



# Salt Box, Bognor Regis

## Unit 2 and Access Road Operation and Maintenance Drainage

*For LandLink Estates*

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*Date:* 15 November 2019

*Doc ref:* SAL-HYD-XX-ZZ-RP-C-0011

# DOCUMENT CONTROL SHEET

|              |                                                                                                           |                                                                         |
|--------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Issued by    | Hydrock Consultants Limited<br>Merchants House North<br>Wapping Road<br>Bristol BS1 4RW<br>United Kingdom | T +44 (0)117 9459225<br>E bristolcentral@hydrock.com<br>www.hydrock.com |
| Client       | LandLink Estates                                                                                          |                                                                         |
| Project name | Salt Box, Bognor Regis                                                                                    |                                                                         |
| Title        | Unit 2 and Access Road<br>Operation and Maintenance<br>Drainage                                           |                                                                         |
| Doc ref      | SAL-HYD-XX-ZZ-RP-C-0011                                                                                   |                                                                         |
| Project no.  | C-13319                                                                                                   |                                                                         |
| Status       | S2                                                                                                        |                                                                         |
| Date         | 15/11/2019                                                                                                |                                                                         |

| Document Production Record |               |      |
|----------------------------|---------------|------|
| Issue Number               | 05            | Name |
| Prepared by                | Mike Griffin  |      |
| Checked by                 | Laurence Daly |      |
| Approved by                | Jason Walker  |      |

| Document Revision Record |        |            |                                         |
|--------------------------|--------|------------|-----------------------------------------|
| Issue Number             | Status | Date       | Revision Details                        |
| 01                       | S2     | 11/10/2019 | Issued for planning                     |
| 02                       | S2     | 17/10/2019 | Updated to incorporate Arun DC comments |
| 03                       | S2     | 29/10/2019 | Updated drawings appended               |
| 04                       | S2     | 06/11/2019 | Updated to incorporate Arun DC comments |
| 05                       | S2     | 15/11/2019 | Updated to incorporate Arun DC comments |

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

## *Introduction*

The key elements of the surface water system will require periodic maintenance to prevent failure of the system and/or a reduction in capacity of the networks as a whole and the following matrix therefore sets out the various drainage items to be maintained, identifies whose is responsible and the frequency of maintenance.

The drainage within the development will be maintained privately by a management company appointed by the owner / occupier as follows:

### **Unit 2**

The occupier (Warburtons) will have direct responsibility for the maintenance and repair of the foul and surface water drainage system within their site boundary including ensuring compliance with any regulatory requirement with regards to the quality of surface water discharge.

### **Site Wide Drainage (inc Estate Road)**

Management of the site wide drainage is the overall responsibility of the Landlords. The overall estate will be owned & managed by a management company who will be funded by the landlord. The management Company will derive income from the service charge obligations placed on the tenants on a due proportion basis.

The intention is that the Estate Road will eventually become adopted by West Sussex Local Authority Highways and all maintenance responsibilities with regards to the associated Estate Road drainage system will be passed over to the Local Authority. Until then, maintenance of the Estate Road drainage will be the responsibility of the Landlords as noted above.

## *Drainage Strategy Summary*

### 0.1 Surface Water

The surface water drainage for the wider development has been split into 3 no. networks. This Operation and Maintenance document relates to Surface Water Network 1 for Unit 2, and Surface Water Network 2 for the main estate roads.

#### **Surface Water Network 1**

Unit 3 and Units 4-8 connects into Surface Water Network 1 on the western side of each of their respective plots. A carrier drain then takes flows northwards within the estate road, across the top of Unit 2, before out falling into the existing watercourse on the western boundary of the development. Unit 2 surface water connects into Surface Water Network 1 at a location upstream of the outfall.

#### **Surface Water Network 2**

Surface water run-off is collected from the estate roads and associated footpaths to be discharged into Surface Water Network 2 located within the road which runs east to west across the development before out falling into the existing watercourse on the western boundary.

The surface water drainage for both Unit 2 and the Estate Road has been designed to ensure that:

- No flooding will occur during the 1 in 100-year rainfall event in any part of the building, or in any utility plant susceptible to water.
- Surface water for the 100-year rainfall event is contained within each catchment boundary.
- An allowance for **40%** climate change is applied to the 100-year rainfall event and incorporated into the surface water drainage design in accordance with local and national planning policy.

The surface water drainage network has been modelled to take into consideration the effects surcharge should an extreme storm event occur at the same time as high flood levels from the adjacent water course.

The 100 year plus 45% climate change fluvial flood level of **1.85 mAOD** has specified at the outfall of each network and rainfall simulated for all storm events up to and including the 100 year plus 40% climate change.

Should rainfall exceed the 1 in 100-year storm event or the system failure through lack of maintenance, surface water run-off is to be directed via designated exceedance routes away buildings and/or critical infrastructure.

### 0.2 Foul Water

Foul water drainage from each unit plot will discharge into a new sewer located within the estate roads. Flows will be directed towards the north of the development where they will then be pumped from a new foul pumping station offsite via a rising main into the Southern Water Foul Sewer at Manhole ref 8801 to the north east in Shripney Road.

