
CORNFIELD CLOSE, LITTLEHAMPTON DRAINAGE MAINTENANCE AND MANAGEMENT PLAN

This document outlines the responsibilities for the management and maintenance of the foul and surface water drainage systems at the development site at Cornfield Close, Littlehampton.

Site and Drainage Description

The development site comprises 77 residential homes with associated access roads, car parking, cycle parking, refuse/recycling storage and landscaping.

The following drawings illustrating the site layout and drainage details are provided in the appendices to this report:

- Technical Layout (Appendix A);
- External Works Layout (Appendix B);
- Engineering Construction Details (Appendix C);
- Drainage Construction Details (Appendix D); and
- Exceedance Plan (Appendix E)

Surface Water

Surface water run-off from hardstanding areas is collected via rainwater downpipes (roofs) or gullies (roads) and conveyed into a piped network. Parking bays in the car park areas serving the two apartment blocks are constructed with a permeable block paved surface, draining under their own footprint into the sub-base, whereby flows are collected via distribution tanks and conveyed into the pipe network.

The piped network directs all flows to geocellular crates located within the public open space in the centre of the site. These crates are fully encapsulated by an impermeable membrane and are herein referred to as the 'storage crates'.

Water flows out of the storage crates into a chamber with a perforated riser pipe, which filters the flow. A flow control chamber is located downstream of this chamber, which contains a HydroBrake and an orifice plate set on a weir wall. These act to restrict the inflow into a lower layer of geocellular crates, located immediately below the upper storage crates. These crates have an impermeable membrane to the top and sides only, with water infiltrating to ground via the base of the crates. These crates are therefore herein referred to as the 'soakaway crates'. The lined sides of prevent horizontal infiltration in order to prevent migration of contaminants from the surrounding made ground.

All surface water chambers on the piped network are catchpits or silt traps. Inlet pipes to all geocellular crates are located at the level of the bottom layer of crates and can therefore also be used for maintenance, inspection and jetting of the crates.

Foul Water

Foul water is conveyed via a conventional pipe network to connect into the existing Southern Water manhole located in Cornfield Close adjacent to the site.

Exceedance Flow

The surface water drainage system is designed to accommodate all storm events up to and including the 1 in 100 year return period, with a 40% allowance for the potential effects of climate change. The effects of a higher return period event occurring and inundating the drainage system have been considered. In the event that the drainage system is inundated, flooding will first occur at the low points of the site, in the south-east and south-west car parks. An Exceedance Plan, included in Appendix E, further demonstrates that any overland flows generated within the site will be routed via the road network, away from the proposed dwellings. The finished floor levels of the proposed dwellings are located at a higher elevation than the road network and above existing ground levels, thereby providing protection to dwellings during an exceedance event.

Management Responsibilities

All surface and foul water pipework, chambers and other infrastructure serving a single dwelling is to be owned and maintained by the owner of that property.

All shared surface water drainage pipework, chambers, manholes and features will be owned and maintained by private management company.

All shared foul water pipework, chambers, manholes and features will be owned and maintained by private management company, up to the existing Southern Water manhole located in Cornfield Close into which the system discharges.

Maintenance Activities

This section details the type and frequency of maintenance activities for each drainage feature.

Table 1: Polypipe Polystorm Cellular Storage Crates (Upper) – Maintenance Activities

Schedule	Maintenance Activity	Inspection Frequency
Monitoring	Initial inspection.	Monthly for three months after installation.
	Inspect for evidence of poor operation and signs of clogging or build-up of debris/dirt/silt etc within the crates.	Three monthly, and 48 hours after large storms in the first six months.
	Monitor inspection chambers.	Three monthly for the first year, six monthly thereafter.
Regular Maintenance	Ensure inlets and pre-treatment structures are clear and free of debris.	Six monthly.
	Inspect and remove any sediment, debris and silt from upstream network, including all gullies, silt traps and catchpit chambers.	Monthly or as required.
Remedial Actions	Jet crates to remove clogging or build-up of silt. Sediment, debris and silt to be removed from catchpit manhole upstream of each entry point prior to commencement of jetting.	As required.
	Clear pipework of blockages.	As required.
	Replacement of crates.	At end of design life, or as required.

Table 2: Polypipe Polystorm Cellular Soakaway Crates (Lower) – Maintenance Activities

Schedule	Maintenance Activity	Inspection Frequency
Monitoring	Initial inspection.	Monthly for three months after installation.
	Inspect for evidence of poor operation and signs of clogging or build-up of debris/dirt/silt etc within the soakaway.	Three monthly, and 48 hours after large storms in the first six months.
	Monitor inspection chambers.	Three monthly for the first year, six monthly thereafter.
Regular Maintenance	Ensure inlets and pre-treatment structures are clear and free of debris.	Six monthly.
	Inspect and remove any sediment, debris and silt from upstream network, including all gullies, silt traps and catchpit chambers.	Monthly or as required.
Remedial Actions	Jet crates to remove clogging or build-up of silt. Access for jetting provided from 2 no. manholes (S41 and S50). Sediment, debris and silt to be removed from catchpit manhole upstream of each entry point prior to jetting commencing.	As required, or as identified by regular inspections.
	Clear pipework of blockages.	As required.
	Replacement of crates.	At end of design life, or as required.

