 Ø CI RWP connection from above via a running trap, the main offset runs into a duct below the ladies toilets and drops to below.

There is an open channel formed in the concrete floor which runs around from the vault/voids adjacent to ...., into a wall cavity/void alongside the wall facing .... From which 4 No. 100 Ø CI outlets drop to below.

At the bar a 54 Ø cu WP runs at low level receives 3 No. WP connections and drops to below.

Also above the bar, a 54 Ø CU WP drops from above, offsets at high level and connects to a 54 Ø CU/ WP at high level which ends with a cleaning eye. This branch also receives another 54 Ø CU WP from above. The main 54 Ø CU WP offsets at high level and drops to low level where it receives 2 No. 54 cu WPs at low level and drops to below.

At the store room behind the bar, a 100 Ø CI stack drops from above, offsets at high level, drops to low level, offsets into the kitchen and drops to below.

At the ladies toilets, 3 No. WCs each connect to 100 Ø CI stub stacks to below. One of these WC cubicles has a shower with a 42 Ø cu WP to below. There is a sealed drain point [DP] adjacent to the shower tray.

Also in the ladies toilet, a large WB/Trough has a 42 Ø cu WP to below.

In the men's toilet, 2 No. WCs each connect to 100 Ø CI stub stacks to below.

3 No. urinals connect to a 54 Ø cu WP at low level which connects to a 54 Ø cu WP to below and 2 No. WBs connect to a 42 Ø cu WP which drops to below.

At the cellar, a 42 Ø UPVC sink WP offsets at low level, connects to 42 Ø cu and to a 42 Ø cu stub stack to below in a duct behind the male WCs.

Also in the cellar, there are 2 No. 54 Ø UPVC WPs, which drop to below, but which are not visible in the area.

Also in a lobby to the cellar, there is a 100 Ø CI pipe from above which offsets at high level into the cellar and drops to below.

Also in the cellar, an open top gully [OTG] with a 100 Ø CI outlet drops to below.

7.2.4 System 4

At a storage area below the ramp at the rear of the building, there is a manhole MH6, located in a vault.

MH6 receives, at its head a 225 Ø CI connection from a 225 Ø stub stack. There are 2 No. connections to the stub stack, including a connection which commences over a service area/corridor where a 100 Ø CI pipe drops from above, via AC9 and offsets at mid level, to connect to another 100 Ø CI pipe from above, which connects at mid level. The 100 Ø CI offsets into the storage area and increases to 150 Ø CI, and receives a 100 Ø CI branch connection at mid level from a 100 CI pipe from above at the rear of the lift, and via an offset which commences with a rodding eye.

The main 150 Ø CI offset continues and changes direction to offset at mid level along the flank wall of the storage area to connect to the 225 Ø stub stack as previously mentioned.

The other 150 Ø assumed RWP connection to the 225 Ø CI stub stack commences where a 150 Ø CI assumed RWP drops from above at the service area at the rear of the lifts to low level to offset into the storage area at mid level, where it receives 2 No. 100 Ø galvanised mild steel connections from pumped discharge pipes from Pumping Station [PC2] and Pumping Station [PC3] below. The 150 Ø CI assumed RWP continues at mid level, to connect to a 150 Ø offset headed by a rodding eye and which runs adjacent to the flank wall of the storage area, and via a running trap [AC20] to connect to the 225 Ø stub stack as previously mentioned.

There is one branch connection to MH6, a 150 Ø CI VP which rises from the intercepting trap/chamber to offset at mid level adjacent to the flank wall of the storage chamber to offset across it to the service area/corridor where it rises to above.

The 225 Ø CI outfall from MH6 is via an intercepting trap and CI outfall to the public sewer below ....

Also in the vault containing MH6, a 100 Ø CI assumed RWP drops from above offsets at high level, drops to low level, offsets around the vault and drops to below.

Also in the storage area, there is an OTG with a 100 Ø CI outlet to below.

In the area behind the lifts, a 100 Ø CI pipe, possibly a VP drops from above into the storage area at low level and connects to a 100 Ø CI offset at low level and which drops to below at both ends of the offset.

In the service area between the stairwell and the storage area, an OTG has a 150 Ø CI outlet to below.

In the service area behind the lifts, there are 2 No. 100 Ø CI VPs which rise from below to above, a 54 Ø cu assumed condensate WP drops to below adjacent to these VPs.

Also in the service area behind the lifts, a 100 Ø CI drops from above and offsets at low level to a stairwell and runs to an untraced location.

In the central landscaped garden area, there are 2 No. assumed RWOs to below, below debris.

The loading bay area was not accessible for survey due to demolition debris removal and skips etc. There is drainage in the area, to be surveyed in the future.

At the passage and door from the building to the loading bay, there is a channel across the passage, with a 100 Ø CI outlet to below.

7.3 Basement Level

At the basement level there are several major gravity drainage systems, three of these systems discharge into pumping stations and two discharge by gravity out of the building.

7.3.1 System Discharging to Pumping Station – PC1

This system commences at a manhole MH1 located in a storage area, near the .... end of the building.

MH1 receives, at its head a 100 Ø CI connection from a 100 Ø CI RWP. This RWP commences from an untraced point at high level over a plant room near the centre of the building.

The 100 Ø CI RWP offsets at high level via changes of direction to high level above an office, where it drops onto another 100 Ø CI offset, which includes AC16, continues at high level, turns 90° and runs on above an office, receives 2 No. 100 Ø CI connections from above via running traps, then drops from high level to mid level, offsetting around a tank room to connect to the head of MH1 as previously described.

MH1 also receives one branch connection, 100 Ø CI [A] from OTG1 in the tank room.