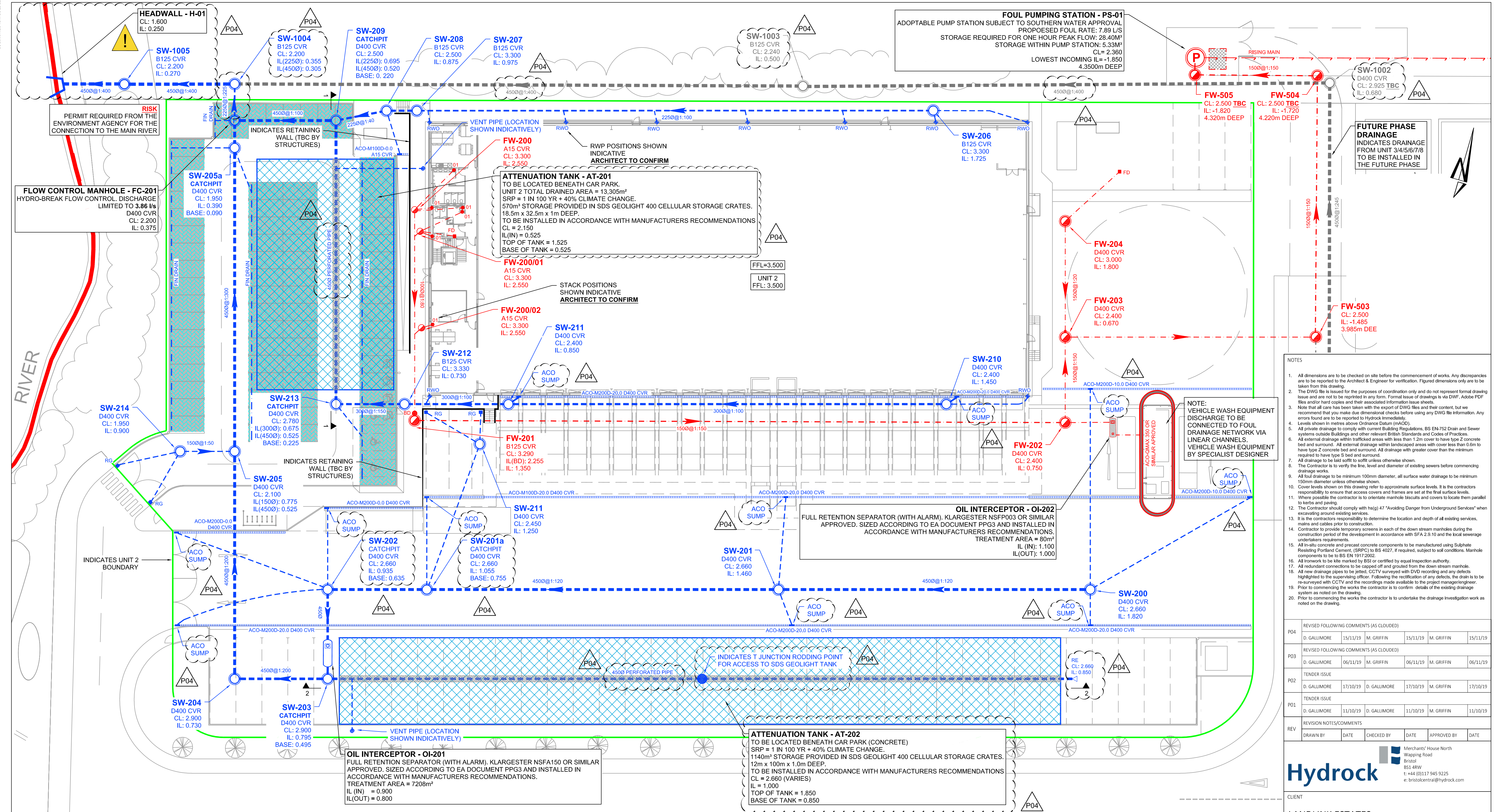
## Ownership & Maintenance Responsibility Matrix

| Responsibility                                         | Feature                                                               | Maintenance                       | Frequency                                                                                                                                                                                          |
|--------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Owner / Occupier<br>Appointed<br>Management<br>Company | Private Drains                                                        | Inspection                        | CCTV survey every 5-10 years.                                                                                                                                                                      |
|                                                        |                                                                       | Regular Maintenance               | Jet clean system fully every 5-10 years. (Recommend prior to CCTV drainage survey is)                                                                                                              |
|                                                        |                                                                       | Remedial / Occasional Maintenance | Carry out remedial works as identified in CCTV survey.                                                                                                                                             |
|                                                        | Outfall pipes, non-return pipe flaps, and anti-scour mat flow channel | Inspection                        | Quarterly                                                                                                                                                                                          |
|                                                        |                                                                       | Regular Maintenance               | Remove silt and debris as necessary to prevent build up.                                                                                                                                           |
|                                                        |                                                                       | Remedial / Occasional Maintenance | Damage to pipes and headwall to be repaired as necessary                                                                                                                                           |
|                                                        | Discharge orifice manholes/flow control devices                       | Inspection                        | Monthly                                                                                                                                                                                            |
|                                                        |                                                                       | Regular Maintenance               | Remove silt and debris as necessary to prevent build up.                                                                                                                                           |
|                                                        | Gullies / Drainage Channels                                           | Inspection                        | Quarterly                                                                                                                                                                                          |
|                                                        |                                                                       | Regular Maintenance               | Remove silt and debris as necessary to prevent build up.                                                                                                                                           |
|                                                        | Permeable Paving (Refer to specialist)                                | Inspection                        | Within 3 months of installation then every 6 months                                                                                                                                                |
|                                                        |                                                                       | Regular Maintenance               | Sweep surface to remove debris and contamination 1-2 times a year, and typically after leaf fall in autumn.                                                                                        |
|                                                        |                                                                       | Occasional Maintenance            | Removal of weeds. As required.                                                                                                                                                                     |
|                                                        |                                                                       | Remedial Measures                 | Remediate areas of rutting and depressions. As required.<br>Replace broken / damaged blocks. As required.<br>Rehabilitate surface with sweeping and reapplication of clean gritstone. As required. |
|                                                        | Attenuation tank                                                      | Inspection                        | Annually                                                                                                                                                                                           |
|                                                        |                                                                       | Occasional Maintenance            | Remove silt and debris as necessary to prevent build up.                                                                                                                                           |
|                                                        | Catchpits                                                             | Inspection                        | Every 6 months                                                                                                                                                                                     |
|                                                        |                                                                       | Occasional Maintenance            | Remove silt and debris as necessary to prevent build up.                                                                                                                                           |
|                                                        | Oil Interceptor                                                       | Inspection                        | Monthly                                                                                                                                                                                            |
|                                                        |                                                                       | Regular Maintenance               | Jet clean system fully every 5-10 years. (Recommend prior to CCTV drainage survey)                                                                                                                 |
|                                                        |                                                                       | Remedial / Occasional Maintenance | Carry out remedial works as identified in CCTV survey.                                                                                                                                             |

|  |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                               | <p>In addition to the above, the following is a list of tasks associated with the maintenance of an Interceptor. This should be read in conjunction with the manufacturers own specific maintenance requirements and only carried out by a fully trained operative.</p> <ul style="list-style-type: none"> <li>• Inspect the integrity of the separator and all mechanical parts.</li> <li>• Inspect all filters and replace or repair as required.</li> <li>• Assess the amount of collected contaminants (oil and fuel) and silt.</li> <li>• Service any electrical systems including volume alarms and any interceptor management systems.</li> <li>• Conduct safe silt/contaminant removal in accordance with waste transit and disposal regulations.</li> <li>• Maintain industry standard documentation.</li> <li>• Maintain logs of inspections, maintenance, incidents, services and contaminant removal</li> </ul> |
|  |                                                                               | <p><b><u>Interceptor Alarms:</u></b></p> <p>Each interceptor will have a visual alarm indicator local to the interceptor as well as an alarm (visual or audible) linked either back to the adjacent building if maintenance responsibility resides with the tenant or to a remote supervisory point when maintenance responsibility resides with the estate management team.</p> <p>Alarm sounds to inform to take corrective action ensuring the safe and economic operation of separators preventing oil passing through the separator. When alarm sounds, empty tank as necessary.</p> <p>Factory trained engineers are available for site visits as part of a planned maintenance contract or on a one-off call out basis.</p>                                                                                                                                                                                          |
|  | Reference should be made to the manufacturer recommendations where applicable |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Appendix A Drainage Layouts