Table 3: Gullies and Conventional Pipe Network – Maintenance Activities

Schedule	Maintenance Activity	Inspection Frequency
Regular Maintenance	Inspect and remove any sediment, debris and silt from gullies, silt traps and catchpit chambers.	Monthly or as required.
	Inspect pipework for blockages or root ingress.	Monthly.
Remedial Actions	Clear pipework of blockages.	As required.
	Replacement of pavement system.	As required.

Table 4: Perforated Riser Chamber and Flow Control Chamber – Maintenance Activities

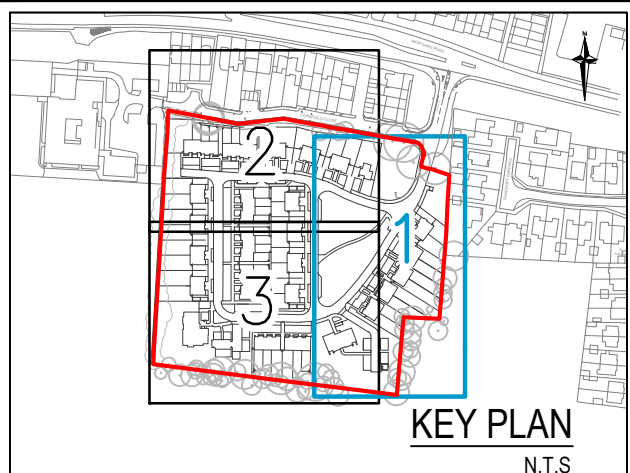
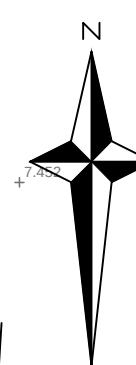
Schedule	Maintenance Activity	Inspection Frequency
Regular Maintenance	Inspect and remove any sediment, debris and silt from the chamber.	Monthly or as required.
	Inspect chamber and incoming/outgoing pipework for blockages or root ingress.	Monthly.
Remedial Actions	Clear chamber and incoming/outgoing pipework of blockages.	As required.

Table 5: Permeable Paving – Maintenance Activities

Schedule	Maintenance Activity	Inspection Frequency
Monitoring	Initial inspection.	Monthly for three months after installation.
	Inspect for evidence of poor operation and/or weed growth.	Three monthly, and 48 hours after large storms in the first six months.
	Monitor inspection chambers.	Annually.
	Check for surface for signs of clogging or build-up of debris/dirt/silt etc. Particular attention to be paid to areas where water runs onto the pervious surface from adjacent impermeable areas i.e. transition from aisle to parking bay.	Annually.
Regular Maintenance	Brush and/or vacuum surface.	Based on site-specific observations of clogging (see above, or else annually (after autumn leaf fall).
Occasional Maintenance	Stabilise and mow adjacent grassed areas.	As required.
	Removal of weeds or management using glyphosphate applied directly into the weeds by an applicator (rather than spraying).	As required, or else annually.
Remedial Actions	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required.
	Rehabilitation of surface and upper substructure by remedial sweeping.	Every 10 to 15 years or as required.
	Replacement of pavement system.	As required.

Appendix A

Technical Layout



Drawing reference no.
M637_11.001 - 11.005
M637_12.001
M637_13.001/13.002/13.003/13.004
M637_14.001/14.002/14.003/14.004
M637_15.001/15.002/15.003
M637_15.004/15.005/15.006/15.007
M637_16.001
M637_16.002
M637_17.001/17.002
M637_18.001/18.002/18.003/18.004
THA21635-03A
GY46241/1001A

Drawing Title
- Setting Out
- Longitudinal Sections
- Technical Layout
- Surface Finishes Layout
- Engineering Details
- Drainage Details
- Cut and Fill
- Tensar Geogrid Plan
- S278 Agreement Plans
- Combined Services
- Tree Protection Plan, 2018.08.11
ACD Environmental
- Topographical Survey, 2017.11.27
Sunshine Survey Ltd.

NOTES:

- This drawing is to be read in conjunction with all other drawings and specifications.
- Any discrepancies found between information shown on this or any other drawing shall be reported to the Engineer immediately and prior to works commencing on site.
- Dimensions not to be scaled.
- All works to be to Building Regulations Part H and Part M(1).
- This drawing details all below ground drainage up to finish floor level. For details of drainage above finish floor levels refer to Architect's drawings.
- Refer to Architects drawings for rain water pipe locations.
- All stack connections under buildings to be 100mmØ at minimum gradient of 1 in 40 (SVP) or 1 in 30 (FS) unless otherwise noted.
- All RWP's to be provided with above ground roddable access points.
- Where pipe diameters and gradients are not shown, foul and surface water pipes to be 100mm laid at a minimum gradient of 1:60 unless otherwise noted.
- Private pipework to be plastic up to 450mm diameter and comply with BS EN 13476 and WIS 4-35-01 v2. Pipes shall be BSI Kitemarked, or have equivalent third party certification.
- All pipework shall join at soffit level unless otherwise stated on the drawing or schedules.
- Refer to Table 1 for chamber type key. Where chamber types are not shown, chamber to be Type 3 (>2m deep) or Type 4 (<2m deep) inspection chamber.
- Cover grade of chambers with depth to invert >1.2m to be D400. Cover grade of chambers with depth to invert <1.2m, refer to Table C of Drainage Details Sheet 3 (M637_15.006).
- For all other details of manhole, inspection chamber and cover sizing and specification refer to Drainage Details Sheets 3 and 4 (M637_15.006/15.007).
- All manhole / inspection chamber covers to be installed parallel to final kerbs, edgings, paving joints or building lines as appropriate. Cover levels are approximate only. All covers to be set flush with finished surface.
- Invert levels of existing chambers have been taken from third party information and should be confirmed onsite prior to commencement of drainage works. Any discrepancies in the levels of the drainage should be reported immediately to the Engineer.
- Threshold drains to be provided according to Architect's details.
- Gravelboard heights indicative only and to be used where retained heights at property boundaries are 600mm or less.
- Proposed road levels provided at channel level unless noted otherwise.
- It is to be the contractor's responsibility to ensure that all services that are affected by the works are located prior to works commencing. Trial holes are to be dug if necessary.
- Existing drainage that will serve no purpose post development is to be either removed or suitably stopped up by end capping or in infilling with concrete with no hindrance to the retained system.
- Drainage works in connection to the existing foul Southern Water sewer to be undertaken by the chosen contractor under Section 106 of the Water Industry Act 1991. The contractor is to arrange for final inspection of the adoptable works with Southern Water Developer Services (Tel. 01962 716042).
- Buried concrete to be Design Sulphate Class DS-2 and ACEC AC-2 within Made Ground, and DS-1 and AC-1 within River Terrace Deposits or Chalk Bedrock.

