

C510 – Whitechapel and Liverpool Street Station Tunnels

Instrumentation and Monitoring Close Out Report Block 16 Liverpool Street

CRL Document Number: C510-BBM-C2-RGN-C101-50237

Supplier Document Number: N/A

Contract MDL reference: C13.014

1. Contractor Document Submittal History:

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| Revision: | Date: | Prepared by: | Checked by | : Approved by: | Reason for | lagues |
|--------------------|---------------------|-----------------------|------------|------------------------|------------------|------------|
| 3.0 | 25/10/2017 | | | Approved by: | For Accep | |
| | | | | | | lance |
| 2a. Sta | akeholder Review | w Required? | YES NO | | | |
| Stakeholder s | ubmission required: | LU D | RfL | Purpose of submission: | For no objection | |
| | | DLR | Other: | | ror mormation | |
| | | above stated purpose. | | | | |
| Sign: | | Role: | Name: | Date: | | |
| | | | Name: | Date: Date: | | |
| Sign: | | Role: | | | | |
| Sign: Review by | | Role: | | | | Acceptance |
| Sign: Review by | Stakeholder (if r | Role: | Name: | Date: | | Acceptance |
| Sign: Review by | Stakeholder (if r | Role: | Name: | Date: | | Acceptance |

3. Acceptance by Crossrail:

| ≫∈ | | Crossrail Review and Acceptance Decal | | | | | | | | | | |
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| Crossral | -0 | This decal is to be used for submitted documents requiring acceptance by Crossroll. | | | | | | | | | | |
| VP | Code 1. | Accepted. Work May Proceed | | | | | | | | | | |
| | Code 2. | Not Accepted. Revise and resubmit. Work may proceed subject to incorporation of changes indicated | | | | | | | | | | |
| | Code 3. | Not Accepted. Revise and resubmit. Work may not proceed | | | | | | | | | | |
| | -Code 4 | Perceived for information only. Percelat is see firmed | | | | | | | | | | |
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| | | le Crossrall approval of design, details, calculat | | | | | | | | | | |

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| | Document Revision History | | | | | | | | | | |
|----------|---------------------------|--------------|--|--|--|--|--|--|--|--|--|
| Revision | Date | Purpose | | | | | | | | | |
| 1.0 | 15/02/2017 | For approval | | | | | | | | | |
| 2.0 | 21/06/2017 | For approval | | | | | | | | | |
| 3.0 | 31/10/2017 | For approval | | | | | | | | | |

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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 16 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 3) proposes to decommission all remaining sensors not agreed in revision 2. The summary table, associated graphs and figures for sensors agreed to be decommissioned in revision 1 and 2 are provided in appendix 1 and 2, respectively.

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 16 Location

Figure 1 shows the Liverpool St general location plan, C510 tunnel construction and where Block 16 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).

A Thames Water 8 inch cast iron water main is located on Old Broad Street within close proximity to Block 16. Other utilities include plastic gas mains, brick sewers and numerous water mains. Location and details of these critical assets can be found in the 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.

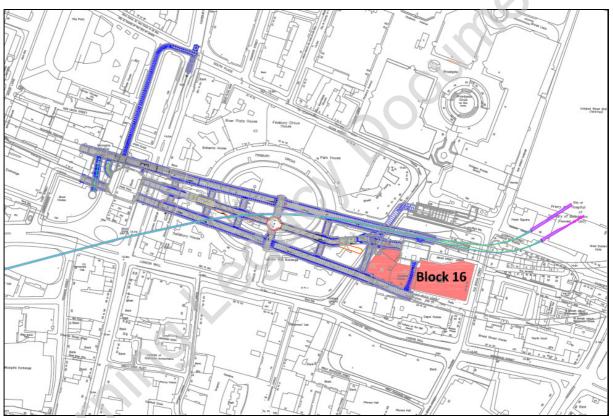


Figure 1- Liverpool St General Location Plan - including Block 16 monitoring area



3.2 Block 16 Description

Block 16 is located between Blomfield St and Old Broad St. The block occupies County House, New Broad Street House and Swedbank House. Block 16 contains the following types of monitoring sensors:

- Building (BREs)- manual monitoring
- Road Studs (LP) manual monitoring
- Tiltmeters (TB)- automated monitoring
- 3D Geodetic Prism Monitoring (RP) automated monitoring
- Water Settlement Cell- Electronic (SH)- automated monitoring
- Invar Scale (LC)- manual monitoring
- Crackmeters (CK)- manual monitoring

Each monitoring assets details are listed within the Decommissioning Status Tracker and further relevant information can be sourced from the following reports.

Block 16 Report References:

- Installation Report- New Broad Street House (Block 16), Liverpool Street CRL Document Number: C510-BBM-C2-RGN-C101-50015
- Monitoring Installation Report Internal LIV-LP-16- Blomfield Street CRL Document Number: C510-BBM-C2-RGN-C101-50141
- Monitoring Installation Report- LIV- LB- 16 Liverpool Street CRL Document Number: C510-BBM-G-RGN-C101-50005
- Monitoring Installation Report LIV- All Block- Crack Meters- Liverpool St CRL Document Number: C510-BBM-G-RGN-C101-50224

The Settlement Contour Drawing (C122-OVE-C2-DDA-CR001_Z-21313) predicts the Block 16 area to experience approximately 10-110mm of settlement.



4 **Construction Programme Influencing Block 16**

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 16, 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 (pink outline) and the tunnel constructions. Tunnel advance start and finish dates will be used in assessment of the monitoring data.

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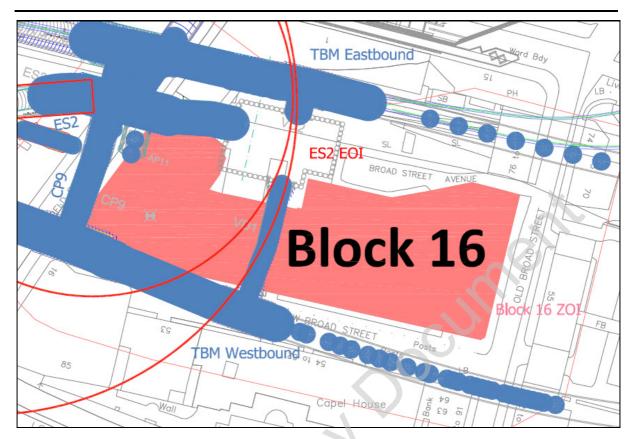


Figure 2 - Block 16 ZOI Constructions

N.B. ES2 EOI is represented in Figure 2 to show the area of Block 16 that is within its boundary.

Figure 2 shows the Block 16 ZOI and the tunnel advances that occurred within its boundary. The construction advances within the ZOI that have the potential to affect Block 16 are listed and summarised in *Table 1*. Further evidence for construction dates can be seen in *Table 2* which lists the latest tunnel advances for each point.

As the ES2 safe stop was completed on the 24th of November 2016, post construction monitoring had not been completed for a portion of Block 16 that was within the ES2 EOI during revision 1. Revision 2 did not propose all sensors to be decommissioned as they had not met the trend requirements. Post construction monitoring has been completed for Block 16, therefore the remaining sensors can now be considered for decommissioning. Further evidence for Block 16 sensors decommissioning status can be found in the decommissioning tracker.

N.B. It should be noted that C502 and C503 works may have affected Block 16. Reference should be made to C502 and C503 close out reports for construction dates.



