

## C510 – Whitechapel and Liverpool Street Station Tunnels

### Instrumentation and Monitoring Close Out Report Block 03 Liverpool Street (Including Block 23 & 25 Road Studs)

CRL Document Number: C510-BBM-C2-RGN-C101-50241

Supplier Document Number: N/A

Contract MDL reference: C13.014

**1. Contractor Document Submittal History:**

Revision:	Date:	Prepared by:	Checked by:	Approved by:	Reason for Issue:
2.0	30/10/2017	[Redacted]	[Redacted]	[Redacted]	For Acceptance

**2a. Stakeholder Review Required?**

YES  NO

Stakeholder submission required: LU  RfL  Purpose of submission: For no objection   
 NR  LO  For information   
 DLR  Other: \_\_\_\_\_

This document has been reviewed by the following individual for coordination, compliance, integration and acceptance and is acceptable for transmission to the above stakeholder for the above stated purpose.


Sign: \_\_\_\_\_ Role: \_\_\_\_\_ Name: \_\_\_\_\_ Date: \_\_\_\_\_

Sign: \_\_\_\_\_ Role: \_\_\_\_\_ Name: \_\_\_\_\_ Date: \_\_\_\_\_

**2b. Review by Stakeholder (if required):**

Stakeholder Organisation	Job Title	Name	Signature	Date	Acceptance
					<input type="checkbox"/>
					<input type="checkbox"/>

**3. Acceptance by Crossrail:**

 <b>Crossrail Review and Acceptance Decal</b>	
This decal is to be used for submitted documents requiring acceptance by Crossrail.	
<input checked="" type="checkbox"/>	Code 1. Accepted. Work May Proceed
<input type="checkbox"/>	Code 2. Not Accepted. Revise and resubmit. Work may proceed subject to incorporation of changes indicated
<input type="checkbox"/>	Code 3. Not Accepted. Revise and resubmit. Work may not proceed
<input type="checkbox"/>	Code 4. Received for information only. Receipt is confirmed
Reviewed/Accepted by:(signature) _____	Print Name: _____ Position: _____ Date: 04/12/17
<small>Acceptance by Crossrail does not relieve the designer/supplier from full compliance with their contractual obligations and does not constitute Crossrail approval of design, details, calculations, analyses, test methods or materials developed or selected by the designer/supplier.</small>	

Document Revision History		
Revision	Date	Purpose
1.0	25/05/2017	For approval
2.0	30/10/2017	For final approval

## TABLE OF CONTENTS

<b>1</b>	<b>Purpose of Close out Report .....</b>	<b>4</b>
<b>2</b>	<b>Scope of Monitoring Assessment for Close Out .....</b>	<b>5</b>
<b>3</b>	<b>Close Out Report Block Description and Location Plan .....</b>	<b>6</b>
3.1	<b>Block 03 Location .....</b>	<b>6</b>
3.2	<b>Block 03 Description.....</b>	<b>7</b>
<b>4</b>	<b>Construction Programme Influencing Block 03 .....</b>	<b>8</b>
4.1	<b>Tunnel Advances Affecting Block 03 .....</b>	<b>10</b>
<b>5</b>	<b>Monitoring Assessment of Block 03 .....</b>	<b>11</b>
5.1	<b>Time Graphs Monitoring Full History and Construction Durations .....</b>	<b>12</b>
5.2	<b>Block 03 Decommissioning Status Tracker .....</b>	<b>20</b>
5.3	<b>Supplementary Evidence for Decommissioning.....</b>	<b>28</b>
5.3.1	Road Stud LP12525 .....	28
5.3.2	Moorgate Roadworks Affecting LP12347 to LP12355 .....	29
5.4	<b>Monitoring sensor Location Plan and Decommissioning Status .....</b>	<b>30</b>
<b>6</b>	<b>Decommissioning Recommendations .....</b>	<b>37</b>
<b>7</b>	<b>Appendix 1 – Revision 1 Summary .....</b>	<b>38</b>

(From General Document Template ref: BBMV-Form-S9-04 rev 5.0)

Learning Log (C) Document

## Tables and Figures

<i>Figure 1- Liverpool St General Location Plan - including Block 03 monitoring area</i> .....	6
<i>Figure 2 - Block 03 ZOI Constructions</i> .....	9
<i>Figure 3. LP12525 Located on Unstable Concrete Slab</i> .....	28
<i>Figure 4. Roadworks taking place on Moorgate footpath. LP12347 to LP12355 affected by works.</i> .....	29
<i>Figure 5- LP Monitoring Sensor Settlement Status and Location Plan</i> .....	31
<i>Figure 6- LB &amp; LC Monitoring Sensor Settlement Status and Location Plan</i> .....	32
<i>Figure 7- SH Monitoring Sensor Settlement Status and Location Plan</i> .....	33
<i>Figure 8- TB Monitoring Sensor Settlement Status and Location Plan</i> .....	34
<i>Figure 9- RP Monitoring Sensor Settlement Status and Location Plan</i> .....	35
<i>Figure 10- CK Monitoring Sensor Settlement Status and Location Plan</i> .....	36
<i>Graph 1- All Remaining Block 03 BREs (LB) Manual Monitoring History in Relation to Construction</i> .....	13
<i>Graph 2- All Remaining Block 03 Invar Scales (LC) Manual Monitoring History in Relation to Construction</i> .	14
<i>Graph 3- All Remaining Block 03, 23 &amp; 25 Road Studs (LP) Manual Monitoring History in Relation to Construction</i> .....	15
<i>Graph 4- All Remaining Block 03 Water Cells (SH) Automated Monitoring History in Relation to Construction</i> .....	16
<i>Graph 5- All Remaining Block 03 Tiltmeters (TB) Automated Monitoring History in Relation to Construction</i> .....	17
<i>Graph 6- All Remaining Block 03 3d Geodetic Prisms (RP) Automated Monitoring History in Relation to Construction</i> .....	18
<i>Graph 7- All Remaining Block 03 Crack Monitors (CK) Manual Monitoring History in Relation to Construction</i> .....	19
<i>Table 1- Tunnel Advances Affecting Block 03</i> .....	10
<i>Table 2- Block 03 Decommissioning Status Tracker LP</i> .....	22
<i>Table 3- Block 03 Decommissioning Status Tracker LB &amp; LC</i> .....	23
<i>Table 4- Block 03 Decommissioning Status Tracker SH</i> .....	24
<i>Table 5- Block 03 Decommissioning Status Tracker TB</i> .....	25
<i>Table 6- Block 03 Decommissioning Status Tracker RP</i> .....	26
<i>Table 7- Block 03 Decommissioning Status Tracker CK</i> .....	27

## 1 Purpose of Close out Report

Materials and Workmanship Specification - Instrumentation and Monitoring (C122-OVE-Z4-RSP-CR001-00007), section KX10.2114 specifies the requirement for a close out report prior to the decommissioning of monitoring sensors and instruments. It is therefore, the purpose of this close out report to gain acceptance to decommission identified monitoring sensors in Block 03 of Crossrail's C510 Liverpool St. Acceptance to decommission sensors will result in ceasing measurements, stopping the reporting and removing sensors.

To gain approval to decommission instrumentation and monitoring, the monitoring data will be analysed to demonstrate settlement does not breach specified rates after the minimum monitoring period is complete.

This revision of the close out report (Revision 2) proposes to decommission the remaining sensors not agreed in Revision 1. The summary table and associated graphs for sensors agreed to be decommissioned in Revision 1 are provided in Appendix 1.

**N.B.** Monitoring sensors refers to all monitoring points; which includes BREs, road studs, extensometers, inclinometers, tilt meters, crack meters, retros (survey stickers) and prisms. Please note this is not an exhaustive list and does not include monitoring systems/equipment, such as communication boxes.



## 2 Scope of Monitoring Assessment for Close Out

Specification KX10.4103 of document C122-OVE-Z4-RSP-CR001-00007 states that to establish approval for decommissioning, the contractor is to produce a close out report which summarises the observations in correlation with the construction activities. The report is to demonstrate monitoring has reached acceptable settlement rates; whether to the specified rate, or where no rate is specified trigger values are evaluated against potential residual risks. I&M schedule C122-OVE-C2-DDJ-CR001-Z-31511 specifies the acceptable settlement rates with the requirements to monitor at different construction phases, and duration for completion. To summarise the I&M schedule states that the manual monitoring decommissioning specified rate is 2mm per year, following 16 months post construction monitoring (4 months step down and quarterly measurements for a minimum of 12 months long term monitoring). The I&M schedule does not identify the need for long term automated monitoring or specify a settlement rate requirement, it only states that monitoring must continue for 6 months post construction. At the 6 month juncture, agreement must be sought from the project manager to decommission automated monitoring programmes through a close out report or agreeing to cease the works with the project manager. In most cases decommissioning will be possible, as the residual risk will be captured through the remaining long term manual monitoring.

Contrary to the Specification for Instrumentation and Monitoring (C122-OVE-Z4-RSP-CR001-00007), the Project Managers Instruction (PMI) C510-PMI-01102 replaces long term monitoring with satellite interferometry (InSAR) for the areas agreed by the project manager. If long term monitoring responsibilities are removed from BBMV and covered by satellite interferometry, the specified settlement criteria may not be met by BBMV. If this occurs, reference to the agreement will be provided to state BBMV are no longer responsible for the sensors and consequently decommissioning acceptance will be proposed.

In some cases it may be agreed with the project manager to cease monitoring prior to meeting the specified rates. The close out report will be revised to incorporate these agreements prior to decommissioning. Due to multiple influencers and large construction monitoring zones, it may be prudent to submit successive document revisions for close out reports, where the specification is not met or the minimum post construction monitoring has not been achieved.

### 3 Close Out Report Block Description and Location Plan

#### 3.1 Block 03 Location

Figure 1 shows the Liverpool St general location plan, C510 tunnel construction and where Block 03 is situated. Detailed location plans can be found within the installation reports and photomontages as listed in Section 3.2. Each monitoring sensor’s location is shown within the assessment plans (Section 5.4).

Numerous Thames Water critical assets surround Block 03, including:

- London Bridge Sewer Mainline – located on South Place;
- Thames Water 450mm Ductile Iron (DI) and 12” Cast Iron (CI) water mains – located on the east side of Moorgate North;
- London Bridge Sewer City Road Reversion to Mid level No1 – located on the eastern side of Moorgate;
- Goswell Street Sewer North Branch Diversion (Ropemaker Street) – located on the eastern side of Moorgate; and
- Blomfield Street 16” CI water main – located on the southern side of Eldon Street

Location and details of these assets can be found in Instrumentation and Monitoring Plan: Liverpool Street Station Ground Movement and Asset Protection C122-OVE-C2-RGN-C101-50013 or the relevant C122 prepared Damage Assessment Reports.

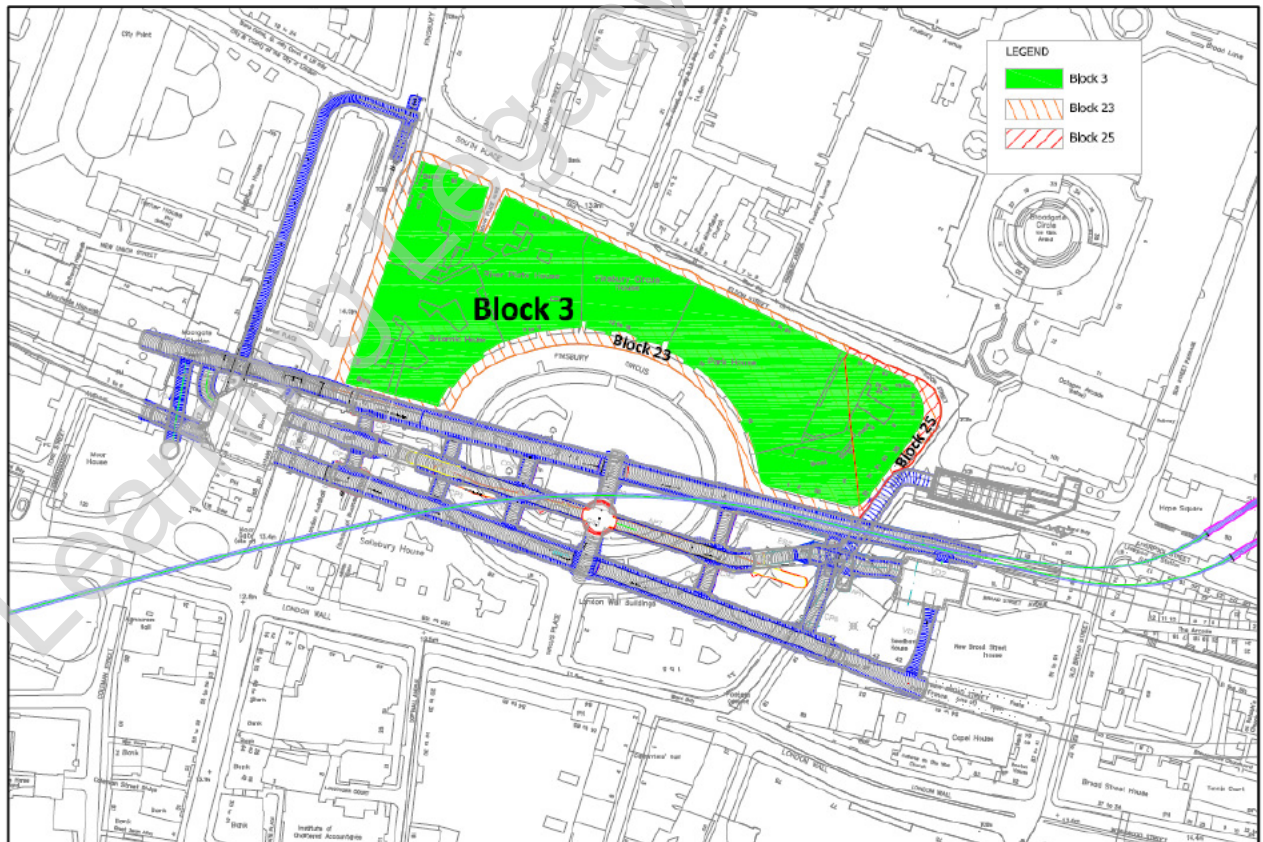


Figure 1- Liverpool St General Location Plan - including Block 03 monitoring area

### 3.2 Block 03 Description

Block 03 is located between Moorgate and Blomfield St, to the south of South Place/Eldon St. The block is adjacent to C502s Broadgate Site and occupies Britannic House, River Plate House, Finsbury Circus House, Park House and Broad Street Place. Block 03 contains the following types of monitoring sensors:

- Road Studs (LP) – manual monitoring
- 3D Geodetic Prism Monitoring (RP) – automated monitoring
- Tiltmeters (TB) – automated monitoring
- Building (BREs) & Invar Scales (LC) – manual monitoring
- Water Settlement Cell- Electronic (SH) – automated monitoring
- Crack Monitor (CK) – manual monitoring

Each monitoring asset's details are listed within the Decommissioning Status Tracker (*Tables 2, 3, 4, 5, 6 and 7*) and further relevant information can be sourced from the following reports.

Block 03 Report References:

- Installation Report LIV-LB-03- Internal BREs- Britannic House, 1-5 Broad Street House and 6 Broad Street Place  
CRL Document Number: C510-BBM-C2-RGN-C101-50151
- Monitoring Installation Report LIV-LB-03 Britannic House  
CRL Document Number: C510-BBM-C2-RGN-C101-50134
- Monitoring Installation Report LIV-LP-03 – Finsbury Circus  
CRL Document Number: C510-BBM-C2-RGN-C101-50073
- Installation Report- Britannic House (Block-3), Liverpool Street  
CRL Document Number: C510-BBM-G-RGN-C101-50006
- Monitoring Installation Report LIV- All Block- Crack Meters- Liverpool St  
CRL Document Number: C510-BBM-G-RGN-C101-50224

Block 23 References:

- Monitoring Installation Report LIV-LP-23 – Finsbury Circus  
CRL Document Number: C510-BBM-C2-RGN-C101-50160

Block 25 References:

- Monitoring Installation Report LIV-LP-25 – Blomfield/Eldon Street  
CRL Document Number: C510-BBM-C2-RGN-C101-50162

The Settlement Contour Drawing (C122-OVE-C2-DDA-CR001\_Z-21313) predicts the Block 03 area to experience approximately 0-80mm of settlement.

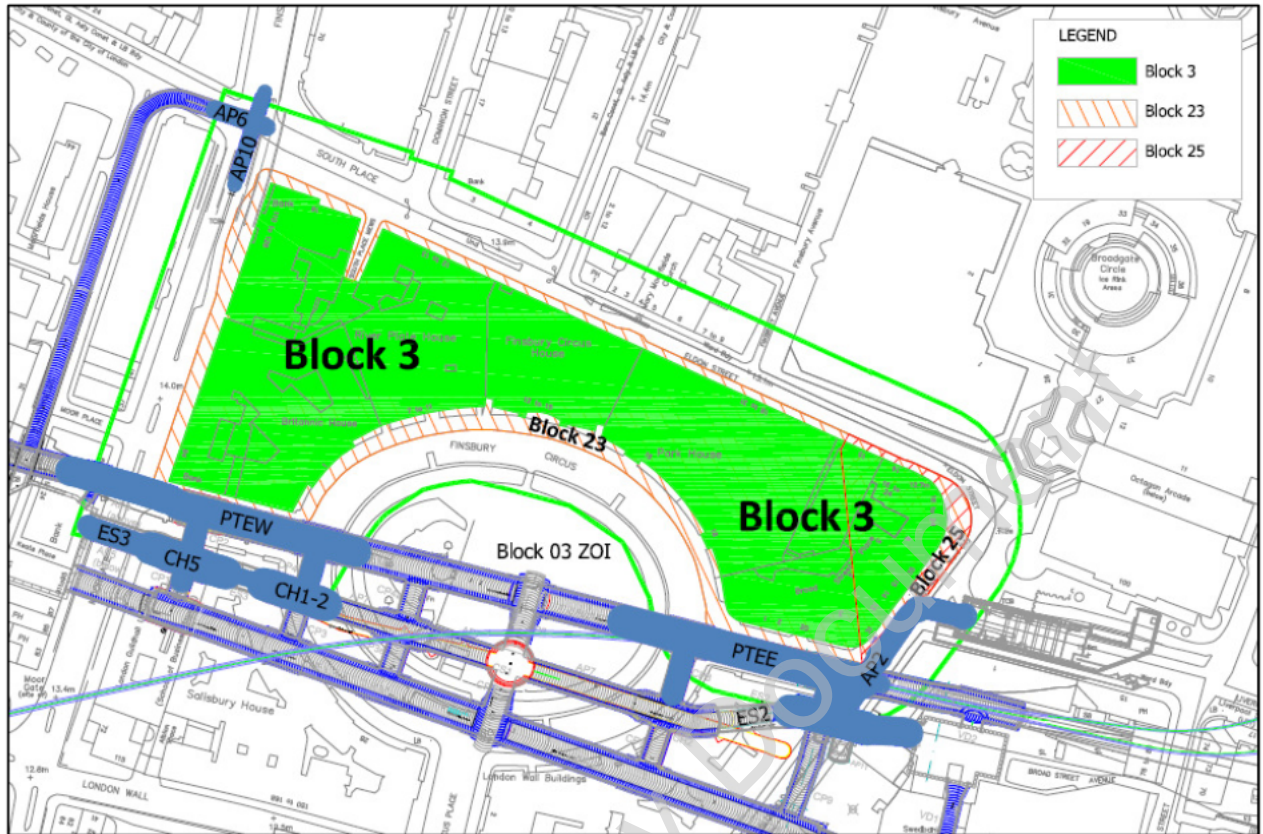
## 4 Construction Programme Influencing Block 03

Extent of Influence (EOI) monitoring areas were established to record ground movements in relation to Crossrail construction. The EOI purpose is to ensure all assets and areas are adequately monitored for movement during construction, this is achieved by controlling when and how often monitoring occurs. The Asset Protection Instrument and Monitoring (I&M) Schedules (C122 –OVE-C2-DDJ-CR001\_Z-31511) states the extent of influence (EOI) of an active tunnel is 2 x depth from the active tunnel face. The EOI is used to determine when monitoring sensors are no longer influenced by construction and can be considered for decommissioning.

The original specification received amendments to manual monitoring frequency within the EOI through several PMIs, with the latest PMI (C510-PMI-01103) establishing an Active ZOI (Zone of Influence) as 2 x tunnel diameter from the active tunnel face projected to the surface. The Active ZOI changed the rates of monitoring frequency, it did not replace EOI. The EOI is used to determine when a monitoring sensor is eligible for decommissioning. Whereas, active ZOI is used to analyse manual monitoring movement against construction.

To identify the tunnels that had the potential to significantly affect Block 03, a ZOI area was established by giving each monitoring sensor a radius of 2.0 x tunnel diameter. This area was then used to determine all the mining advances that occurred within its boundary, *Figure 2* shows the ZOI boundary (green outline) and the tunnel constructions. Tunnel advance start and finish dates will be used in assessment of the monitoring data.





(From General Document Template ref: BBMV-Form-S9-04 rev 5.0)

**Figure 2 - Block 03 ZOI Constructions**

Figure 2 shows the Block 03 ZOI and the tunnel advances that occurred within its boundary. The construction advances within the ZOI that have the potential to affect Block 03 are listed and summarised in Table 1. Further evidence for construction dates can be seen in Tables 2, 3, 4, 5, 6 and 7 which lists the latest tunnel advances for each sensor.

As the ES3 enlargement was completed on the 18<sup>th</sup> of March 2017, post construction monitoring has been completed for all of Block 03 with regards to ES3 EOI. Therefore, all monitoring sensors are eligible to be decommissioned, subject to meeting required settlement trends. Grouting facilities within the GAD adits were agreed to be decommissioned at the ERP meeting on 27/07/2017, and as such, all remaining automated sensors were agreed to be decommissioned. Under ss. KC21.3220(c) of the Crossrail document C122-OVE-Z4-RSP-CR001-00010, it states that automatic monitoring can be decommissioned at the same time as the grouting facilities. Further evidence for Block 03 sensors’ decommissioning status can be found in the decommissioning tracker.

#### 4.1 Tunnel Advances Affecting Block 03

The information presented in *Table 1* is used in the monitoring graph (Section 5.1), to show the ground movements in relation to construction.