KEY:

- Site boundary
- Existing foul water manhole
- Existing foul water sewer
- Proposed private foul water pipe
- Proposed private surface water drainage
- Proposed surface water manhole / inspection chamber
- Proposed surface water flow control chamber
- Proposed foul water manhole / inspection chamber
- RWP Rain Water Pipe
- RE Rodding Eye
- ACO MultiDrain with sump or similar approved
- SVP/FS Proposed Soil Vent Pipe / Foul Stack
- FG Proposed Foul Water Floor Gully
- DT Proposed Permevoid Rainwater Diffuser unit
- RG Proposed Road Gully (Polypipe Ridgully)
- MG Proposed Drive Gully (Polypipe Midgully)
- Proposed Polystorm Crates
- Permeable Paving (refer to Surface Finishes Layout)
- 1.003 Pipe Reference No.
- 1500/1:100/10m Direction of Fall
- 1500/1:100/10m Pipe Diameter / Gradient / Length
- S21.2 (CP) Chamber Reference No. (Chamber Ref. - Table 1)
- CL 8.540 Cover Level
- IL 6.875 (225) Invert Level (Pipe diameter)
- Stepped threshold
- Level threshold
- Existing level
- Proposed level
- Proposed gradient
- Proposed structural slab level
- Proposed finished floor level
- UB-1C Underbuild (with no. brick courses)
- GB-150 Gravelboard (with height in mm)
- Embankment
- Proposed contour (0.05m band)
- Proposed contour (0.50m band)

CRATE SOAKAWAY NOTES:

- Refer to Drainage Details Sheet 2 and 4 (M637_15.005 and 15.007) for soakaway construction details and installation guidance.
- Construction detail and product specifications to be approved by Polypipe prior to construction. All Polypipe units to be installed in accordance with Polypipe installation guidance, and where necessary the manufacturer should be consulted prior to installation.
- 1 no. Polystorm Access Manhole to be provided per inlet and outlet as shown, for use for inspection only. Maintenance activities, such as rodding and flushing, to be carried out from inlet manholes S1, S10, S20 and S30, and outlet manhole S40.
- The functioning of the soakaway structure relies upon the continued appropriate maintenance of all upstream catchpits and silt traps. All features to be maintained in accordance with the Management and Maintenance Plan.

SOAKAWAY CONSTRUCTION PRECAUTIONS

Many soakaway failures result from actions carried out during the construction process.

All infiltration devices should be protected from contamination by silt, cement washings etc. during the construction period.

It is recommended that until all construction works have been completed within the contributory areas, that the manholes upstream of the soakaway are used as catchpits and regularly inspected and cleaned throughout the construction process.