4.1 Tunnel Advances Affecting Block 16

The information presented in *Table 1* is used in the monitoring graphs (Section 5.1), to show the ground movements in relation to construction. Construction advances will vary depending on the sensor type as the location of the sensors will vary.

| | Tunne | Advances Start & End | s for Graphs | | |
|----------------------|-------------------------|----------------------|--------------|------------|------|
| Tunnel Code | Tunnel Reference | Primary Layer Type | Start Date | End Date | ZONE |
| ES2- Safe Stop | ES2 | Enlargement | 20/11/2016 | 24/11/2016 | EOI |
| ES2-Enlargement | ES2 | Enlargement | 03/10/2016 | 07/11/2016 | ZOI |
| CH3-Enlargement | CH3 | Enlargement | 21/08/2016 | 28/08/2016 | ZOI |
| AP11-Enlargement | AP11 | Enlargement | 06/08/2016 | 14/08/2016 | ZOI |
| AP12-Enlargement | AP12 | Enlargement | 04/08/2016 | 04/08/2016 | ZOI |
| AP2-Enlargement | AP2 | Enlargement | 28/06/2016 | 07/06/2016 | ZOI |
| AP2-Pilot | AP2 | Pilot | 25/04/2016 | 12/05/2016 | ZOI |
| ES2-Pilot | ES2 | Pilot | 14/02/2016 | 24/04/2016 | ZOI |
| TBM-West-RC-Pilot | TBM-West-RC | Pilot | 07/03/2015 | 12/03/2015 | C305 |
| TBM-East-RC-Pilot | TBM-East-RC | Pilot | 25/01/2015 | 31/01/2015 | C305 |
| CP10-Enlargement | CP10 | Enlargement | 15/08/2014 | 17/08/2014 | ZOI |
| CP9-Enlargement | CP9 | Enlargement | 08/08/2014 | 23/08/2014 | ZOI |
| CP9-Pilot | CP9 | Pilot | 17/07/2014 | 23/07/2014 | ZOI |
| CP10-Pilot | CP10 | Pilot | 15/07/2014 | 16/07/2014 | ZOI |
| VD1-Enlargement | VD1 | Enlargement | 28/05/2014 | 08/06/2014 | ZOI |
| VD2-Enlargement | VD2 | Enlargement | 17/05/2014 | 17/05/2014 | ZOI |
| RCW-Enlargement | RCW | Enlargement | 14/04/2014 | 07/05/2014 | ZOI |
| PTW-East-Enlargement | PTW-East | Enlargement | 25/03/2014 | 14/04/2014 | ZOI |
| RCE-Enlargement | RCE | Enlargement | 31/01/2014 | 05/03/2014 | ZOI |
| PTE-East-Enlargement | PTE-East | Enlargement | 19/01/2014 | 30/01/2014 | ZOI |
| RCW-Pilot | RCW | Pilot | 18/10/2013 | 28/10/2013 | ZOI |
| PTW-East-Pilot | PTW-East | Pilot | 06/10/2013 | 18/10/2013 | ZOI |
| RCE-Pilot | RCE | Pilot | 09/09/2013 | 26/09/2013 | ZOI |
| PTE-East-Pilot | PTE-East | Pilot | 01/09/2013 | 09/09/2013 | ZOI |
| AP1a-Enlargement | AP1a | Enlargement | 04/08/2013 | 14/08/2013 | ZOI |
| AP1b-Enlargement | AP1b | Enlargement | 13/07/2013 | 04/08/2013 | ZOI |
| AP1a-Pilot | AP1a | Pilot | 19/05/2013 | 07/06/2013 | ZOI |
| AP1b-Pilot | AP1b | Pilot | 27/03/2013 | 18/05/2013 | ZOI |
| GAD2-Pilot | GAD2 | Pilot | 07/03/2012 | 09/03/2012 | ZOI |

Table 1- Tunnel Advances Affecting Block 16

Heading Index:

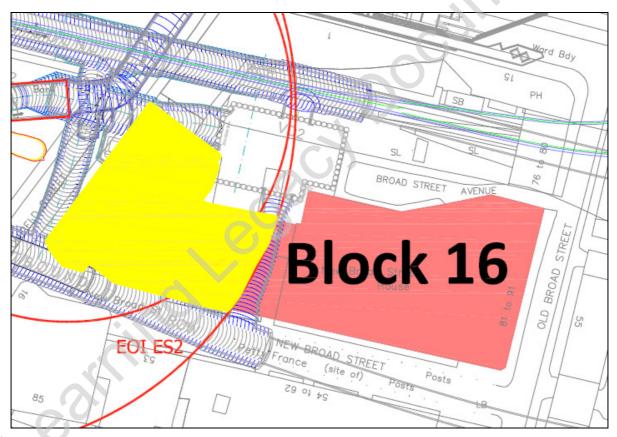
- AP Access Passage
- CH Chamber
- CP Cross Passage
- ES Escalator
- GAD Grout Adit
- LCE Launch Chamber East
- LCW Launch Chamber West
- PTE Platform Tunnel East
- PTW Platform Tunnel West
- RCE Reception Chamber East
- RCW Reception Chamber West
- TBM Tunnel Boring Machine
- VD Ventilation Drive



5 Monitoring Assessment of Block 16

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. *Table 2* highlights the monitoring sensors to be considered for decommissioning and provides supporting evidence for the decision. In some cases supplementary evidence is required to prove stability or provide reasoning for decommissioning.

In revision 1 of Block 16 close out report, not all monitoring sensors were able to be considered for decommissioning as they were within the EOI of ES2 (yellow highlight). As post construction monitoring has now been completed for the entirety of Block 16, revision 2 allowed for decommissioning of all sensors. However not all sensors had met trends requirements in revision 2. Revision 3 is dealing with all sensors not proposed in revision 2





N.B. The highlighted yellow area was not considered for decommissioning in Revision 1



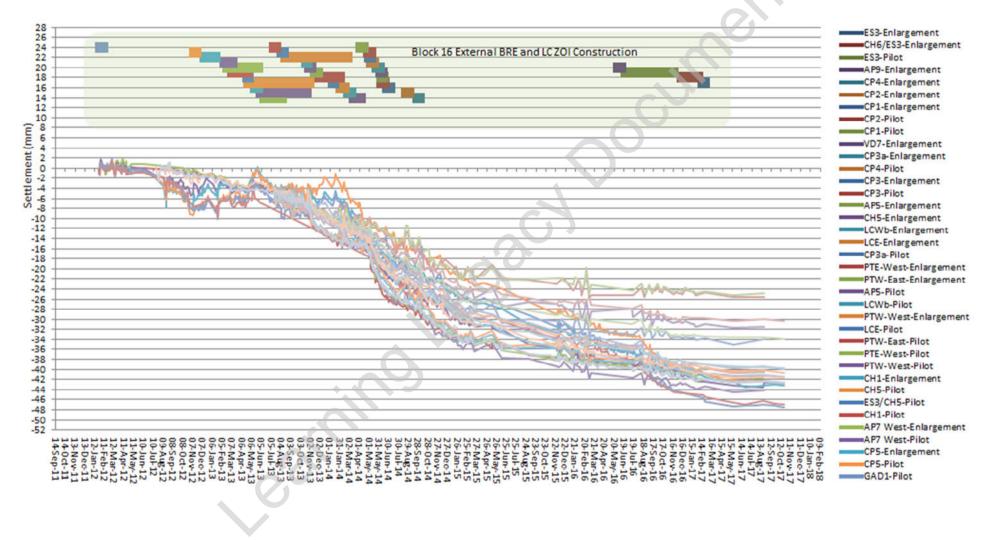
5.1 Time Graphs Monitoring Full History and Construction Durations

To assess the movement of Block 16 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 16 BREs & Invar Scales (LB & LC) Manual Monitoring History in Relation to Construction
- Graph 2- All Remaining Block 16 Road Studs (LP) Manual Monitoring History in Relation to Construction