- SAL-HYD-00-ZZ-DR-C-7010 Unit 2 Drainage layout
- SAL-HYD-00-ZZ-DR-C-7020 Access Road Drainage Layout Sheet 1
- SAL-HYD-00-ZZ-DR-C-7021 Access Road Drainage Layout Sheet 2
- SAL-HYD-00-ZZ-DR-C-7022 Access Road Drainage Layout Sheet 3



- NOTES
- All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
  - The DWG file is issued for the purposes of coordination only and does not represent formal drawing to be taken from this drawing.
  - Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.
  - Levels shown in metres above Ordnance Datum (mAOD).
  - All private drainage to comply with current Building Regulations, BS EN-752 Drain and Sewer systems outside Buildings and other relevant British Standards and Codes of Practice.
  - All external drainage within trafficked areas with less than 1.2m cover to have type Z concrete bed and surround. All external drainage within landscaped areas with cover less than 0.6m to have type Z concrete bed and surround. All drainage with greater cover than the minimum required to have type S bed and surround.
  - All drainage to be laid with a fall to suit unless otherwise shown.
  - The Contractor is to verify the line, level and diameter of existing sewers before commencing drainage works.
  - All foul drainage to be minimum 100mm diameter, all surface water drainage to be minimum 150mm diameter unless otherwise shown.
  - Cover levels shown on this drawing refer to approximate surface levels. It is the contractors responsibility to ensure that access covers and frames are set at the final surface levels.
  - The Contractor is to orientate manhole biscuits and covers to locate them parallel to kerbs and paving.
  - The Contractor should comply with hse(g) 47 "Avoiding Danger from Underground Services" when excavating around existing services.
  - It is the contractors responsibility to determine the location and depth of all existing services, mains and cables prior to construction.
  - Contractor to provide temporary screens in each of the down stream manholes during the construction period of the development in accordance with SFA 2.3.10 and the local sewerage undertakers requirements.
  - All in-situ concrete and precast concrete components to be manufactured using Sulphate Resisting Portland Cement, (SRPC) to BS 4027, If required, subject to soil conditions. Manhole components to be to BS EN 1917:2002.
  - All ironwork to be hot dipped galvanized or certified by equal inspection authority.
  - All redundant connections to be capped off and grouted from the down stream manhole.
  - All new drainage pipes to be jetted, CCTV surveyed with DVD recording and any defects highlighted to the supervising officer. Following the rectification of any defects, the drain is to be re-surveyed with CCTV and the recordings made available to the project manager/engineer.
  - Prior to commencing the works the contractor is to confirm details of the existing drainage system as noted on the drawing.
  - Prior to commencing the works the contractor is to undertake the drainage investigation work as noted on the drawing.

| REVISED FOLLOWING COMMENTS (AS CLOUDED) |              |          |              |          |             |
|-----------------------------------------|--------------|----------|--------------|----------|-------------|
| P04                                     | D. GALLIMORE | 15/11/19 | M. GRIFFIN   | 15/11/19 | M. GRIFFIN  |
| REVISED FOLLOWING COMMENTS (AS CLOUDED) |              |          |              |          |             |
| P03                                     | D. GALLIMORE | 06/11/19 | M. GRIFFIN   | 06/11/19 | M. GRIFFIN  |
| TENDER ISSUE                            |              |          |              |          |             |
| P02                                     | D. GALLIMORE | 17/10/19 | D. GALLIMORE | 17/10/19 | M. GRIFFIN  |
| TENDER ISSUE                            |              |          |              |          |             |
| P01                                     | D. GALLIMORE | 11/10/19 | D. GALLIMORE | 11/10/19 | M. GRIFFIN  |
| REVISION NOTES/COMMENTS                 |              |          |              |          |             |
| REV                                     | DRAWN BY     | DATE     | CHECKED BY   | DATE     | APPROVED BY |

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| LANDLINK ESTATES                                                  |                     |
|-------------------------------------------------------------------|---------------------|
| PROJECT                                                           |                     |
| SALTBOX<br>BOGNOR REGIS                                           |                     |
| TITLE                                                             |                     |
| UNIT 2 DRAINAGE LAYOUT                                            |                     |
| HYDROCK PROJECT NO.                                               |                     |
| C-13319-C                                                         | SCALE @ A1<br>1:250 |
| STATUS DESCRIPTION                                                |                     |
| TENDER                                                            | D2                  |
| DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) |                     |
| SAL-HYD-00-ZZ-DR-C-7010                                           | REVISION<br>P04     |

**LEGEND**

**PROPOSED DRAINAGE - FOUL**

FOUL WATER DRAIN - CLAY  
Approx. gradient and diameter as noted, 100mm Ø UNO

FOUL WATER MANHOLE  
PC Ring REFER TO DETAILS FOR MANHOLE DIAMETER

FOUL WATER INSPECTION CHAMBER  
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.

FOUL WATER SHALLOW ACCESS CHAMBER  
Max depth to invert 600mm from GL. 300mm Ø

FOUL RODDING EYE  
Ø as noted

FOUL YARD GULLY (to be trapped)  
Gully reference as noted on drawing.  
Cover grade to suit loading.

FLOOR DRAIN (to be trapped)  
Internal use only, refer to architect for details / specification.  
Roddable from above slab into standard (Ø1) fitting.  
Floor Drain / Gully to be kept charged to avoid odours.

FOUL OUTLET / STACK POSITION  
Shown indicative, refer to architect for setting out.  
All branches 100mm Ø UNO.  
O1 - Outlet connects into standard 90° rest bend.  
O1A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.  
SVP - Indicates soil vent pipe by service engineer: with access.

**PROPOSED DRAINAGE - STORM**

STORM WATER DRAIN - CLAY  
Approx. gradient and diameter as noted, 150mm Ø UNO

STORM WATER MANHOLE  
PC Ring - REFER TO DETAILS FOR MH DIAMETER

STORM WATER INSPECTION CHAMBER  
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m

STORM RODDING EYE  
Ø as noted

SILT TRAP

CONCRETE ENCASEMENT TO PIPE  
Refer to limits of cover table drawing 7101

RAIN WATER OUTLET  
Shown indicative, refer to architect for setting out.  
All branches 100mm Ø UNO.  
O1 - Outlet connects into standard 90° rest bend.  
O1A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.