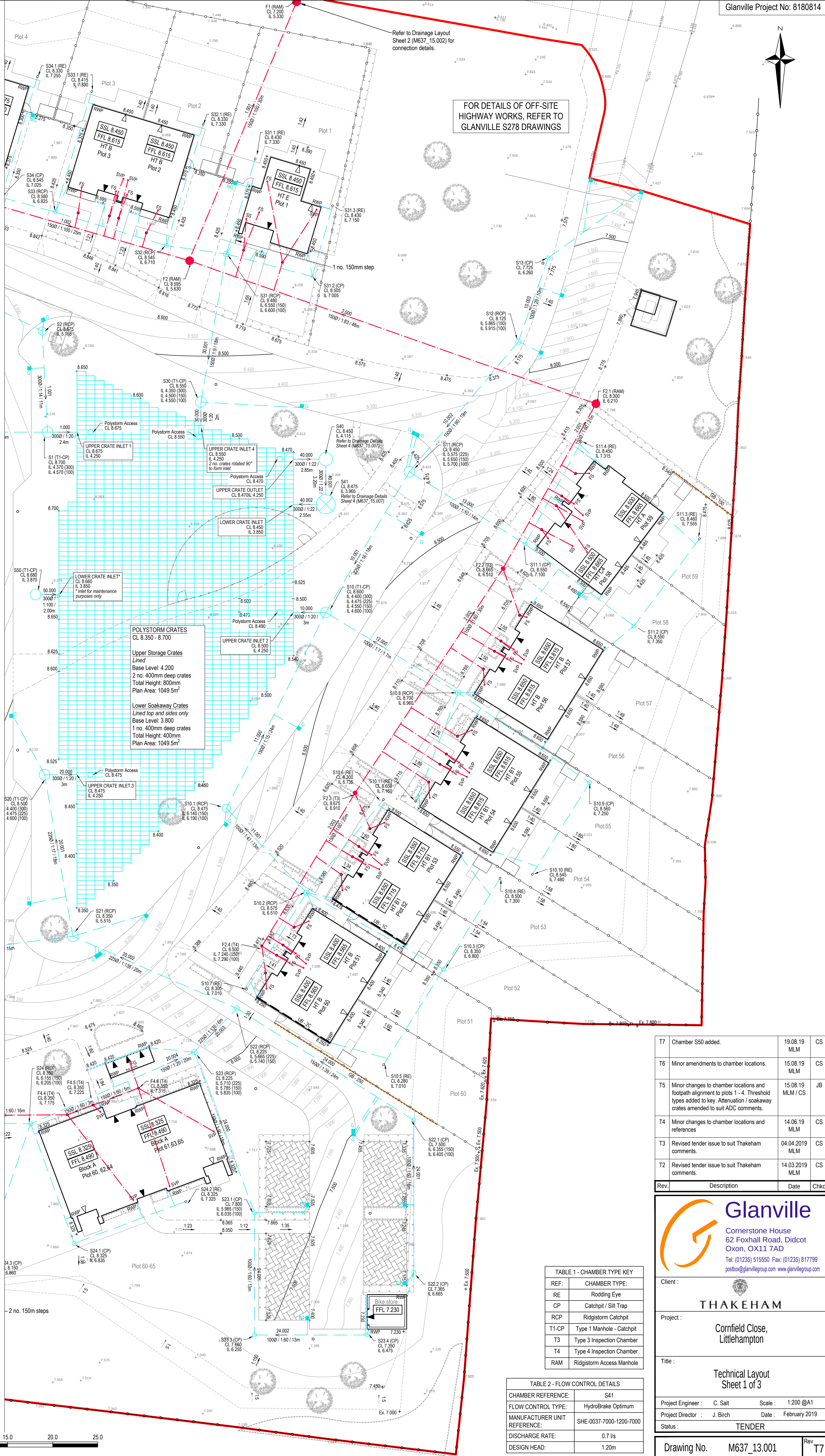


TABLE 1 - CHAMBER TYPE KEY

REF:	CHAMBER TYPE:
RE	Rodding Eye
CP	Catchpit / Silt Trap
RCP	Ridgiform Catchpit
T1-CP	Type 1 Manhole - Catchpit
T3	Type 3 Inspection Chamber
T4	Type 4 Inspection Chamber
RAM	Ridgiform Access Manhole

TABLE 2 - FLOW CONTROL DETAILS

CHAMBER REFERENCE:	S41
FLOW CONTROL TYPE:	HydroBrake Optimum
MANUFACTURER UNIT REFERENCE:	SHE-0037-7000-1200-7000
DISCHARGE RATE:	0.7 l/s
DESIGN HEAD:	1.20m

T7	Chamber S50 added.	19.08.19	CS
T6	Minor amendments to chamber locations.	15.08.19	CS
T5	Minor changes to chamber locations and footprint alignment to plots 1 - 4. Threshold types added to key. Attenuation / soakaway crates amended to suit ADC comments.	15.08.19	JB
T4	Minor changes to chamber locations and references	14.06.19	CS
T3	Revised tender issue to suit Thakeham comments.	04.04.2019	CS
T2	Revised tender issue to suit Thakeham comments.	14.03.2019	CS
Rev.	Description	Date	Chkd

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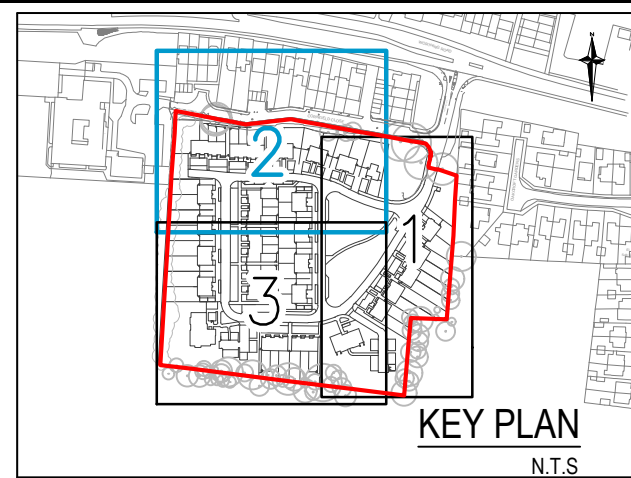
Client:

Project: **Thakeham**
Cornfield Close,
Littlehampton

Title: **Technical Layout**
Sheet 1 of 3

Project Engineer: C. Salt Scale: 1:200 @A1
Project Director: J. Birch Date: February 2019
Status: **TENDER**

Drawing No. **M637_13.001** Rev **T7**



KEY:

- Site boundary
- Existing level
- Proposed level
- Proposed gradient
- SSL 7.500
- FFL 7.400
- UB - 1C
- GB - 150
- Gravelboard (with height in mm)
- Embankment
- Proposed contour (0.05m band)
- Proposed contour (0.50m band)
- Stepped threshold
- Level threshold

CRATE SOAKAWAY NOTES:

- Refer to Drainage Details Sheet 2 and 4 (M637_15.005 and 15.007) for soakaway construction details and installation guidance.
- Construction detail and product specifications to be approved by Polyipe prior to construction. All Polyipe units to be installed in accordance with Polyipe installation guidance, and where necessary the manufacturer should be consulted prior to installation.
- 1 no. Polystorm Access Manhole to be provided per inlet and outlet as shown, for use for inspection only. Maintenance activities, such as rodding and flushing, to be carried out from inlet manholes S1, S10, S20 and S30, and outlet manhole S40.
- The functioning of the soakaway structure relies upon the continued appropriate maintenance of all upstream catchpits and silt traps. All features to be maintained in accordance with the Management and Maintenance Plan.