C510-BBM-C2-RGN-C101-50237 Rev.3.0

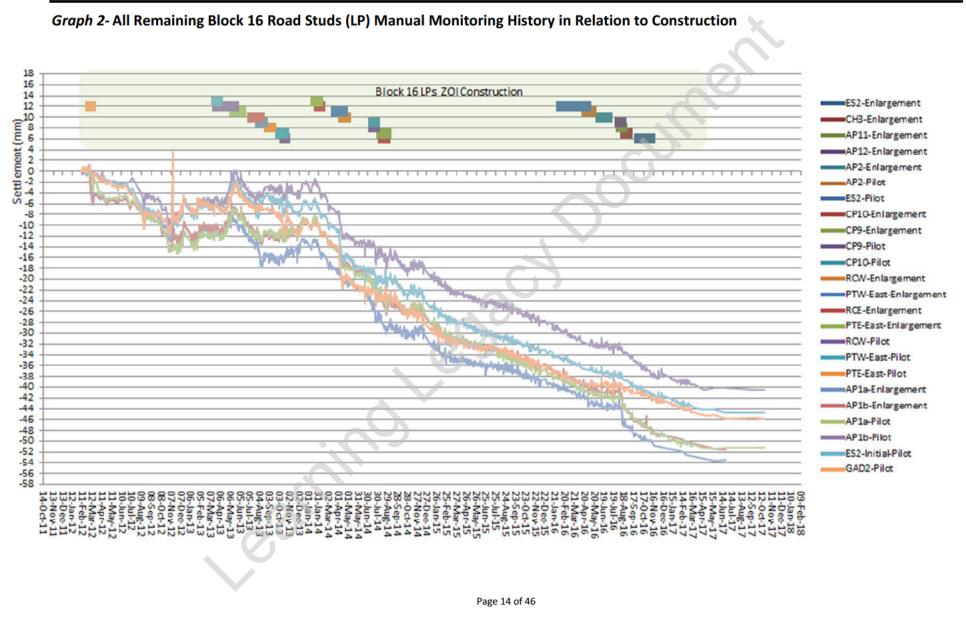


Graph 1- All Remaining Block 16 BREs & Invar Scales (LB & LC) Manual Monitoring History in Relation to Construction

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5.2 Block 16 Decommissioning Status Tracker

The decommissioning tracker identifies (*Table 2*) 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

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

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 16. 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.

| Name State 0-LB11638 Block 116 S11601 0-LB11639 Block 116 S11601 0-LB11640 Block 116 S11601 0-LB11641 Block 116 S11601 0-LB11642 Block 116 S11601 0-LB11643 Block 116 S11601 0-LB11644 Block 116 S11601 0-LB11645 Block 116 S11601 0-LB11646 Block 116 S11601 0-LB11646 Block 116 S11602 0-LB11648 Block 116 S11602 | Int / Ext Internal Internal Internal Internal Internal Internal Internal | Measurement Type Manual Manual Manual Manual Manual | Sensor Type LB LB LB LB | Sensor Description BRE BRE BRE | Asset/Location | EOI Last Primary Layer Construction | Last Construction | Latest | AVERAG | E SETTLEMENT T 120 Day | ay | 180 Day | λi λ | 365 Day | | | D |
|---|---|---|--|--|---------------------------------|--|--------------------------|--------------------------|----------------|---------------------------|---------------------------------------|-----------------------|--|-----------------------|-------------|---|------------------------|
| Name BIOCK Section b4LB11638 Block 116 S11601 b4LB11639 Block 116 S11601 b4LB11640 Block 116 S11601 b4LB11640 Block 116 S11601 b4LB11641 Block 116 S11601 b4LB11642 Block 116 S11601 b4LB11643 Block 116 S11601 b4LB11644 Block 116 S11601 b4LB11645 Block 116 S11601 b4LB11646 Block 116 S11602 b4LB11648 Block 116 S11602 | Internal Internal Internal Internal Internal Internal Internal Internal | Type Manual Manual Manual Manual Manual | Type LB LB LB | Description BRE BRE | County House | | | | > 00 120 Da | | ay | 180 Day | 2 | 365 Dav | | | |
| Heat Block 116 S11601 Heat Block 116 S11602 Heat Block 116 S11602 Heat Block 116 S11602 | Internal Internal Internal Internal Internal Internal Internal | Manual Manual Manual Manual | LB LB | BRE | , | | | Surveyed Date | R 120 Da | ys Calculation Period | 6 180 Days | Calculation Period | 365 Days | Calculation Period | Ceased Date | General Comment | Decommission Status |
| b-LB11640 Block 116 S11601 b-LB11641 Block 116 S11601 b-LB11642 Block 116 S11601 b-LB11643 Block 116 S11601 b-LB11644 Block 116 S11601 b-LB11645 Block 116 S11601 b-LB11646 Block 116 S11601 b-LB11645 Block 116 S11602 b-LB11646 Block 116 S11602 b-LB11648 Block 116 S11602 | Internal Internal Internal Internal Internal Internal | Manual Manual Manual | LB | | | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 21/08/2017 | -0.9 | | -0.97 | 181 | -3.01 | 368 | | Stable 9 month trend | Proposed |
| Heat Block 116 S11601 Heat Block 116 S11602 Heat Block 116 S11602 Heat Block 116 S11602 | Internal Internal Internal Internal Internal | Manual Manual | | DDE | County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 21/08/2017 | | | -1.37 | 181 | -3.31 | 368 | | Stable 6 month trend | Proposed |
| Hebril Block 116 S11601 Hebril Block 116 S11602 Hebril Block 116 S11602 Hebril Block 116 S11602 | Internal Internal Internal Internal | Manual | LB | | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/08/2017 | | | -1.38 | 181 | -2.55 | 368 | | | Proposed |
| Hebril Block 116 S11601 Hebril Block 116 S11602 Hebril Block 116 S11602 Hebril Block 116 S11602 Hebril Block 116 S11602 | Internal Internal Internal | | | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/08/2017 | | | -1.37 | 181 | -2.53 | 368 | | Stable 9 month trend | Proposed |
| b-LB11644 Block 116 S11601 b-LB11645 Block 116 S11601 b-LB11646 Block 116 S11602 b-LB11647 Block 116 S11602 b-LB11648 Block 116 S11602 | Internal Internal | | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/08/2017 | | | -0.35 | 181 | -2.22 | 368 | | | Proposed |
| D-LB11645 Block 116 S11601 D-LB11646 Block 116 S11602 D-LB11647 Block 116 S11602 D-LB11648 Block 116 S11602 | Internal | Manual | LB LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 21/08/2017 21/08/2017 | | | -2.20 -0.58 | 181 181 | -1.45 -1.21 | 368 368 | | <2mm per annum specification met | Proposed Proposed |
| b-LB11646 Block 116 S11602 b-LB11647 Block 116 S11602 b-LB11648 Block 116 S11602 | | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/08/2017 21/08/2017 | | | -0.58 | 181 | -1.21 | 368 | | | Proposed |
| b-LB11647 Block 116 S11602 b-LB11648 Block 116 S11602 | Internal | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 20/10/2017 | | | -1.20 | 241 | -2.66 | 368 | | - | Proposed |
| | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -1.39 | 241 | -2.29 | 368 | | Stable 9 month trend | Proposed |
| D-LB11649 Block 116 S11602 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | -0.3 | 6 154 | -0.54 | 241 | -2.34 | 368 | | | Proposed |
| | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -0.47 | 241 | -0.69 | 368 | | | Proposed |
| | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -0.78 | | 9 -1.17 | 368 | | <2mm per annum specification met | Proposed |
| | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -0.90 | | -1.67 | 368 | | | Proposed |
| | Internal | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 20/10/2017 | | | -0.90 | | -1.77 | 368 | | | Proposed |
| | External | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 18/08/2017 | | | -0.97 | | -0.68 | 507 | | CTC agreed 09/10/2017. See email correspondence from JK | Agreed |
| | External External | Manual Manual | LB LB | BRE | Swed Bank House County House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_VD1_Enlargement_Adv-23 | 12/03/2015 04/06/2014 | 18/08/2017 18/08/2017 | | | -0.62-1.07 | 197 186 | -0.50 -2.15 | 507 410 | | Stable 9 month trend | Agreed |
| | External | Manual | LB | BRE | County House | LIV_VD1_Enlargement_Adv-23 | 23/08/2014 | 18/08/2017 | | | -1.47 | | -3.00 | 373 | | Stable 9 month trend | Proposed Proposed |
| | External | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 20/10/2017 | | | -0.51 | 241 | -2.78 | 366 | | | Proposed |
| | External | Manual | LC | Invar Scale | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 20/10/2017 | | | -1.01 | 241 | -2.27 | 366 | | Stable 9 month trend | Proposed |
| | External | Manual | LC | Invar Scale | County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 20/10/2017 | | | -0.90 | | -1.61 | 366 | | <2mm per annum specification met | Proposed |
| D-LC11603 Block 116 S11603.2 | External | Manual | LC | Invar Scale | Swed Bank House | LIV_VD1_Enlargement_Adv-28 | 05/06/2014 | 18/08/2017 | -1.2 | 2 178 | -1.23 | 197 | -1.73 | 499 | | CTC agreed 09/10/2017. See email correspondence from JK | Agreed |
| -LB11628 Block 116 S11603.8;S11604 | External | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -1.18 | | -4.5 5 | 365 | | | Proposed |
| | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 20/10/2017 | - | | -1.03 | 182 | -4.59 | 365 | | Stable 6 month trend | Proposed |
| | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 20/10/2017 | | | -1.19 | 241 | -4.45 | 365 | | | Proposed |
| | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 20/10/2017 | | | -1.82 | 241 | 0.20 | 372 | | | Proposed |
| | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | #N// | | #N/A #N/A | | #N/A #N/A | | | Sensor destroyed as surface was altered. See photo in | Proposed |
| | External External | Manual Manual | LP LP | Road Stud Road Stud | Bloomfield St Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 22/06/2017 20/10/2017 | #N// | | -0.07 | 182 | #IN/A | 365 | | Supplementary Evidence. | Proposed Proposed |
| | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 20/10/2017 | | | -0.59 | | -4.75 | 365 | | | Proposed |
| | External | Manual | LP | Road Stud | Bloomfield St | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 20/10/2017 | | | -1.26 | 182 | -5.11 | 365 | | Stable 6 month trend | Proposed |
| | External | Manual | LP | Road Stud | Bloomfield St | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 20/10/2017 | | | -1.07 | 182 | -5.68 | 365 | | | Proposed |
| | | | | | | | | | Ś | 3 | | | | | | | |
| | | | | | | ear | | 0 | | | | | | | | | |