The 100 Ø CI outlet from MH1 runs to the head of MH2, located in an office.

MH2 receives a 100 Ø CI branch [A] from OTG2 located in an office.

The 100 Ø CI outlet from MH2 runs to the head of MH3.

MH3 is located in the Building Management Room, and receives 2 No. branch connections, including:-

100 Ø CI [A] from OTG3 located in a plant room.

100 Ø CI [B] from OTG4 located in a plant room.

OTG4 receives a branch connection, [which discharges over it] and which commences as 54 Ø cu [assumed to be a condensate WP] over a corridor near the lifts. The 54 Ø cu offsets at high level and runs around inside the basement wall and receive, near the lifts, a 54 Ø cu branch, assumed to be from a condensate WP. The 54 Ø cu pipe continues at high level into and around the plant room, receives a 54 Ø cu branch connection, assumed to be a condensate WP and receives 2 No. other 54 Ø cu assumed condensate WPs at high level, including one via a long high level offset from the Building Management Room.

The 54 Ø cu condensate WP drops to low level, offsets and discharges over OTG4 as previously described.

The 100 Ø CI outlet from MH3, runs to the head of MH4.

MH4 is located in an access passage, it receives no branches and its 100 Ø CI outlet is via an intercepting trap, to connect into a Pumping Station [PC1].

Pumping Station - PC1 receives 3 No. further incoming branch connections, including:-

100 Ø CI [A] from a 100 Ø CI stack located in a plant room via AC15.

The 100 Ø CI stack receives a 100 Ø CI connection at high level from System 2 at lower ground floor level via a high level offset over the adjacent plant room, the other connection is at mid level from a long offset which commences at high level over the Building Management Room, where a 100 Ø CI pipe connects to it from above. Adjacent to this, it receives a 42 Ø cu pumped discharge pipe from a small package pump unit beneath a tea room sink. The pump unit receives a 42 Ø UPVC WP connection from a sink, WP and a former shower.

The 100 Ø CI offset runs at high level via changes of direction and via AC13 and AC12, along a corridor to a branch connection from above at AC14, it continues, drops to mid level and connects to the stack connection to branch [A] to PC1 as previously described.

The next connection to PC1 is 100 Ø CI [B] from a sealed pipe beneath doors from the plant room.

The final connection is 100 Ø CI which rises as an assumed VP, offsets at low level, rises to mid level, offsets and rises to above and where it connects to System 1.

A 68 Ø UPVC WP drops from above, offsets at high level drops to mid level , offsets and connects to the 100 Ø CI assumed VP.

There are 2 No. submersible pumps in PC1, each has a 100 Ø galvanised mild steel pumped discharge pipe, which rise from the chamber, to rise via stop and non-return valves to mid level where they connect and rise as 100 Ø galvanised mild steel to high level to above where it connects to System 1.

7.3.2 System Discharging to Pumping Station PC3

Pumping Station PC3 is located in a plant room and receives one 150 Ø CI incoming branch connection. This branch has 2 No. main offset branch connections to it.

The first branch commences at a rodding eye at high level over a plant room, adjacent to the loading bay. The offset receives a 100 Ø CI RWP [assumed] from above via a running trap and another 150 Ø CI branch runs in from the direction of the loading bay [untraced].

The 150 Ø CI offsets at high level around the plant room, receives a branch connection from a 100 Ø CI RWP [assumed] from above via a running trap, it then connects to a 150 Ø CI up-stand with a rodding eye, and where it receives a 100 Ø CI branch connection from a RWP [assumed] from above via a running trap.

The 150 Ø CI continues at high level from the base of the “up-stand”, to connect to the 150 Ø CI drop to PC3 as previously described.

The other main branch connection to this 150 Ø CI drop to PC3 commences as 150 Ø CI at high level above a service area at AC10, it then receives a 150 Ø CI branch connection from a 150 Ø CI RWP [assumed] from above via a running trap, and runs on at high level to connect to the drop to 150 Ø CI as previously described.

A 100 Ø CI pipe assumed to be a VP rises from PC3, via AC11 to high level to offset at high level and rise to above.

PC3 contains 2 No. submersible pumps, each has a 100 Ø CI pumped discharge pipe, which rise from the chamber, with stop and non-return valves, to connect and which then rises to high level and offsets to rise to above to connect to System 4.

Note: In the same area as described above a 100 Ø CI pipe drops from above, offsets at high level and passes through the wall below the ramp into a void to which there was no access, and runs to an untraced location.

There is also another 100 Ø CI pipe which drops from above in the plant room and which passes through the wall to an untraced location, at the loading bay [assumed].

7.3.3 System Discharging to Pumping Station - PC2

Pumping station PC2 is located in a plant room.

PC2 receives 3 No. incoming connections; all are 100 Ø clay pipes from untraced sources, believed to be from a ground water drainage system. The drainage system has been used as cable ducts which obstructs the pipes and manholes and prevents the system from being surveyed.

There is a 100 Ø CI pipe, assumed to be a VP which rises from the pump chamber, to high level, offsets at high level and rises to above.

PC2 contains 2 No. submersible pumps, each has a 100 Ø galvanised mild steel pumped discharge pipe, which rise from the drainage via stop and non-return valves, to connect and to rise to high level and rise to above to connect to System 4.

7.3.4 Gravity System 5 Discharging to a Public Sewer Below Wood Street

This system will be described from an intercepting trap and AC19 located at high level in a water tank room, adjacent to ....

The intercepting trap receives a 150 Ø CI connection from a branch connection at AC17 over a storage area and receives a 100 Ø CI branch connection from a 100 Ø CI pipe from above via a running trap. A 42 Ø cu pipe from above offsets and connects to the 100 Ø CI from above at high level.