TUNNEL ADVANCES STARTS & ENDS FOR GRAPHS							
Tunnel Code	Tunnel Reference	Primary Layer Type	Start Date	End Date	Start Advance	End Advance	Zone
ES3-Enlargement	ES3	Enlargement	20/02/2017	18/03/2017	1	38	ZOI
CH6/ES3-Enlargement	CH6/ES3	Enlargement	11/12/2016	30/01/2017	1	24	ZOI
ES2-Enlargement	ES2	Enlargement	24/09/2016	24/09/2016	16	16	ZOI
CH3-Enlargement	CH3	Enlargement	21/08/2016	24/08/2016	1	3	ZOI
AP11-Enlargement	AP11	Enlargement	06/08/2016	06/08/2016	7	7	ZOI
AP12-Enlargement	AP12	Enlargement	04/08/2016	04/08/2016	2	2	ZOI
AP2-Enlargement	AP2	Enlargement	28/06/2016	21/06/2016	1	37/2	ZOI
ES3-Pilot	ES3	Pilot	24/06/2016	15/11/2016	1	46	ZOI
AP9-Enlargement	AP9	Enlargement	30/05/2016	09/06/2016	1	10	ZOI
AP2-Pilot	AP2	Pilot	25/04/2016	31/05/2016	1	73	ZOI
ES2-Pilot	ES2	Pilot	14/03/2016	24/04/2016	35	45	ZOI
PRM Lift-Enlargement	PRM Lift	Enlargement	09/08/2015	09/10/2015	1	100	ZOI
AP10b-Enlargement	AP10b	Enlargement	21/07/2015	02/08/2015	1	22	ZOI
AP10a-Enlargement	AP10a	Enlargement	14/07/2015	20/07/2015	1	10	ZOI
AP6-1-Enlargement	AP6-1	Enlargement	10/05/2015	18/05/2015	153	172	ZOI
CP4-Enlargement	CP4	Enlargement	27/09/2014	03/10/2014	3	11	ZOI
CP2-Enlargement	CP2	Enlargement	23/08/2014	26/08/2014	3	9	ZOI
CP10-Enlargement	CP10	Enlargement	15/08/2014	17/08/2014	3	7	ZOI
CP10-Pilot	CP10	Pilot	15/07/2014	16/07/2014	3	6	ZOI
CP1-Enlargement	CP1	Enlargement	24/06/2014	24/06/2014	2	3	ZOI
CP2-Pilot	CP2	Pilot	08/06/2014	09/06/2014	2	8	ZOI
VD7-Enlargement	VD7	Enlargement	04/06/2014	05/06/2014	1	8	ZOI
CP4-Pilot	CP4	Pilot	07/05/2014	10/05/2014	2	10	ZOI
CP8-Enlargement	CP8	Enlargement	14/04/2014	26/04/2014	3	END FACE	ZOI
CP8-Pilot	CP8	Pilot	07/04/2014	12/04/2014	2	END FACE	ZOI
AP5-Enlargement	AP5	Enlargement	05/04/2014	12/04/2014	41	62	ZOI
CH5-Enlargement	CH5	Enlargement	14/03/2014	05/04/2014	1	38	ZOI
LCE-Enlargement	LCE	Enlargement	01/02/2014	16/02/2014	1	52	ZOI
RCE-Enlargement	RCE	Enlargement	31/01/2014	17/02/2014	1	40	ZOI
PTE-West-Enlargement	PTE-West	Enlargement	29/11/2013	31/01/2014	70	182	ZOI
PTE-East-Enlargement	PTE-East	Enlargement	15/11/2013	30/01/2014	43	168	ZOI
AP5-Pilot	AP5	Pilot	30/10/2013	04/11/2013	125	146	ZOI
RCE-Pilot	RCE	Pilot	09/09/2013	16/09/2013	1	19	ZOI
LCE-Pilot	LCE	Pilot	06/08/2013	06/08/2013	1	130	ZOI
AP1a-Enlargement	AP1a	Enlargement	04/08/2013	13/08/2013	53	76	ZOI
AP1b-Enlargement	AP1b	Enlargement	16/07/2013	04/08/2013	10	52	ZOI
PTE-East-Pilot	PTE-East	Pilot	02/07/2013	09/09/2013	34	121	ZOI
PTE-West-Pilot	PTE-West	Pilot	16/06/2013	06/08/2013	53	130	ZOI
AP1a-Pilot	AP1a	Pilot	19/05/2013	01/06/2013	125	136	ZOI
AP7 West-Enlargement	AP7 West	Enlargement	16/05/2013	26/05/2013	49	83	ZOI
CH1-Enlargement	CH1	Enlargement	16/05/2013	26/05/2013	49	83	ZOI
AP1b-Pilot	AP1b	Pilot	05/05/2013	18/05/2013	99	124	ZOI
CH5-Pilot	CH5	Pilot	27/04/2013	30/10/2013	97	124	ZOI
ES3/CH5-Pilot	ES3/CH5	Pilot	23/04/2013	26/04/2013	84	96	ZOI
CH1-Pilot	CH1	Pilot	10/03/2013	22/04/2013	63	83	ZOI
GAD1-Pilot	GAD1	Pilot	05/02/2012	07/02/2012	69	75	ZOI

**Table 1- Tunnel Advances Affecting Block 03**



---

**Heading Index:**

AP – Access Passage

CH - Chamber

CP - Cross Passage

ES – Escalator

GAD – Grout Adit

LCE - Launch Chamber East

LCW – Launch Chamber West

PTE – Platform Tunnel East

PTW – Platform Tunnel West

RCE – Reception Chamber East

RCW – Reception Chamber West

TBM – Tunnel Boring Machine

VD – Ventilation Drive

## 5 Monitoring Assessment of Block 03

Evidence for decommissioning each monitoring sensor is shown through graphs, tables and plans. Each element of assessment compliments the other and is used together to determine acceptance of decommissioning. *Tables 2, 3, 4, 5, 6 and 7* highlight the monitoring sensors to be considered for decommissioning and provide supporting evidence for the decision. In some cases supplementary evidence is required to prove stability or provide reasoning for decommissioning.

ES3 was the final construction activity to affect Block 03. The final construction activity took place on 18/03/2017; therefore, all sensors were eligible for decommissioning from 18/09/2017 provided the specified sensor meets the <2mm/year settlement requirement. As discussed in section 4, KC21.3220(c) states, however, that all automated sensors can be decommissioned at the same time as grouting regardless of the automated sensor's settlement rate.

Crossrail agreed at the ERP meeting held on the 27/07/2017 to decommission the grouting facilities within GAD1 tunnel. As such, this allowed for decommissioning of all automated sensors within the influence area. It is therefore proposed that all automated sensors within Block 03 be removed. See graphs, tables and plans for further details on the automated sensors.

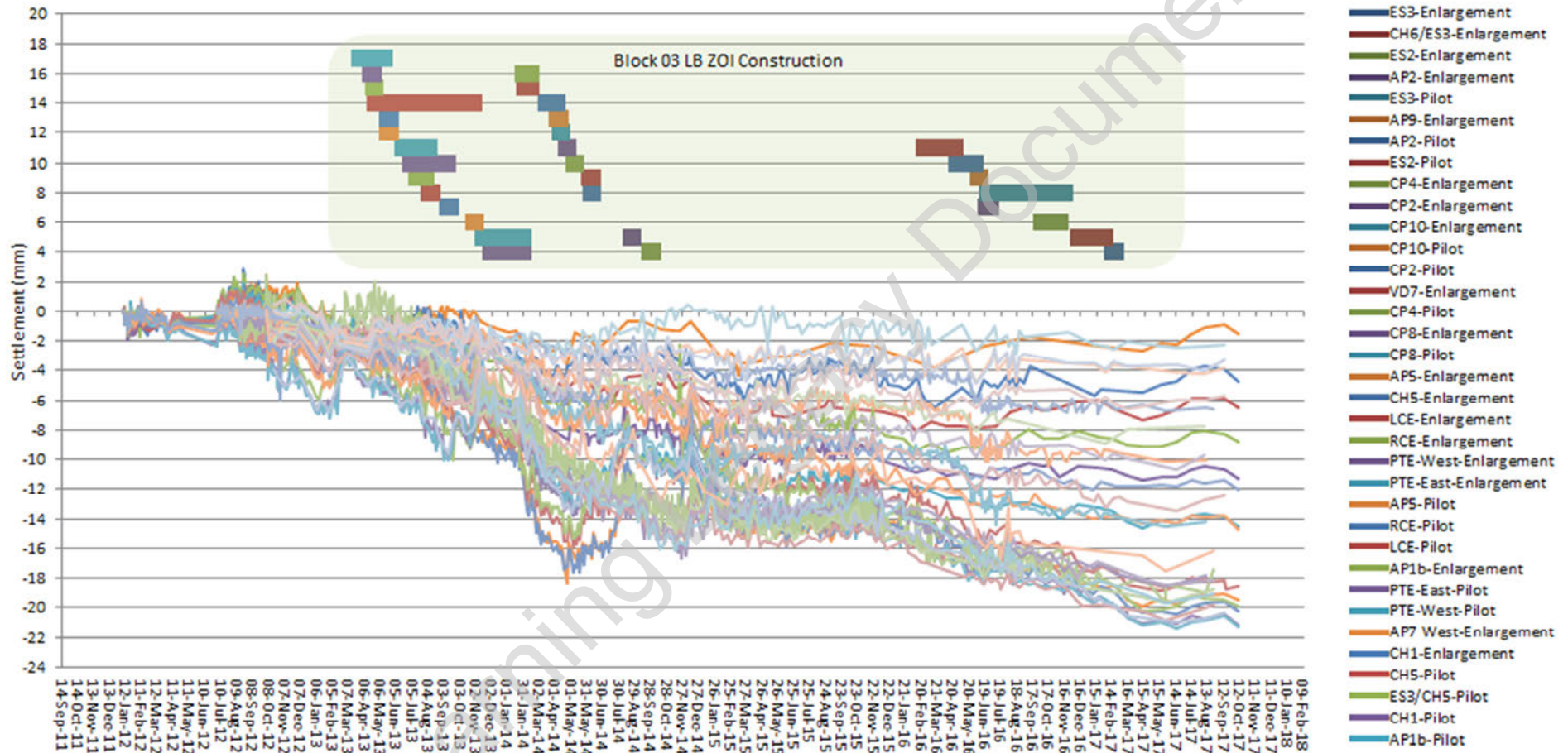
### 5.1 Time Graphs Monitoring Full History and Construction Durations

To assess the movement of Block 03 monitoring sensors; each monitoring sensor data type is displayed in a line graph, with a Gantt chart (bar) representing the construction identified in Section 4:

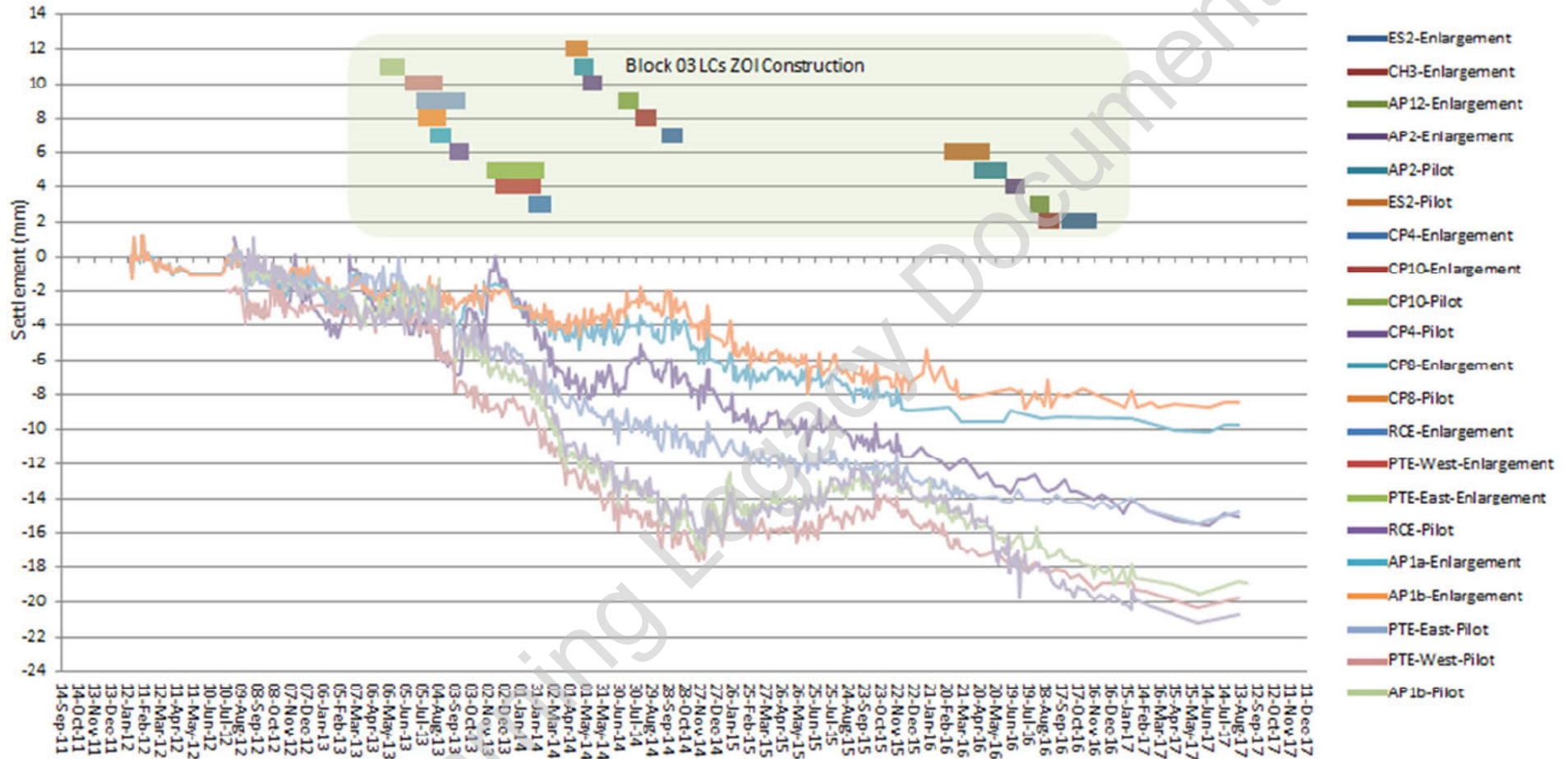
- *Graph 1-* All Remaining Block 03 BREs (LB) Manual Monitoring History in Relation to Construction
- *Graph 2-* All Remaining Block 03 Invar Scales (LC) Manual Monitoring History in Relation to Construction
- *Graph 3-* All Remaining Block 03, 23 & 25 Road Studs (LP) Manual Monitoring History in Relation to Construction
- *Graph 4-* All Remaining Block 03 Water Cells (SH) Automated Monitoring History in Relation to Construction
- *Graph 5-* All Remaining Block 03 Tiltmeters (TB) Automated Monitoring History in Relation to Construction
- *Graph 6-* All Remaining Block 03 3d Geodetic Prisms (RP) Automated Monitoring History in Relation to Construction
- *Graph 7-* All Remaining Block 03 Crack Monitors (CK) Manual Monitoring History in Relation to Construction



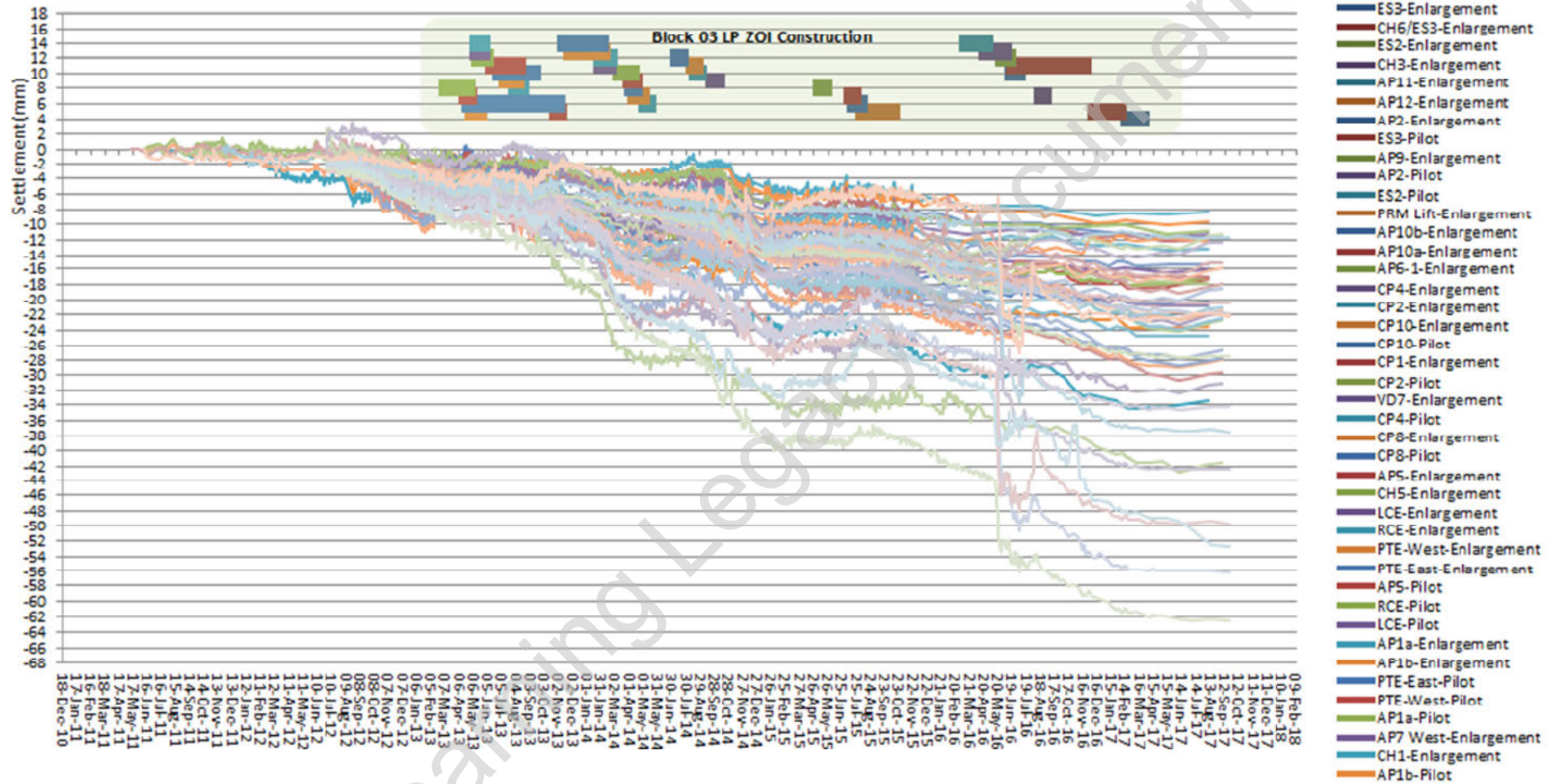
**Graph 1- All Remaining Block 03 BREs (LB) Manual Monitoring History in Relation to Construction**



Graph 2- All Remaining Block 03 Invar Scales (LC) Manual Monitoring History in Relation to Construction