5.3 Supplementary Evidence for Decommissioning

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

Roadstuds (LP) Manual Monitoring- Blomfield St

Includes: C510-LP11604-05

Reasons to propose decommissioning

LP11604-05 have not been measured since 22/06/2017. The road studs have been destroyed and access has been block by another contractor's site hoarding on Blomfield St. *Figure 4* shows the site hoarding on Blomfield St. Ground was changed when the bleu hoarding was installed so road studs cannot be replaced. It is therefore proposed to decommission C510-LP11604-05.



Figure 4- Blomfield Street Site Hoarding

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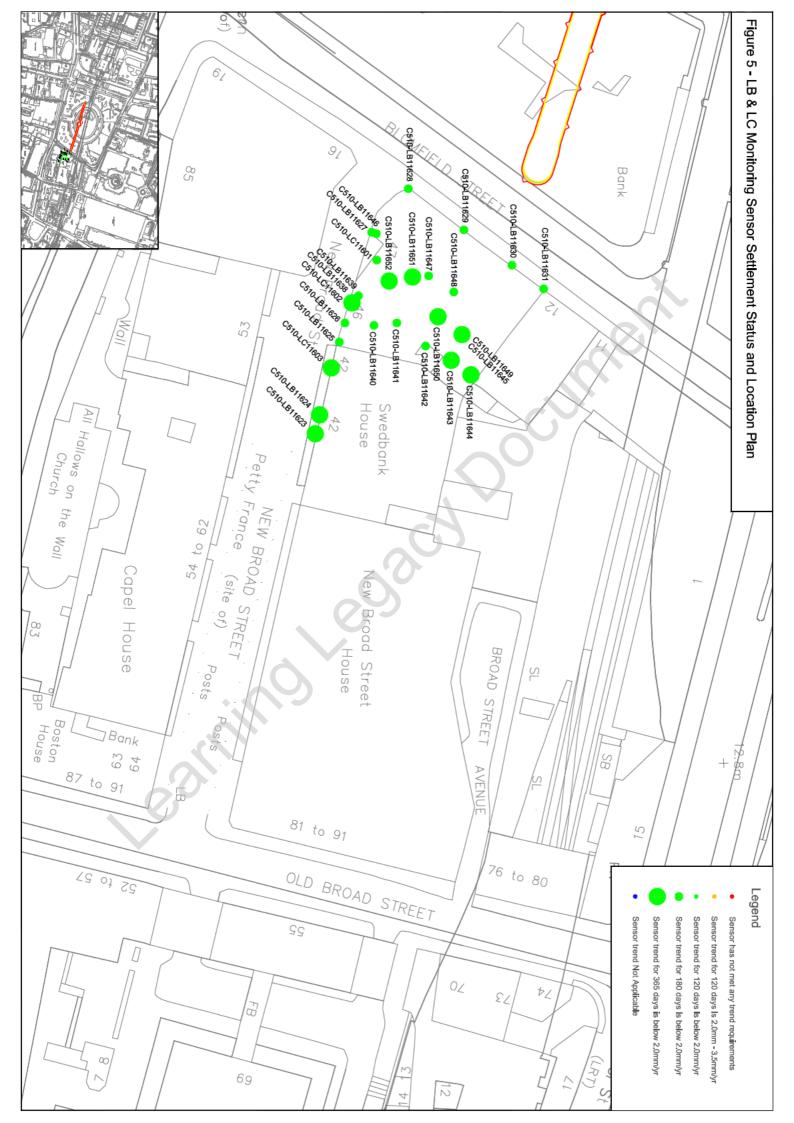