The next 2 No. branch connections are 100 Ø CI from above, in the storage area.

The 150 Ø CI offset then receives, a 100 Ø CI branch connection via AC18 located over the water tank, a 54 Ø cu pipe rises from low level to high level and connects to this pipe, which then receives a 42 Ø cu pipe from above.

The 100 Ø offset then receives a 100 Ø CI branch connection headed by a rodding eye over the tank room, this branch receives a branch connection from a 100 Ø CI RWP [assumed] from above via a running trap, and this branch also receives another branch connection from a 100 Ø CI RWP [assumed] via a running trap.

The 100 Ø CI offset continues at high level over the water tank and receives a 100 Ø CI branch connection from a 100 Ø CI RWP [assumed] from above via a running trap.

The offset over the water tank, then receives a 100 Ø CI branch connection which receives 3 No. 100 Ø CI connections from above, and a 42 Ø cu connection from above. After this connection the main branch connects to the offset from AC18 as previously described, it then receives a 100 Ø branch connection from a 100 Ø CI pipe from above at the tank room, this branch then receives a connection from a 54 Ø cu pipe from above, then another which receives 2 No. 54 Ø cu connections from above, another 54 Ø cu from above and finally a 42 Ø cu connection from above.

The main branch connects upstream of the intercepting trap [AC19] as previously described.

There is a 100 Ø CI connection to the intercepting trap from above [or to above], possibly a VP.

The 150 Ø CI outfall from the intercepting trap [AC19] turns 90°, passing out of the basement at high level, and connects to the public sewer below ....

7.3.5 Gravity Drainage System above the Storage Area – at the Right Hand Side of the Building

At the storage area a 100 Ø CI pipe drops from above, offsets at high level via a change of direction and passes out through the structure at high level to an untraced location in a void.

Adjacent to the above, a 150 Ø CI pipe drops from above, and offsets at high level, connects to a 150 Ø CI run headed by a rodding eye to offset into a duct/cupboard and terminates open ended.

7.3.6 Obsolete Gravity Drainage System at the Water Tank Room

In the tank room, a 110 Ø UPVC pipe drops from above, offsets at high level, receives 2 No. 54 Ø UPVC branch connections from 54 Ø UPVC from above, then the 110 Ø UPVC offsets and terminates open ended at high level.

7.3.7 Ground Water Drainage

There is a structural void which we have found to run around and within the external wall facing .... and .... The known voids each have access hatches into them; we have designated them as Access A, B & C.

The voids have an open topped channel formed in the floor. The channel runs along the entire length of the void.

There is a 100 Ø piped connection which links the channel in the void accessed at [B] into the void accessed at [A] .

There is a 100 Ø CI pipe from above which discharges over the channel near to access [B].

Within the void accessed at [C] there are 4 No. 100 Ø CI pipes from above, which drop and discharge over the channel at low level.

There are 2 No. known 100 Ø CI outlets from the channel in the void accessed at [A] & [C] these discharge to below to an unconfirmed location, we assumed this is to pumping station PC2 via a piped ground water drainage system via catchpits CP1, CP2, CP3, CP4, CP5, CP6, CP7, CP8 & CP9. This system is untraced. The system appears generally to be 100 Ø of clay but the catchpits and pipes have subsequently been utilised as cable ducts, including for fire alarm cables which prevent access for survey or insertion of a CCTV camera.

We believe the groundwater ingress system extends around the whole basement, in a void or voids which are currently completely inaccessible, the reason for this belief is that continuous flow occurs into pumping station PC2, whilst the drainage channels which are visible in the accessible voids [at A, B & C] appeared to be very dry, therefore the flow must be from elsewhere.

8.0 FINDINGS OF THE SURVEY

8.1 General

Whilst it would appear that the roof drainage and rainwater system and the soil, waste and ventilation systems above ground floor level are separate, in some cases including systems connecting to Pumping Stations PC1 & PC3 the systems are “combined” at lower levels.

All of the foul and surface water suspended drainage and all of the drainage beneath the floor is of CI, except for a few short sections of suspended UPVC and small diameter pipes which are of copper or UPVC.

The system at lower ground floor and basement levels is complex, in some cases with several Long Branch connection “offsets” with multiple connections.

In some cases the assumed vent pipes are “wet vents” as they receive waste pipe connections.

Because the survey was limited to ground floor level and below, we cannot be absolutely certain whether pipes from above were intended for rainwater or soil and waste, or have subsequently received “cross” connections. Therefore such pipes have not been designated definitively for their purpose.

The external condition of the suspended drainage pipe-work, where visible, indicated that the system had been well installed, generally with a good level of access and good bracketing.

The suspended pipe-work also appeared to be well painted with very little, if any, rust or corrosion except in some areas.

The gullies are all of CI with sealed covers or gratings of metal.

The drainage channel at the doorway to the loading area is of in-situ cast concrete with a CI grating.

The manholes were all constructed of in-situ cast concrete.

MH1, MH2, MH3, MH5 & MH7 have internal bolted cast iron access chambers and benchings of concrete.

MH4 & MH6 have open channels of clay and benchings of concrete.