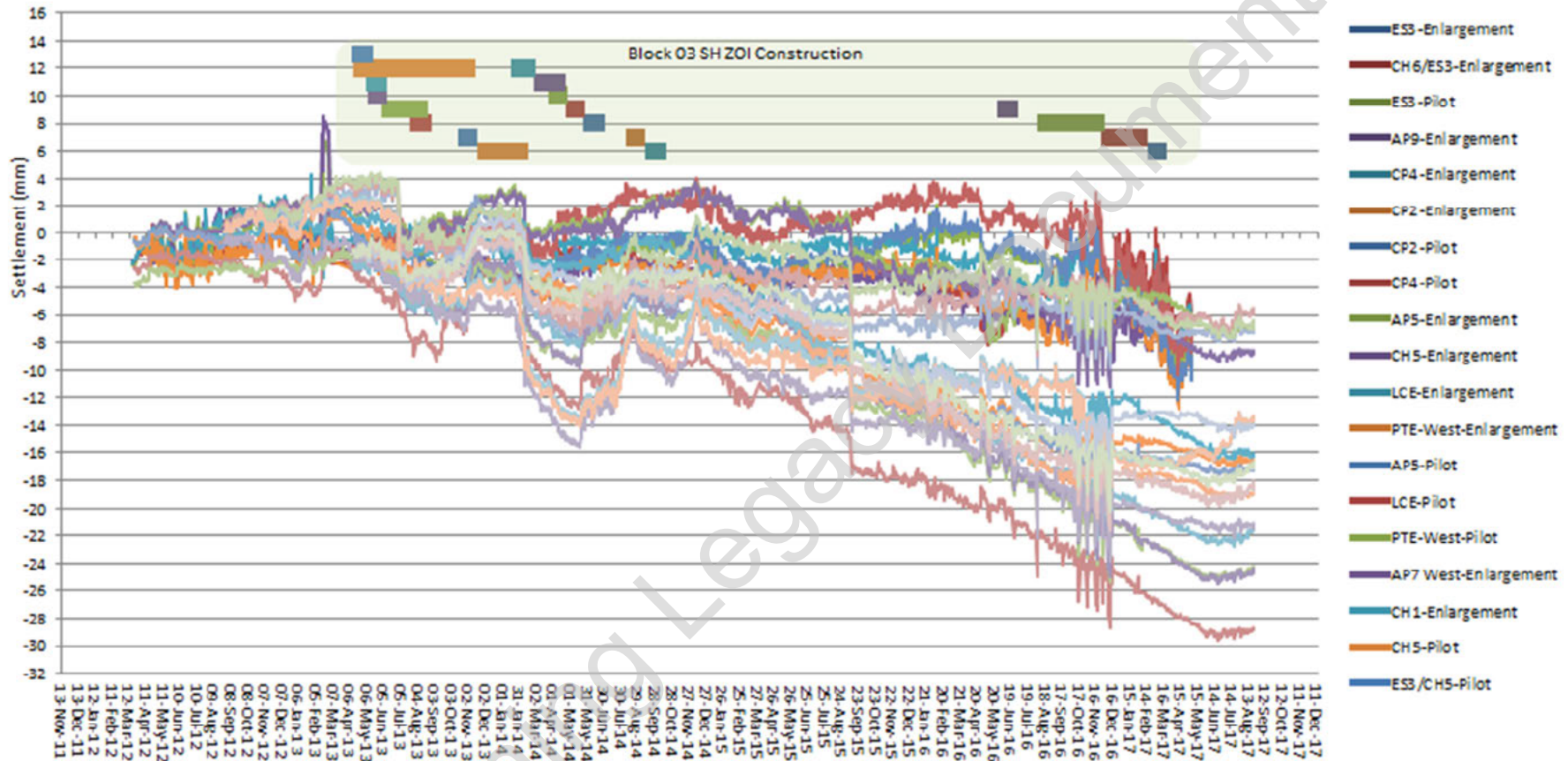


**Graph 3- All Remaining Block 03, 23 & 25 Road Studs (LP) Manual Monitoring History in Relation to Construction**

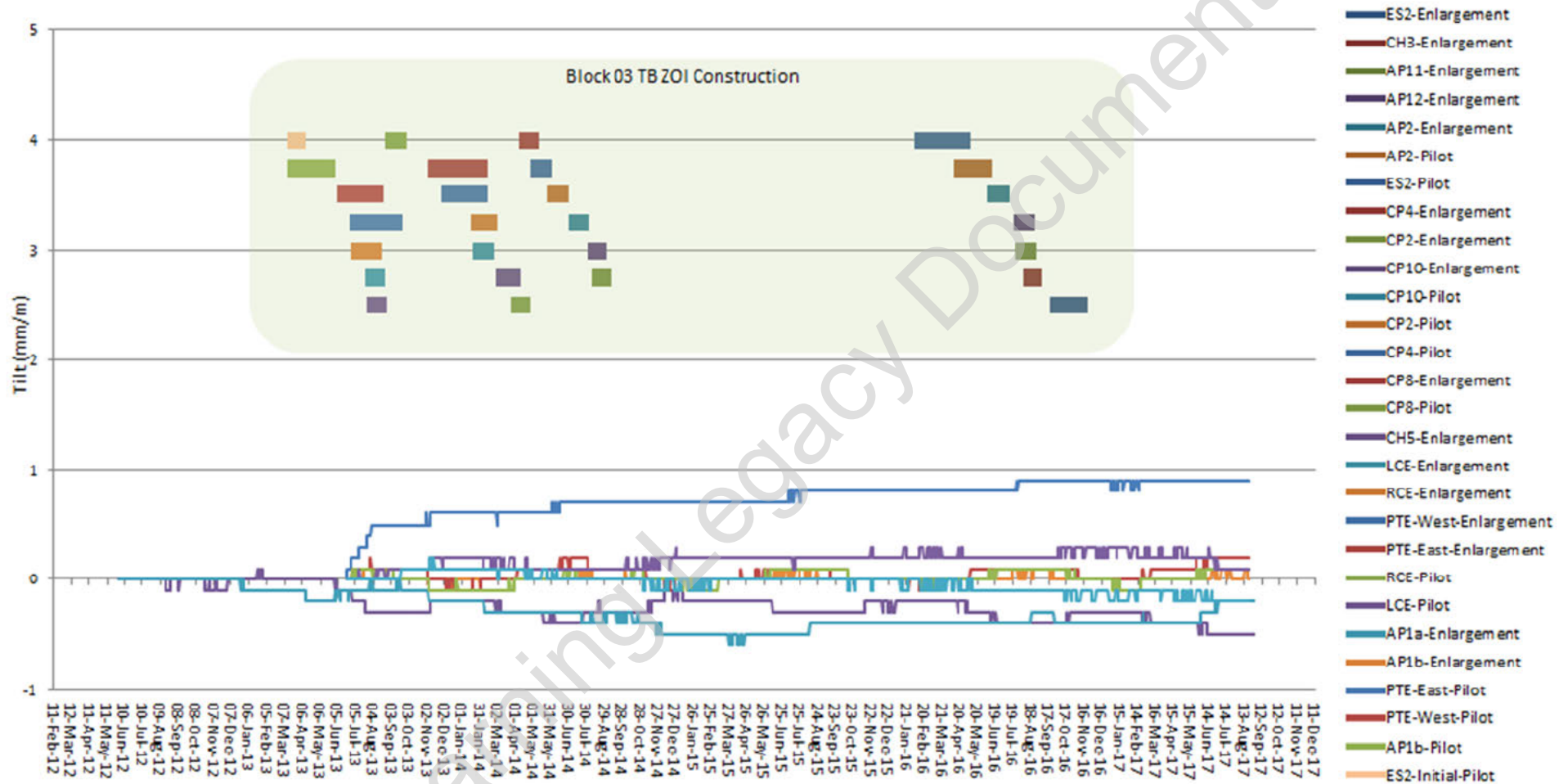




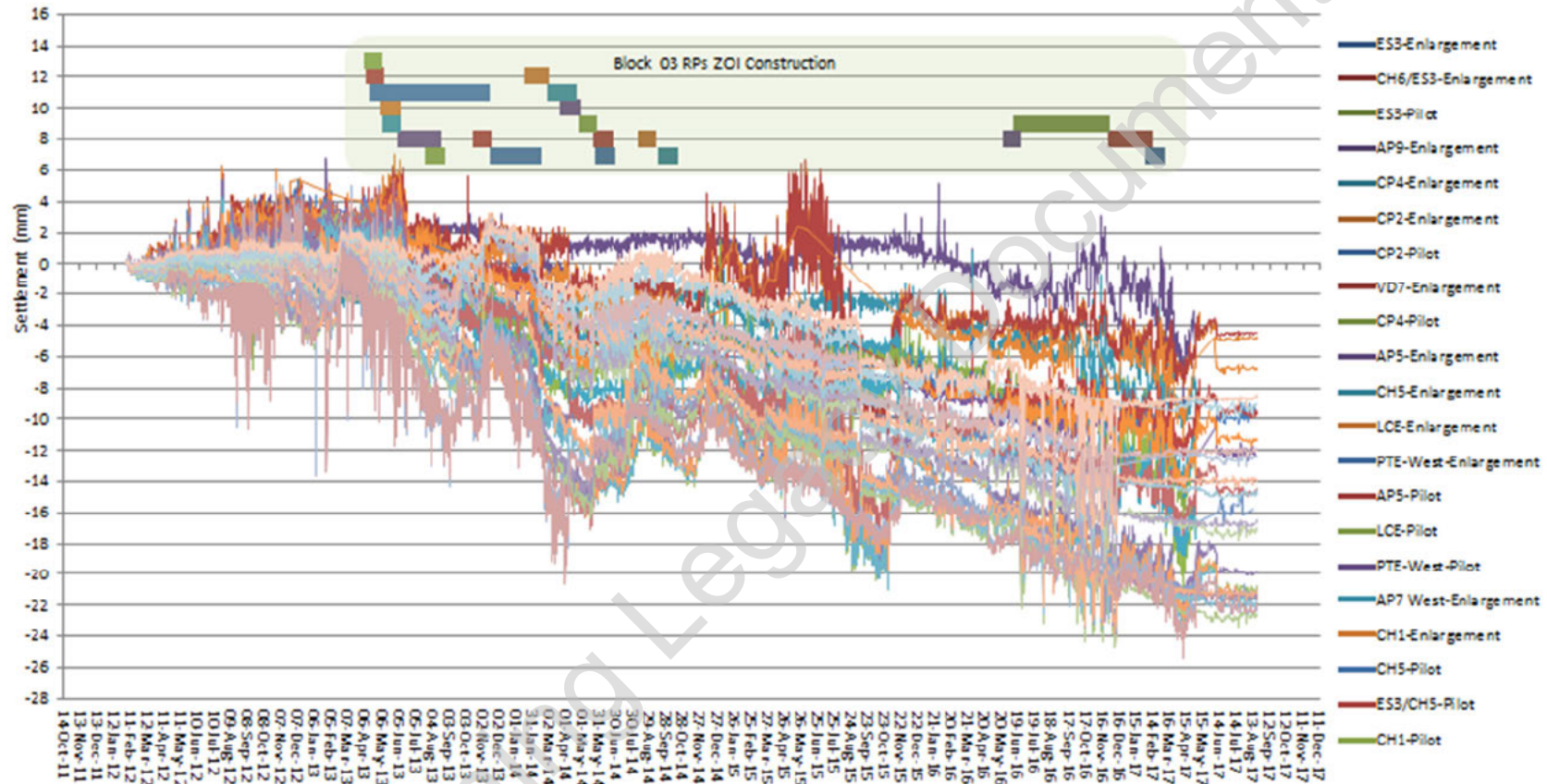
**Graph 4- All Remaining Block 03 Water Cells (SH) Automated Monitoring History in Relation to Construction**



**Graph 5- All Remaining Block 03 Tiltmeters (TB) Automated Monitoring History in Relation to Construction**

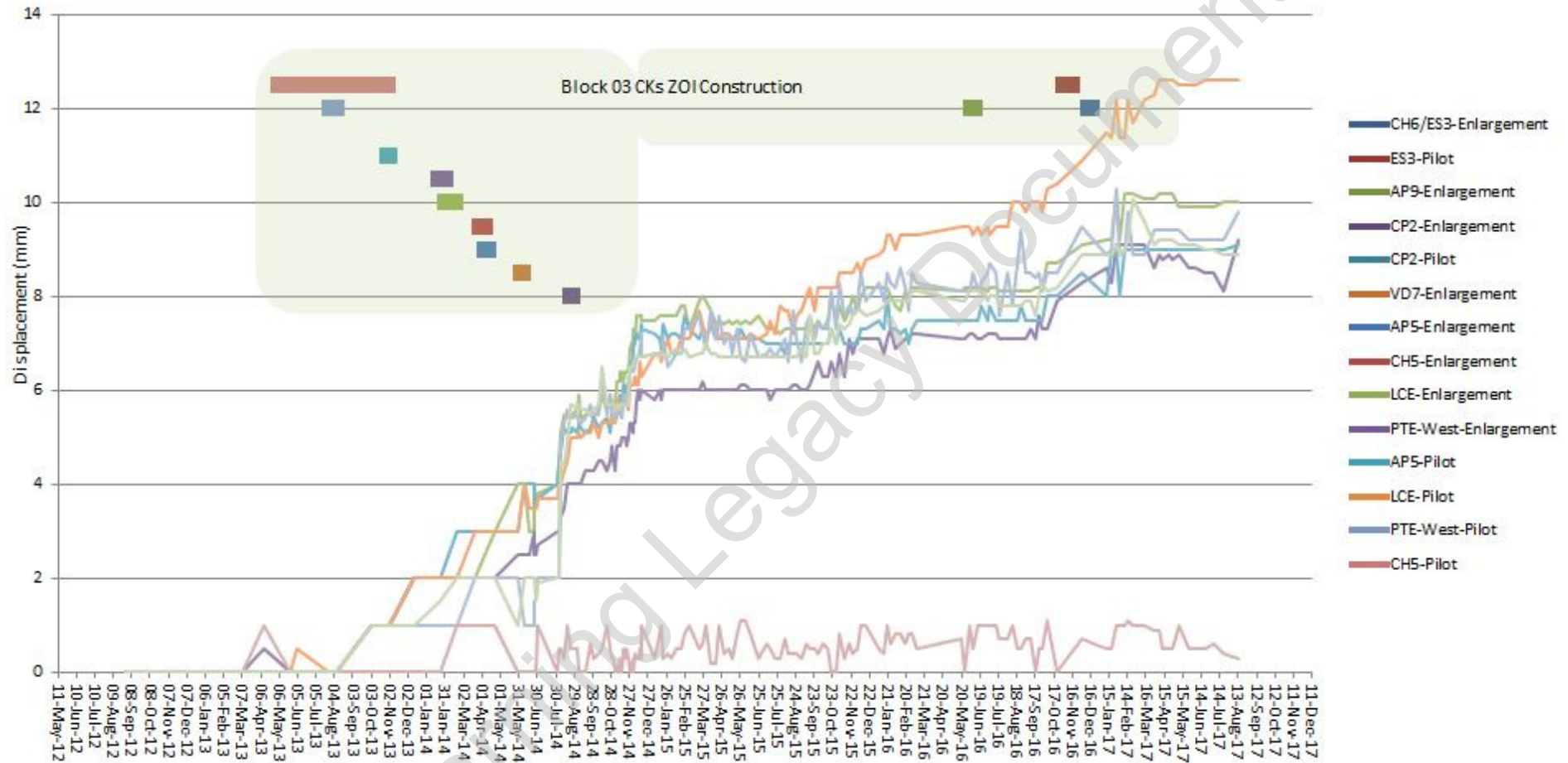


**Graph 6- All Remaining Block 03 3d Geodetic Prisms (RP) Automated Monitoring History in Relation to Construction**





**Graph 7- All Remaining Block 03 Crack Monitors (CK) Manual Monitoring History in Relation to Construction**



## 5.2 Block 03 Decommissioning Status Tracker

The decommissioning trackers identify (*Tables 2, 3, 4, 5, 6 and 7*) each monitoring sensor and provides the critical information to enable decommissioning assessment for each sensor. The initial fields shown in the tracker are descriptors of the monitoring sensor, whilst the remaining fields are the assessment for decommissioning. The purpose of the tracker is to provide Crossrail reviewers with sufficient information in conjunction with construction movement graphs and plots, to accept BBMV's proposal to decommission sensors on an individual basis.

Detailed explanation of the tracker column headers:

### Tracker Column Header – Last Construction Date and Traffic Lights

For each sensor the EOI parameter is used to determine the last completed construction advance that had the potential to cause settlement. All construction tunnel advances that had the potential to affect a sensor through its EOI are listed for each sensor, from the list the latest advance is used as a construction completion indicator. A traffic light system is used to highlight when a sensor has surpassed defined monitoring time frames; 4 months (120 days), 6 months (180 days) and 16 months (480 days).

**N.B.** Each monitoring sensor's last affecting primary construction heading and advance number's completion date has been listed within the Decommissioning Status Tracker. The last construction heading listed, is not the closest to the monitoring sensor, but the last completed within the 2 x diameter radius.

### Tracker Column Header – 120, 180 & 365 Days Average Settlement Trend

There are three average settlement trends, which tie into the defined monitoring time frames; 120, 180 and 365 days. The calculation used to determine the trend is the same for all three periods. It is a slope calculation (explained below) of the defined period, multiplied over one year. The trend is calculated from the latest reading and includes all readings within the defined period, which is averaged and then multiplied over 1 year. If there is no initial reading for the time frame date, the calculation will continue back to include the next available date. This is an important consideration when assessing the trend and to assist the reviewers, the time frame used within the calculation is included within the decommissioning tracker status table. Defined monitoring time frames:

- The 120 day average rate is used to show the completion of manual monitoring step down period, this is the minimum period of monitoring prior to InSAR taking monitoring responsibility.
- The 180 day average rate is the minimum monitoring period after construction for automated sensors.
- The 365 day average trend is a calculation to determine annual settlement rates using measurements taken across a full year. This measurement period is therefore the desired duration to be used to assess whether long term settlement meets the 2mm per annum specification.



### Slope calculation Settlement Trend:

**Description** – The settlement trend calculates the slope of the linear regression line through data points in known\_y's and known\_x's. The slope is the vertical distance divided by the horizontal distance between any two points on the line, which is the rate of change along the regression line.

### Calculation

$$b = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (x - \bar{x})^2}$$

Example - If the calculated trend for a 6 month period is 1.5mm, it is multiplied into 365 days, to equal a projected settlement trend of 3mm over 1 year.

### Tracker Column Header – ERP Ceased date

ERP and CTC meetings have identified project efficiencies, by ceasing manual monitoring programmes early, or prior to reaching 2mm/yr. InSAR may have taken responsibility of monitoring or the perceived risk may be low enough to warrant ceasing the monitoring. In these situations the cease date is provided, along with a comment explaining the reasoning. Monitoring that has been ceased still requires approval to decommission and will be identified within the decommissioning status tracker as proposed to decommission.

### Tracker Column Header – Decommissioning Status

The status is the decommissioning situation for each sensor within Block 03. The different statuses are as follows:

- Outstanding - Monitoring sensor has not met the close out requirements and approval to decommission will be sought in subsequent revisions of this close out report.
- Proposed - the sensor is proposed to be decommissioned. Crossrail to accept the sensor can be decommissioned.
- Agreed – Agreed to decommission through previous revision of the close out report. No further reporting or monitoring has taken place.
- Complete - Monitoring sensor has been removed and evidence gathered during decommissioning.

**N.B.** When monitoring sensors have not met the requirements, it may still be appropriate to decommission. In this scenario supplementary evidence will be provided to explain the reasoning for decommissioning.

Table 2 - Block 03 Decommissioning Status Tracker LP

18/10/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TRENDS						Ceased Date	General Comment	Decommissioning Status
											120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days	365 Day Calculation Period			
C510-LP12301	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	1.96	169	0.38	196	-6.23	376	<2mm per annum specification met	Proposed	
C510-LP12302	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	0.44	169	-1.36	196	-1.83	376		Proposed	
C510-LP12303	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	0.44	169	-1.36	196	-1.82	376		Proposed	
C510-LP12304	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	2.83	169	0.87	196	-1.91	376		Proposed	
C510-LP12305	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-103	10/01/2014	08/08/2017	2.17	169	0.34	196	-1.43	376		Proposed	
C510-LP12325	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-0.41	176	0.10	238	-1.10	510		Proposed	
C510-LP12326	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	0.21	176	0.52	238	-0.93	510		Proposed	
C510-LP12327	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-0.21	176	-0.30	196	-1.30	510		Proposed	
C510-LP12328	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-0.41	176	-1.67	331	-1.60	510		Proposed	
C510-LP12329	Block 103	S10301.2;S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-1.25	176	-0.81	238	-1.70	510		Proposed	
C510-LP12330	Block 103	S10301.2;S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-1.66	176	-1.96	196	-0.65	510	Proposed		
C510-LP12331	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-0.62	176	-0.30	238	-0.70	418	Proposed		
C510-LP12332	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-1.45	176	-1.08	238	-1.56	418	Proposed		
C510-LP12333	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	08/08/2017	-0.09	154	-0.49	181	-1.92	376	Proposed		
C510-LP12334	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-West_Enlargement_Adv-119	12/01/2014	08/08/2017	0.45	154	-0.53	181	-1.73	376	Proposed		
C510-LP12335	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-West_Enlargement_Adv-134	17/01/2014	08/08/2017	0.22	154	-0.23	181	-2.14	376	Proposed		
C510-LP12336	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	08/08/2017	-0.25	154	-0.92	181	-2.65	376	Proposed		
C510-LP12337	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	08/08/2017	-0.22	154	-1.35	181	-3.30	376	Proposed		
C510-LP12338	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	08/08/2017	0.00	154	-1.58	181	-3.97	376	Proposed		
C510-LP12339	Block 103	S10301.3;S10302	External	Manual	LP	Road Stud	Finsbury Circus	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.10	125	0.51	185	-3.54	369	Proposed		
C510-LP12340	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.74	125	-0.16	185	-4.25	369	Proposed		
C510-LP12341	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.68	125	-0.40	185	-4.89	369	Proposed		
C510-LP12342	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	1.59	125	1.33	185	-4.21	369	Proposed		
C510-LP12343	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	1.95	125	1.32	185	-4.00	369	Proposed		
C510-LP12344	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	09/10/2017	1.40	125	0.81	185	-3.87	369	Proposed		
C510-LP12345	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	09/10/2017	0.86	125	0.34	185	-3.63	369	Proposed		
C510-LP12346	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	09/10/2017	1.29	125	0.28	185	-3.83	369	Proposed		
C510-LP12347	Block 103	S10302;S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	09/10/2017	2.01	125	1.14	185	-3.89	369	Proposed		
C510-LP12348	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_CH6/ES3_Enlargement_Invert_Downhill_Adv-5	17/12/2016	09/10/2017	0.98	125	-1.14	185	-4.77	369	Proposed		
C510-LP12349	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/10/2017	1.61	125	1.14	185	-2.60	366	Proposed		
C510-LP12350	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-41	12/02/2014	09/10/2017	1.86	125	0.94	185	-1.91	366	Proposed		
C510-LP12351	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-34	10/02/2014	09/10/2017	1.46	125	1.48	185	-0.63	366	Proposed		
C510-LP12352	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	09/10/2017	1.49	125	2.02	185	-0.91	366	Proposed		
C510-LP12353	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	09/10/2017	1.94	125	2.20	185	-0.51	366	Proposed		
C510-LP12354	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	09/10/2017	2.49	125	2.37	185	-0.09	366	Proposed		
C510-LP12355	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	09/10/2017	1.91	125	2.03	185	-0.03	366	Proposed		
C510-LP12513	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.43	133	-1.26	188	-0.54	380	Proposed		
C510-LP12514	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	22/09/2017	-1.84	137	-1.83	199	-2.77	383	Proposed		
C510-LP12515	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	22/09/2017	-1.05	137	-1.21	193	-2.46	368	Proposed		
C510-LP12516	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.09	133	-1.21	183	-1.78	366	Proposed		
C510-LP12517	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-0.35	133	-0.37	183	-2.67	366	Proposed		
C510-LP12518	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.41	133	-1.26	183	-3.80	366	Proposed		
C510-LP12519	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.13	133	-1.10	183	-4.16	366	Proposed		
C510-LP12520	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	0.32	133	1.04	183	-0.74	366	Proposed		
C510-LP12521	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.69	133	-1.20	183	-4.88	366	Proposed		
C510-LP12522	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	18/10/2017	-1.65	133	-1.15	183	-4.47	366	Proposed		
C510-LP12523	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-12	09/07/2016	18/10/2017	-0.90	133	-1.63	183	-4.96	366	Proposed		
C510-LP12524	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_ES2_Enlargement_Adv-16	24/09/2016	18/10/2017	0.18	133	-0.06	183	-2.09	366	Proposed		
C510-LP12525	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_ES2_Enlargement_Adv-16	24/09/2016	18/10/2017	-10.60	133	-9.83	183	-11.96	366	Settlement results unreliable as roadstud located on unstable concrete slab	Proposed	

Table 3 - Block 03 Decommissioning Status Tracker LB & LC

09/10/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND					Ceased Date	General Comment	Decommissioning Status	
											120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days	365 Day Calculation Period				
C510-LB10325	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	-0.77	168	-1.80	196	-1.16	377		2mm per annum specification met	Proposed
C510-LB10326	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	23/08/2017	0.96	134	0.69	183	-2.14	365		Stable 6 month trend	Proposed
C510-LB10327	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	08/08/2017	-0.32	168	-1.50	196	-2.21	377			Proposed
C510-LC10312	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/08/2017	-0.32	168	-1.50	196	-0.98	391		2mm per annum specification met	Proposed
C510-LC10313	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	08/08/2017	-0.98	168	-1.33	190	-2.14	375		Stable 6 month trend	Proposed
C510-LC10314	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	08/08/2017	-0.47	168	-0.97	190	-2.77	369			Proposed
C510-LC10315	Block 103	S10304:S10305	External	Manual	LC	Invar Scale	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	08/08/2017	-1.19	168	-1.77	190	-2.94	368			Proposed
C510-LB10328	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/08/2017	-0.71	168	-1.21	190	-1.45	368		2mm per annum specification met	Proposed
C510-LB10329	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/08/2017	-1.13	168	-1.43	190	-0.72	368			Proposed
C510-LB10330	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	23/08/2017	-0.30	134	-0.10	183	-0.06	365			Proposed
C510-LB10366	Block 103	S10301	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	23/08/2017	1.53	134	-0.16	218	-2.29	365		Stable 6 month trend	Proposed
C510-LB10370	Block 103	S10301	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	23/08/2017	0.36	134	-1.77	218	-2.43	365			Proposed
C510-LB10372	Block 103	S10301:S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-12	09/07/2016	23/08/2017	1.48	134	-1.07	358	-1.67	365		2mm per annum specification met	Proposed
C510-LB10367	Block 103	S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	23/08/2017	1.70	134	-0.10	218	-2.11	365		Stable 6 month trend	Proposed
C510-LB10369	Block 103	S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	23/08/2017	-0.05	134	-2.03	218	-1.45	274		Stable 9 month trend	Proposed
C510-LB10301	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	09/10/2017	2.58	145	2.18	258	0.83	393			Proposed
C510-LB10302	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	09/10/2017	1.74	145	2.31	258	0.79	393		2mm per annum specification met	Proposed
C510-LB10303	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	09/10/2017	1.59	145	1.49	234	0.31	367			Proposed
C510-LB10304	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	09/10/2017	1.05	145	1.29	210	0.04	367			Proposed
C510-LB10305	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	09/10/2017	0.38	145	0.67	210	-0.41	367			Proposed
C510-LB10306	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/10/2017	-0.29	145	0.45	210	-0.93	367			Proposed
C510-LB10307	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	09/10/2017	0.56	145	0.76	210	-2.30	369		Stable 9 month trend	Proposed
C510-LB10308	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	09/10/2017	0.91	145	0.48	210	-2.52	369			Proposed
C510-LB10309	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	09/10/2017	0.44	145	0.31	210	-2.76	369			Proposed
C510-LB10310	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.67	145	0.98	210	-2.95	369		2mm per annum specification met	Proposed
C510-LB10311	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.56	145	0.30	209	-2.91	369			Proposed
C510-LB10312	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	09/10/2017	0.29	145	-0.16	210	-2.86	369			Proposed
C510-LB10313	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-140	18/01/2014	09/10/2017	-0.59	145	-0.40	230	-1.04	369		2mm per annum specification met	Proposed
C510-LB10314	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-140	18/01/2014	09/10/2017	-0.18	145	0.19	230	-0.37	369			Proposed
C510-LC10301	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	07/08/2017	-0.57	167	-1.56	195	-2.40	374		Stable 9 month trend	Proposed
C510-LC10302	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	07/08/2017	-0.67	195	-0.67	195	-0.83	417		2mm per annum specification met	Proposed
C510-LC10303	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	07/08/2017	0.60	146	0.33	187	-0.45	370			Proposed
C510-LB10376	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	12/09/2017	0.24	182	0.24	182	-3.19	378		Stable 6 month trend	Proposed
C510-LB10377	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	12/09/2017	0.85	182	0.85	182	-1.64	378			Proposed
C510-LB10378	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	07/08/2017	0.75	146	1.92	187	-0.49	374			Proposed
C510-LB10379	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	07/08/2017	0.11	146	-0.48	187	-1.06	370		2mm per annum specification met	Proposed
C510-LB10380	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	12/09/2017	-0.49	182	-0.49	182	-0.68	378			Proposed
C510-LB10381	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	12/09/2017	-0.45	182	-0.45	182	-0.68	378			Proposed
C510-LB10382	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	12/09/2017	0.33	182	0.33	182	-0.46	378			Proposed
C510-LB10383	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	12/09/2017	1.67	182	1.67	182	-0.40	378			Proposed

Table 4 - Block 03 Decommissioning Status Tracker SH

02/10/2017

< 2.0 mm GREEN		< 3.5 mm AMBER		> 3.5 mm RED	
----------------	--	----------------	--	--------------	--

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	< 2.0 mm GREEN		< 3.5 mm AMBER		> 3.5 mm RED		Ceased Date	General Comment	Decommissioning Status
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Days	365 Day Calculation Period			
C510-SH10311	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-8	25/08/2014	02/05/2017	-17.52	121	-10.04	181	2.40	366		Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c ) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 03/05/2017	Agreed
C510-SH10312	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	02/05/2017	-18.82	121	-14.96	181	-7.09	366			Agreed
C510-SH10313	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_AP6-2_Enlargement_Adv-56	02/05/2015	02/05/2017	-13.55	121	-9.99	181	-3.47	366			Agreed
C510-SH10314	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	02/05/2017	-15.01	121	-10.45	181	-2.70	366			Complete
C510-SH10315	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	02/05/2017	-21.04	121	-16.85	181	-2.94	366			Agreed
C510-SH10316	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	02/05/2017	-20.95	121	-17.09	181	-8.69	366			Agreed
C510-SH10317	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	02/05/2017	-21.34	121	-17.86	181	-9.16	366		Agreed	
C510-SH10321	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-2.69	121	-6.16	181	-1.32	366		Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c ) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 24/08/2017	Complete
C510-SH10322	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-0.85	121	-4.48	181	-2.08	366			Complete
C510-SH10323	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-3.94	121	-6.23	181	-4.00	366			Complete
C510-SH10324	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-2.68	121	-3.50	181	-1.02	366			Complete
C510-SH10325	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-0.90	121	-1.79	181	-1.56	366			Complete
C510-SH10326	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	21/08/2017	-1.69	121	-4.97	181	-7.37	366			Complete
C510-SH10327	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-178	29/01/2014	21/08/2017	-0.38	121	-4.20	181	-6.39	366		Complete	
C510-SH10328	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	22/08/2017	-0.19	121	-4.41	181	-7.03	366		Complete	
C510-SH10329	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	22/08/2017	-0.02	121	-3.41	181	-5.87	366		Complete	
C510-SH10330	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	22/08/2017	-3.17	121	-3.72	181	-1.38	366		Agreed	
C510-SH10331	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	22/08/2017	-3.11	121	-2.78	181	0.52	366		Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c ) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 25/08/2017	Complete
C510-SH10332	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	22/08/2017	1.32	121	-1.83	181	-2.78	366			Complete
C510-SH10333	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	22/08/2017	1.60	121	-1.69	181	-2.60	366			Complete
C510-SH10334	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	21/08/2017	0.44	121	-0.25	181	-2.19	366			Complete
C510-SH10335	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	21/08/2017	1.05	121	-0.37	181	-2.72	366			Complete
C510-SH10336	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	21/08/2017	-0.59	121	-1.81	181	-3.58	366			Complete
C510-SH103301	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-161	24/01/2014	21/08/2017	-1.11	121	-2.09	181	-2.95	366		Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c ) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 24/08/2017	Complete
C510-SH103302	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-161	24/01/2014	21/08/2017	9.53	121	6.48	181	-3.38	366			Complete
C510-SH103303	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-161	24/01/2014	21/08/2017	10.00	121	7.14	181	-2.94	366			Agreed