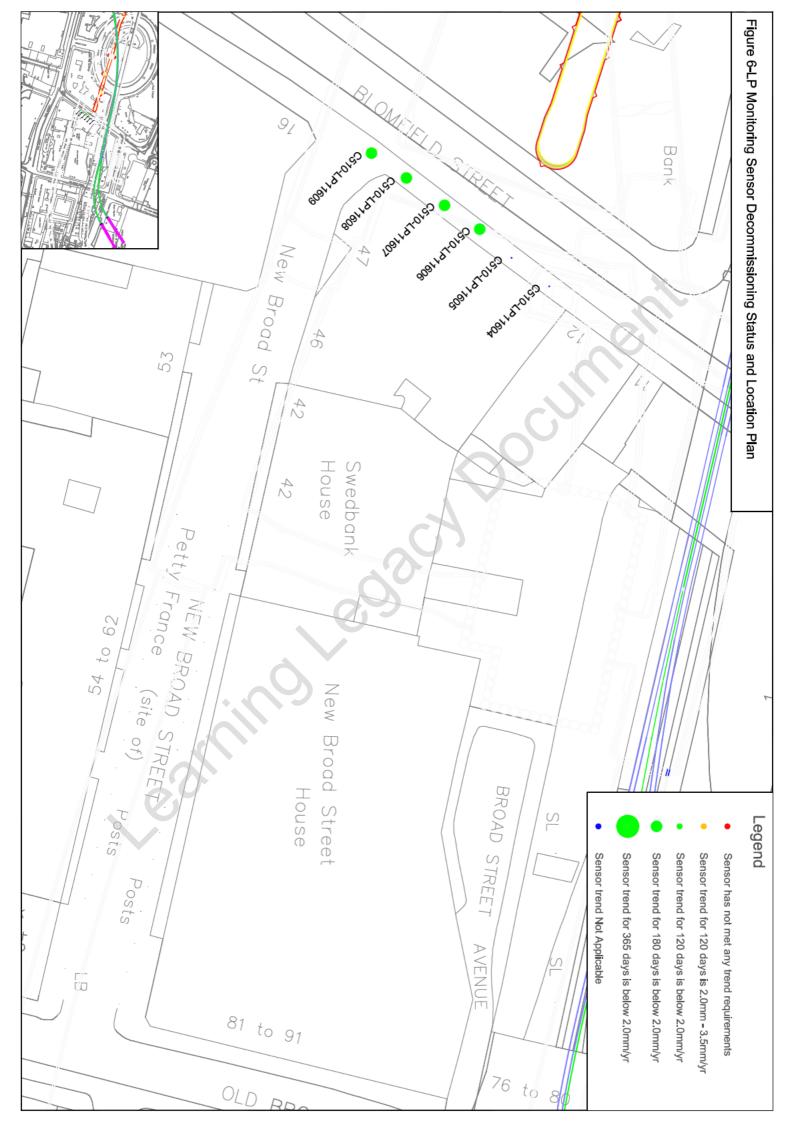
5.4 Monitoring sensor Location Plan and Decommissioning Status

The following plots provide a visual representation of all Block 16 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- LB & LC Monitoring Sensor Settlement Status and Location Plan
- Figure 6- LP Monitoring Sensor Settlement Status and Location Plan

(From General Document Template ref: BBMV-Form-59-04 rev 5.0)







6 **Decommissioning Recommendations**

Revision 3 of Block 16 close out report requests all of the remaining monitoring sensors to be decommissioned.

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.



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Appendix 1 (Graphs, Tables and Figures of Rev.1) 7

Appendix 1 includes the Graphs, Tables and Figures that were used as evidence to agree decommissioning in Revision 1 of Block 16 Close out Report.

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

Table 2 - Block 16 Decommissioning Status Tracker SH & TB

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm AVERAGE SETTLEMENT TREND RED