SOAKAWAY CONSTRUCTION PRECAUTIONS

Many soakaway failures result from actions carried out during the construction process.

All infiltration devices should be protected from contamination by silt, cement washings etc. during the construction period.

It is recommended that until all construction works have been completed within the contributory areas, that the manholes upstream of the soakaway are used as catchpits and regularly inspected and cleaned throughout the construction process.

TABLE 1 - CHAMBER TYPE KEY

REF:	CHAMBER TYPE:
RE	Rodding Eye
CP	Catchpit / Silt Trap
RCP	Ridgistorm Catchpit
T1-CP	Type 1 Manhole - Catchpit
T3	Type 3 Inspection Chamber
T4	Type 4 Inspection Chamber
RAM	Ridgistorm Access Manhole

TABLE 2 - FLOW CONTROL DETAILS

CHAMBER REFERENCE:	S41
FLOW CONTROL TYPE:	HydroBrake Optimum
MANUFACTURER UNIT REFERENCE:	SHE-0037-7000-1200-7000
DISCHARGE RATE:	0.7 l/s
DESIGN HEAD:	1.20m

Drawing reference no.
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M637_16.001
M637_16.002
M637_17.001/17.002
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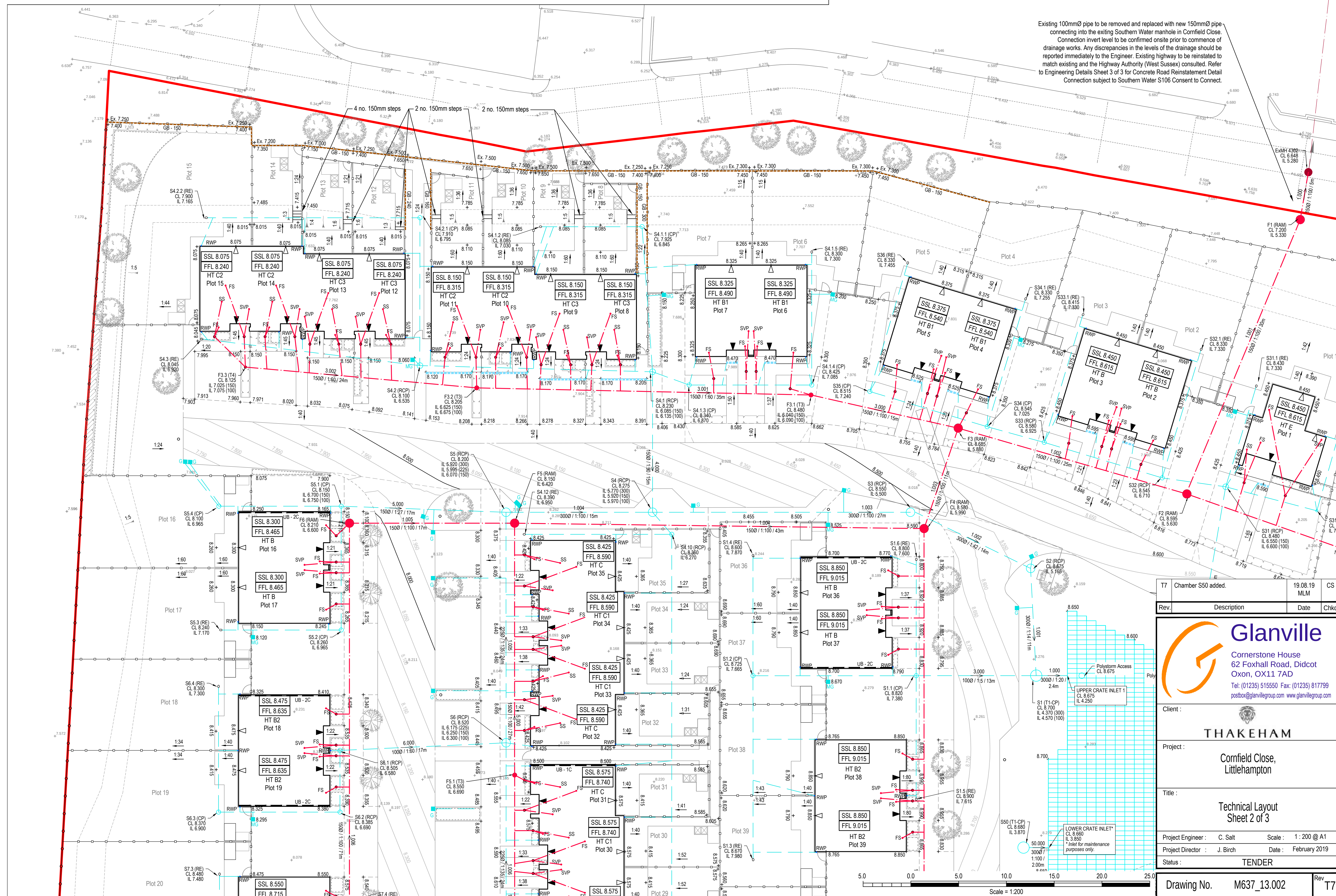
Drawing Title
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- S278 Agreement Plans
- Combined Services
- Tree Protection Plan, 2018.08.11
ACD Environmental.
- Topographical Survey, 2017.11.27
Sunshine Survey Ltd