Learning Legacy Docs



Table 5 - Block 03 Decommissioning Status Tracker TB

02/10/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE TILT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE TILT TREND					Ceased Date	General Comment	Decommissioning Status			
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Days				365 Day Calculation Period		
C510-TB10301A	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	02/09/2017	120 day	-0.37	121	180 day	-0.32	181	480 day	-0.18	366	Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 04/09/2017	Complete
C510-TB10301B	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	02/09/2017	120 day	0.76	121	180 day	0.58	181	480 day	0.17	366		Complete
C510-TB10302A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	22/08/2017	120 day	0.15	121	180 day	0.11	181	480 day	-0.01	366		Agreed
C510-TB10302B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	22/08/2017	120 day	0.00	121	180 day	0.00	181	480 day	0.00	366		Agreed
C510-TB10303A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	22/08/2017	120 day	0.36	121	180 day	0.36	181	480 day	0.16	366	Agreed to decommission automated sensors at ERP Meeting 27/07/2017; as per KC21.330 ( c) of C122-OVE-Z4-RSP-CR001-00010. Monitoring ceased 24/08/2017	Complete
C510-TB10303B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	22/08/2017	120 day	0.38	121	180 day	0.29	181	480 day	0.03	366		Complete
C510-TB10304A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	22/08/2017	120 day	-0.58	121	180 day	-0.33	181	480 day	-0.13	366		Complete
C510-TB10304B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	22/08/2017	120 day	-0.18	121	180 day	-0.26	181	480 day	-0.09	366		Complete

Learning Legacy Document

Table 6 - Block 03 Decommissioning Status Tracker RP

02/10/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND					Ceased Date	General Comment	Decommissioning Status
											120 Day Calculation Period	180 Day Calculation Period	365 Day Calculation Period	120 Day Calculation Period	180 Day Calculation Period			
C510-RP10301A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-15.35	120	-10.73	180	-2.76	365		Agreed
C510-RP10302A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-13.93	120	-9.88	180	-3.33	365		Agreed
C510-RP10303	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	20/08/2017	1.30	120	3.57	180	-1.72	365		Agreed
C510-RP10304	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	20/08/2017	2.15	120	4.22	180	-1.70	365		Agreed
C510-RP10305	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	25/02/2014	#N/A		#N/A		#N/A	365		Agreed
C510-RP10306	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	20/08/2017	1.25	121	3.16	183	-1.45	365		Agreed
C510-RP10307	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	16/08/2017	0.05	326	0.05	326	-0.85	366		Agreed
C510-RP10308	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	20/08/2017	0.24	120	3.06	180	-1.94	365		Agreed
C510-RP10309	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_LCE_Enlargement_Adv-26	07/02/2014	17/08/2017	0.66	140	-1.26	201	-2.08	365		Agreed
C510-RP10310	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_LCE_Enlargement_Adv-26	07/02/2014	20/08/2017	0.06	120	2.77	180	-3.07	365		Agreed
C510-RP10311	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	13/08/2017	3.80	139	-1.41	187	-2.78	365		Agreed
C510-RP10312	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	20/08/2017	-1.18	120	1.81	180	-3.12	365		Agreed
C510-RP10313	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-7	28/02/2017	20/08/2017	-3.50	120	-0.72	180	-4.94	365		Agreed
C510-RP10314	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-7	28/02/2017	20/08/2017	-2.44	120	0.68	180	-4.78	365		Agreed
C510-RP10315	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-7	28/02/2017	20/08/2017	-3.97	120	-1.16	180	-5.32	365		Agreed
C510-RP10316	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-7	28/02/2017	20/08/2017	-3.64	120	-0.71	180	-5.40	365		Agreed
C510-RP10317	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-13	06/03/2017	20/08/2017	-1.37	120	-2.27	180	-3.04	365		Agreed
C510-RP10318	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-13	06/03/2017	20/08/2017	-0.43	120	-0.87	180	-2.90	365		Agreed
C510-RP10319	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	-1.29	120	-2.23	180	-3.30	365		Complete
C510-RP10320	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	0.04	120	-0.64	180	-3.15	365		Complete
C510-RP10321	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	-1.53	120	-2.52	180	-3.03	365		Complete
C510-RP10322	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	-0.59	120	-1.25	180	-2.83	365		Complete
C510-RP10323	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	-3.73	120	-1.06	180	-4.18	365		Complete
C510-RP10324	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	20/08/2017	-2.59	120	0.04	180	-4.11	365		Complete
C510-RP10325	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	20/08/2017	-1.35	120	-1.96	180	-1.50	365		Complete
C510-RP10326	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	20/08/2017	-0.29	120	-0.68	180	-1.42	365		Complete
C510-RP10327	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-140	18/01/2014	20/08/2017	-1.18	120	-1.52	180	-0.69	365		Complete
C510-RP10328	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	20/08/2017	-0.07	120	-0.09	181	-0.51	365		Complete
C510-RP10329	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	20/08/2017	-1.04	120	-0.79	302	-1.10	365		Complete
C510-RP10330	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	20/08/2017	-0.04	120	0.18	180	-0.08	365		Complete
C510-RP10331	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	19/06/2013	#N/A		#N/A		#N/A			Complete
C510-RP10332	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	19/06/2013	#N/A		#N/A		#N/A			Complete
C510-RP10333	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	20/08/2017	-1.31	120	-0.84	469	-0.84	469		Complete
C510-RP10334	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	20/08/2017	-0.25	120	0.34	180	0.64	365		Complete

Agreed to decommission at ERP meeting 27/07/2017 as grouting facilities have been decommissioned; as per KC21.330 ( c ) of C122-OVE-Z4-RSP-CR001-00010

Learning Legacy

Table 7 - Block 03 Decommissioning Status Tracker CK

02/10/2017

< 2.0 mm GREEN	< 3.5 mm AMBER	> 3.5 mm RED
----------------	----------------	--------------

AVERAGE CRACK WIDTH

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE CRACK WIDTH						Ceased Date	General Comment	Decommissioning Status
											120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days	365 Day Calculation Period			
C510-CK10301-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/08/2017	-0.67	125	-0.65	181	2.44	368		Acceptable displacement trend, supported by acceptable settlement trends of surrounding manual sensors	Proposed
C510-CK10302-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CH6/ES3_Enlargement_Invert_Downhill_Adv-5	17/12/2016	14/08/2017	-0.55	125	-1.01	181	1.94	368			Proposed
C510-CK10304-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/08/2017	0.17	125	0.09	181	1.90	368			Proposed
C510-CK10305-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CH6/ES3_Enlargement_Invert_Downhill_Adv-5	17/12/2016	14/08/2017	0.08	125	1.15	181	3.44	368			Proposed
C510-CK10306-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/08/2017	0.28	125	0.24	181	1.11	368			Proposed
C510-CK10307-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/08/2017	-0.68	125	-1.45	181	0.00	368			Proposed
C510-CK10308-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/08/2017	-0.99	125	-1.46	181	1.56	368			Proposed

Learning Legacy Document

### 5.3 Supplementary Evidence for Decommissioning

In some cases supplementary evidence will be provided to support the decommissioning evidence.

#### 5.3.1 Road Stud LP12525

LP12525 has not met any trend requirements; however, the surrounding studs have all met the allowable trend for a minimum of 180 days. It can be seen in Figure 3 below that the circled pin is located on an unstable concrete slab which has been subject to physical damage (i.e. large chipped area adjacent to kerb). In addition, this area has been subject to various utility excavations which may also have affected the settlements recorded. The area is heavily trafficked and considerable damage has been sustained to surrounding pavement slabs. As such, the settlement trend is not considered to be a true reflection of the absolute (deep seated) ground movement caused by Crossrail works in the area.

Based on the adjacent road studs and BREs/invar scales' settlement trends, it is proposed to consider LP12525 as unreliable with regards to trends caused by tunnelling construction, and to decommission the sensor.



**Figure 3. LP12525 Located on Unstable Concrete Slab**



### 5.3.2 Moorgate Roadworks Affecting LP12347 to LP12355

Major roadworks were undertaken along Moorgate, whereby the footpath was removed and replaced to allow for trenching works. LP12347 to LP 12355 were destroyed during these works which took place during October 2017. All studs that were destroyed had met the trend requirements for a minimum of 6 months. No further measurements on these sensors will be possible. See Figure 4 below for evidence of the works being undertaken.



Figure 4. Roadworks taking place on Moorgate footpath. LP12347 to LP12355 affected by works.

#### 5.4 Monitoring sensor Location Plan and Decommissioning Status

The following plots provide a visual representation of all Block 03 monitoring sensors with a colour circle that defines its settlement status. A green circle represents when a trend is below 2mm/yr and the larger the circle the greater the trend period. When a trend has not been met, a small red circle will represent the monitoring sensor.

- *Figure 5- LP Monitoring Sensor Settlement Status and Location Plan*
- *Figure 6- LB & LC Monitoring Sensor Settlement Status and Location Plan*
- *Figure 7- SH Monitoring Sensor Settlement Status and Location Plan*
- *Figure 8- TB Monitoring Sensor Settlement Status and Location Plan*
- *Figure 9- RP Monitoring Sensor Settlement Status and Location Plan*
- *Figure 10- CK Monitoring Sensor Settlement Status and Location Plan*

Learning Legacy Document



Figure 5- LP Monitoring Sensor Settlement Status and Location Plan - 30/10/2017

Legend

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr

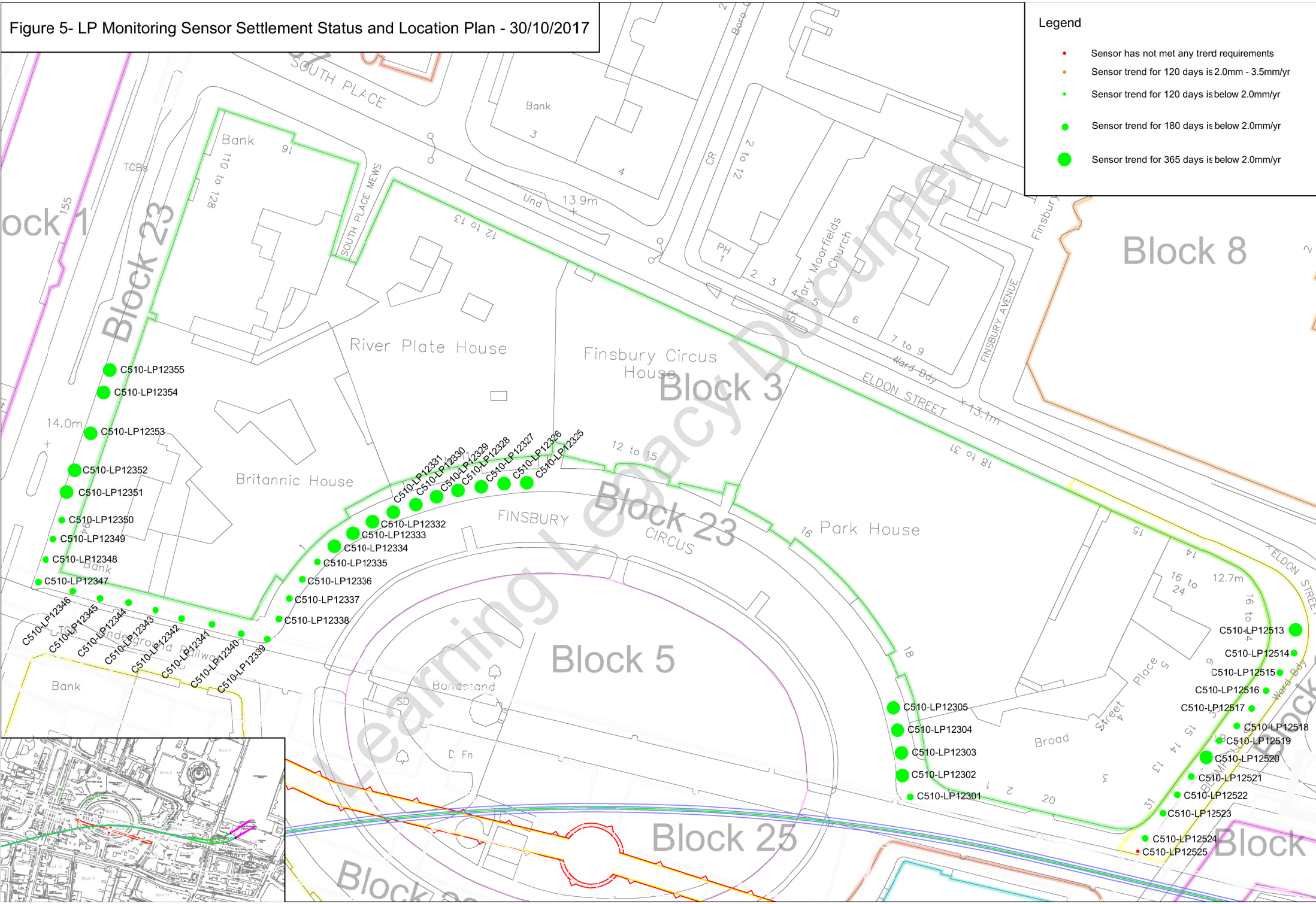


Figure 6- LB & LC Monitoring Sensor Settlement Status and Location Plan -30/10/2017

- Legend
- Sensor has not met any trend requirements
  - Sensor trend for 120 days is 2.0mm - 3.5mm/yr
  - Sensor trend for 120 days is below 2.0mm/yr
  - Sensor trend for 180 days is below 2.0mm/yr
  - Sensor trend for 365 days is below 2.0mm/yr

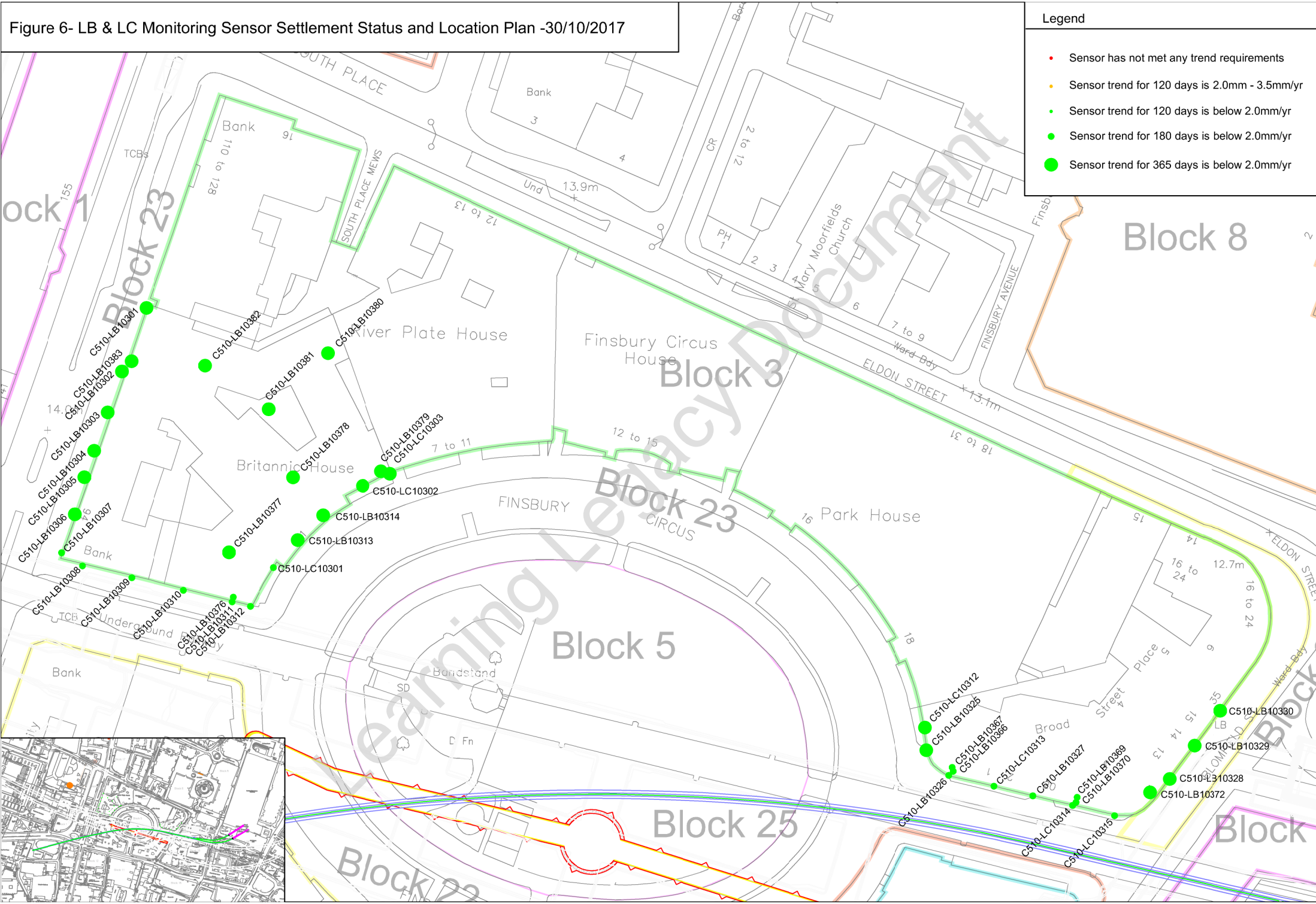




Figure 7- SH Monitoring Sensor Settlement Status and Location Plan - 23/08/2017

**Legend**

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr

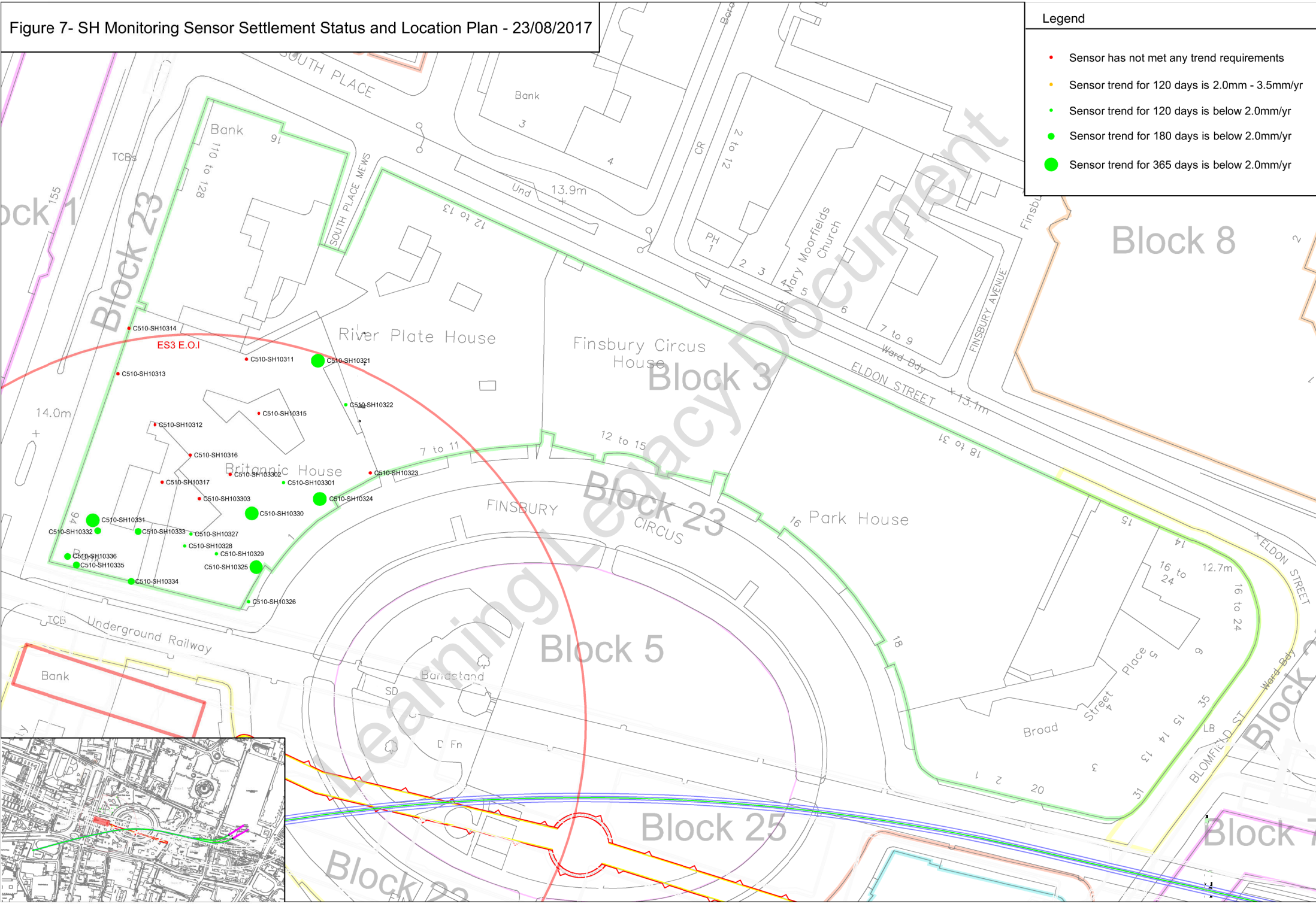


Figure 8- TB Monitoring Sensor Settlement Status and Location Plan

- Legend
- Sensor has not met any trend requirements
  - Sensor trend for 120 days is 2.0mm - 3.5mm/yr
  - Sensor trend for 120 days is below 2.0mm/yr
  - Sensor trend for 180 days is below 2.0mm/yr
  - Sensor trend for 365 days is below 2.0mm/yr

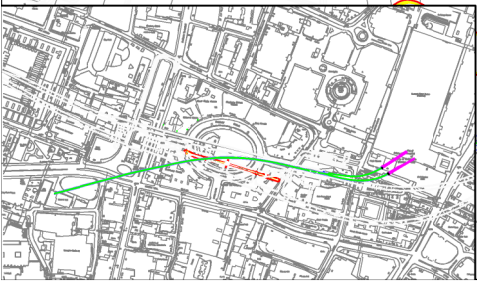
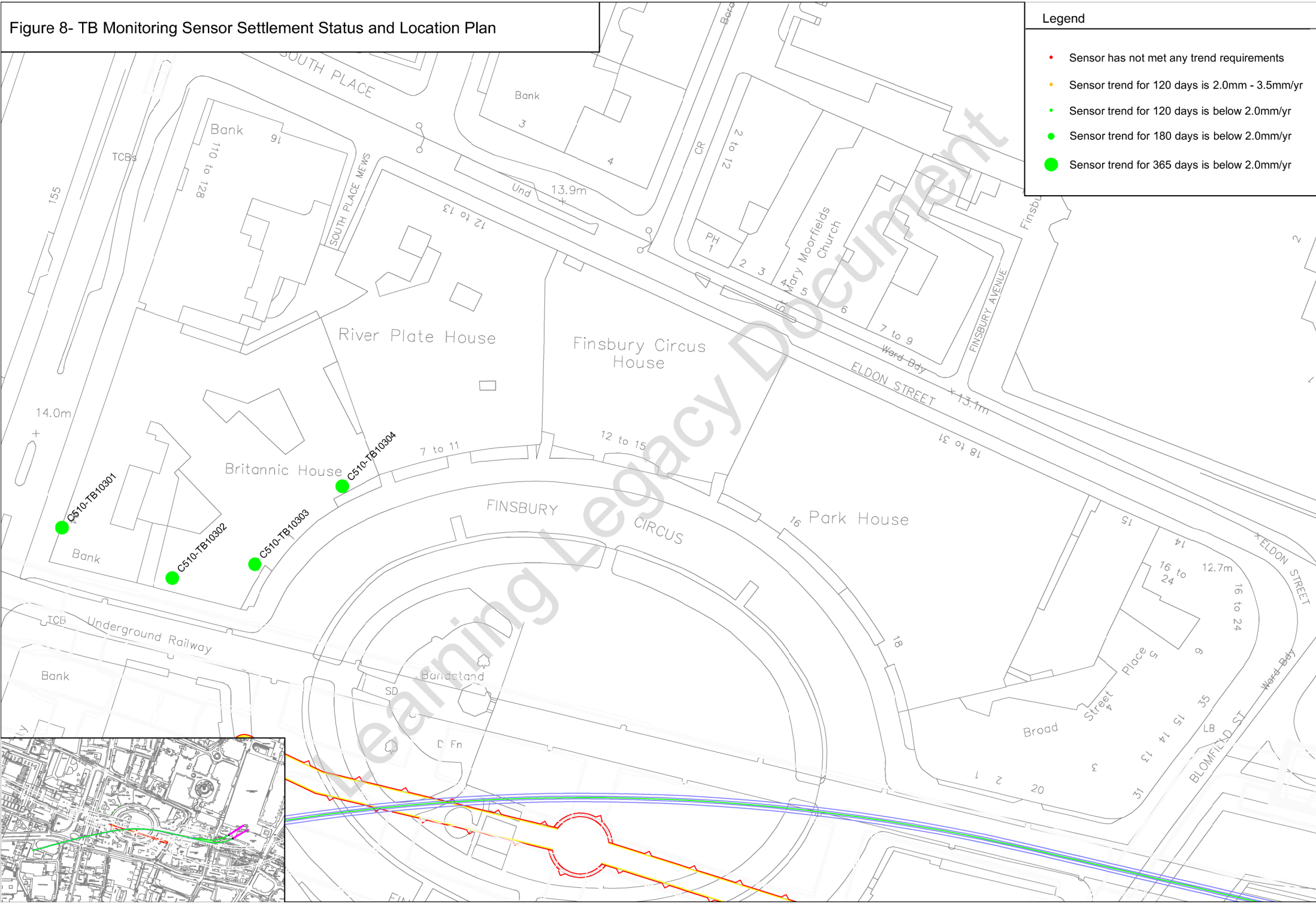