| | | | | | | | | | | | AVERAGE S | SETTLEMENT | TREND | | | | | |
|--------------------------------|------------------------|------------------|----------------------|------------------------|--------------|--|---|--|--------------------------|--------------------------|--|-----------------------|---|-----------------------|--|-----------------------|-------------|--|
| C510 Sensor | Diask | Contine | lat / Eut | Measurement | Conser Trees | Sensor | Accet/l conting | EOI Last Primary Layer | Last | Latest | day 100 Dava | 120 Day | day 100 Dana | 180 Day | day of Dana | 365 Day | Canad Data | Canada Communit |
| Name | Block | Section | Int / Ext | Туре | Sensor Type | Description | Asset/Location | Construction | Construction Date | Surveyed Date | 120 Days | Calculation Period | 180 Days | Calculation Period | 9 365 Days | Calculation Period | Ceased Date | General Comment |
| C510-SH011601 | Block 116 | S11601 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | -2.15 | 120 | -4.27 | 180 | -1.16 | 366 | 1 | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011602 | Block 116 | S11601 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | 2.21 | 120 | -4.07 | 180 | -0.68 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011603 | Block 116 | S11601 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | 0.09 | 120 | -2.49 | 180 | 0.29 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011604 | Block 116 | S11601 | Internal | Automated | SH | Settlement Cell-Electroni | | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | -0.01 | 120 | -2.70 | 180 | -0.02 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011611 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | -0.05 | 120 | -2.75 | 180 | 0.00 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011612 C510-SH011613 | Block 116 Block 116 | S11602 S11602 | Internal | Automated Automated | SH SH | Settlement Cell-Electronic Settlement Cell-Electronic | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 07/03/2016 07/03/2016 | 1.681.53 | 120 120 | -1.30 -0.45 | 180 180 | 0.84 4.97 | 366 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011613 | Block 116 | S11602 | Internal Internal | Automated | SH | Settlement Cell-Electronic | Swedbank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 07/03/2016 | 1.55 | 120 | -0.45 | 180 | -2.01 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011615 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electronic | Swedbank House | LIV TBM-West-RC Pilot Adv-4008 | 12/03/2015 | 07/03/2016 | 1.82 | 120 | -2.51 | 180 | -1.90 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011616 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 07/03/2016 | 1.71 | 120 | -1.09 | 180 | 2.96 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011617 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 07/03/2016 | 0.01 | 120 | -2.33 | 180 | 0.56 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011618 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 07/03/2016 | 1.44 | 120 | -1.38 | 180 | 0.74 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011619 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 07/03/2016 | -0.03 | 120 | -2.76 | 180 | 0.24 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011620 | Block 116 | S11602 | Internal | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 07/03/2016 | -0.02 | 120 | -2.60 | 180 | 1.01 | 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011621 C510-SH011622 | Block 116 Block 116 | S11602 S11602 | Internal Internal | Automated Automated | SH SH | Settlement Cell-Electronic Settlement Cell-Electronic | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_AP11_Enlargement_Adv-25 | 08/06/2014 14/08/2016 | 07/03/2016 07/03/2016 | - <u>2.95</u> -1.72 | 120 120 | -5.44 -4.44 | 180 180 | 0.500.67 | 366 366 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016. |
| C510-SH011631 | Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electronic | Swedbank House | LIV_VD1_Enlargement_Adv-26 | 05/06/2014 | 09/09/2016 | -20.24 | 120 | | 180 | 8.92 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011632 | Block 116 Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electronic | Swedbank House | LIV_VD1_Enlargement_Adv-28 | 05/06/2014 | 09/09/2016 | -4.88 | 120 | -12.94 | 180 | -6.24 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011633 | Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 09/09/2016 | -6.49 | 120 | -12.86 | 180 | -5.29 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011634 | Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 09/09/2016 | 1.30 | 120 | -7.15 | 180 | -3.67 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011635 | Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 09/09/2016 | 1.35 | 120 | -7.15 | 180 | -3.43 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011636 | Block 116 | S11603 | External | Automated | SH | Settlement Cell-Electroni | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 09/09/2016 | 2.25 | 120 | -5.87 | 180 | -3.08 | 366 | | Power Box Damaged+ Supplementary Evidence |
| C510-SH011641 | Block 116 | S11604 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 9.68 | 120 | 8.21 | 180 | 7.17 | 366 | | Within ES2 EOI |
| C510-SH011642 C510-SH011643 | Block 116 Block 116 | S11604 S11604 | Internal Internal | Automated Automated | SH SH | Settlement Cell-Electroni Settlement Cell-Electroni | County House | LIV_CH3_Enlargement_Adv-11 LIV CH3 Enlargement Adv-11 | 28/08/2016 28/08/2016 | 16/02/2017 16/02/2017 | 10.17 3.05 | 120 120 | 7.56 1.99 | 180 180 | 7.38 4.45 | 366 366 | | Within ES2 EOI Within ES2 EOI |
| C510-SH011643 C510-SH011644 | Block 116 Block 116 | S11604 S11604 | Internal | Automated Automated | SH | Settlement Cell-Electronic | County House | LIV_CH3_Enlargement_Adv-11 LIV CH3 Enlargement Adv-11 | 28/08/2016 | 16/02/2017 16/02/2017 | 2.47 | 120 | 3.84 | 180 | 4.45 5.22 | 366 | 1 | Within ES2 EOI |
| C510-SH011645 | Block 116 | S11604 | Internal | Automated | SH | Settlement Cell-Electronic | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/02/2017 | 4.25 | 120 | 4.79 | 180 | 5.74 | 366 | 1 | Within ES2 EO1 |
| C510-SH011646 | Block 116 | S11604 | Internal | Automated | SH | Settlement Cell-Electronic | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 2.11 | 120 | 2.67 | 180 | 4.60 | 366 | | Within ES2 EOI |
| C510-SH011647 | Block 116 | S11604 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 3.28 | 120 | 1.87 | 180 | 3.55 | 366 | | Within ES2 EOI |
| C510-SH011651 | Block 116 | S11605 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 2.22 | 120 | 2.72 | 180 | 4.60 | 366 | | Within ES2 EOI |
| C510-SH011652 | Block 116 | S11605 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 4.04 | 120 | 4.06 | 180 | 4.34 | 366 | | Within ES2 EOI |
| C510-SH011653 | Block 116 | S11605 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 9.46 | 120 | 10.71 | 180 | 7.97 | 366 | | Within ES2 EOI |
| C510-SH011654 | Block 116 | S11605 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 4.39 | 120 | 3.38 | 180 | 3.73 | 366 | | Within ES2 EOI |
| C510-SH011655 C510-SH011661 | Block 116 Block 116 | S11605 S11606 | Internal Internal | Automated Automated | SH SH | Settlement Cell-Electroni Settlement Cell-Electroni | County House | LIV_CP9_Enlargement_Adv-32 LIV CH3 Enlargement Adv-11 | 23/08/2014 28/08/2016 | 16/02/2017 16/02/2017 | | 120 120 | 1.281.00 | 180 180 | 1.91 2.52 | 366 | | Within ES2 EOI Within ES2 EOI |
| C510-SH011661 | Block 116 Block 116 | S11606 | Internal | Automated | SH | Settlement Cell-Electronic | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/02/2017 | 1.13 0.83 | 120 | -0.16 | 180 | 0.07 | 366 | | Within ES2 EOI |
| C510-SH011663 | Block 116 | S11606 | Internal | Automated | SH | Settlement Cell-Electronic | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 1.08 | 120 | 2.14 | 180 | 3.94 | 366 | <u> </u> | Within ES2 EOI |
| C510-SH011664 | Block 116 Block 116 | S11606 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV CH3 Enlargement Adv-11 | 28/08/2016 | 16/02/2017 | 2.54 | 120 | 3.11 | 180 | 4.47 | 366 | | Within ES2 EOI |
| C510-SH011665 | Block 116 | S11606 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/02/2017 | 4.23 | 120 | 4.31 | 180 | 4.67 | 366 | | Within ES2 EOI |
| C510-SH011666 | Block 116 | S11606 | Internal | Automated | SH | Settlement Cell-Electroni | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/02/2017 | 4.25 | 120 | 4.87 | 180 | 5.53 | 366 | | Within ES2 EOI |
| C510-TB11601A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | 0.20 | 120 | -0.27 | 180 | 0.04 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11601B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | 0.14 | 120 | -0.20 | 180 | 0.11 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11602A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 08/03/2016 | -0.05 | 120 | -0.01 | 180 | 0.19 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11602B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_AP11_Enlargement_Adv-25 LIV TBM-West-RC Pilot Adv-4008 | 14/08/2016 | 08/03/2016 | 0.33 | 120 | 0.23 | 180 | 0.08 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11603A C510-TB11603B | Block 116 Block 116 | N/A N/A | Internal Internal | Automated Automated | TB TB | Tiltmeter-Biaxial Tiltmeter-Biaxial | New Broad St House New Broad St House | LIV_IBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 11/09/2016 11/09/2016 | 0.91 1.86 | 120 120 | -1.32 -2.47 | 180 | -0.70 -1.34 | 365 365 | | Power Box Damaged+ Supplementary Evidence- Agreed to decommission (va Power Box Damaged+ Supplementary Evidence- Agreed to decommission (va |