NOTES:

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- Any discrepancies found between information shown on this or any other drawing shall be reported to the Engineer immediately and prior to works commencing on site.
- Dimensions not to be scaled.
- All works to be to Building Regulations Part H and Part M(1).
- This drawing details all below ground drainage up to finish floor level. For details of drainage above finish floor levels refer to Architect's drawings.
- Refer to Architects drawings for rain water pipe locations.
- All stack connections under buildings to be 100mmØ at minimum gradient of 1 in 40 (SVP) or 1 in 30 (FS) unless otherwise noted.
- All RWP's to be provided with above ground roddable access points.
- Where pipe diameters and gradients are not shown, foul and surface water pipes to be 100mm laid at a minimum gradient of 1:60 unless otherwise noted.
- Private pipework to be plastic up to 450mm diameter and comply with BS EN 13476 and WIS 4-35-01 v2. Pipes shall be BSI Kitemarked, or have equivalent third party certification.
- All pipework shall join at socket level unless otherwise stated on the drawing or schedules.
- Refer to Table 1 for chamber type key. Where chamber types are not shown, chamber to be Type 3 (>2m deep) or Type 4 (<2m deep) inspection chamber.
- Cover grade of chambers with depth to invert >1.2m to be D400. Cover grade of chambers with depth to invert <1.2m, refer to Table C of Drainage Details Sheet 3 (M637_15.006).
- For all other details of manhole, inspection chamber and cover sizing and specification refer to Drainage Details Sheets 3 and 4 (M637_15.006/15.007).
- All manhole / inspection chamber covers to be installed parallel to final kerbs, edgings, paving joints or building lines as appropriate.
- Cover levels are approximate only. All covers to be set flush with finished surface.
- Invert levels of existing chambers have been taken from third party information and should be confirmed onsite prior to commencement of drainage works. Any discrepancies in the levels of the drainage should be reported immediately to the Engineer.
- Threshold drains to be provided according to Architect's details.
- Gravelboard heights indicative only and to be used where retained heights at property boundaries are 600mm or less.
- Proposed road levels provided at channel level unless noted otherwise.
- It is to the contractor's responsibility to ensure that all services that are affected by the works are located prior to works commencing. Trial holes are to be dug if necessary.
- Existing drainage that will serve no purpose post development is to be either removed or suitably stopped up by end capping or in infilling with concrete with no hindrance to the related system.
- Drainage works in connection to the existing foul Southern Water sewer to be undertaken by the chosen contractor under Section 106 of the Water Industry Act 1991. The contractor is to arrange for final inspection of the adoptable works with Southern Water Developer Services (Tel. 01962 716042).
- Buried concrete to be Design Sulphate Class DS-2 and ACEC AC-2 within Made Ground, and DS-1 and AC-1 within River Terrace Deposits or Chalk Bedrock.

KEY:

- Existing foul water manhole
- Existing foul water sewer
- Proposed private foul water pipe
- Proposed private surface water drainage
- Proposed surface water manhole / inspection chamber
- Proposed surface water flow control chamber
- Proposed foul water manhole / inspection chamber
- RWP Rain Water Pipe
- (RE) Rodding Eye
- ACO MultiDrain with sump or similar approved
- SVP / FS Proposed Soil Vent Pipe / Foul Stack
- FG Proposed Foul Water Floor Gully
- DT Proposed Permeable Rainwater Diffuser unit
- G Proposed Road Gully (Polyipe Ridgully)
- MG Proposed Drive Gully (Polyipe Midgully)
- Proposed Polystorm Crates
- Permeable Paving (refer to Surface Finishes Layout)
- 1.003 Pipe Reference No.
- Direction of Fall
- 1500 / 1:100 / 10m Pipe Diameter / Gradient / Length
- S2.12 (CP) Chamber Reference No. (Chamber Ref. - Table 1)
- CL 8.540 Cover Level
- IL 6.875 (225) Invert Level (Pipe diameter)



Existing 100mmØ pipe to be removed and replaced with new 150mmØ pipe connecting into the existing Southern Water manhole in Cornfield Close. Connection invert level to be confirmed onsite prior to commencement of drainage works. Any discrepancies in the levels of the drainage should be reported immediately to the Engineer. Existing highway to be reinstated to match existing and the Highway Authority (West Sussex) consulted. Refer to Engineering Details Sheet 3 of 3 for Concrete Road Reinstatement Detail Connection subject to Southern Water S106 Consent to Connect.