Figure 9 - RP Monitoring Sensor Settlement Status and Location Plan

- Legend**
- Sensor has not met any trend requirements
  - Sensor trend for 120 days is 2.0mm - 3.5mm/yr
  - Sensor trend for 120 days is below 2.0mm/yr
  - Sensor trend for 180 days is below 2.0mm/yr
  - Sensor trend for 365 days is below 2.0mm/yr

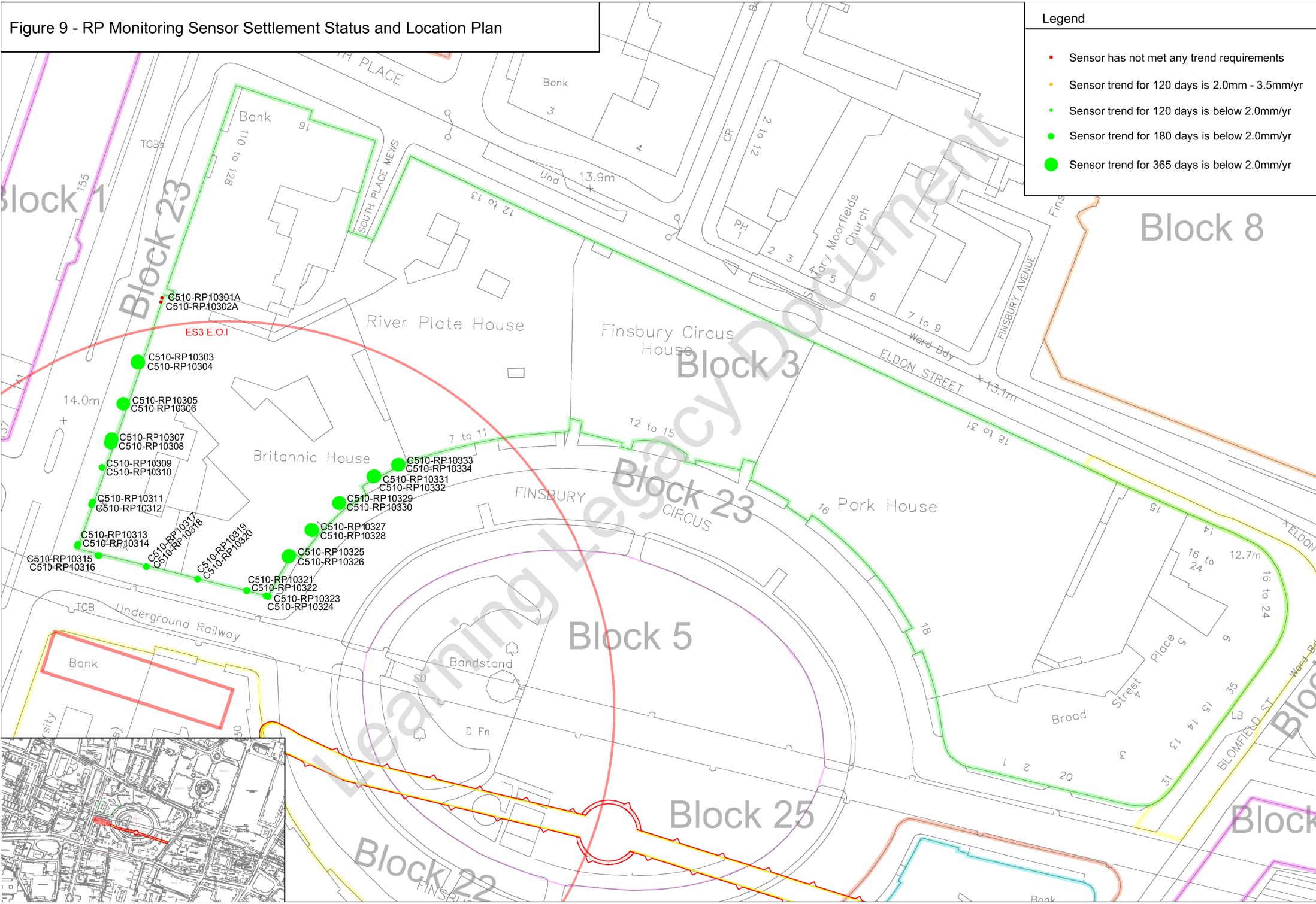
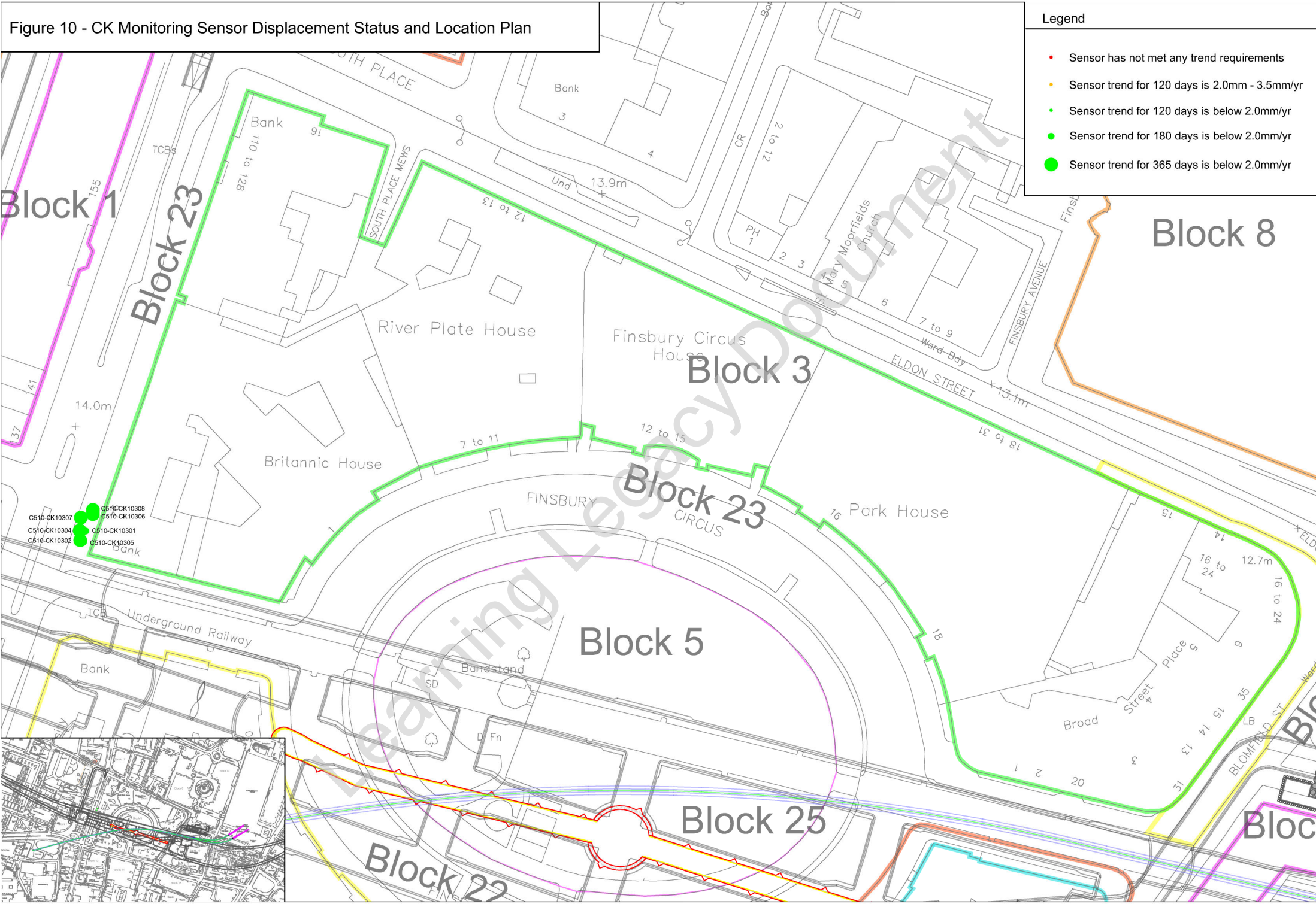


Figure 10 - CK Monitoring Sensor Displacement Status and Location Plan

**Legend**

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr





## 6 Decommissioning Recommendations

Revision 2 of Block 03 close out report requests all monitoring sensors to be decommissioned. The decommissioning status trackers (*Tables 2, 3, 4, 5, 6 and 7*) identify the monitoring sensors to be agreed for decommissioning.

**N.B.** When required, decommissioning and re-instatement evidence will be collected during the removal of monitoring sensors, which will be included within the final report.

Learning Legacy Document

## 7 **Appendix 1 – Revision 1 Summary**

Appendix 1 includes the decommissioning tracker table, plots and graphs that were used as evidence to agree decommissioning in Revision 1 of Block 03 close out report.

Learning Legacy Document

Table 2 - Block 03 Decommissioning Status Tracker LP

19/06/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND					Ceased Date	General Comment	Decommissioning Status
											120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days			
C510-LP10301 to C510-LP10355	Block 103	N/A	N/A	Manual	LP	Road Stud	Finsbury Circus				N/A	N/A	N/A	N/A		Renamed/replaced with 123/125 series in 2011. 103 series no longer monitored.	Proposed	
C510-LP12301	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	12/05/2017	-2.77	123	-4.84	205	-6.00	373	2mm per annum specification not met	Outstanding
C510-LP12302	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	12/05/2017	-3.72	123	-2.60	205	-1.92	373	2mm per annum specification met - continue to monitor until LP12301 meets specification	Outstanding
C510-LP12303	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	12/05/2017	-3.35	123	-1.67	205	-1.35	373		Outstanding
C510-LP12304	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	12/05/2017	-1.60	123	-1.61	205	-1.62	373		Outstanding
C510-LP12305	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-103	10/01/2014	12/05/2017	-1.79	123	-1.64	205	-1.25	373		Outstanding
C510-LP12306	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.22	123	-1.76	205	-1.78	373		Proposed
C510-LP12307	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.23	123	-1.15	205	-1.94	373		Proposed
C510-LP12308	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.20	150	-3.07	243	-1.40	422		Proposed
C510-LP12309	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.13	150	-1.90	243	-0.49	422		Proposed
C510-LP12310	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.03	150	-1.53	243	-0.33	422		Proposed
C510-LP12311	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.40	150	-0.43	243	0.20	422		Proposed
C510-LP12312	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	1.02	150	-1.15	243	-0.97	422		Proposed
C510-LP12313	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.48	150	-0.82	243	0.22	422		Proposed
C510-LP12314	Block 103	S10301.1	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.74	150	-0.68	243	0.11	422		Proposed
C510-LP12315	Block 103	S10301.1;S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.74	150	-0.26	243	0.90	422	2mm per annum specification met	Proposed
C510-LP12316	Block 103	S10301.1;S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.11	150	-0.42	243	0.24	422		Proposed
C510-LP12317	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.03	150	-1.32	243	-0.37	422		Proposed
C510-LP12318	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.57	150	-1.36	243	-0.86	422		Proposed
C510-LP12319	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.31	150	-1.36	243	-0.36	422		Proposed
C510-LP12320	Block 103	S10301.2;S105XS2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.79	123	0.52	205	-1.27	372		Proposed
C510-LP12321	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.12	150	-1.66	243	-0.49	422		Proposed
C510-LP12322	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.40	150	-1.42	243	-0.51	422		Proposed
C510-LP12323	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.39	150	-1.81	243	-0.78	422		Proposed
C510-LP12324	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.20	150	-1.78	243	-1.44	422		Proposed
C510-LP12325	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.39	150	-1.52	243	-1.45	422		Outstanding
C510-LP12326	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.14	150	-1.14	243	-1.34	422		Outstanding
C510-LP12327	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.74	150	-1.84	243	-1.73	422		Outstanding
C510-LP12328	Block 103	S10301.2	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-2.69	243	-2.69	243	-1.96	422		Outstanding
C510-LP12329	Block 103	S10301.2;S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-1.36	150	-2.15	243	-1.97	422		Outstanding
C510-LP12330	Block 103	S10301.2;S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.97	243	-0.97	243	-0.57	422		Outstanding
C510-LP12331	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-0.85	150	-0.66	207	-0.52	422		Outstanding
C510-LP12332	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	-1.59	150	-1.41	207	-1.12	422		Outstanding
C510-LP12333	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-East_Enlargement_Adv-88	04/12/2013	12/05/2017	0.53	123	2.85	207	1.69	373		Outstanding
C510-LP12334	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-West_Enlargement_Adv-119	12/01/2014	12/05/2017	-0.69	123	-1.46	207	-1.78	373		Outstanding
C510-LP12335	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_PTE-West_Enlargement_Adv-134	17/01/2014	12/05/2017	-0.51	123	-1.92	207	-2.20	373		Outstanding
C510-LP12336	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	12/05/2017	-0.95	123	-2.53	207	-2.53	373		Outstanding
C510-LP12337	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	12/05/2017	-2.53	123	-3.41	207	-3.27	373		Outstanding
C510-LP12338	Block 103	S10301.3	External	Manual	LP	Road Stud	Finsbury Circus	LIV_CP4_Enlargement_Adv-11	03/10/2014	12/05/2017	-3.40	123	-4.51	207	-3.93	373		Outstanding
C510-LP12339	Block 103	S10301.3;S10302	External	Manual	LP	Road Stud	Finsbury Circus	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	06/06/2017	-4.87	133	-5.65	188	-5.73	369	Within ES3 EOI	Outstanding
C510-LP12340	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	06/06/2017	-6.80	133	-6.63	188	-6.25	369		Outstanding
C510-LP12341	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	06/06/2017	-7.85	133	-7.55	188	-7.09	369		Outstanding
C510-LP12342	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	06/06/2017	-7.41	133	-7.82	188	-6.96	369		Outstanding
C510-LP12343	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	06/06/2017	-6.73	133	-6.92	188	-6.85	369		Outstanding
C510-LP12344	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	06/06/2017	-6.48	133	-6.89	188	-6.56	369		Outstanding
C510-LP12345	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	06/06/2017	-5.13	133	-5.41	188	-6.02	369		Outstanding
C510-LP12346	Block 103	S10302	External	Manual	LP	Road Stud	West Place	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	06/06/2017	-4.55	133	-5.37	188	-6.55	369		Outstanding
C510-LP12347	Block 103	S10302;S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	06/06/2017	-4.82	133	-5.55	188	-6.70	369		Outstanding
C510-LP12348	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_CH6/ES3_Enlargement_Invert_Downhill_Adv-5	17/12/2016	06/06/2017	-5.76	133	-6.89	188	-6.51	369		Outstanding
C510-LP12349	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_CP2_Enlargement_Adv-9	26/08/2014	06/06/2017	-1.89	133	-4.48	188	-4.85	368		Outstanding
C510-LP12350	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-41	12/09/2014	06/06/2017	-3.28	143	-3.41	213	-2.58	368		Outstanding
C510-LP12351	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-34	10/02/2014	06/06/2017	-0.79	143	-1.74	213	-1.32	368		Outstanding
C510-LP12352	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	06/06/2017	-1.63	143	-2.64	213	-1.98	368		Outstanding
C510-LP12353	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	06/06/2017	-0.99	143	-2.28	213	-1.45	368		Outstanding
C510-LP12354	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	06/06/2017	-0.16	143	-1.81	213	-1.08	368		Outstanding
C510-LP12355	Block 103	S10303.1	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	06/06/2017	0.95	143	-1.69	213	-1.39	368		Outstanding
C510-LP12356	Block 103	S10303.1;S10303.2	External	Manual	LP	Road Stud	Moorgate	LIV_LCE_Enlargement_Adv-22	06/02/2014	06/06/2017	-0.61	175	-0.11	268	0.51	447	2mm per annum specification met	Proposed
C510-LP12357	Block 103	S10303.1;S10303.2																

Table 2 - Block 03 Decommissioning Status Tracker LP

19/06/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND						Ceased Date	General Comment	Decommissioning Status
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Days	365 Day Calculation Period			
C510-LP12501	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.72	175	-0.64	266	-0.88	418		2mm per annum specification met	Proposed
C510-LP12502	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.72	175	-1.37	266	-1.14	418			Proposed
C510-LP12503	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	0.72	175	0.98	266	-0.03	418			Proposed
C510-LP12504	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	0.72	175	0.98	266	-0.31	418			Proposed
C510-LP12505	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	0.75	175	0.84	266	0.38	418			Proposed
C510-LP12506	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-2.48	142	-3.03	198	-1.40	399			Proposed
C510-LP12507	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	0.04	175	-0.52	266	-0.98	418			Proposed
C510-LP12508	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.43	175	-1.00	266	-1.26	418			Proposed
C510-LP12509	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.24	175	-0.35	266	-0.79	418			Proposed
C510-LP12510	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.24	121	0.73	185	-0.46	372			Proposed
C510-LP12511	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-1.24	154	0.39	183	-0.14	370			Proposed
C510-LP12512	Block 103	S10501	External	Manual	LP	Road Stud	Eldon Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-0.37	154	1.23	183	0.30	370			Proposed
C510-LP12513	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-1.96	122	-0.96	184	-1.04	370	2mm per annum specification met - continue to monitor until section S10502 points meet spec		Outstanding
C510-LP12514	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-2.42	122	-2.09	184	-4.05	370		Outstanding	
C510-LP12515	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-1.03	121	-2.28	184	-4.22	365		Outstanding	
C510-LP12516	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-1.55	121	-2.11	184	-3.76	365		Outstanding	
C510-LP12517	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-2.19	121	-3.31	184	-5.75	365		Outstanding	
C510-LP12518	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-1.99	121	-4.06	184	-10.01	365		Outstanding	
C510-LP12519	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-1.70	121	-3.88	184	-9.39	365	2mm per annum specification not met	Outstanding	
C510-LP12520	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	0.05	121	-1.42	184	0.92	365		Outstanding	
C510-LP12521	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-2.02	121	-4.53	184	-11.28	365		Outstanding	
C510-LP12522	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-8	25/06/2016	07/06/2017	-2.84	121	-5.00	184	-5.22	365		Outstanding	
C510-LP12523	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_AP2_Enlargement_Adv-12	09/07/2016	07/06/2017	-3.30	121	-5.70	184	-10.43	365		Outstanding	
C510-LP12524	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_ES2_Enlargement_Adv-16	24/09/2016	07/06/2017	-1.67	121	-2.72	184	-7.37	365		Outstanding	
C510-LP12525	Block 103	S10502	External	Manual	LP	Road Stud	Blomfield Street	LIV_ES2_Enlargement_Adv-16	24/09/2016	07/06/2017	-4.23	121	-5.73	184	-16.55	365		Outstanding	

Learning Legacy Document



Table 3 - Block 03 Decommissioning Status Tracker LB & LC

19/06/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TRENDS

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days	365 Day Calculation Period	Ceased Date	General Comment	Decommissioning Status
C510-LB10356	Block 103	S10301	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-1.05	124	-2.43	124	-1.06	370	10/03/2016	2mm per annum specification met	Proposed
C510-LB10357	Block 103	S10301	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-2.79	124	-2.70	124	-0.76	370	10/03/2016		Proposed
C510-LB10358	Block 103	S10301	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-1.49	124	-1.21	124	-0.38	370	10/03/2016		Proposed
C510-LB10359	Block 103	S10301	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-6.02	124	-2.95	124	-0.69	370	10/03/2016		Proposed
C510-LB10360	Block 103	S10301	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-5.84	124	-3.09	124	-1.36	370	10/03/2016		Proposed
C510-LB10361	Block 103	S10301,S10302	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-5.80	124	-4.02	124	-1.66	370	10/03/2016		Proposed
C510-LB10362	Block 103	S10302	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-5.71	127	-5.31	127	-0.88	370	10/03/2016		Proposed
C510-LB10363	Block 103	S10302	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-4.32	196	-4.32	196	-0.70	371	10/03/2016		Proposed
C510-LB10364	Block 103	S10302	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-5.28	196	-5.28	196	-0.98	371	10/03/2016		Proposed
C510-LB10365	Block 103	S10302	External	Manual	LB	BRE	110-128 Moorgate	LIV_AP10b_Enlargement_Adv-22	02/08/2015	16/03/2016	-3.02	196	-3.02	196	0.53	371	10/03/2016		Proposed
C510-LC10301	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	14/06/2017	-3.75	141	-2.90	182	-2.58	377		Outstanding	
C510-LC10302	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	14/06/2017	-2.12	141	-1.90	276	-0.89	377		Outstanding	
C510-LC10303	Block 103	S10303	External	Manual	LC	Invar Scale	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	14/06/2017	-0.27	133	-1.30	232	-0.63	405		Outstanding	
C510-LB10301	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	0.45	141	-0.71	141	0.71	455		Outstanding	
C510-LB10302	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	1.75	141	-0.79	141	-0.12	377		Outstanding	
C510-LB10303	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	-1.68	145	-1.77	145	0.61	376		Outstanding	
C510-LB10304	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	-0.57	121	-1.63	121	-0.01	376		Outstanding	
C510-LB10305	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	-1.27	121	-1.82	121	-0.39	376		Outstanding	
C510-LB10306	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	14/06/2017	-1.70	121	-2.78	121	-1.43	376		Outstanding	
C510-LB10307	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	14/06/2017	-3.39	121	-3.26	121	-3.16	376		Outstanding	
C510-LB10308	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-7	28/02/2017	14/06/2017	-4.24	121	-4.11	121	-3.83	376		Outstanding	
C510-LB10309	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	14/06/2017	-3.96	121	-3.73	121	-4.36	376		Outstanding	
C510-LB10310	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	14/06/2017	-4.71	121	-4.80	121	-4.56	377		Outstanding	
C510-LB10311	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	14/06/2017	-3.41	121	-4.24	121	-4.09	377		Outstanding	
C510-LB10312	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	14/06/2017	-5.01	141	-4.71	141	-3.80	377		Outstanding	
C510-LB10313	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-140	18/01/2014	14/06/2017	-1.14	141	-1.03	141	-1.83	377		Outstanding	
C510-LB10314	Block 103	S10303	External	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-140	18/01/2014	14/06/2017	-0.47	141	-0.04	141	-1.17	377		Outstanding	
C510-LB10324	Block 103	S10309	External	Manual	LB	BRE	Britannic House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/11/2013	-2.27	122	-0.09	122	-0.66	368		Proposed	
C510-LC10304	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-4.56	120	-0.94	255	0.37	434		Proposed	
C510-LC10305	Block 103	S10305	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-4.26	120	-0.80	255	0.34	434		Proposed	
C510-LC10306	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-2.74	120	-1.12	255	-0.06	434		Proposed	
C510-LC10307	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-3.34	120	-1.11	255	-0.12	434		Proposed	
C510-LC10308	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-3.65	120	-1.39	255	-0.26	434		Proposed	
C510-LC10309	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_CP4_Enlargement_Adv-11	03/10/2014	24/05/2017	-4.26	120	-1.82	255	-0.28	434		Proposed	
C510-LC10310	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_PTE-East_Enlargement_Adv-82	03/12/2013	24/05/2017	-3.56	120	-1.69	190	-0.71	371		Proposed	
C510-LC10311	Block 103	S10304	External	Manual	LC	Invar Scale	Park House	LIV_PTE-East_Enlargement_Adv-107	11/01/2014	24/05/2017	-4.12	120	-2.00	190	-0.86	371		Proposed	
C510-LC10312	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	-4.22	120	-2.01	190	-1.06	371		Proposed	
C510-LC10313	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St	LIV_ES2_Invert_Adv-8	07/11/2016	24/05/2017	-4.24	120	-2.60	190	-2.64	371		Outstanding	
C510-LC10314	Block 103	S10304	External	Manual	LC	Invar Scale	1-5 Broad St	LIV_ES2_Invert_Adv-8	07/11/2016	25/05/2017	-3.93	121	-2.56	184	-3.49	365		Outstanding	
C510-LB10325	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	4.64	120	-1.54	120	-1.42	371		Proposed	
C510-LB10326	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	25/05/2017	-2.74	121	-2.79	121	-2.41	365		Outstanding	
C510-LB10327	Block 103	S10304	External	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	24/05/2017	-4.22	120	-2.61	120	-2.82	371		Outstanding	
C510-LC10315	Block 103	S10304,S10305	External	Manual	LC	Invar Scale	1-5 Broad St	LIV_ES2_Enlargement_Adv-16	24/09/2016	24/05/2017	-4.95	120	-2.77	184	-4.47	365		Outstanding	
C510-LB10328	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-2.13	121	-2.11	121	-2.19	365		Outstanding	
C510-LB10329	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-1.55	121	-0.62	121	-1.04	365		Proposed	
C510-LB10330	Block 103	S10305	External	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	25/05/2017	-1.08	122	-0.52	122	-0.62	365		Proposed	
C510-LB10331	Block 103	S10305	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-1.75	124	-1.37	124	-0.02	365		Proposed	
C510-LB10332	Block 103	S10305	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-1.02	124	-0.68	124	0.35	365		Proposed	
C510-LB10333	Block 103	S10305	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-1.34	124	-0.58	124	0.61	421		Proposed	
C510-LB10334	Block 103	S10305,S10306	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-1.66	124	-1.00	124	0.56	421		Proposed	
C510-LB10315	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	0.00	120	0.44	120	0.17	529		Proposed	
C510-LB10316	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	-0.61	120	0.16	120	0.33	432		Proposed	
C510-LB10317	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	-0.61	120	0.16	120	0.53	529		Proposed	
C510-LB10318	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	-0.30	120	0.01	120	0.38	529		Proposed	
C510-LB10319	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	0.61	120	0.57	120	0.49	559		Proposed	
C510-LB10320	Block 103	S10306	External	Manual	LB	BRE	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	24/05/2017	-0.91	120	0.31	120	0.45	559		Proposed	
C510-LB10335	Block 103	S10306	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-0.90	124	-0.28	124	0.65	421		Proposed	
C510-LB10336	Block 103	S10306	External	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	24/05/2017	-0.90								