| C510-TB11604A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV TBM-West-RC Pilot Adv-4008 | 12/03/2015 | 08/03/2016 | 0.23 | 120 | 0.07 | 180 | 0.13 | 365 | | No data following renovations 20.05.2016. CTC agreed to decommission (va |
| C510-TB11604B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV TBM-West-RC Pilot Adv-4008 | 12/03/2015 | 08/03/2016 | -0.08 | 120 | -0.04 | 180 | 0.15 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11605A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 11/09/2016 | 0.00 | 120 | -0.02 | 180 | 0.13 | 365 | | Power Box Damaged+ Supplementary Evidence- Agreed to decommission (va |
| C510-TB11605B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 11/09/2016 | 0.04 | 120 | -0.06 | 180 | 0.23 | 365 | | Power Box Damaged+ Supplementary Evidence- Agreed to decommission (va |
| C510-TB11611A | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | Swedbank North Façade | - | 08/06/2014 | 08/03/2016 | 0.06 | 120 | 0.02 | 180 | -1.34 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11611B | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | Swedbank North Façade | | 08/06/2014 | 08/03/2016 | 0.91 | 120 | 0.99 | 180 | -0.50 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (N |
| C510-TB11612A | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | Swedbank North Façade | | 08/06/2014 | 08/03/2016 | 0.18 | 120 | -0.06 | 180 | -0.18 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11612B C510-TB11613A | Block 116 Block 116 | 11601 11601 | External External | Automated | TB TB | Tiltmeter-Biaxial Tiltmeter-Biaxial | | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 08/03/2016 08/03/2016 | 0.76 | 120 120 | 0.40 | 180 180 | 0.09 -0.19 | 365 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11613B | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | | 0.64 | 120 | | | -0.02 | 365 | | No data following renovations 20.05.2010. CTC agreed to cease 07/06/2010 (v |
| C510-TB11614A | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | | 120 | -0.36 | 180 | -0.47 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (N |
| C510-TB11614B | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | Swedbank North Façade | | 08/06/2014 | 08/03/2016 | | 120 | -0.41 | 180 | 0.18 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11615A | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | 0.44 | 120 | -0.36 | 180 | 0.32 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11615B | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | Swedbank North Façade | | 08/06/2014 | 08/03/2016 | -0.36 | 120 | -0.24 | 180 | -0.94 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11616A | Block 116 | 11601 | External | Automated | TB | Tiltmeter-Biaxial | | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | -0.69 | 120 | -0.50 | 180 | -0.34 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11616B C510-TB11617A | Block 116 Block 116 | 11601 N/A | External Internal | Automated Automated | TB TB | Tiltmeter-Biaxial Tiltmeter-Biaxial | Swedbank North Façade New Broad St House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 08/03/2016 08/03/2016 | -0.48 -0.55 | 120 120 | -0.47 -0.91 | 180 180 | -0.21 -0.18 | 365 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11617A | Block 116 Block 116 | N/A N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | -0.55 | 120 | -0.91 | 180 | -0.18 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (V No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11618A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | | | -0.31 | | -0.05 | 365 | 1 | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11618B | Block 116 Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | | 0.17 | | 0.24 | 180 | 0.12 | 365 | 1 | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11619A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 08/03/2016 | 0.40 | 120 | 0.48 | 180 | 0.14 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11619B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | | 0.05 | 120 | 0.05 | 180 | -0.06 | 365 | | No data following renovations 20.05.2016. CTC agreed to cease 07/06/2016 (v |
| C510-TB11621A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 10/02/2011 | -0.29 | | -0.85 | | 0.34 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11621B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/02/2017 | 0.23 | | 0.85 | | 0.13 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11622A | Block 116 Block 116 | N/A N/A | Internal | Automated | TB TB | Tiltmeter-Biaxial | County House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | | 0.16 | 120 | 0.29 | | 0.41 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11622B C510-TB11623A | Block 116 Block 116 | N/A N/A | Internal Internal | Automated Automated | TB TB | Tiltmeter-Biaxial Tiltmeter-Biaxial | County House County House | LIV_AP11_Enlargement_Adv-25 LIV_CH3_Enlargement_Adv-11 | 14/08/2016 28/08/2016 | | -0.11 -0.30 | 120 120 | -0.19 -0.44 | | -0.19 -0.26 | 365 365 | 1 | Within ES2 EOI (values are tilt mm/m) Within ES2 EOI (values are tilt mm/m) |
| C510-TB11623A | Block 116 Block 116 | N/A N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 1 | -0.30 | | -0.44 | | -0.26 | 365 | | Within ES2 EOI (values are tilt mm/m) Within ES2 EOI (values are tilt mm/m) |
| C510-TB11624A | Block 116 Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | | -0.38 | 120 | -0.69 | 180 | 0.00 -0.35 | 365 | 1 | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11624B | Block 116 Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 16/02/2017 | -0.03 | 120 | -0.34 | 180 | 0.00 -0.12 | 365 | 1 | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11625A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 16/02/2017 | -0.13 | 120 | -0.97 | 180 | -0.83 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11625B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 16/02/2017 | -0.06 | 120 | 0.08 | 180 | 0.45 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11631A | Block 116 | N/A | Unknown | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 | | 16/02/2017 | -0.21 | 120 | -0.40 | 180 | 0.07 | 365 | | 6 Months automated monitoring specification complete (values are tilt mm/m) |
| C510-TB11631B | Block 116 | N/A | Unknown | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 | 16/02/2017 | -0.10 | 120 | -0.16 | 180 | -0.03 | 365 | | 6 Months automated monitoring specification complete (values are tilt mm/m) |
| C510-TB11632A | Block 116 | N/A | Unknown | Automated | TB | Tiltmeter-Biaxial | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 | 16/02/2017 | 0.06 | 120 | 0.34 | 180 | 0.37 | 365 | | 6 Months automated monitoring specification complete (values are tilt mm/m) |
| C510-TB11632B C510-TB11633A | Block 116 Block 116 | N/A N/A | Unknown | Automated | TB TB | Tiltmeter-Biaxial Tiltmeter-Biaxial | New Broad St House New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 | | -0.25 | 120 120 | -0.28 | 180 180 | -0.14 -0.09 | 365 365 | | 6 Months automated monitoring specification complete (values are tilt mm/m) 6 Months automated monitoring specification complete (values are tilt mm/m) |
| C510-TB11633A C510-TB11633B | Block 116 Block 116 | N/A N/A | Unknown Unknown | Automated Automated | TB | Tiltmeter-Biaxial | New Broad St House New Broad St House | LIV_IBM-East-RC_Pilot_Adv-3909 LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 | 16/02/2017 16/02/2017 | 0.00 | 120 | -0.22 0.31 | 180 | 0.09 | 365 | 1 | 6 Months automated monitoring specification complete (values are tilt mm/m) 6 Months automated monitoring specification complete (values are tilt mm/m) |
| C510-TB11641A | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/02/2017 | 0.00 | 120 | -0.23 | 180 | 0.00 | 365 | 1 | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11641B | Block 116 | N/A | Internal | Automated | TB | Tiltmeter-Biaxial | Swedbank House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | | -0.24 | 120 | -0.41 | 180 | 0.01 | 365 | 1 | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11651A | Block 116 | N/A | External | Automated | TB | Tiltmeter-Biaxial | Swedbank House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 1 | 0.00 | 120 | -1.48 | 180 | 0.99 | 365 | | Within ES2 EOI (values are tilt mm/m) |
| C510-TB11651B | Block 116 | N/A | External | Automated | TB | Tiltmeter-Biaxial | Swedbank House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 16/02/2017 | 0.02 | 120 | 0.01 | 180 | 0.09 | 365 | | Within ES2 EOI (values are tilt mm/m) |
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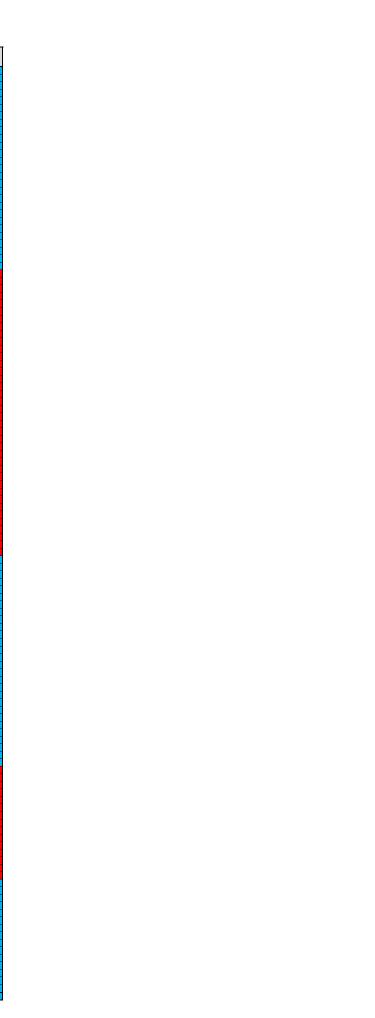
Table 3 - Block 16 Decommissioning Status Tracker LB + LC + LP