RAIN WATER OUTLET ACCESS GULLY  
AG - Outlet connects to gully.

ROAD GULLY (to be trapped)

YARD GULLY (to be trapped)

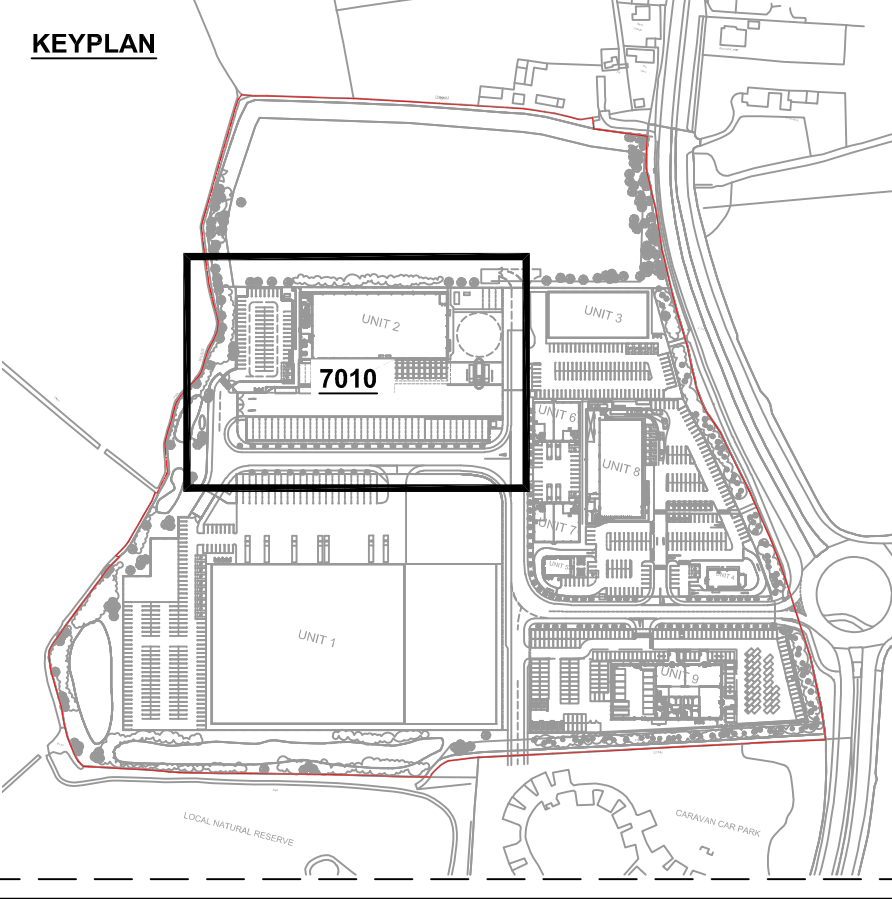
PAVED AREA GULLY (to be trapped)

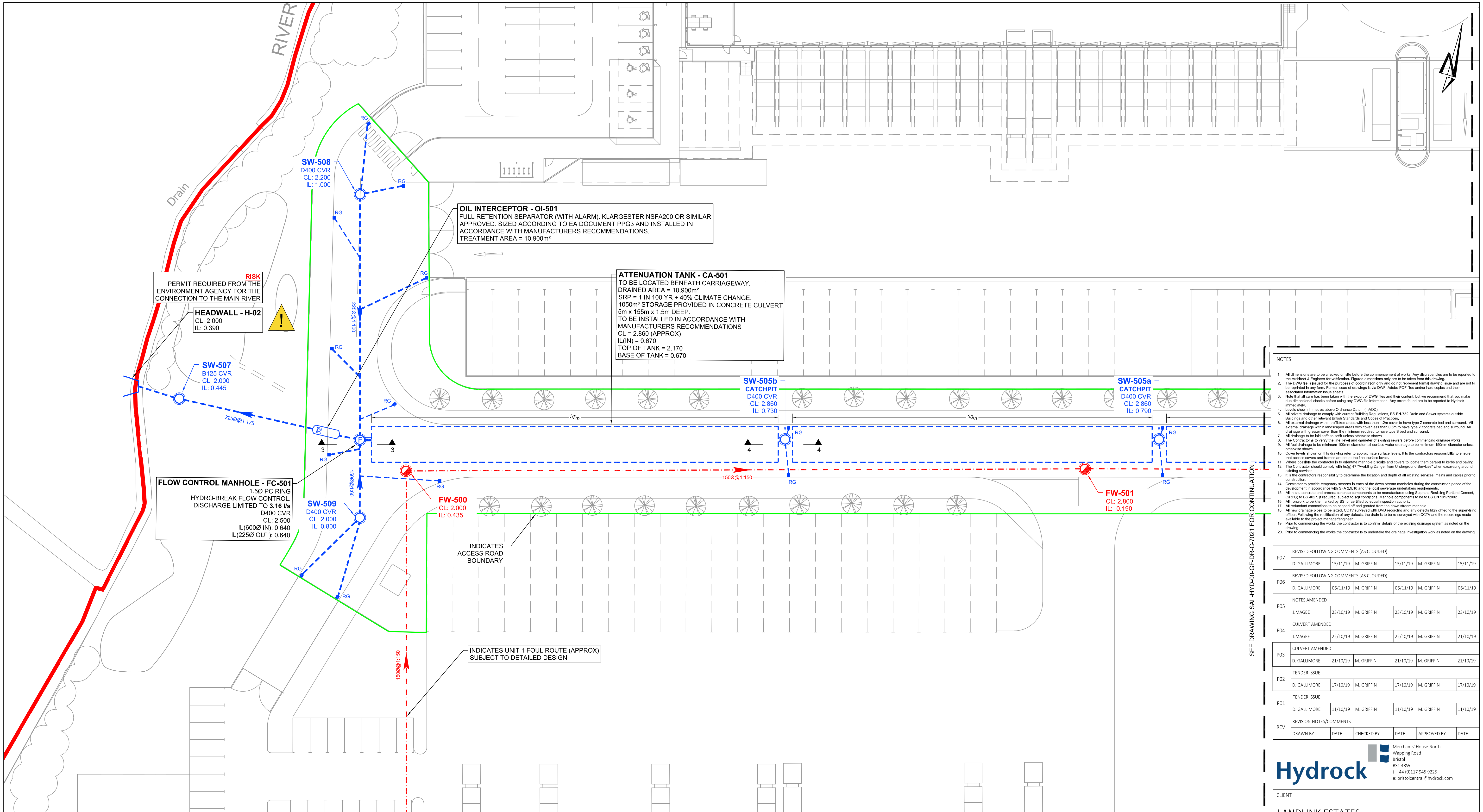
DRAINAGE CHANNEL  
(Refer to layout for specification)

THRESHOLD DRAINAGE CHANNEL  
(Refer to architect for details / specification)

FIN DRAIN  
Refer to details for specifications)  
all pipes to be 150Ø UNO

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.