Manhole covers were as follows:-

MH1, MH2, MH3 MH4 & MH6	Galvanised mild steel, single seal, floor finish infill
MH5	Stainless steel, single seal, floor finish infill
MH7	Cast iron, single seal

The structural condition of the manholes was visually as follows:-

Good	MH1, MH2, MH3, MH4 & MH5
Reasonable	MH6 & MH7

There were defects at manholes including the following:-

MH1	The cover plate to the access chamber is missing, 4 No. bolts and a gasket are required

MH2	The bolts to the cover plate to the access chamber will not secure, the plate requires attention
MH3	The 2 No. cover plates to the access chamber are missing, 8 No. bolts are required.
MH4	The rodding eye plate is missing, 2 No. nuts, washers and a gasket are required The trap plate is missing, 2 No. bolts and a new gasket are required
MH6	The cover and frame are loose, and requires re-bedding. There is no infill in the cover, this should be completed.
MH7	The intercepting trap plate requires a 2 No. nuts, washers and a new gasket. The cover plate to the chamber requires 4 No. nuts, washers and a gasket.

8.2 Ground Water Ingress Drainage System

The ingress drainage channels at Lower Ground Floor Level & Basement Levels, where visible in the voids, were open topped and formed in the concrete floor. It is assumed the ingress drainage channels continue around the whole perimeter of the building at low level ground floor and at basement level within a void or voids which are not accessible. There is evidence of former access doors into voids, but which have now been sealed off.

There is continuous flow into pumping station PC2 despite the channels in the accessible voids being dry, thus the flow must be from elsewhere, we assume this is likely to be from ingress drainage in the inaccessible voids.

Where visible, the channels in the voids appear to be generally clean and free of debris, however there are some accumulations of debris and rubble in places.

The manholes/catchpits CP1 to CP9 were constructed of in-situ cast concrete with open channels of clay and benchings of concrete.

The covers were of galvanised mild steel, or of CI floor finish infill type, single seal.

The system was not surveyed because the pipes and manholes have been used as cable ducts which obstructed the system and prevented survey by CCTV. In places it was flooded.

8.3 Pumping Stations

Pumping Station PC1

The chamber was constructed of in-situ cast concrete.

The cover is of galvanised mild steel chequer plate, single seal.

The 2 No. submersible pumps were not lifted for inspection, or identified for maker and model [although the maintenance label on the panel by Arctic, suggests they would be by ABS.

The pumps were mounted on galvanised steel lifting guide rails and have lifting chains.

The pumps are controlled by 4 No. float switches.

The pumps each have 100 Ø galvanised mild steel discharge pipes, with stop and non-return valves above floor level.

The pumps are controlled from a wall mounted panel adjacent to the pumping station.

The panel comprises a lockable steel cabinet bearing the label:-

WILO U.K. Ltd, Second Avenue, Centrum 100, Burton on Trent, DE14 2WJ

Serial No. Ou 7935
Tel No. 0845-437-9775
The panel also has a label stating:-

Arctic Building Services - Tel: 0845-308-2300 - Fax: 0845-308-2301

There are labels for each set of pump controls by Arctic Building Services Ltd

Each with an "asset" number:
Pump No. 1 ABS 28203
Pump No. 2 ABS 28204

The panel includes the following:-
A main isolation switch
A high level alarm lamp
A low level alarm lamp
An alarm sounder
An alarm mute button

Each pump has the following controls:-
A hand \ off \ auto \ switch
A pump running lamp
A pump tripped lamp

The structural condition of the chamber was visually good.

10 No. securing screws were missing from the cover.

The installation was in working order and both pumps were working.

The metalwork within the station appeared generally to be in good condition.

The pumping station receives foul and surface water drainage.

Pumping Station PC2

The chamber was constructed of in-situ cast concrete.

The cover is a two piece – galvanised mild steel, floor finish infill, single section type.

There is an in-situ cast concrete 'service trench' adjacent to the pump chamber. The pumped discharge pipes and vent pipes from the pump chamber pass into the service trench and rise out of it.

The covers to the service trench are galvanised mild steel chequer plate, single seal.

The covers have been 'cut' to permit the pipes to rise from the chamber.

There are 2 No. submersible pumps, these were not lifted for inspection, or identified for make or model.

The pumps are mounted on galvanised mild steel lifting guide rails and have lifting chains.

The pumps are controlled by 4 No. float switches.

The pumps each have 100 Ø galvanised mild steel discharge pipes, with stop and non-return valves above floor level.

The pumps are controlled from a wall mounted panel adjacent to the pumping station supplied from an adjacent main isolation switch.

The panel comprises a lockable steel cabinet bearing the label:-

Waste Water Solutions [London] Ltd – 0790-070538 or 07976 822600

And also labels for the Service Contractor Arctic Building Services Limited.

Arctic Building Services - Tel: 0845-308-2300 - Fax: 0845-308-2301

Their labels bear an “asset” number for each pump.

Pump No. 1 ABS28164
Pump No. 2 ABS28165

The panel includes the following:-
A main isolation switch [marked EI55]
An alarm sounder
A power on lamp
A high level alarm lamp
A mute alarm switch

Each pump has the following controls:-

The panel is marked E156 over the Pump No. 1 controls & E157 over the Pump No. 2 controls.
A hand \ off \ auto \ switch
A pump running lamp
A pump tripped lamp

The structural condition of the pump chamber was visually good.

Pump No. 1 was working, but not seated properly.

Pump No. 2 had fallen over [to about 45 degrees] and its ‘seal’ was “broken”.

The metalwork within the station appeared generally to be in good condition.

There are masses of fire protection system cables running through the pumping chamber and its incoming drainage connections.

The pumping station appears to receive the discharge from the ground water drainage system only.

Pumping Station PC3

The chamber was constructed of in-situ cast concrete.

The cover was of galvanised mild steel chequer plate, single seal.

The 2 No. submersible pumps were not lifted for inspection, or identified for make or model.

The pumps are mounted on galvanised steel lifting rails and have lifting chains.

The pumps are controlled by 4 No. float switches.
The pumps each have 100 Ø galvanised mild steel discharge pipes, with stop and non-return valves above floor level.