Table 3 - Block 03 Decommissioning Status Tracker LB & LC

19/06/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TRENDS

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TRENDS					Ceased Date	General Comment	Decommissioning Status	
											120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days	365 Day Calculation Period				
C510-LB10348	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	0.23	125	1.37	125	0.10	369		Building demolished and rebuilt - points destroyed	Proposed
C510-LB10349	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	22/10/2013	0.02	127	1.05	127	0.01	365			Proposed
C510-LB10350	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	22/10/2013	-0.23	127	0.43	127	0.31	365			Proposed
C510-LB10351	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	-1.50	125	0.57	125	0.29	369			Proposed
C510-LB10352	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	-1.35	125	-0.33	125	-0.05	369			Proposed
C510-LB10353	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	-0.72	125	-0.85	125	-0.56	369			Proposed
C510-LB10354	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	0.01	125	-1.04	125	-1.11	369		Proposed	
C510-LB10355	Block 103	S10307	External	Manual	LB	BRE	River Plate House	LIV_AP10b_Enlargement_Adv-22	02/08/2015	28/10/2013	-1.85	125	-0.84	125	-0.52	369		Proposed	
C510-LB10384	Block 103	S10308	External	Manual	LB	BRE	Finsbury Circus House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	16/03/2016	-3.75	121	-1.51	121	-0.17	366	10/03/2016	2mm per annum specification met	Proposed
C510-LB10385	Block 103	S10308	External	Manual	LB	BRE	Finsbury Circus House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	16/03/2016	-3.62	121	-2.20	121	-0.41	366	10/03/2016		Proposed
C510-LB10386	Block 103	S10308	External	Manual	LB	BRE	Finsbury Circus House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	16/03/2016	-3.08	121	-2.01	121	-1.03	366	10/03/2016		Proposed
C510-LB10387	Block 103	S10308	External	Manual	LB	BRE	Finsbury Circus House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	16/03/2016	-3.37	121	-0.92	121	0.04	366	10/03/2016	Building demolished and rebuilt - points destroyed	Proposed
C510-LB10321	Block 103	S10309	External	Manual	LB	BRE	River Plate House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/11/2013	-1.06	122	-1.37	122	-1.25	368			Proposed
C510-LB10322	Block 103	S10309	External	Manual	LB	BRE	River Plate House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/11/2013	-4.03	122	-1.12	122	-0.48	368			Proposed
C510-LB10323	Block 103	S10309	External	Manual	LB	BRE	River Plate House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/11/2013	-3.54	122	-0.76	122	-0.24	368		Building demolished and rebuilt - points destroyed	Proposed
C510-LB10366	Block 103	S10301	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	25/05/2017	-2.71	128	-2.85	128	-2.87	372			Outstanding
C510-LB10370	Block 103	S10301	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	25/05/2017	-4.54	128	-3.00	128	-3.62	372		2mm per annum specification met	Outstanding
C510-LB10375	Block 103	S10301	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	25/05/2017	0.50	128	-0.29	128	-1.14	372			Proposed
C510-LB10376	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_ES3_Enlargement_Uphill_Adv-10	18/03/2017	14/06/2017	-3.21	133	-4.67	133	-4.19	377		Within ES3 EOI	Outstanding
C510-LB10377	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/06/2017	-1.73	133	-2.83	133	-2.57	377			Outstanding
C510-LB10378	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/03/2017	-1.91	228	-1.91	228	-1.59	369			Outstanding
C510-LB10379	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/06/2017	-2.52	133	-2.90	133	-1.42	377			Outstanding
C510-LB10380	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/06/2017	-0.14	133	-1.49	133	-0.61	377			Outstanding
C510-LB10381	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/06/2017	-0.65	133	-0.96	133	-0.17	377			Outstanding
C510-LB10382	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	14/06/2017	0.27	133	-0.17	133	-0.19	377		2mm per annum specification met	Outstanding
C510-LB10383	Block 103	S10301	Internal	Manual	LB	BRE	Britannic House	LIV_LCE_Enlargement_Adv-28	08/02/2014	14/06/2017	0.03	133	-1.11	133	-0.83	377			Outstanding
C510-LB10372	Block 103	S10301-S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-12	09/07/2016	25/05/2017	-2.22	268	-2.22	268	-2.31	377		2mm per annum specification met	Outstanding
C510-LB10367	Block 103	S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	25/05/2017	-2.52	128	-2.57	128	-2.65	372			Outstanding
C510-LB10369	Block 103	S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	25/05/2017	-4.35	128	-2.15	128	-3.20	372		2mm per annum specification met	Outstanding
C510-LB10374	Block 103	S10302	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	25/05/2017	-2.59	128	-0.90	128	-0.99	372			Proposed
C510-LB10368	Block 103	S10303	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-136	18/01/2014	25/05/2017	-3.32	128	-2.20	128	-1.88	372		Stable 6 month trend.	Proposed
C510-LB10371	Block 103	S10303	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	25/05/2017	-1.38	156	-1.55	156	-2.14	372			Proposed
C510-LB10373	Block 103	S10303	Internal	Manual	LB	BRE	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	25/05/2017	-1.54	128	0.01	128	-1.42	372		2mm per annum specification met	Proposed
C510-LB10388	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	5.22	122	-0.36	122	-0.66	448			Proposed
C510-LB10389	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	0.91	170	0.97	170	0.00	448		2mm per annum specification met. Agreed to cease CTC meeting 21/03/2017	Proposed
C510-LB10390	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	2.62	122	-0.66	122	-0.52	448			Proposed
C510-LB10391	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	3.82	122	-0.31	122	0.10	448			Proposed
C510-LB10392	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	-0.12	122	0.04	122	0.39	448			Proposed
C510-LB10393	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	2.63	122	-0.38	122	-0.15	448			Proposed
C510-LB10399	Block 103	S10304	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	1.04	170	-0.60	170	0.01	448			Proposed
C510-LB10394	Block 103	S10305	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	0.45	170	-0.99	170	0.63	532			Proposed
C510-LB10395	Block 103	S10305	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	1.28	170	0.46	170	0.06	532			Proposed
C510-LB10396	Block 103	S10305	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	1.25	170	0.18	170	-0.29	532			Proposed
C510-LB10397	Block 103	S10305	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	-0.22	170	-0.40	170	-0.50	532			Proposed
C510-LB10398	Block 103	S10305	Internal	Manual	LB	BRE	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	16/02/2017	-0.42	170	-1.14	170	-0.04	532			Proposed

Learning

Table 4 - Block 03 Decommissioning Status Tracker SH

09/05/2017

< 2.0 mm GREEN	< 3.5 mm AMBER	> 3.5 mm RED
----------------	----------------	--------------

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	120 Day		180 Day		365 Day		Ceased Date	General Comment	Decommissioning Status
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Day	365 Day Calculation Period			
C510-SH10341	Block 103	System 04	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_PTE-East_Enlargement_Adv-151	24/01/2014	08/05/2017	-4.10	120	-3.18	180	-1.88	366		Proposed	
C510-SH10342	Block 103	System 04	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_CP10_Enlargement_Adv-7	17/08/2014	08/05/2017	-7.94	120	-7.58	180	-4.45	366		Proposed	
C510-SH10343	Block 103	System 04	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	08/05/2017	-8.58	120	-8.26	180	-5.16	366		Proposed	
C510-SH10344	Block 103	System 04	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	08/05/2017	-8.56	120	-8.49	180	-5.53	366		Proposed	
C510-SH10345	Block 103	System 04	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-24	13/06/2016	08/05/2017	-7.37	120	-4.92	180	-2.05	366		Proposed	
C510-SH10351	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	08/05/2017	-8.11	120	-5.59	180	-2.70	366		Proposed	
C510-SH10352	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-24	13/06/2016	08/05/2017	-7.37	120	-4.92	180	-2.05	366		Proposed	
C510-SH10353	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-5.00	120	-2.87	180	-2.27	366		Proposed	
C510-SH10354	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	08/05/2017	-5.32	120	-3.69	180	-4.71	366		Proposed	
C510-SH10355	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	08/05/2017	-4.79	120	-3.24	180	-3.73	366		Proposed	
C510-SH10356	Block 103	System 05	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	08/05/2017	-7.12	120	-4.27	180	-2.30	366		Proposed	
C510-SH10361	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	08/05/2017	-7.11	120	-4.30	180	-2.32	366		Proposed	
C510-SH10362	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-5.51	120	-2.60	180	1.68	366		Proposed	
C510-SH10363	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-14.55	120	-12.86	180	-6.76	366		Proposed	
C510-SH10364	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-14.38	120	-12.34	180	-6.61	366		Proposed	
C510-SH10365	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-7.75	120	-4.64	180	-0.17	366		Proposed	
C510-SH10366	Block 103	System 06	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-6.39	120	-4.06	180	-0.57	366		Proposed	
C510-SH10371	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-4.67	120	-3.13	180	0.86	366		Proposed	
C510-SH10372	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-6.39	120	-4.06	180	-0.57	366		Proposed	
C510-SH10373	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-6.59	120	-3.94	180	-0.80	366		Proposed	
C510-SH10374	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-7.63	120	-4.71	180	-1.96	366		Proposed	
C510-SH10375	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-7.82	120	-4.74	180	-1.10	366		Proposed	
C510-SH10376	Block 103	System 07	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	08/05/2017	-8.28	120	-5.12	180	-1.13	366		Proposed	
C510-SH10381	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	8.92	120	9.68	180	5.75	365		Proposed	
C510-SH10382	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-0.56	120	0.11	180	1.28	365		Proposed	
C510-SH10383	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-1.57	120	0.04	180	1.28	365		Proposed	
C510-SH10384	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	8.60	120	9.61	180	6.11	365		Proposed	
C510-SH10385	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	0.63	120	1.02	180	0.17	365		Proposed	
C510-SH10386	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	8.86	120	9.65	180	6.06	365		Proposed	
C510-SH10387	Block 103	System 08	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-13.17	120	-12.90	180	-5.66	365		Proposed	
C510-SH10391	Block 103	System 09	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-8.84	120	-6.43	180	-2.12	365		Proposed	
C510-SH10392	Block 103	System 09	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-3.32	120	-4.71	180	-3.93	365		Proposed	
C510-SH10393	Block 103	System 09	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-3.48	120	-4.73	180	-7.71	365		Proposed	
C510-SH10394	Block 103	System 09	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/2	21/06/2016	08/05/2017	-5.49	120	-6.90	180	-8.76	366		Proposed	
C510-SH10395	Block 103	System 09	Internal	Automated	SH	Settlement Cell-Electronic	6 Broad St Place	LIV_AP2_Enlargement_Adv-37/3	22/06/2016	08/05/2017	-4.90	120	-6.91	180	-8.32	366		Proposed	
C510-SH103101	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_PTE-East_Enlargement_Adv-157	26/01/2014	08/05/2017	-5.00	120	-3.86	180	-2.49	366		Proposed	
C510-SH103102	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/05/2017	-4.56	120	-3.35	180	-1.06	366		Proposed	
C510-SH103103	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/05/2017	-2.88	120	-2.56	180	-0.96	366		Proposed	
C510-SH103104	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/05/2017	-3.63	120	-4.90	180	-3.06	366		Proposed	
C510-SH103105	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	08/05/2017	-3.37	120	-3.83	180	-2.15	366		Proposed	
C510-SH103106	Block 103	System 10	Internal	Automated	SH	Settlement Cell-Electronic	1-5 Broad St Place (Deutsche Bank)	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	08/05/2017	-4.10	120	-3.18	180	-1.88	366		Proposed	
C510-SH10311	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-17.96	120	-10.30	180	-2.19	365		Outstanding	
C510-SH10312	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-19.26	120	-15.11	180	-7.27	365		Outstanding	
C510-SH10313	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-14.28	120	-10.25	180	-3.65	365		Outstanding	
C510-SH10314	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-15.52	120	-10.80	180	-2.84	365		Outstanding	
C510-SH10315	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-21.47	120	-17.40	180	-3.09	365		Outstanding	
C510-SH10316	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-East_Enlargement_Adv-152	24/01/2014	03/05/2017	-21.56	120	-17.27	180	-8.91	365		Outstanding	
C510-SH10317	Block 103	System 01	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	27/01/2014	09/05/2017	-21.96	120	-18.03	180	-9.40	365		Outstanding	
C510-SH10321	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	27/01/2014	09/05/2017	-5.23	122	3.66	180	0.93	365		Outstanding	
C510-SH10322	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	27/01/2014	09/05/2017	-8.06	122	-0.39	180	-3.77	365		Outstanding	
C510-SH10323	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	27/01/2014	09/05/2017	-8.73	122	-5.02	180	-2.93	365		Outstanding	
C510-SH10324	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	27/01/2014	09/05/2017	-3.06	122	-0.02	180	-1.99	365		Outstanding	
C510-SH10325	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	09/05/2017	-2.85	122	-0.77	180	-3.35	365		Outstanding	
C510-SH10326	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	09/05/2017	-9.77	122	-8.45	180	-8.46	365		Outstanding	
C510-SH10327	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-169	29/01/2014	09/05/2017	-8.35	122	-6.76	180	-7.44	365		Outstanding	
C510-SH10328	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	-9.44	122	-7.72	180	-8.09	365		Outstanding	
C510-SH10329	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-170	27/01/2014	09/05/2017	-7.87	122	-5.75	180	-6.83	365		Outstanding	
C510-SH10330	Block 103	System 02	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_PTE-West_Enlargement_Adv-142	19/01/2014	09/05/2017	-2.17	122	-0.04	180	-2.89	365		Outstanding	
C510-SH10331	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	-5.66	120	-3.44	180	-2.36	365		Outstanding	
C510-SH10332	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	-5.95	120	-4.71	180	-2.11	365		Outstanding	
C510-SH10333	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	-8.52	120	-5.49	180	-3.94	365		Outstanding	
C510-SH10334	Block 103	System 03	Internal	Automated	SH	Settlement Cell-Electronic	Britannic House	LIV_ES3_Enlargement_Invert_Downhill_Adv-13	06/03/2017	09/05/2017	-4.72	120	-2.54	180					



Table 5 - Block 03 Decommissioning Status Tracker TB

11/05/2017

< 2.0 mm GREEN
< 3.5 mm AMBER
> 3.5 mm RED

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE TILT TREND					Ceased Date	General Comment	Decommissioning Status			
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Day				365 Day Calculation Period		
C510-TB10331	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	N/A	N/A	N/A		N/A		N/A		N/A		Never produced any data due to not being configured. Proposed to remove from database.	Proposed			
C510-TB10332	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	N/A	N/A		N/A		N/A		N/A		Proposed					
C510-TB10333	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	N/A	N/A		N/A		N/A		N/A		Proposed					
C510-TB10334	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	N/A	N/A			N/A		N/A		N/A		Not in Sixense system - never produced data. Proposed to remove from database.	Proposed			
C510-TB10341A	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	09/05/2017	●	-1.03	120	●	-0.79	181	●	0.21	365	6 months automated post construction monitoring specification complete. Grouting agreed to be decommissioned; therefore, no longer required.	Proposed
C510-TB10341B	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	10/05/2017	●	1.28	120	●	1.15	180	●	0.34	365		Proposed
C510-TB103101A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_PTE-East_Enlargement_Adv-151	24/01/2014	09/05/2017	●	-1.03	120	●	-0.79	181	●	0.21	365		Proposed
C510-TB103101B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_PTE-East_Enlargement_Adv-151	24/01/2014	10/05/2017	●	1.28	120	●	1.15	180	●	0.34	365		Proposed
C510-TB10342A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	09/05/2017	●	0.53	120	●	0.25	181	●	-0.18	365		Proposed
C510-TB10342B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	09/05/2017	●	0.00	120	●	0.00	180	●	-0.14	365		Proposed
C510-TB10343A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	09/05/2017	●	1.02	120	●	0.43	181	●	0.04	365		Proposed
C510-TB10343B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	09/05/2017	●	0.15	120	●	0.09	180	●	-0.05	365		Proposed
C510-TB10344A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	09/05/2017	●	0.62	120	●	0.06	181	●	-0.22	365		Proposed
C510-TB10344B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	09/05/2017	●	0.10	120	●	0.01	180	●	-0.02	365		Proposed
C510-TB10345A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	10/05/2017	●	1.03	120	●	0.13	181	●	-0.32	365		Proposed
C510-TB10345B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	09/05/2017	●	0.01	120	●	0.00	180	●	0.15	365		Proposed
C510-TB10346A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	10/05/2017	●	0.19	120	●	-0.06	181	●	-0.12	365		Proposed
C510-TB10346B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	10/05/2017	●	0.29	120	●	0.14	180	●	-0.07	365		Proposed
C510-TB10347A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	10/05/2017	●	0.06	120	●	0.03	181	●	-0.05	365		Proposed
C510-TB10347B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	09/05/2017	●	1.21	120	●	0.72	180	●	-0.45	365		Proposed
C510-TB10348A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	09/05/2017	●	0.08	120	●	0.09	181	●	-0.15	365		Proposed
C510-TB10348B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	09/05/2017	●	-2.69	120	●	-2.32	180	●	0.63	365		Proposed
C510-TB10361A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	10/05/2017	●	0.02	120	●	0.00	180	●	-0.13	365		Proposed
C510-TB10361B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Invert_Adv-8	07/11/2016	10/05/2017	●	0.00	120	●	0.00	180	●	0.00	365		Proposed
C510-TB10362A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	10/05/2017	●	-0.17	120	●	-0.15	180	●	0.20	365		Proposed
C510-TB10362B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_ES2_Enlargement_Adv-16	24/09/2016	10/05/2017	●	0.16	120	●	0.03	180	●	-0.27	365		Proposed
C510-TB10363A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	10/05/2017	●	-0.11	120	●	-0.03	180	●	0.00	365		Proposed
C510-TB10363B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-12	09/07/2016	10/05/2017	●	0.00	120	●	0.00	180	●	-0.08	365	Proposed	
C510-TB10364	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	N/A	N/A	N/A			N/A		N/A		N/A		Never produced any data due to not being configured. Proposed to remove from database.	Proposed		
C510-TB10365A	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	●	0.68	120	●	0.15	180	●	-0.18	365	6 months automated post construction monitoring specification complete. Grouting agreed to be decommissioned.	Proposed
C510-TB10365B	Block 103	8	Unknown	Automated	TB	Tiltmeter-Biaxial	1-5 Broad St Place (Deutsche Bank)	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	●	0.49	120	●	0.07	180	●	-0.25	365		Proposed
C510-TB10301A	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	10/05/2017	●	-0.45	120	●	-0.28	180	●	0.00	365	Within ES3 EOI.	Outstanding
C510-TB10301B	Block 103	N/A	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	10/05/2017	●	-0.01	120	●	0.00	180	●	-0.02	365		Outstanding
C510-TB10302A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	10/05/2017	●	0.00	120	●	0.00	180	●	-0.04	365		Outstanding
C510-TB10302B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP2_Enlargement_Adv-9	26/08/2016	10/05/2017	●	0.09	120	●	0.03	180	●	0.09	365		Outstanding
C510-TB10303A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	10/05/2017	●	0.44	120	●	0.27	180	●	-0.06	365		Outstanding
C510-TB10303B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	10/05/2017	●	0.34	120	●	0.03	180	●	-0.13	365		Outstanding
C510-TB10304A	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	10/05/2017	●	-0.09	120	●	-0.09	180	●	0.06	365		Outstanding
C510-TB10304B	Block 103	4	Unknown	Automated	TB	Tiltmeter-Biaxial	Britannic House	LIV_CP4_Enlargement_Adv-11	03/10/2014	10/05/2017	●	0.02	120	●	-0.02	180	●	-0.05	365		Outstanding