[illegible]

|     |                                         |          |            |          |            |          |
|-----|-----------------------------------------|----------|------------|----------|------------|----------|
| P07 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |            |          |
|     | D. GALLIMORE                            | 15/11/19 | M. GRIFFIN | 15/11/19 | M. GRIFFIN | 15/11/19 |
| P06 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |            |          |
|     | D. GALLIMORE                            | 06/11/19 | M. GRIFFIN | 06/11/19 | M. GRIFFIN | 06/11/19 |
| P05 | NOTES AMENDED                           |          |            |          |            |          |
|     | J.MAGEE                                 | 23/10/19 | M. GRIFFIN | 23/10/19 | M. GRIFFIN | 23/10/19 |
| P04 | CULTURE AMENDED                         |          |            |          |            |          |
|     | J.MAGEE                                 | 22/10/19 | M. GRIFFIN | 22/10/19 | M. GRIFFIN | 21/10/19 |
| P03 | CULTURE AMENDED                         |          |            |          |            |          |
|     | D. GALLIMORE                            | 21/10/19 | M. GRIFFIN | 21/10/19 | M. GRIFFIN | 21/10/19 |
| P02 | TENDER ISSUE                            |          |            |          |            |          |
|     | D. GALLIMORE                            | 17/10/19 | M. GRIFFIN | 17/10/19 | M. GRIFFIN | 17/10/19 |
| P01 | TENDER ISSUE                            |          |            |          |            |          |
|     | D. GALLIMORE                            | 11/10/19 | M. GRIFFIN | 11/10/19 | M. GRIFFIN | 11/10/19 |

| REV | REVISION NOTES/COMMENTS |      |            |      |             |      |
|-----|-------------------------|------|------------|------|-------------|------|
|     | DRAWN BY                | DATE | CHECKED BY | DATE | APPROVED BY | DATE |

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CLIENT \_\_\_\_\_

LANDLINK ESTATES

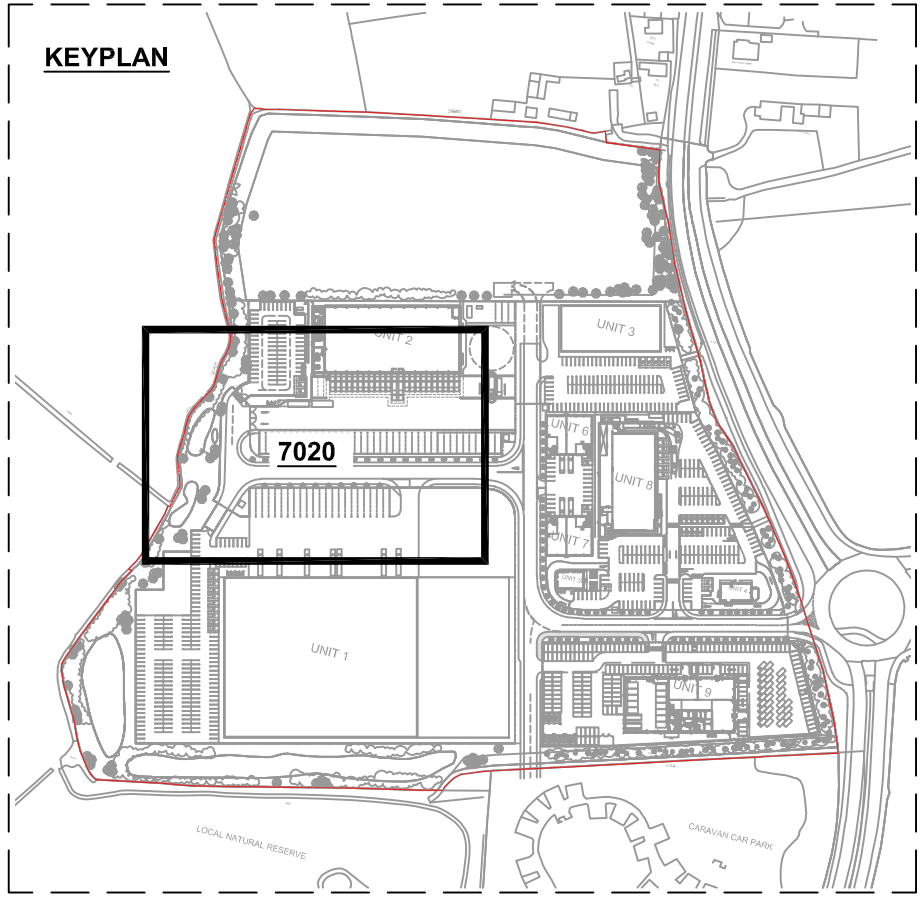
PROJECT

SALTBOX  
BOGNOR REGIS

TITLE

ACCESS ROAD DRAINAGE LAYOUT  
SHEET 1

|                                                                                              |  |                     |                 |
|----------------------------------------------------------------------------------------------|--|---------------------|-----------------|
| HYDROCK PROJECT NO.<br>C-13319-C                                                             |  | SCALE @ A1<br>1:250 |                 |
| STATUS DESCRIPTION<br>TENDER                                                                 |  |                     | STATUS<br>D2    |
| DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)<br>SAL-HYD-00-ZZ-DR-C-7020 |  |                     | REVISION<br>P07 |



**LEGEND**

**PROPOSED DRAINAGE - FOUL**

**100mm Ø 1:100**

**FOUL WATER DRAIN - CLAY**  
Approx. gradient and diameter as noted, 100mm Ø UNO

**FOUL WATER MANHOLE**  
PC Ring REFER TO DETAILS FOR MANHOLE DIAMETER

**FW-01**

**FOUL WATER INSPECTION CHAMBER**  
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m

**FW-01**

**Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.**

**FOUL WATER SHALLOW ACCESS CHAMBER**  
Max depth to invert 600mm from GL, 300mm Ø

**SAC**

**FOUL RODDING EYE**  
Ø as noted

**RE**

**YG**

**FOUL YARD GULLY** (to be trapped)  
Gully reference as noted on drawing.  
Cover grade to suit loading.

**FD**

**FLOOR DRAIN** (to be trapped)  
Internal use only, refer to architect for details / specification.  
Roddable from above slab into standard (Ø1) fitting.  
Floor Drain / Gully to be kept charged to avoid odours.