The pumps are controlled from a wall mounted panel adjacent to the pumping station.

The panel comprises a lockable steel cabinet which bears the label:-

WILO U.K. Ltd, Second Avenue, Centrum 100, Burton on Trent, DE14 2WJ

Tel: 0845-437-9775

It also has a label marked How Maintenance, and a label for Arctic Building Services
Tel: 0845-308-2300 - Fax: 0845-308-2301 with the “asset” No. ABS 28171. The panel is also marked E152

The panel incorporates the following:-
A main isolation switch
An alarm sounder
An alarm mute switch
A high level alarm lamp
A low level alarm lamp

Each pump has the following:-
A hand \ off \ auto \ switch
A pump running lamp
A pump tripped lamp

Note: Pump No. 1 controls are marked E153 & Pump No. 2 controls are marked – E154

Note: There is a set of controls for a third pump, however, there is no third pump installed.

The structural condition of the chamber was visually good.

10 No. securing screws were missing from the cover.

Pump No. 1 was working, but not seated properly.

Pump No. 2 was working.

Both non-return valves were working.

The pumping station receives foul and surface water drainage.

8.4 The findings of the CCTV Survey

The findings of the CCTV survey are shown in detail for each surveyed pipe run in the CCTV report sheets in Appendix 10.2.

Only general comments or comments on specific defects are repeated in the following text:-

Where pipe runs have several defects of a similar nature in general only the most significant will be repeated here.

There was scale:- Note light scale is usually ignored as not significant.

MH1	-	UNKNOWN UPSTREAM	-	Light scale from 12 o'clock to 12 o'clock
MH2	-	BRANCH A	-	Light scale from 12 o'clock to 12 o'clock
MH3	-	BRANCH B	-	Light scale from 5 o'clock to 7 o'clock
MH3	-	UNKNOWN [PUMP CHAMBER]	-	Light scale from 12 o'clock to 12 o'clock
PC1	-	BRANCH B	-	Light scale from 4 o'clock to 8 o'clock [sealed pipe]
AC2	-	UNKNOWN UPSTREAM	-	Light scale visible upstream
AC3	-	UNKNOWN DOWNSTREAM	-	Heavy scale 30% cross sectional area loss survey abandoned unable to pass scale
AC6	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass debris & scale loose in pipe
AC7	-	UNKNOWN DOWNSTREAM	-	Light scale from 12 o'clock to 12 o'clock
AC9	-	UNKNOWN DOWNSTREAM	-	Medium scale 5% cross sectional area loss From 4 o'clock to 8 o'clock
AC12	-	UNKNOWN DOWNSTREAM	-	Light scale from 12 o'clock to 12 o'clock
AC15	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend and scale in pipe
AC19		SEWER	-	Medium scale 5% cross sectional area loss From 4 o'clock to 8 o'clock
MH7		SEWER	-	Medium scale 5% cross sectional area loss From 4 o'clock to 8 o'clock

There was debris:-

MH1	-	UNKNOWN UPSTREAM	-	Debris 5% cross sectional area loss
MH1	-	UNKNOWN DOWNSTREAM	-	Debris 5% cross sectional area loss
MH2	-	UNKNOWN DOWNSTREAM	-	Debris 5% cross sectional area loss Debris in manhole channel holding back flow
MH3	-	UNKNOWN DOWNSTREAM	-	Debris 10% cross sectional area loss

MH3	-	BRANCH A	-	Debris 5% cross sectional area loss
CAVITY DRAIN ACCESS [A]	-	UNKNOWN UPSTREAM	-	Debris in channels
CAVITY DRAIN ACCESS [A]	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass debris in pipe and in channel
MH5	-	BRANCH C	-	Survey abandoned unable to pass debris in pipe
AC6	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass debris and scale in pipe
AC14	-	UNKNOWN UPSTREAM	-	Loose debris at 1.78m
AC17	-	UNKNOWN DOWNSTREAM	-	Debris 5% cross sectional area loss from 4 o'clock to 8 o'clock, poor visual due to debris
C21		UNKNOWN DOWNSTREAM		Debris 5% cross sectional area loss

There are bends and offsets, which prevented camera access:-

AC1	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC2	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass bend in pipe
AC2	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC3	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC5	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC7	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass bend in pipe
AC9	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC11	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend/offset in pipe
AC12	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC12	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass bend in pipe
AC13	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC14	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe
AC14	-	AC13	-	Survey abandoned unable to pass bend in pipe
AC14	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass bend in pipe
AC15	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend and scale in pipe
AC16	-	UNKNOWN DOWNSTREAM	-	Survey abandoned unable to pass bend in pipe
AC21	-	UNKNOWN UPSTREAM	-	Survey abandoned unable to pass bend in pipe

There was standing water:-

MH4	-	UNKNOWN PUMP STATION	-	Camera underwater

8.5 Unknown Systems

There are installations within the building for which their purpose is unknown.

This includes a chamber at basement level, in the entrance passageway to the Security Management Area. The chamber contains a steel vessel and there is a 1" galvanised mild steel pipe rising from the flooded chamber, [assumed to be from the vessel]. The pipe is capped at low level.

The vessel might possibly be associated with ground water drainage, but this is unconfirmed.

At lower ground floor level, in the structural void area adjacent to MH7, there are unknown pipes, possibly old cable ducts.

At lower ground floor level, in the structural void adjacent to the changing rooms there are 2 No. 75 Ø CI pipes, which combine and run as 100 Ø CI and which drops to below floor level, untraced.

At the lower ground floor level, in a duct at the men's toilet, 2 No. 75 Ø CI pipes rise from low level in the floor, continue at mid level and rise to above.