Table 6 - Block 03 Decommissioning Status Tracker RP

17/05/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND					Ceased Date	General Comment	Decommissioning Status
											120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period	365 Days			
C510-RP10335	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-113	13/01/2014	05/05/2017	-4.07	120	0.76	180	-0.58	428		Proposed
C510-RP10336	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-112	13/01/2014	10/05/2017	-3.40	120	0.26	180	-0.18	365		Proposed
C510-RP10337	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-113	13/01/2014	11/05/2017	-2.75	120	0.16	180	-0.62	365		Proposed
C510-RP10338	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	07/05/2017	-4.24	154	-1.46	181	-2.40	1000		Proposed
C510-RP10339	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-3.18	120	0.20	180	-0.94	365		Proposed
C510-RP10340	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	10/05/2017	-4.58	139	-1.37	180	-0.69	365		Proposed
C510-RP10341	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-4.13	120	-0.31	180	-0.65	365		Proposed
C510-RP10342	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	10/05/2017	-3.22	120	-0.33	180	-1.07	365		Proposed
C510-RP10343	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-4.83	120	-3.27	180	-1.09	365		Proposed
C510-RP10344	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	10/05/2017	-3.63	120	-2.91	180	-1.18	365		Proposed
C510-RP10345	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-2.54	120	-2.56	180	-1.74	365		Proposed
C510-RP10346	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-157	26/01/2014	11/05/2017	-3.74	120	-3.20	180	-1.42	365		Proposed
C510-RP10347	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-157	26/01/2014	11/05/2017	-3.40	120	-3.01	180	-1.61	365		Proposed
C510-RP10348	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_PTE-East_Enlargement_Adv-155	25/01/2014	11/05/2017	-2.23	120	-2.43	180	-2.03	365		Proposed
C510-RP10349	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-2.61	120	-2.65	180	-1.63	365		Proposed
C510-RP10350	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	10/05/2017	-2.13	120	-2.52	180	-1.96	365		Proposed
C510-RP10351	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-4.97	120	0.05	180	-1.38	365		Proposed
C510-RP10352	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-3.17	120	-1.74	180	-1.35	365		Proposed
C510-RP10353	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-3.13	120	-1.69	180	-1.47	365		Proposed
C510-RP10354	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-1.65	120	-0.97	180	-1.78	365		Proposed
C510-RP10355	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	11/05/2017	-3.72	120	-1.65	180	-1.60	365		Proposed
C510-RP10356	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	11/05/2017	-3.31	120	-1.61	180	-1.86	365		Proposed
C510-RP10357	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	11/05/2017	-2.35	120	-1.14	180	-2.14	365		Proposed
C510-RP10358	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/12/2015	-2.09	120	0.09	614	0.09	614		Proposed
C510-RP10359	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	05/01/2017	-1.13	120	-1.62	180	-4.54	365		Proposed
C510-RP10359C	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	11/05/2017	-0.04	120	0.13	180	-0.56	365		Proposed
C510-RP10360	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	13/11/2015	-0.04	120	0.92	566	0.92	566		Proposed
C510-RP10360C	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	01/10/2016	0.01	120	-10.83	180	-6.23	365		Proposed
C510-RP10360D	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	26/09/2016	-0.69	120	-8.69	180	-4.56	365		Proposed
C510-RP10361	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	09/01/2017	0.02	120	-1.15	180	-3.77	365		Proposed
C510-RP10361C	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	11/05/2017	0.60	120	0.76	180	-0.09	365		Proposed
C510-RP10361D	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	0.50	120	2.25	180	0.31	365		Proposed
C510-RP10362	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	30/08/2016	-8.89	120	-8.51	180	-2.00	365		Proposed
C510-RP10362E	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	2.39	120	1.89	180	0.16	365		Proposed
C510-RP10363	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	09/01/2017	-0.21	120	-0.69	180	-2.83	365		Proposed
C510-RP10363F	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	11/05/2017	0.72	120	0.91	180	0.46	365		Proposed
C510-RP10364	Block 103	N/A	External	Automated	RP	3D Geodetic prism	6 Broad Street Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	10/05/2017	-0.49	120	0.03	180	1.30	365		Proposed
C510-RP10365	Block 103	N/A	External	Automated	RP	3D Geodetic prism	6 Broad Street Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	30/08/2016	-4.67	122	-3.55	270	-1.12	366		Proposed
C510-RP10365C	Block 103	N/A	External	Automated	RP	3D Geodetic prism	6 Broad Street Place	LIV_AP2_Enlargement_Adv-8	25/06/2016	11/05/2017	0.91	120	1.52	180	1.24	365		Proposed
C510-RP10367	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Park House	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	10/05/2017	-4.61	120	-0.76	180	-0.05	366		Proposed
C510-RP10368	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-4.05	120	0.29	180	0.03	365		Proposed
C510-RP10369	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-4.44	121	-0.98	181	-0.26	366		Proposed
C510-RP10370	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_CP8_Enlargement_Adv-END FACE	26/04/2014	11/05/2017	-4.70	120	-0.41	180	-0.19	366		Proposed
C510-RP10375	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	02/07/2015	0.01	120	-2.06	181	2.37	365		Proposed
C510-RP10376	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	10/05/2017	-3.08	120	-2.82	180	-1.38	365		Proposed
C510-RP10377	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-3.51	120	-3.31	180	-1.54	365		Proposed
C510-RP10378	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	11/05/2017	-2.98	120	-2.67	180	-1.85	365		Proposed
C510-RP10379	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Invert_Adv-8	07/11/2016	02/07/2015	-6.83	120	-2.11	181	-0.25	365		Proposed
C510-RP10380	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	11/05/2017	-4.19	120	-3.06	180	-1.95	365		Proposed
C510-RP10381	Block 103	N/A	External	Automated	RP	3D Geodetic prism	1-5 Broad St Place	LIV_ES2_Enlargement_Adv-16	24/09/2016	10/05/2017	-4.93	120	-3.62	180	-2.42	365		Proposed
C510-RP10399	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Park House	LIV_PTE-East_Enlargement_Adv-112	13/01/2014	11/05/2017	N/A	120	N/A	180	N/A	365	Trend not applicable - anomalous with adjacent prisms	Proposed
C510-RP103aa	Block 103	N/A	External	Automated	RP	3D Geodetic prism					N/A		N/A		N/A		System point only - not a monitoring point. Proposed to remove from database.	Proposed
C510-RP103ab	Block 103	N/A	External	Automated	RP	3D Geodetic prism					N/A		N/A		N/A			Proposed
C510-RP10301A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-15.35	120	-10.73	180	-2.76	365		Outstanding
C510-RP10302A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-13.93	120	-9.88	180	-3.33	365		Outstanding
C510-RP10303	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	11/05/2017	-4.93	120	-4.47	180	-2.10	365		Outstanding
C510-RP10304	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	11/05/2017	-4.07	120	-3.98	180	-2.56	365		Outstanding
C510-RP10304A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	26/09/2013	-3.83	120	-0.18	180	-1.90	365		Outstanding
C510-RP10305	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	25/02/2014	-6.92	120	-1.52	181	-3.68	454		Outstanding
C510-RP10305A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-19.45	120	-12.29	180	-4.01	365		Outstanding
C510-RP10306	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-13.96	120	-9.96	181	-2.52	365		Outstanding
C510-RP10306A	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	02/05/2017	-17.35	120	-11.76	180	-3.30	365		Outstanding
C510-RP10307	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	24/09/2016	-2.22	120	-2.92	180	-3.12	813		Outstanding
C510-RP10308	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Enlargement_Adv-182	31/01/2014	11/05/2017	-4.88	120	-4.41	180	-2.48	365		Outstanding
C510-RP10309	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_LCE_Enlargement_Adv-26	07/02/2014	30/03/2017	-							



Table 6 - Block 03 Decommissioning Status Tracker RP

17/05/2017

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm RED

AVERAGE SETTLEMENT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND					Ceased Date	General Comment	Decommissioning Status
											120 Day	120 Day Calculation Period	180 Day	180 Day Calculation Period	365 Day			
C510-RP10317	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-13	06/03/2017	11/05/2017	● -4.48	120	● -2.60	180	● -5.13	365		Outstanding
C510-RP10318	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Invert_Downhill_Adv-13	06/03/2017	11/05/2017	● -2.42	120	● -1.59	180	● -5.89	365		Outstanding
C510-RP10319	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	10/05/2017	● -5.19	120	● -3.25	180	● -5.48	365		Outstanding
C510-RP10320	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	10/05/2017	● -2.86	120	● -1.89	180	● -6.18	365		Outstanding
C510-RP10321	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	11/05/2017	● -5.15	120	● -2.91	180	● -5.11	365		Outstanding
C510-RP10322	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	11/05/2017	● -3.31	120	● -2.05	180	● -5.50	365		Outstanding
C510-RP10323	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	10/05/2017	● -10.46	120	● -7.47	180	● -4.45	365		Outstanding
C510-RP10324	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_ES3_Elargement_Uphill_Adv-10	18/03/2017	11/05/2017	● -9.40	120	● -7.01	180	● -4.97	365		Outstanding
C510-RP10325	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP4_Elargement_Adv-11	03/10/2014	11/05/2017	● -2.69	120	● -0.85	180	● -3.39	365		Outstanding
C510-RP10326	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_CP4_Elargement_Adv-11	03/10/2014	11/05/2017	● -1.09	120	● -0.13	180	● -3.93	365	Within ES3 EOI	Outstanding
C510-RP10327	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-140	18/01/2014	10/05/2017	● -1.67	120	● 0.13	180	● -2.45	365		Outstanding
C510-RP10328	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	10/05/2017	● 0.19	120	● 1.16	180	● -3.06	365		Outstanding
C510-RP10329	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	11/05/2017	● 1.26	200	● 1.26	200	● -2.10	366		Outstanding
C510-RP10330	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	10/05/2017	● 1.20	120	● 1.73	180	● -2.49	365		Outstanding
C510-RP10331	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	19/06/2013	● -6.90	120	● 0.90	180	● 0.59	365		Outstanding
C510-RP10332	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	19/06/2013	● -5.33	120	● 1.72	180	● 0.30	365		Outstanding
C510-RP10333	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	10/05/2017	● -0.86	367	● -0.86	367	● -0.86	367		Outstanding
C510-RP10334	Block 103	N/A	External	Automated	RP	3D Geodetic prism	Britannic House	LIV_PTE-West_Elargement_Adv-142	19/01/2014	11/05/2017	● 1.74	120	● 2.54	180	● -1.80	365		Outstanding

Learning Legacy Document

Table 7 - Block 03 Decommissioning Status Tracker CK

18/05/2017

< 2.0 mm GREEN
< 3.5 mm AMBER
> 3.5 mm RED

AVERAGE SETTLEMENT TREND

C510 Sensor Name	Block	Section	Int / Ext	Measurement Type	Sensor Type	Sensor Description	Asset/Location	EOI Last Primary Layer Construction	Last Construction Date	Latest Surveyed Date	AVERAGE SETTLEMENT TREND				Ceased Date	General Comment	Decommissioning Status	
											120 Days	120 Day Calculation Period	180 Days	180 Day Calculation Period				365 Days
C510-CK10301-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	2.45	158	2.76	200	2.49	426	Within ES3 EOI	Outstanding
C510-CK10302-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CH6/ES3_Elargement_Invert_Downhill_Adv-5	17/12/2016	09/05/2017	0.72	158	1.40	200	2.32	426	Within ES3 EOI	Outstanding
C510-CK10303-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank				N/A		N/A		N/A		Not in Sixense system - never produced any data. Proposed to remove from database	Proposed
C510-CK10304-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	1.56	158	1.83	200	1.84	426	Within ES3 EOI	Outstanding
C510-CK10305-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CH6/ES3_Elargement_Invert_Downhill_Adv-5	17/12/2016	09/05/2017	4.07	158	4.21	200	3.59	426		Outstanding
C510-CK10306-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	0.25	158	0.95	200	1.36	426		Outstanding
C510-CK10307-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	-0.10	158	0.73	200	0.14	426		Outstanding
C510-CK10308-X	Block 103	S10301	Internal	Manual	CK	Crack Monitor	Natwest Bank	LIV_CP2_Enlargement_Adv-9	26/08/2014	09/05/2017	0.61	158	1.42	200	1.67	426		Outstanding

Learning Legacy Document

Figure 5- LP Monitoring Sensor Settlement Status and Location Plan

**Legend**

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr

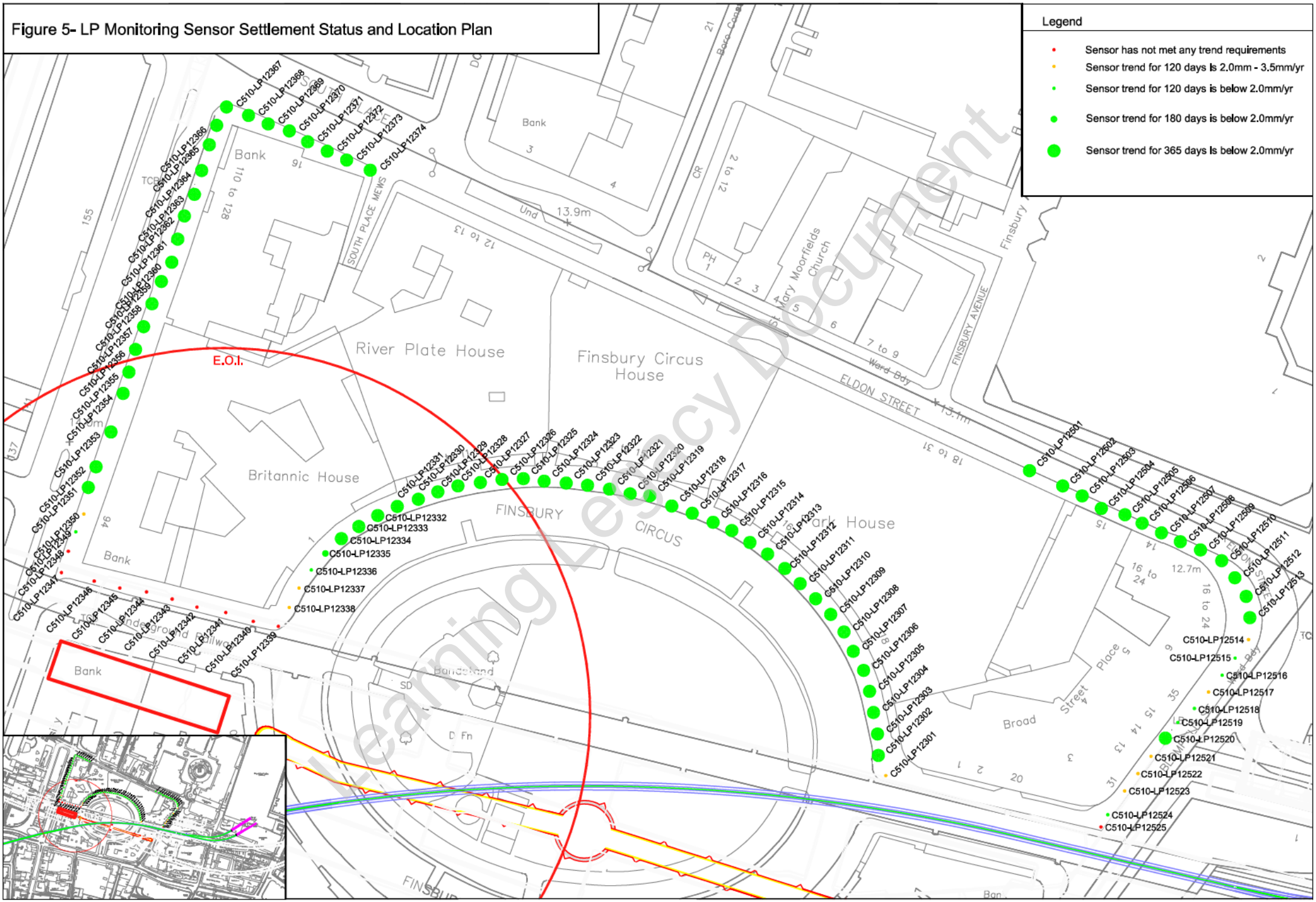










Figure 8- TB Monitoring Sensor Settlement Status and Location Plan

Legend

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr

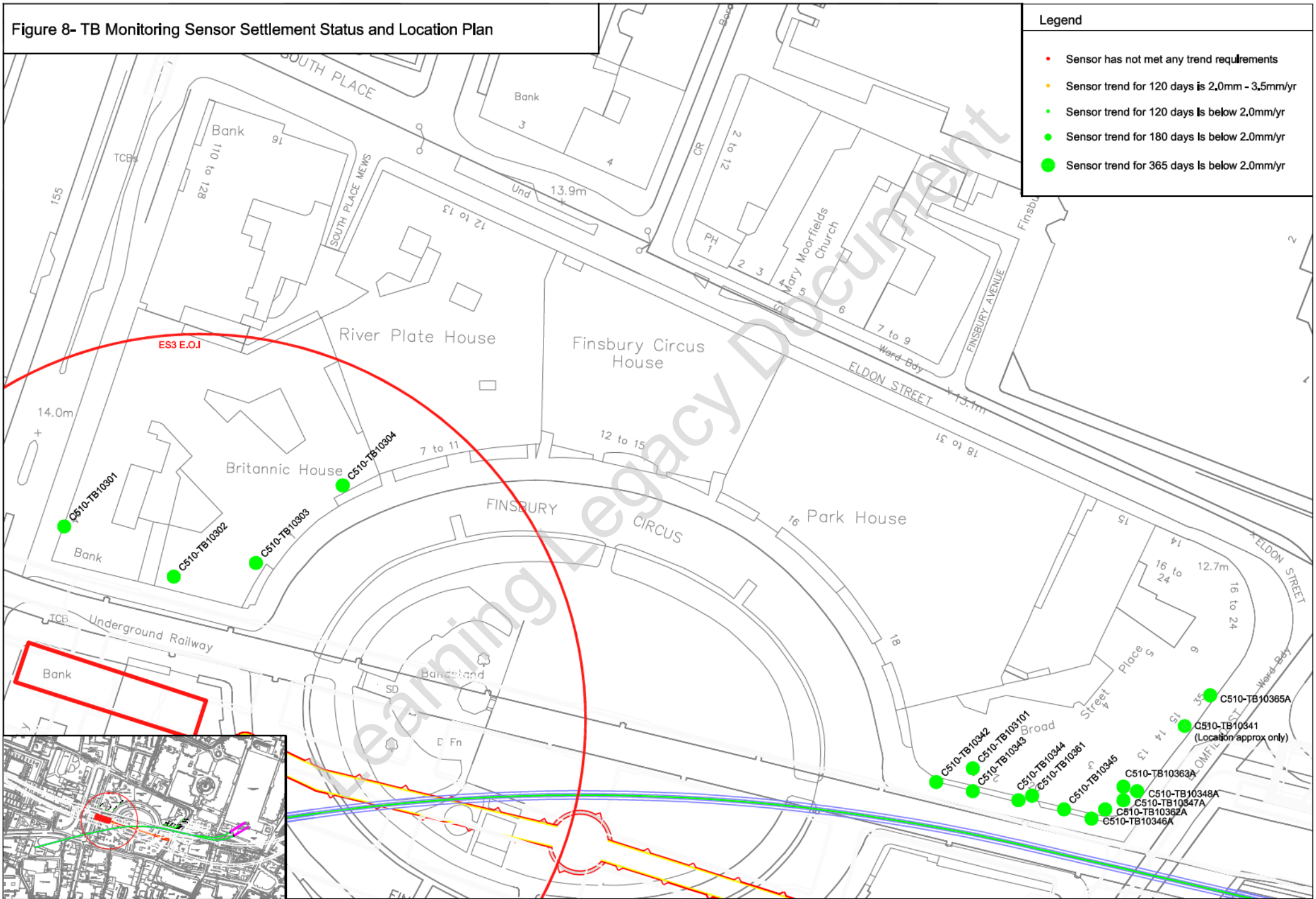




Figure 9 - RP Monitoring Sensor Settlement Status and Location Plan

**Legend**

- Sensor has not met any trend requirements
- Sensor trend for 120 days is 2.0mm - 3.5mm/yr
- Sensor trend for 120 days is below 2.0mm/yr
- Sensor trend for 180 days is below 2.0mm/yr
- Sensor trend for 365 days is below 2.0mm/yr

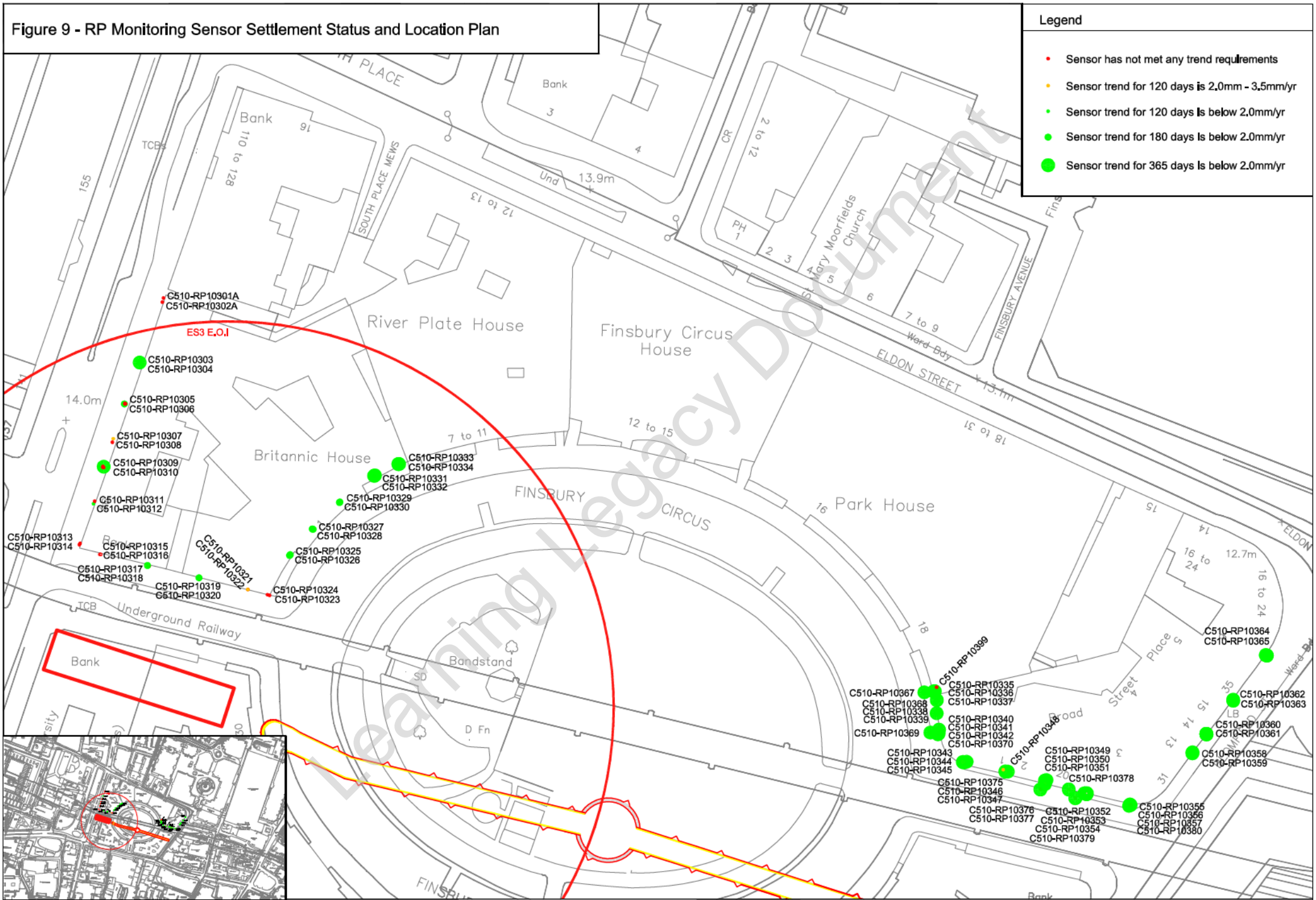
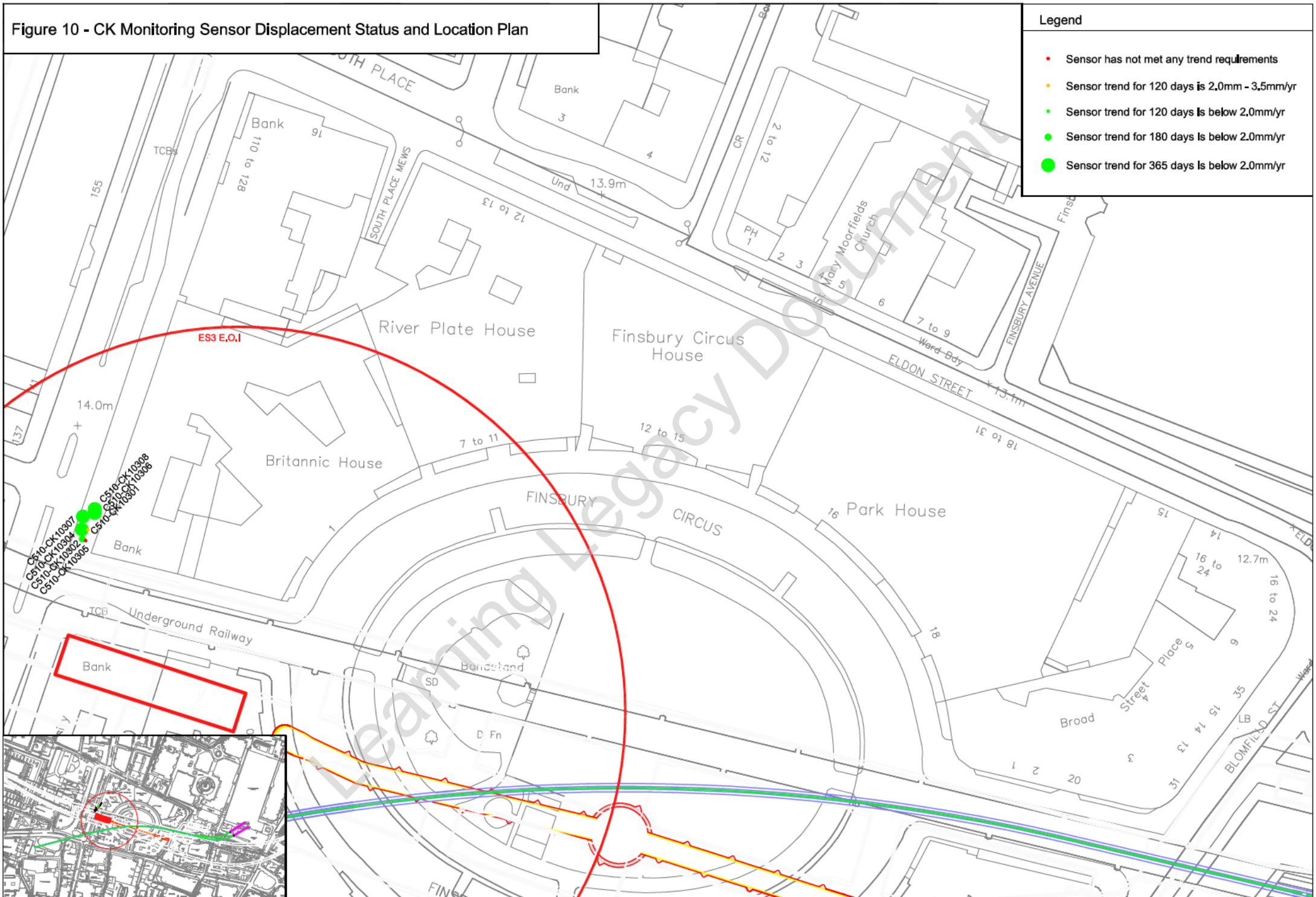
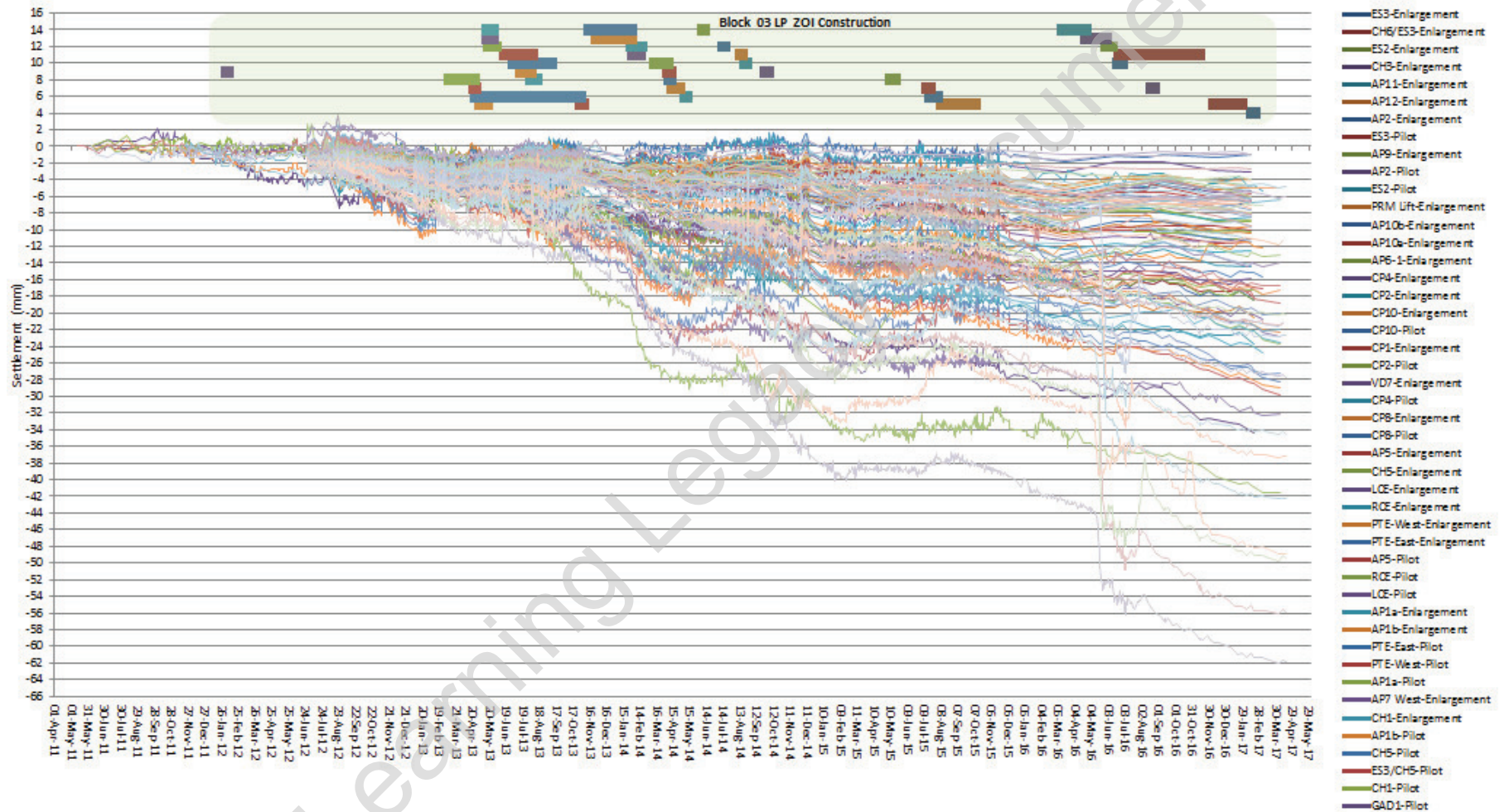