Rev.	Description	Date	Chkd
T7	Chamber S50 added.	19.08.19	CS

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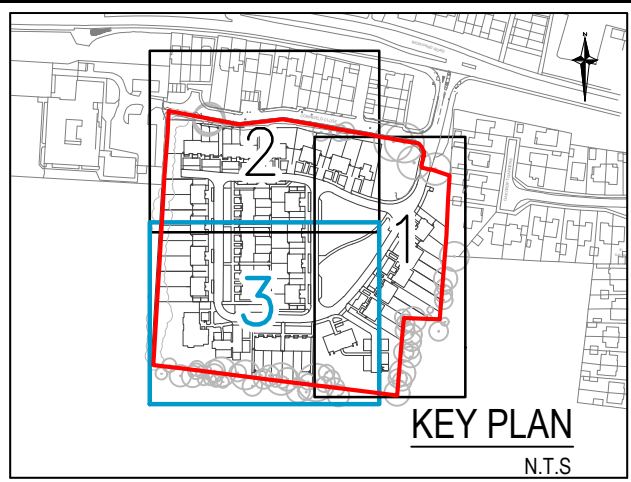
Client: **THAKEHAM**

Project: **Cornfield Close, Littlehampton**

Title: **Technical Layout Sheet 2 of 3**

Project Engineer: C. Salt Scale: 1:200 @ A1
Project Director: J. Birch Date: February 2019
Status: **TENDER**

Drawing No. **M637_13.002** Rev **T7**



Drawing reference no.
M637_13.001 - 11.005
M637_12.001
M637_13.001/13.002/13.003/13.004
M637_14.001/14.002/14.003/14.004
M637_15.001/15.002/15.003
M637_15.004/15.005/15.006/15.007
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- Topographical Survey, 2017.11.27
Sunshine Survey Ltd.

GY4624/11001A

NOTES:

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- All works to be to Building Regulations Part H and Part M(1).
- This drawing details all below ground drainage up to finish floor level. For details of drainage above finish floor levels refer to Architect's drawings.
- Refer to Architects drawings for rain water pipe locations.
- All stack connections under buildings to be 100mmØ at minimum gradient of 1 in 40 (SVP) or 1 in 30 (FS) unless otherwise noted.
- All RWP's to be provided with above ground roddable access points.
- Where pipe diameters and gradients are not shown, foul and surface water pipes to be 100mm laid at a minimum gradient of 1:60 unless otherwise noted.
- Private pipework to be plastic up to 450mm diameter and comply with BS EN 13476 and WIS 4-35-01 v2. Pipes shall be BSI Kitemarked, or have equivalent third party certification.
- All pipework shall join at soffit level unless otherwise stated on the drawing or schedules.
- Refer to Table 1 for chamber type key. Where chamber types are not shown, chamber to be Type 3 (>2m deep) or Type 4 (<2m deep) inspection chamber.
- Cover grade of chambers with depth to invert >1.2m to be D400. Cover grade of chambers with depth to invert <1.2m, refer to Table C of Drainage Details Sheet 3 (M637_15.006).
- For all other details of manhole, inspection chamber and cover sizing and specification refer to Drainage Details Sheets 3 and 4 (M637_15.006/15.007).
- All manhole / inspection chamber covers to be installed parallel to final kerbs, edgings, paving joints or building lines as appropriate.
- Cover levels are approximate only. All covers to be set flush with finished surface.
- Invert levels of existing chambers have been taken from third party information and should be confirmed onsite prior to commencement of drainage works. Any discrepancies in the levels of the drainage should be reported immediately to the Engineer.
- Threshold drains to be provided according to Architect's details.
- Gravelboard heights indicative only and to be used where retained heights at property boundaries are 600mm or less.
- Proposed road levels provided at channel level unless noted otherwise.
- It is to the contractor's responsibility to ensure that all services that are affected by the works are located prior to works commencing. Trial holes are to be dug if necessary.
- Existing drainage that will serve no purpose post development is to be either removed or suitably stopped up by end capping or in infilling with concrete with no hindrance to the retained system.
- Drainage works in connection to the existing foul Southern Water sewer to be undertaken by the chosen contractor under Section 106 of the Water Industry Act 1991. The contractor is to arrange for final inspection of the adoptable works with Southern Water Developer Services (Tel. 01952 716042)
- Buried concrete to be Design Sulphate Class DS-2 and ACCE AC-2 within Made Ground, and DS-1 and AC-1 within River Terrace Deposits or Chalk Bedrock.

CRATE SOAKAWAY NOTES:

- Refer to Drainage Details Sheet 2 and 4 (M637_15.005 and 15.007) for soakaway construction details and installation guidance.
- Construction detail and product specifications to be approved by Polypipe prior to construction. All Polypipe units to be installed in accordance with Polypipe installation guidance, and where necessary the manufacturer should be consulted prior to installation.
- 1 no. Polystorm Access Manhole to be provided per inlet and outlet as shown, for use for inspection only. Maintenance activities, such as rodding and flushing, to be carried out from inlet manholes S1, S10, S20 and S30, and outlet manhole S40.
- The functioning of the soakaway structure relies upon the continued appropriate maintenance of all upstream catchpits and silt traps. All features to be maintained in accordance with the Management and Maintenance Plan.

SOAKAWAY CONSTRUCTION PRECAUTIONS

Many soakaway failures result from actions carried out during the construction process.

All infiltration devices should be protected from contamination by silt, cement washings etc. during the construction period.

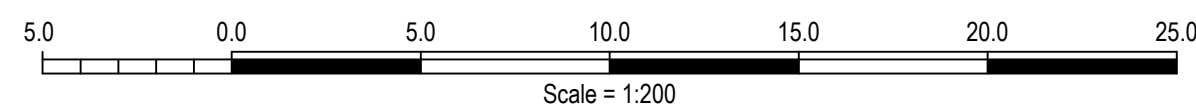
It is recommended that until all construction works have been completed within the contributory areas, that the manholes upstream of the soakaway are used as catchpits and regularly inspected and cleaned throughout the construction process.