9.0 RECOMMENDATIONS

These recommendations are given as though the system is to be retained as now existing, without taking into account any future re-developments of which we are not aware. Therefore some recommendations may be superfluous.

The drainage at the loading bay area should be surveyed after completion of the 'strip out', as should other untraced parts of the system, if accessible after completion of the 'strip out'.

The system should be fully cleaned and de-scaled and blockages removed.

Any runs which could not be surveyed or fully traced for any reason should be surveyed by CCTV for completion of the survey.

After cleaning, previously un-surveyed runs should be re-CCTV surveyed to verify their condition and any identified defects should be remedied.

All manhole covers and frames which are to be retained should be cleaned, de-rusted, re-painted and re-fitted, with new seals as necessary.

Manholes should be fully cleaned by high pressure jetting and re-inspected.

All internal access chamber covers should be cleaned, rust removed, repainted and re-fitted with new gaskets.

All internal access chamber covers at manholes should be replaced or repaired, including replacement of bolts, nuts, washers and gaskets where necessary, including the following.

MH1	The cover plate to the access chamber is missing, 4 No. bolts and a gasket are required
MH2	The bolts to the cover plate to the access chamber will not secure, the plate requires attention
MH3	The 2 No. cover plates to the access chamber are missing, 8 No. bolts are required.
MH4	The rodding eye plate is missing, 2 No. nuts, washers and a gasket are required The trap plate is missing, 2 No. bolts and a new gasket are required
MH6	The cover and frame are loose, and requires re-bedding. There is no infill in the cover, this should be completed.
MH7	The intercepting trap plate requires 2 No. nuts, washers and a new gasket. The cover plate to the chamber requires 4 No. nuts, washers and a gasket.

All rodding eye covers should be replaced or repaired, including cleaning, rust removal, repainting and re-fitting with new gaskets. Screws should be replaced with drilling and re-tapping as necessary.

The 3 No. Pumping Stations in the basement should be fully cleaned out, checked and serviced.
The pumps should be lifted out and fully checked, including their seating and seals onto pedestals.

The pump control systems should be fully checked for compliance with current IEE regulations. The stop and non-return valves should be cleaned and serviced internally.

The 10 No. securing screws at the covers to Pumping Stations PC1 and PC3 should be replaced.

The small pump unit at the sink unit should be replaced.

All gully covers should be cleaned, rust removed, repainted and re-installed and resealed. Missing screws should be replaced.

All gully gratings should be cleaned, rust removed, repainted and re-fitted.

Missing gully gratings should be replaced.

Obsolete or unused drain connections should be fully sealed at each end.

All access covers on high level or low level suspended pipe-work should be opened, cleaned, rust removed, repainted and re-fitted, including new gaskets.

All pipe-work which is to be retained should be tested by air or water for leaks.

The assumed structural voids at lower ground floor level and at basement level should be made accessible at all locations, including where adjacent to adjoining buildings, to enable location, tracing, mapping and survey of the ground water ingress drainage system. The structural voids should be surveyed and added to the building floor plans.

The voids especially the ingress drainage channels should be cleared of rubble and debris.

The cables which obstruct the ingress drainage pipe-work below the floor and in the catchpits should be removed to enable the system to be traced, mapped and CCTV surveyed and cleaned where necessary. The manhole covers on this system should be cleaned, rust removed, repainted and re-fitted with new seals, where necessary.

All assumed connections from pipes from above should be confirmed for purpose [foul or rainwater], including, where necessary, opening wall ducts to expose them. This would require the full survey of all soil, waste and ventilation pipes and rainwater pipes from roof level down to ground floor level.

The purpose and route of the 100 Ø CI pipe which runs from above the storage area at the right hand side of the building, into the structural void [assumed] should be verified for purpose, route and condition.

The CAD drawings should be updated once the system has been fully surveyed by CCTV to verify any unknown data, including the void areas.

The record drawings should be updated on CAD in future to record any changes due to refurbishment or from further investigations.

END OF TEXT

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CCTV REPORT SHEET

SURVEYOR: K. WAKELIN	**DVD NO/COMMENTS:**
CLIENT: ANY CONSULTING ENGINEERS/OTHER ADDRESS POST CODE	**LOCATION:** ANY ADDRESS POSTCODE
START LOCATION: CP4	**FINISH LOCATION:** BRANCH A
DIRECTION: U **MATERIAL:** VC	**SIZE:** 100
USE: SURFACE	**SHAPE:** C
TOTAL LENGTH: UNKNOWN	**SURVEYED LENGTH:** 00.06
DVD FILE REF: FILE 1	**WEATHER:** DRY
DATE: 04.08.2016	**TIME:** 13.30

METRES	CD	CODE	OTHER DETAILS
00.00			START OF SURVEY
00.00	ST1	CU	CAMERA UNDERWATER
00.06		SA	SURVEY ABANDONED UNABLE TO PASS DEBRIS/CABLE IN PIPE

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CCTV REPORT SHEET

SURVEYOR: K. WAKELIN	**DVD NO/COMMENTS:**
CLIENT: ANY CONSULTING ENGINEERS/OTHER ADDRESS POST CODE	**LOCATION:** ANY ADDRESS POSTCODE
START LOCATION: CP4	**FINISH LOCATION:** UNKNOWN
DIRECTION: D **MATERIAL:** VC	**SIZE:** 100
USE: SURFACE	**SHAPE:** C
TOTAL LENGTH: 10.98	**SURVEYED LENGTH:** 10.98
DVD FILE REF: FILE 2	**WEATHER:** DRY
DATE: 04.08.2016	**TIME:** 13.40