Figure 10 - CK Monitoring Sensor Displacement Status and Location Plan

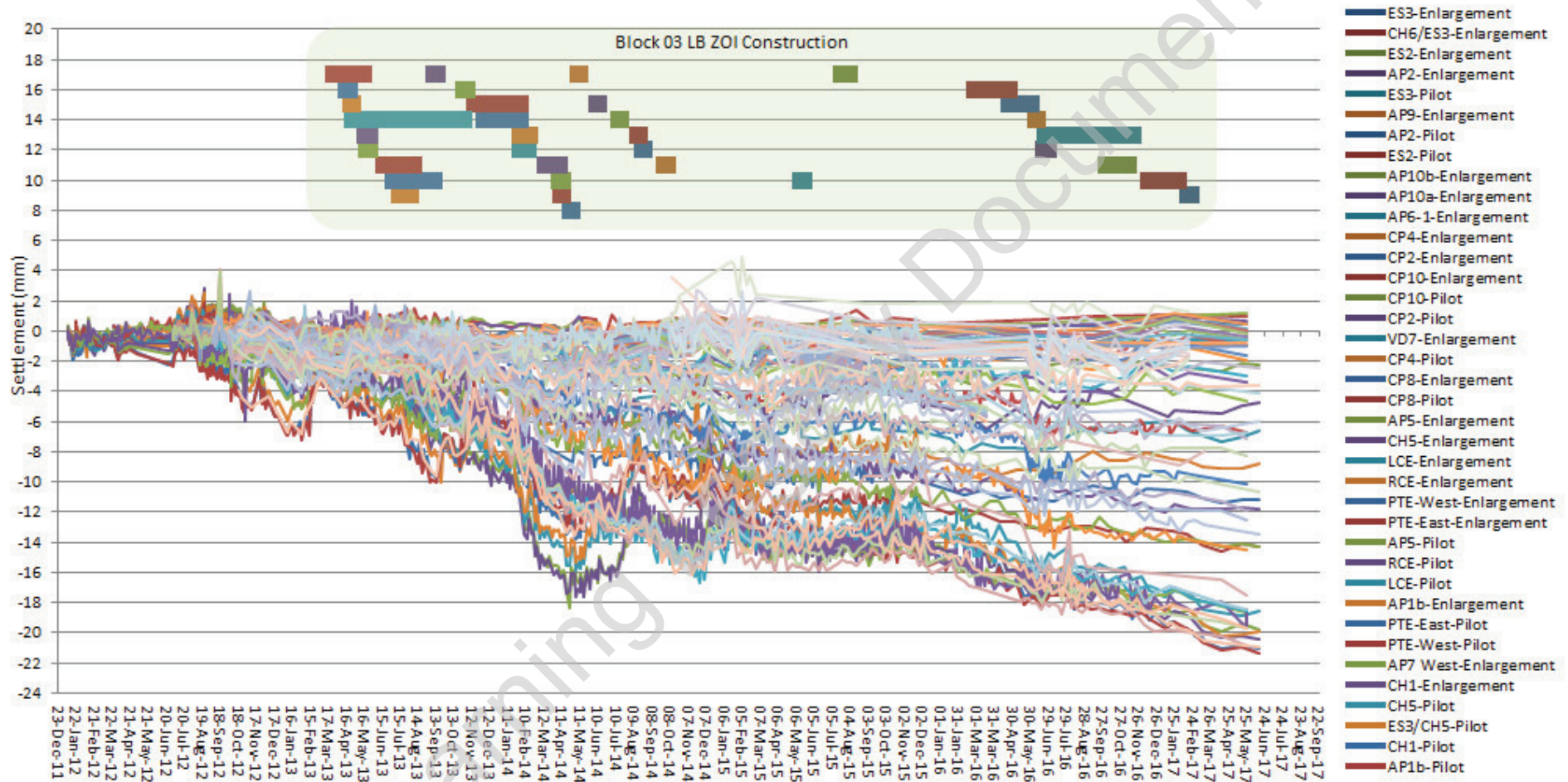




Graph 1- All Block 03, 23 & 25 Road Studs (LP) Manual Monitoring History in Relation to Construction

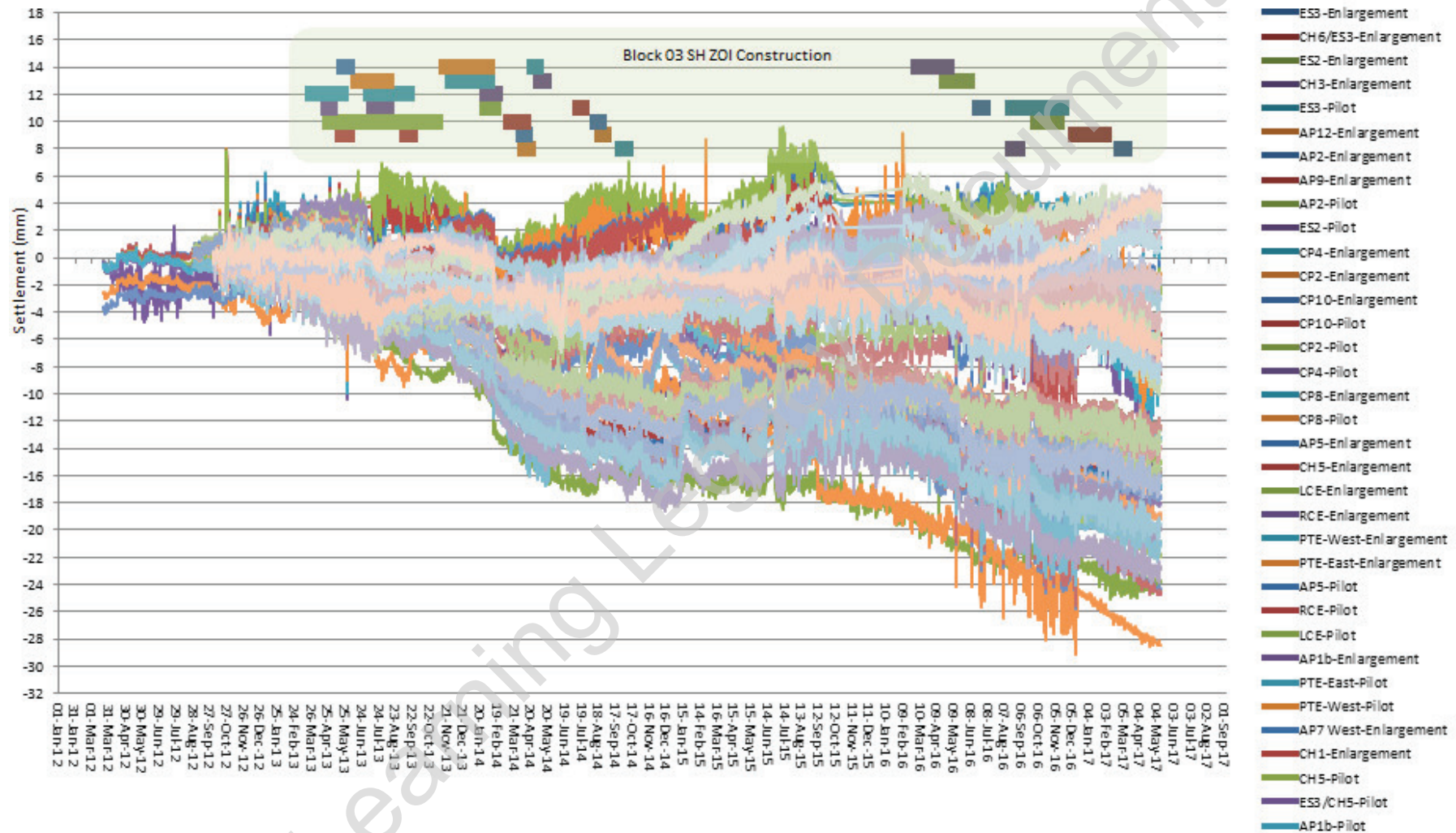


Graph 2- All Block 03 BREs (LB) Manual Monitoring History in Relation to Construction

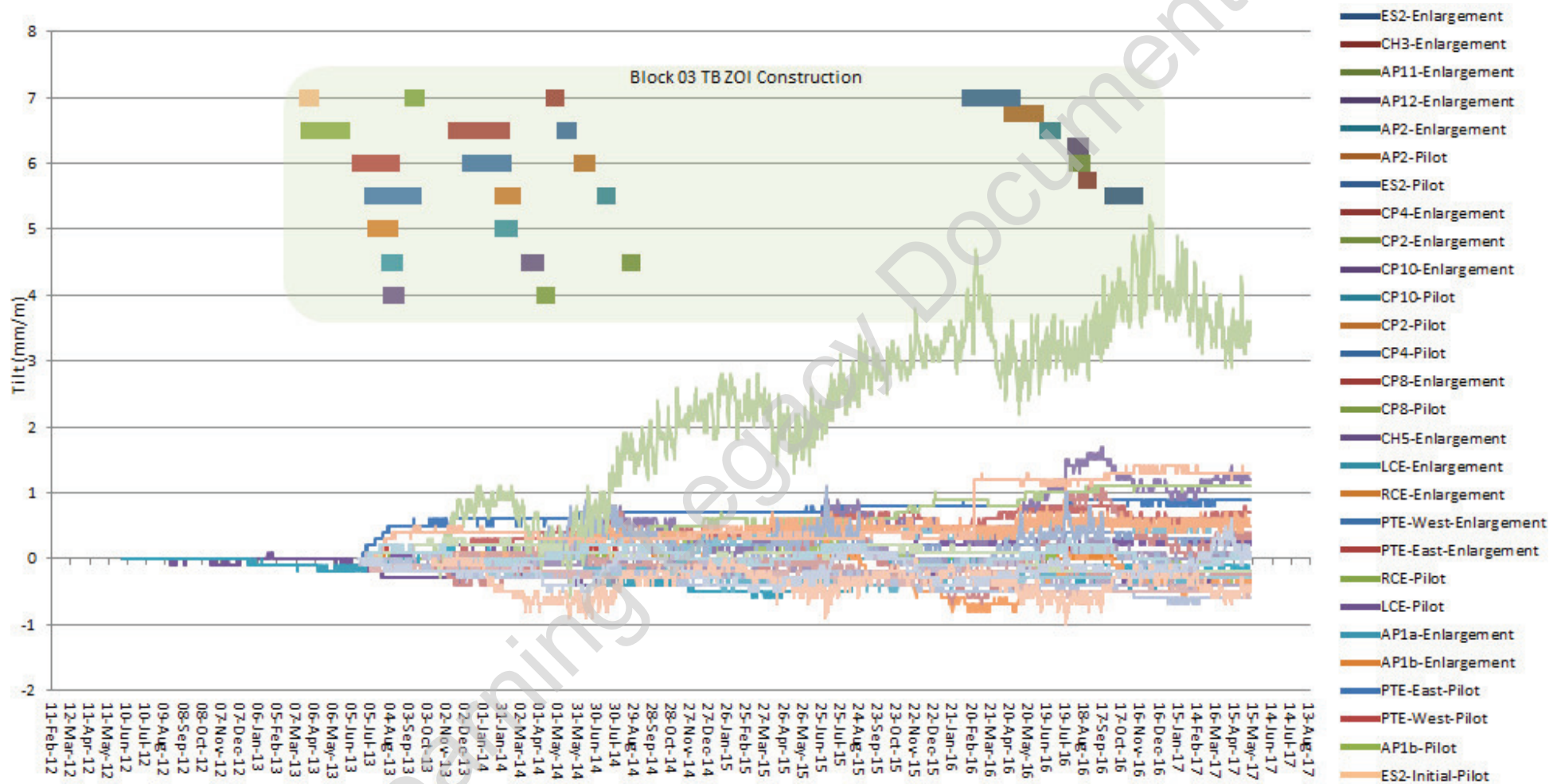




Graph 3- All Block 03 Water Cells (SH) Automated Monitoring History in Relation to Construction

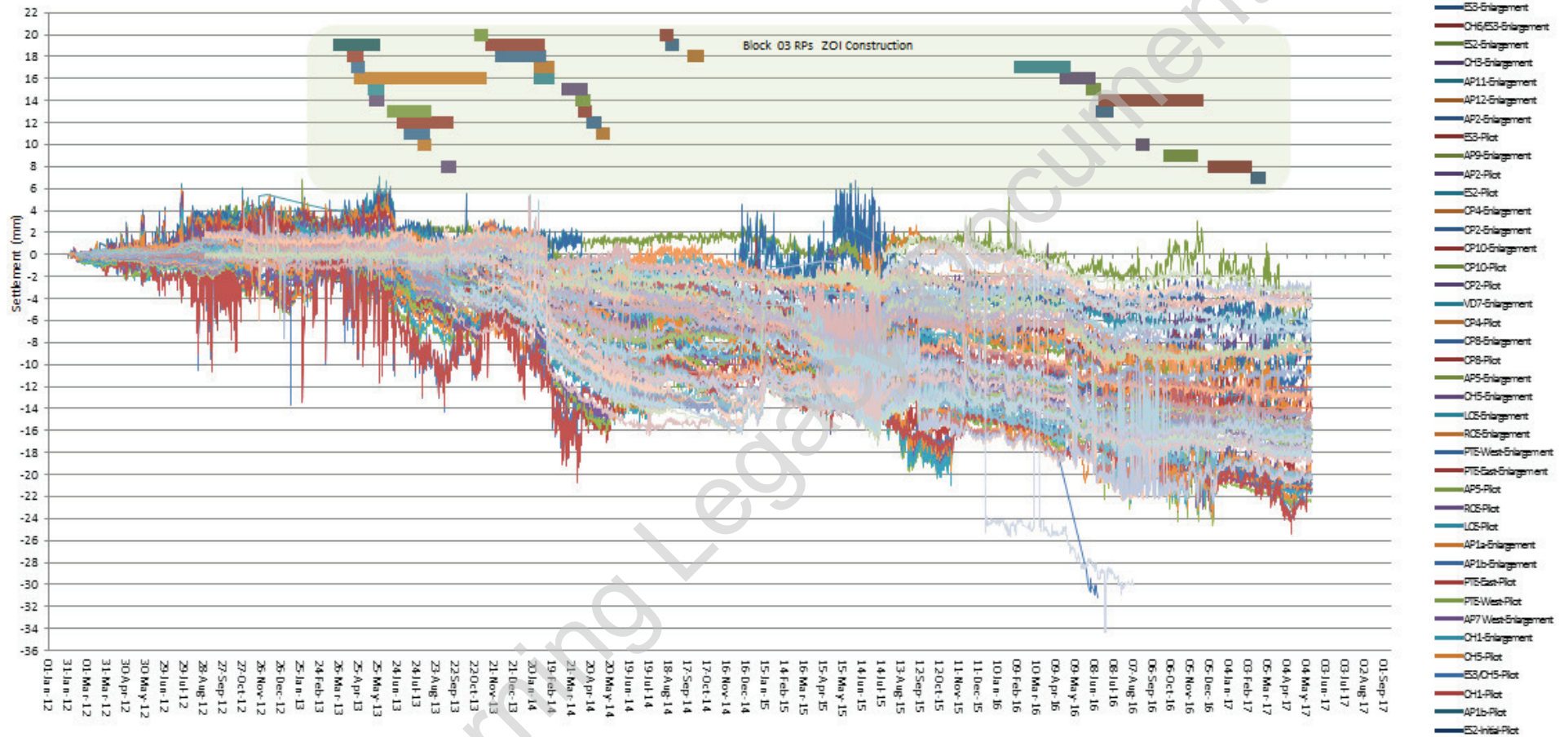


Graph 4- All Block 03 Tiltmeters (TB) Automated Monitoring History in Relation to Construction

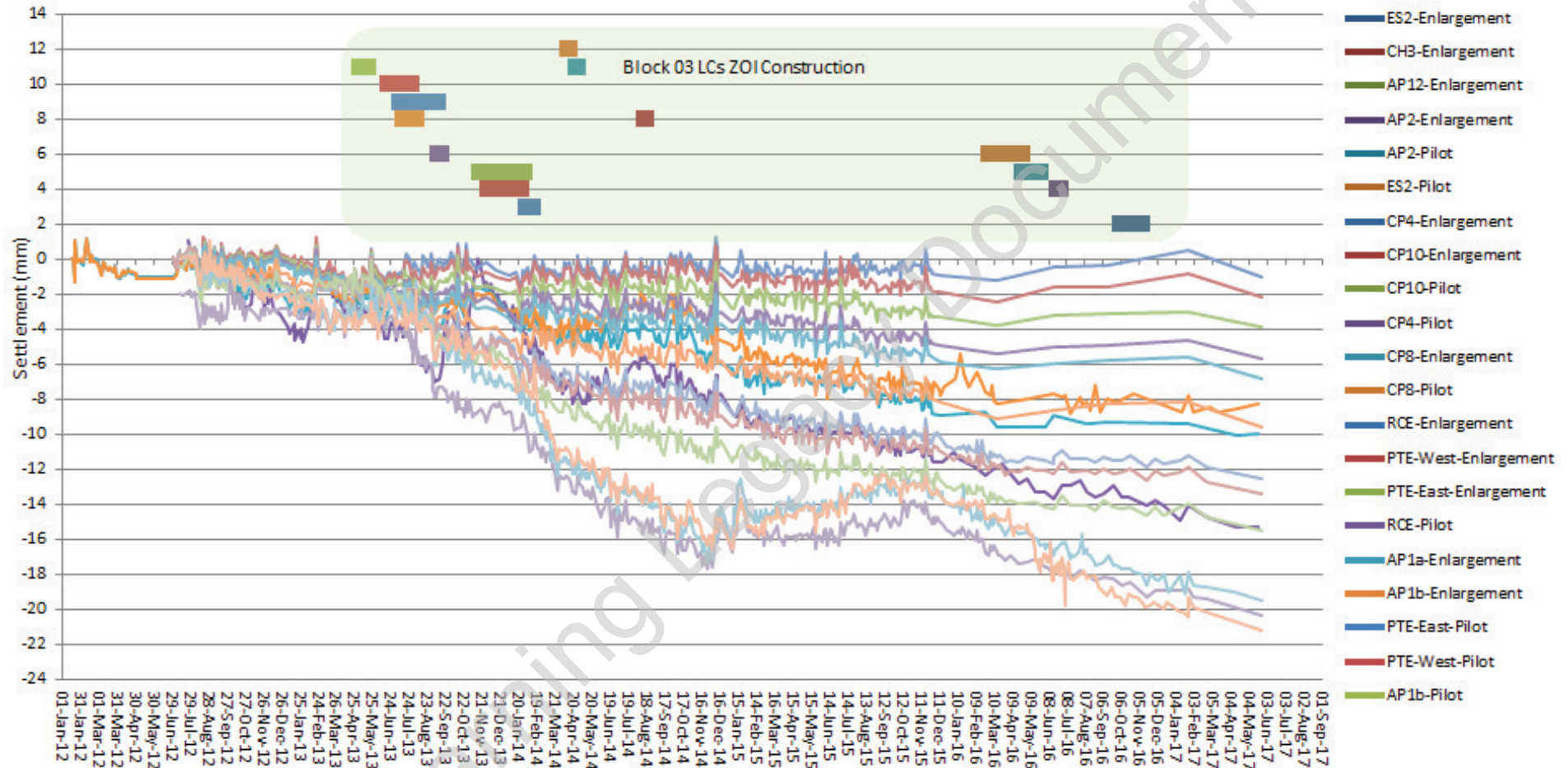




**Graph 5- All Block 03 3d Geodetic Prisms (RP) Automated Monitoring History in Relation to Construction**



Graph 6- All Block 03 Invar Scales (LC) Manual Monitoring History in Relation to Construction



Graph 7- All Block 03 Crack Monitors (CK) Manual Monitoring History in Relation to Construction