KEY:

- Site boundary
- Existing foul water manhole
- Existing foul water sewer
- Proposed private foul water pipe
- Proposed private surface water drainage
- Proposed surface water manhole / inspection chamber
- Proposed surface water flow control chamber
- Proposed foul water manhole / inspection chamber
- Rain Water Pipe
- Rodding Eye
- ACO MultiDrain with sump or similar approved
- Proposed Soil Vent Pipe / Foul Stack
- Proposed Foul Water Floor Gully
- Proposed Permeable Rainwater Diffuser unit
- Proposed Road Gully (Polypipe Ridgully)
- Proposed Drive Gully (Polypipe Midgully)
- Proposed Polystorm Crates
- Permeable Paving (refer to Surface Finishes Layout)
- Pipe Reference No.
- Direction of Fall
- Pipe Diameter / Gradient / Length
- Chamber Reference No. (Chamber Ref. - Table 1)
- Cover Level
- Invert Level (Pipe diameter)
- Stepped threshold
- Level threshold
- Existing level
- Proposed level
- Proposed gradient
- Proposed structural slab level
- Proposed finished floor level
- Underbuild (with no. brick courses)
- Gravelboard (with height in mm)
- Embankment
- Proposed contour (0.05m band)
- Proposed contour (0.50m band)

TABLE 1 - CHAMBER TYPE KEY	
REF:	CHAMBER TYPE:
RE	Rodding Eye
CP	Catchpit / Silt Trap
RCP	Ridgiform Catchpit
T1-CP	Type 1 Manhole - Catchpit
T3	Type 3 Inspection Chamber
T4	Type 4 Inspection Chamber
RAM	Ridgiform Access Manhole

TABLE 2 - FLOW CONTROL DETAILS	
CHAMBER REFERENCE:	S41
FLOW CONTROL TYPE:	HydroBrake Optimum
MANUFACTURER UNIT REFERENCE:	SHE-0037-7000-1200-7000
DISCHARGE RATE:	0.7 l/s
DESIGN HEAD:	1.20m



Scale = 1:200

Glanville Project No: 8180814

POLYSTORM
CL 8.350 - 8.7

Upper Storage
Lined
Base Level: 4.2
2 no. 400mm Ø
Total Height: 3.0
Plan Area: 104

Lower Soakaway
Lined top and
Base Level: 3.1
1 no. 400mm Ø
Total Height: 4.0
Plan Area: 104

T7	Chamber S50 added.	19.08.19	MLM	CS
Rev.	Description	Date	Chkd	

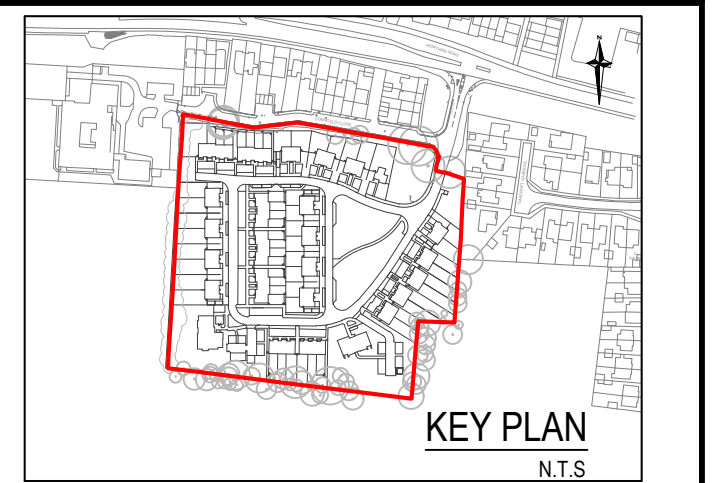
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Client :

Project : Cornfield Close, Littlehampton

Title : Technical Layout Sheet 3 of 3

Project Engineer :	C. Salt	Scale :	1 : 200 @ A1
Project Director :	J. Birch	Date :	February 2019
Status :	TENDER		
Drawing No.	M637_13.003	Rev	T7

[illegible]

SOAKAWAY CONSTRUCTION PRECAUTIONS

Many soakaway failures result from actions carried out during the construction process.

All infiltration devices should be protected from contamination by silt, cement washings etc. during the construction period.

It is recommended that until all construction works have been completed within the contributory areas, that the manholes upstream of the soakaway are used as catchpits and regularly inspected and cleaned throughout the construction process.

7	Chamber S50 added.	19/08/19	MLM	CS
16	Minor amendments to chamber locations.	15/08/19	MLM	CS
15	Minor changes to chamber locations and footpath alignment to plots 1 - 7. Block B bin store relocated. Levels to plots 16-18 revised. Threshold types added to key. Attention: footpath/cycle tracks amended to suit ADC comments.	15/08/19	MLM / CS	JB
14	Minor changes to chamber locations and references	14/06/19	MLM	CS
13	Revised tender issue to suit Tshakheam comments.	04/04/2019	MLM	CS
12	Revised tender issue to suit Tshakheam comments.	14/03/2019	MLM	CS
11	Issued for Tender.	25/02/19	MLM	CS
09/09/2019	Description	Date	Drawn	Checked

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Client: _____	
 THAKEHAM	
Project: _____ Cornfield Close, Littlehampton	
Title: _____ Technical Layout Overall Site Arrangement	
Project Engineer : C. Salt	Scale : 1 : 200 @ A0
Project Director : J. Birch	Date : February 2019
Status: _____ TENDER _____	
Drawing No. M637/13.004	
Rev	T7

Appendix B

External Works Layout