**O1 & O1A**

**FOUL OUTLET / STACK POSITION**  
Shown indicative, refer to architect for setting out.  
All branches 100mm Ø UNO.

**Ø1** - Outlet connects into standard 90° rest bend.  
**O1A** - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.  
**SVP** - Indicates soil vent pipe by service engineer: with access.

**PROPOSED DRAINAGE - STORM**

The diagram illustrates a storm drainage system layout. It includes a legend on the right identifying symbols for different components: AG (Rain Water Outlet Access Gully), RG (Road Gully), YG (Yard Gully), PG (Paved Area Gully), DC (Drainage Channel), and TH (Threshold Drainage Channel). The main layout shows a storm water drain (CLAY) with a gradient of 1:100, a storm water manhole (PC Ring), a storm water inspection chamber (PVCu), a storm rodding eye, a silt trap, and a concrete encasement to pipe. A rain water outlet is also shown, with a note indicating it should be set to standard 90° rest bend. A note at the bottom states: 'Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.'

**PROPOSED DRAINAGE - STORM**

1500@1:100

**STORM WATER DRAIN - CLAY**  
Approx. gradient and diameter as noted, 150mm Ø UNO

**STORM WATER MANHOLE**  
PC Ring REFER TO DETAILS FOR MANHOLE DIAMETER

**STORM WATER INSPECTION CHAMBER**  
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m

**STORM RODDING EYE**  
Ø as noted

**SILT TRAP**

**CONCRETE ENCASEMENT TO PIPE**  
Refer to limits of cover table drawing 7101

**RAIN WATER OUTLET**  
Shown indicative, refer to architect for setting out.  
All branches 100mm Ø UNO.  
01 - Outlet connects into standard 90° rest bend.  
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.

**Legend:**

- AG RAIN WATER OUTLET ACCESS GULLY  
AG - Outlet connects to gully.
- RG ROAD GULLY (to be trapped)
- YG YARD GULLY (to be trapped)
- PG PAVED AREA GULLY (to be trapped)
- DC DRAINAGE CHANNEL  
(Refer to layout for specification)
- TH THRESHOLD DRAINAGE CHANNEL  
(Refer to architect for details / specification)

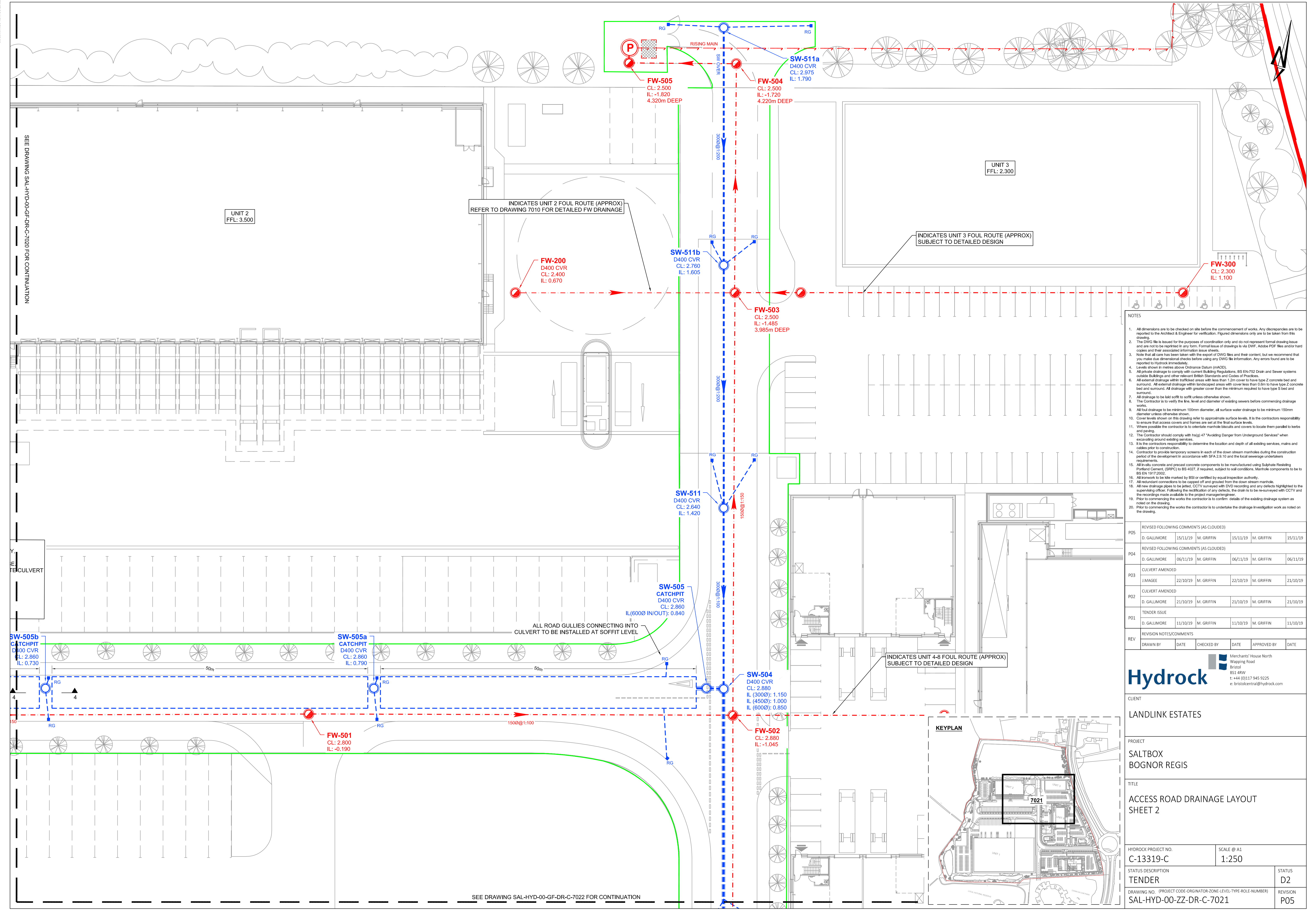
*Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.*