METRES	CD	CODE	OTHER DETAILS
00.00			START OF SURVEY
00.36	ST1	CU	CAMERA UNDERWATER
00.36	ST2	DE	DEBRIS 5% CROSS SECTIONAL AREA LOSS FROM 4 O'CLOCK TO 8 O'CLOCK
00.73		LR	LINE OF SEWER DEVIATES RIGHT
01.62		DE	DEBRIS 15% CROSS SECTIONAL AREA LOSS FROM 2 O'CLOCK TO 10 O'CLOCK
06.10	FH2	DE	DEBRIS 15% CROSS SECTIONAL AREA LOSS FROM 2 O'CLOCK TO 10 O'CLOCK
10.98		FH	FINISH OF SURVEY AT D/S CP

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LIMITED

CCTV REPORT SHEET

SURVEYOR: K. WAKELIN		**DVD NO/COMMENTS:**	
CLIENT: ANY CONSULTING ENGINEERS/OTHER ADDRESS POST CODE		**LOCATION:** ANY ADDRESS POSTCODE	
START LOCATION: CP7		**FINISH LOCATION:** UNKNOWN	
DIRECTION: D	**MATERIAL:** VC		**SIZE:** 100
USE: SURFACE		**SHAPE:** C	
TOTAL LENGTH: 04.60		**SURVEYED LENGTH:** 04.60	
DVD FILE REF: FILE 3		**WEATHER:** DRY	
DATE: 04.08.2016		**TIME:** 14.00	

METRES	CD	CODE	OTHER DETAILS
00.00			START OF SURVEY
00.00	ST1	DE	DEBRIS 5% CROSS SECTIONAL AREA LOSS FROM 4 O'CLOCK TO 8 O'CLOCK
00.00	ST2	WL	WATER LEVEL 30% HEIGHT/DIAMETER
03.02	FH1	DE	DEBRIS 5% CROSS SECTIONAL AREA LOSS FROM 4 O'CLOCK TO 8 O'CLOCK
04.60		FH	FINISH OF SURVEY AT PUMP STATION

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CCTV REPORT SHEET

SURVEYOR: K. WAKELIN	**DVD NO/COMMENTS:**
CLIENT: ANY CONSULTING ENGINEERS/OTHER ADDRESS POST CODE	**LOCATION:** ANY ADDRESS POSTCODE
START LOCATION: CP7	**FINISH LOCATION:** UNKNOWN
DIRECTION: U / **MATERIAL:** VC	**SIZE:** 100
USE: SURFACE	**SHAPE:** C
TOTAL LENGTH: 06.40	**SURVEYED LENGTH:** 06.40
DVD FILE REF: FILE 4	**WEATHER:** DRY
DATE: 04.08.2016	**TIME:** 14.05

METRES	CD	CODE	OTHER DETAILS
00.00			START OF SURVEY
00.00	ST1	CU	CAMERA UNDERWATER
06.40		FH	FINISH OF SURVEY AT U/S CP

SCHEDULE OF PHOTOGRAPHS

Any Address

	LOCATION:	Comments:
1.	BASEMENT LEVEL STORAGE AREA	View showing location of manhole MH1
2.	BASEMENT LEVEL STORAGE AREA	General view of manhole MH1 chamber
3.	BASEMENT LEVEL OFFICE	View showing location of manhole MH2
4.	BASEMENT LEVEL OFFICE	General view of manhole MH2 chamber
5.	BASEMENT LEVEL BUILDING MANAGEMENT AREA	View showing location of manhole MH3
6.	BASEMENT LEVEL BUILDING MANAGEMENT AREA	General view of manhole MH3 chamber
7.	BASEMENT LEVEL UNKNOWN ROOM	View showing location of manhole MH4
8.	BASEMENT LEVEL UNKNOWN ROOM	View of interceptor trap within manhole MH4
9.	LOWER GROUND FLOOR MENS TOILET	View showing location of manhole MH5
10.	LOWER GROUND FLOOR MENS TOILET	General view of manhole MH5 chamber with internal plate removed
11.	LOWER GROUND FLOOR PUB STORAGE AREA BELOW ACCESS RAMP	View of manhole MH6 cover and frame with no infill or bedding to cover
12.	LOWER GROUND FLOOR PUB STORAGE AREA BELOW ACCESS RAMP	View of manhole MH6 with cover and frame removed
13.	LOWER GROUND FLOOR PUB STORAGE AREA BELOW ACCESS RAMP	View of debris within manhole MH6 chamber
14.	LOWER GROUND FLOOR PUB STORAGE AREA BELOW ACCESS RAMP	View of interceptor trap within manhole MH6
15.	LOWER GROUND FLOOR STRUCTURAL VOID AREA ADJACENT TO CHANGING ROOMS	View showing location of manhole MH7
16.	LOWER GROUND FLOOR STRUCTURAL VOID AREA ADJACENT TO CHANGING ROOMS	General view of manhole MH7 chamber and interceptor trap

17.	BASEMENT LEVEL STORAGE AREA	View showing location of groundwater manhole CP1 with cover removed
18.	BASEMENT LEVEL STORAGE AREA	View of cables run in channels. Chamber holding water
19.	BASEMENT LEVEL PASSAGEWAY	View showing location of groundwater manhole CP2 with cover removed
20.	BASEMENT LEVEL PASSAGEWAY	View of cables run in pipes and channels. Chamber holding water
21.	BASEMENT LEVEL OFFICE	View showing location of groundwater manhole CP3 with cover removed
22.	BASEMENT LEVEL OFFICE	View of cables run in channel. Channel holding water
23.	BASEMENT LEVEL WATER TANK ROOM	View showing location of groundwater manhole CP4 with cover removed
24.	BASEMENT LEVEL WATER TANK ROOM	View of cable run in pipes and channel. Channel holding water
25.	BASEMENT LEVEL STORAGE AREA	View showing location of groundwater manhole CP6 with cover removed
26.	BASEMENT LEVEL STORAGE AREA	View of cables run in channel and pipe. Channel full of debris
27.	BASEMENT LEVEL ENTRANCE PASSAGEWAY TO BUILDING MANAGEMENT AREA	View showing location of unknown pit with cover removed
28.	BASEMENT LEVEL ENTRANCE PASSAGEWAY TO BUILDING MANAGEMENT AREA	View of unknown vessel within chamber. Internal pipe drops approximately 5m below top hole
29.	BASEMENT LEVEL ENTRANCE PASSAGEWAY TO BUILDING MANAGEMENT AREA	View of 1” Galvanized mild steel pipe adjacent to unknown pit capped at low level
30.	BASEMENT LEVEL AREA ADJACENT TO FIRE EXIT STAIRWELL TO STREET	View showing location of pump chamber PC1 with cover removed
31.	BASEMENT LEVEL AREA ADJACENT TO FIRE EXIT STAIRWELL TO STREET	View of pump guide rails and float level support bracket
32.	BASEMENT LEVEL AREA ADJACENT TO FIRE EXIT STAIRWELL TO STREET	General view of pump chamber

33.	BASEMENT LEVEL AREA ADJACENT TO FIRE EXIT STAIRWELL TO STREET	View of pump chamber PC1 control panel
34.	BASEMENT LEVEL AREA ADJACENT TO FIRE EXIT STAIRWELL TO STREET	View of pump chamber PC1 discharge pipe-work
35.	BASEMENT LEVEL MAIN PLANT ROOM	View showing location of pump chamber PS2 and adjacent service trench
36.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PS2 discharge pipe-work at low level
37.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PS2 discharge pipe-work at high level
38.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PC2 control panel and electrical isolator
39.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber and adjacent service trench with covers removed
40.	BASEMENT LEVEL MAIN PLANT ROOM	General view of pump chamber PC2 with fire protection cables running into inlet pipe-work
41.	BASEMENT LEVEL MAIN PLANT ROOM	View of float support brackets and cables within pump chamber PC2
42.	BASEMENT LEVEL MAIN PLANT ROOM	View of pumps within pump chamber PC2
43.	BASEMENT LEVEL MAIN PLANT ROOM	View of service trench adjacent to pump chamber PC2 with pipe-work and fire protection cables running within it
44.	BASEMENT LEVEL MAIN PLANT ROOM	View showing location of pump chamber PC3
45.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PC3 discharge pipe-work at low level
46.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PC3 discharge pipe-work at high level
47.	BASEMENT LEVEL MAIN PLANT ROOM	View of pump chamber PC3 control panel
48.	BASEMENT LEVEL MAIN PLANT ROOM	General view looking into pump chamber PC3
49.	BASEMENT LEVEL MAIN PLANT ROOM	General view of pump chamber PC3

50.	BASEMENT LELVEL BUILDING MANAGEMENT MESS ROOM	View of pump unit located below sink unit
51.	BASEMENT LELVEL BUILDING MANAGEMENT MESS ROOM	View of pump unit located below sink unit
52.	BASEMENT LEVEL WATER TANK ROOM	View of open top gully OTG1. No grating installed
53.	BASEMENT LEVEL OFFICE	View of open top gully OTG2 in bunded area
54.	BASEMENT LEVEL MAIN PLANT ROOM	View of open top gully OTG3
55.	BASEMENT LEVEL MAIN PLANT ROOM	View of open top gully OTG4 taking multiple condense lines and drain-offs
56.	BASEMENT LEVEL WATER TANK ROOM	View of high level interceptor trap on Street outfall
57.	LOWER GROUND FLOOR SERVICE AREA BELOW ACCESS RAMP	View of pump discharge lines from PC2 and PC3 connecting to 150 Ø CI drain
58.	LOWER GROUND FLOOR STRUCTURAL VOID AREA ADJACENT TO MANHOLE MH7	View of unknown pipes [possibly old cable ducts]
59.	LOWER GROUND FLOOR MENS TOILET SERVICE DUCT	View of unknown 75 Ø CI pipes combining and rising to above
60.	LOWER GROUND FLOOR STRUCTURAL VOID AREA ADJACENT TO CHANGING ROOMS	View of unknown 75 Ø CI pipes combining and rising to connect to 100 Ø CI at mid level
61.	LOWER GROUND FLOOR AREA BELOW ACCESS RAMP	View of running trap on 150 Ø CI pipe used for camera insertion [AC20]
62.	BASEMENT LEVEL WATER TANK ROOM	View of 54 Ø cu pipe with isolating valve. Assumed for temporary pump connection
63.	BASEMENT LEVEL WATER TANK ROOM	View of 54 Ø cu temporary pump line rising to high level and connecting to 100 Ø CI pipe
64.	BASEMENT LEVEL WATER TANK ROOM	View of open ended 110 Ø UPVC pipe at high level
65.	LOWER GROUND FLOOR CHANGING ROOMS	View of typical access door to structural void areas
66.	BASEMENT LEVEL STORE ROOM	View of typical access panel to structural void areas

67.	BASEMENT LEVEL STORE ROOM	Typical view along structural void area from access panel
68.	BASEMENT LEVEL STORE ROOM	View of 100 Ø CI from structural void channel above discharging into basement void channel
69.	LOWER GROUD FLOOR	Typical outlet from structural void channel
70.	LOWER GROUND FLOOR	Typical view along structural void area