SEE DRAWING SAL-HYD-00-GF-DR-C-7020 FOR CONTINUATION

SEE DRAWING SAL-HYD-00-GF-DR-C-7022 FOR CONTINUATION

SEE DRAWING SAL-HYD-00-GF-DR-C-7022 FOR CONTINUATION

SEE DRAWING SAL-HYD-00-GF-DR-C-7022 FOR CONTINUATION

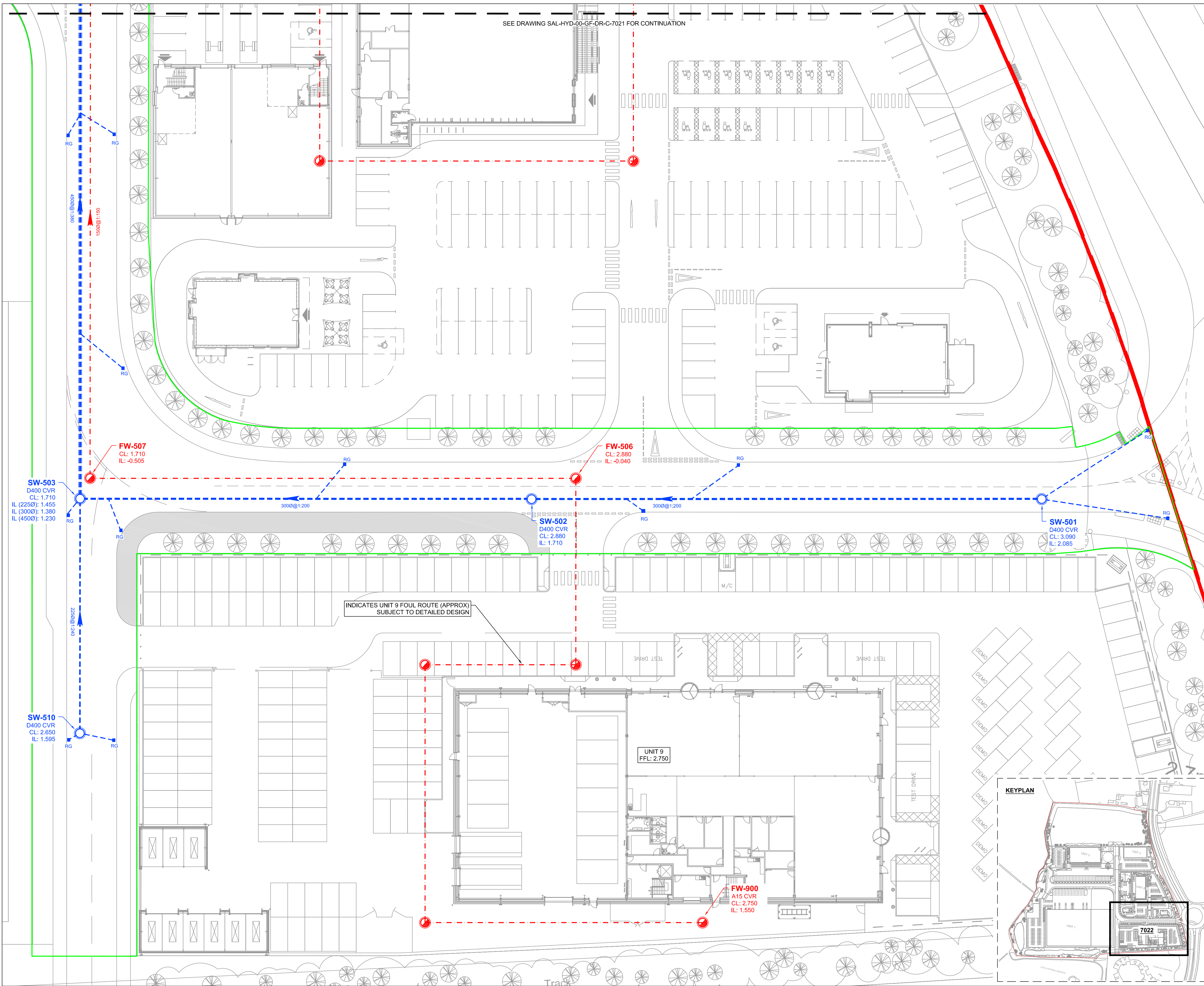


- NOTES
- All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
  - The DWG file is issued for the purposes of coordination only and does not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWG. Adobe PDF files and/or hard copies and their associated information issue sheets.
  - Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.
  - Levels shown in metres above Ordnance Datum (mAO).
  - All private drainage to comply with current Building Regulations, BS EN752 Drain and Sewer systems outside Buildings and other relevant British Standards and Codes of Practice.
  - All external drainage within trafficked areas with less than 1.2m cover to have type Z concrete bed and surround. All external drainage within landscaped areas with cover less than 0.6m to have type Z concrete bed and surround. All drainage with greater cover than the minimum required to have type S bed and surround.
  - All drainage to be laid soffit to soffit unless otherwise shown.
  - The Contractor is to verify the line, level and diameter of existing sewers before commencing drainage works.
  - All foul drainage to be minimum 100mm diameter, all surface water drainage to be minimum 150mm diameter unless otherwise shown.
  - Cover levels shown on this drawing refer to approximate surface levels. It is the contractors responsibility to ensure that access covers and frames are set at the final surface levels.
  - Where possible the contractor is to orientate manhole boulders and covers to locate them parallel to kerbs and paving.
  - The Contractor should comply with hse/47 "Avoiding Danger from Underground Services" when excavating around existing services.
  - It is the contractors responsibility to determine the location and depth of all existing services, mains and cables prior to construction.
  - Contractor to provide temporary screens in each of the down stream manholes during the construction period of the development in accordance with SFA 2.9.10 and the local sewerage undertakers requirements.
  - All in-situ concrete and precast concrete components to be manufactured using Sulphate Resisting Portland Cement (SRPC) to BS4027. If required, subject to soil conditions. Manhole components to be to BS EN 1917:2002.
  - All manholes to be life marked by BSI or certified by equal inspection authority.
  - All redundant connections to be capped off and grouted from the down stream manhole.
  - All new drainage pipes to be jetted, CCTV surveyed with DVD recording and any defects highlighted to the supervising officer. Following the rectification of any defects, the drain is to be re-surveyed with CCTV and the recordings made available to the project manager/engineer.
  - Prior to commencing the works the contractor is to confirm details of the existing drainage system as noted on the drawing.
  - Prior to commencing the works the contractor is to undertake the drainage investigation work as noted on the drawing.

|     |                                         |          |            |          |             |
|-----|-----------------------------------------|----------|------------|----------|-------------|
| P05 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |             |
|     | D. GALLIMORE                            | 15/11/19 | M. GRIFFIN | 15/11/19 | M. GRIFFIN  |
| P04 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |             |
|     | D. GALLIMORE                            | 06/11/19 | M. GRIFFIN | 06/11/19 | M. GRIFFIN  |
| P03 | CULVERT AMENDED                         |          |            |          |             |
|     | J. MAGEE                                | 22/10/19 | M. GRIFFIN | 22/10/19 | M. GRIFFIN  |
| P02 | CULVERT AMENDED                         |          |            |          |             |
|     | D. GALLIMORE                            | 21/10/19 | M. GRIFFIN | 21/10/19 | M. GRIFFIN  |
| P01 | TENDER ISSUE                            |          |            |          |             |
|     | D. GALLIMORE                            | 11/10/19 | M. GRIFFIN | 11/10/19 | M. GRIFFIN  |
| REV | REVISION NOTES/COMMENTS                 |          |            |          |             |
|     | DRAWN BY                                | DATE     | CHECKED BY | DATE     | APPROVED BY |

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|                                                                   |  |                                        |  |
|-------------------------------------------------------------------|--|----------------------------------------|--|
| CLIENT                                                            |  | LANDLINK ESTATES                       |  |
| PROJECT                                                           |  | SALTBOX<br>BOGNOR REGIS                |  |
| TITLE                                                             |  | ACCESS ROAD DRAINAGE LAYOUT<br>SHEET 2 |  |
| HYDROCK PROJECT NO.                                               |  | SCALE @ A1<br>1:250                    |  |
| STATUS DESCRIPTION                                                |  | STATUS                                 |  |
| TENDER                                                            |  | D2                                     |  |
| DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) |  | REVISION                               |  |
| SAL-HYD-00-ZZ-DR-C-7021                                           |  | P05                                    |  |



## NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figure dimensions only are to be taken as a guide.
2. The DWG file is issued for the purposes of coordination only and does not represent final drawing issue and are not to be reprinted in any form. Formal issue of drawings is via PDF, Adobe PDF file format.
3. Note that all care has been taken with the export of DWG files and their content, but we recommend that you make dual dimensional checks before using any DWG file information. Any errors found should be reported to the Architect.
4. Levels shown in metres above Ordnance Datum (mAOD).
5. All services, drainage, gas, water, ventilation, heating, ventilation, air conditioning, BS EN 752 Drain and vent systems outside Buildings and other relevant British Standards and Codes of Practice.
6. All external drainage within trafficked areas with less than 12m cover to have type Z concrete bed and 100mm diameter drainage. All other areas to have type 5 concrete bed and 150mm diameter Z concrete bed and surround. All drainage with greater cover than the minimum required to have type 5 bed and surround.
7. All drainage to be laid to a fall to sufficient level and diameter of sewerage before commencing the works.
8. The Contractor is to verify the line, level and clearance of existing sewers before commencing the works.
9. All foul drainage to be minimum 100mm diameter, all surface water drainage to be minimum 150mm diameter unless otherwise shown.
10. Level of drainage to be minimum 100mm diameter to be approximate surface level. It is the contractor's responsibility to ensure that access covers and frames are set at the final surface levels.
11. Where possible the contractor is to off-locate manhole biscuits and covers to locate them parallel to the kerb and away from the footway.
12. The Contractor should comply with High 47 'Avoiding Danger Underground Services' when excavating around existing services.
13. The Contractor shall determine the location and depth of all existing services, mains and cables prior to construction.
14. The Contractor to construct concrete access covers in accordance with the down stream manholes during the construction period of the development in accordance with SFA 2.5.10 and the local sewerage authority's requirements.
15. The Contractor to construct concrete access components to be manufactured using Sulphate Resisting Portland Cement, (SRPC) to BS 4027, if required, subject to local conditions. Manhole components to be to BS EN 1017-2:2002.
16. All footways to be site marked by BSI or certified by legal inspection authority.
17. All redundant connections to be capped off and grouted from the down stream manhole.
18. The Contractor to ensure that all work is carried out in accordance with the relevant standards to the supervising officer. Following the rectification of any defects, the drain is to be re-surveyed with CCTV and the recordings made available to the project manager/hanger.
19. Prior to commencing the works the contractor is to confirm details of the existing drainage system as noted on the drawing.
20. Prior to commencing the works the contractor is to undertake the drainage investigation system

|     |                                         |          |            |          |            |          |
|-----|-----------------------------------------|----------|------------|----------|------------|----------|
| P04 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |            |          |
|     | D. GALLIMORE                            | 15/11/19 | M. GRIFFIN | 15/11/19 | M. GRIFFIN | 15/11/19 |

|     |                                         |          |            |          |            |          |
|-----|-----------------------------------------|----------|------------|----------|------------|----------|
| P03 | REVISED FOLLOWING COMMENTS (AS CLOUDED) |          |            |          |            |          |
|     | D. GALLIMORE                            | 06/11/19 | M. GRIFFIN | 06/11/19 | M. GRIFFIN | 06/11/19 |

|     |                 |          |            |          |            |          |
|-----|-----------------|----------|------------|----------|------------|----------|
| P02 | CULVERT AMENDED |          |            |          |            |          |
|     | D. GALLIMORE    | 21/10/19 | M. GRIFFIN | 21/10/19 | M. GRIFFIN | 21/10/19 |

|     |              |          |          |          |            |          |
|-----|--------------|----------|----------|----------|------------|----------|
| PO1 | TENDER ISSUE |          |          |          |            |          |
|     | D. CALLUMORE | 11/10/10 | L. MACEE | 11/10/10 | M. GRIFFIN | 11/10/10 |

|     |                         |          |          |          |            |          |
|-----|-------------------------|----------|----------|----------|------------|----------|
|     | D. GALLIMORE            | 11/10/19 | J. MAGEE | 11/10/19 | M. GRIFFIN | 11/10/19 |
| REV | REVISION NOTES/COMMENTS |          |          |          |            |          |
|     |                         |          |          |          |            |          |

| DRAWN BY                                                                                                                                                                                                                                                                                                                                                                    | DATE | CHECKED BY | DATE | APPROVED BY | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------|------|-------------|------|
| <div style="display: flex; align-items: center;">  <div> <p>Merchants' House North<br/>Wapping Road<br/>Bristol<br/>BS1 4RW<br/>t: +44 (0)117 945 9225<br/>e: <a href="mailto:bristolcentral@hydrock.com">bristolcentral@hydrock.com</a></p> </div> </div> |      |            |      |             |      |

CLIENT

LANDLINK ESTATES

PROJECT

SALTBOX  
BOGNOR REGIS

TITLE

ACCESS ROAD DRAINAGE LAYOUT  
SHEET 3

|                                                                                              |  |                     |
|----------------------------------------------------------------------------------------------|--|---------------------|
| HYDROCK PROJECT NO.<br>C-13319-C                                                             |  | SCALE @ A1<br>1:250 |
| STATUS DESCRIPTION<br>TENDER                                                                 |  | STATUS<br>D2        |
| DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)<br>SAL-HYD-00-ZZ-DR-C-7022 |  | REVISION<br>P04     |