< 2.0 mm GREEN < 3.5 mm AMBER > 3.5 mm AVERAGE SETTLEMENT TREND

RED

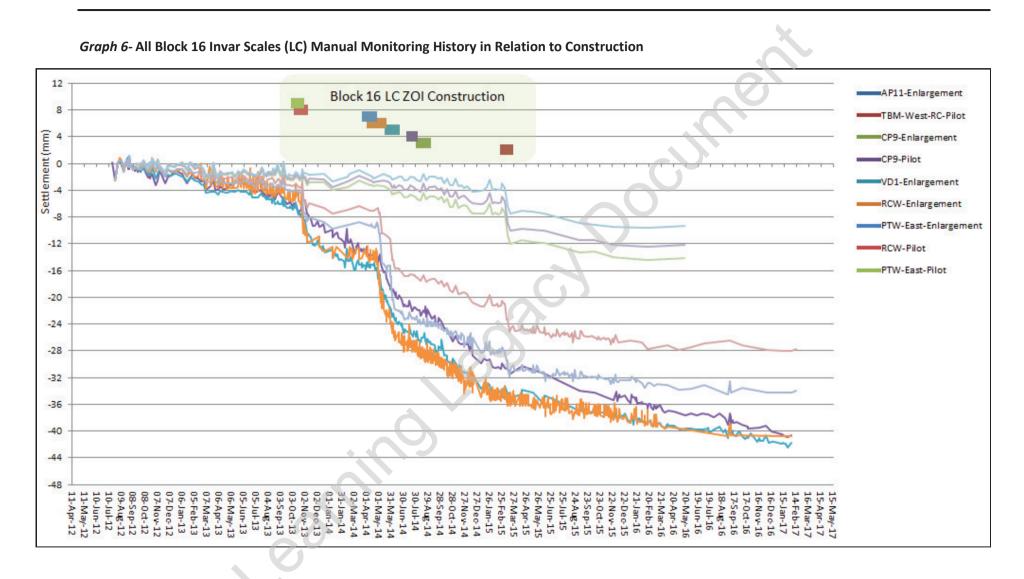
| | | | | | | | | | | | AVERAGE | SETTLEMENT T | REND | | | | | | |
|------------------------------|------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------------|--|--|------------------------------|--------------------------|----------------|----------------------------------|------------------|----------------------------------|--------------------------------|----------------------------------|-------------|--|----------------------------|
| 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 | App 365 Days | 365 Day Calculation Period | Ceased Date | General Comment Dec | ecommissioning Status |
| C510-LB11601 | Block 116 | S11601 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 | 17/02/2016 | -2.83 | 168 | -4.39 | 252 | -1.54 | 366 | 14.06.2016 | CTC 14.06.2016 Confimred monitoring to be replaced by InSAR. | Proposed |
| C510-LB11602 | Block 116 | S11601 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 | 17/02/2016 | -3.70 | 168 | | | -1.57 | 366 | | | Proposed |
| C510-LB11603 | Block 116 | S11601 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3905 | 31/01/2015 | 17/02/2016 🥘 | -2.83 | 168 | | 252 | -1.63 | 366 | 14.06.2016 | CTC 14.06.2016 Confimred monitoring to be replaced by InSAR. | Proposed |
| C510-LB11604 | Block 116 | S11601 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 | 15/05/2016 | | 172 | | 200 | -2.62 | 368 | | | Proposed |
| C510-LB11605 | Block 116 | S11601 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 | 15/05/2016 | | 172 | | | -2.56 | 368 | | | Proposed |
| C510-LB11606 C510-LB11607 | Block 116 Block 116 | S11601 S11601 | External External | Manual Manual | LB LB | BRE | New Broad St House New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 | 15/05/2016 15/05/2016 | -0.21 -0.22 | 172 172 | 0.00 | 256 256 | -2.16 -1.93 | 368 368 | | | Proposed |
| C510-LB11607 C510-LB11608 | Block 116 Block 116 | S11601 S11601 | External | Manual | LB | BRE | New Broad St House | LIV_IBM-East-RC_Pilot_Adv-3895 | 27/01/2015 | 15/05/2016 | | 172 | - | | -1.93 | 368 | | | Proposed Proposed |
| C510-LB11609 | Block 116 Block 116 | S11601;S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC Pilot Adv-3890 | 27/01/2015 | 15/05/2016 | | 172 | | 256 | -2.34 | 368 | | | Proposed |
| C510-LB11610 | Block 116 | S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3885 | 26/01/2015 | 15/05/2016 | | 172 | - | | -2.18 | 368 | | | Proposed |
| C510-LB11611 | Block 116 | S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3885 | 26/01/2015 | 15/05/2016 | -0.85 | 172 | -1.92 | 256 | -2.81 | 368 | | | Proposed |
| C510-LB11612 | Block 116 | S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-East-RC_Pilot_Adv-3885 | 26/01/2015 | 15/05/2016 🥘 | - | 172 | | | -2.70 | 368 | | ů , | Proposed |
| C510-LB11613 | Block 116 | S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-3980 | 06/03/2015 | 15/05/2016 | -0.21 | 172 | | 256 | -2.38 | 368 | <u></u> | | Proposed |
| C510-LB11614 | Block 116 | S11602 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-3987 | 07/03/2015 | 15/05/2016 | | 172 | | 200 | -2.52 | 368 | | | Proposed |
| C510-LB11615 C510-LB11616 | Block 116 Block 116 | S11602 S11603.1 | External External | Manual Manual | LB LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-3989 LIV_TBM-West-RC_Pilot_Adv-3991 | 07/03/2015 | 15/05/2016 15/05/2016 | -0.21 -0.19 | 172 172 | | 256 256 | -2.34 -2.29 | 368 368 | | | Proposed Proposed |
| C510-LB11617 | Block 116 Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-3991 | 07/03/2015 | 15/05/2016 | 0.01 | 172 | | | -2.29 | 368 | | | Proposed |
| C510-LB11618 | Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-3996 | 07/03/2015 | 15/05/2016 | -0.84 | 172 | | | -2.48 | 368 | | | Proposed |
| C510-LB11619 | Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4001 | 08/03/2015 | 15/05/2016 | | 172 | -1.41 | | -2.65 | 368 | | | Proposed |
| C510-LB11620 | Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4006 | 12/03/2015 | 15/05/2016 🥘 | | 172 | | 256 | -2.52 | 368 | | | Proposed |
| C510-LB11621 | Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 15/05/2016 | -3.62 | 167 | 2.02 | 184 | -2.12 | 366 | | | Proposed |
| C510-LB11622 | Block 116 | S11603.1 | External | Manual | LB | BRE | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 15/05/2016 | -4.28 | 167 | | 184 | -2.25 | 366 | 14.06.2016 | ů , | Proposed |
| C510-LB11623 | Block 116 | S11603.2 | External | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 21/02/2017 | -0.28 | 167 | 0.02 | 010 | -1.44 -1.74 | 369 | | | Outstanding |
| C510-LB11624 C510-LB11625 | Block 116 Block 116 | S11603.2 S11603.2 | External External | Manual Manual | LB LB | BRE | Swed Bank House County House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV VD1 Enlargement Adv-23 | 12/03/2015 04/06/2014 | 21/02/2017 | -0.28 -2.77 | 167 140 | -0.52 -2.49 | 329 232 | -1.74 -2.14 | 369 369 | | | Outstanding Outstanding |
| C510-LB11625 C510-LB11626 | Block 116 Block 116 | S11603.2 | External | Manual | LB | BRE | County House | LIV_VD1_Enlargement_Adv-23 LIV CP9 Enlargement Adv-32 | 23/08/2014 | 21/02/2017 | | 125 | -2.49 | | -2.14 | 369 | | | Outstanding |
| C510-LB11627 | Block 116 Block 116 | S11603.2 | External | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/02/2017 | -5.69 | 125 | -6.09 | | -4.95 | 369 | | | Outstanding |
| C510-LB11628 | Block 116 | S11603.8;S11604 | External | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 | -5.98 | 124 | -6.93 | 181 | -7.70 | 369 | | | Outstanding |
| C510-LB11629 | Block 116 | S11604 | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 21/02/2017 🕑 | -8.25 | 124 | | | -11.54 | 369 | | | Outstanding |
| C510-LB11630 | Block 116 | S11604 | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 21/02/2017 | -8.63 | 124 | | | -15.34 | 369 | | | Outstanding |
| C510-LB11631 | Block 116 | S11604 | External | Manual | LB | BRE | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 21/02/2017 | -5.25 | 131 | 0.01 | | -11.61 | 369 | | | Outstanding |
| C510-LB11632 | Block 116 | S11601 | Internal | Manual | LB | BRE | Swed Bank House | LIV_VD1_Enlargement_Adv-28 | 05/06/2014 | 07/09/2016 | -3.55 | 182 | -3.55 | 182 | -3.32 | 365 | | | Outstanding |
| C510-LB11633 C510-LB11634 | Block 116 Block 116 | S11601;S11602 S11601 | Internal Internal | Manual Manual | LB | BRE | Swed Bank House Swed Bank House | LIV_VD1_Enlargement_Adv-41 LIV TBM-West-RC Pilot Adv-4008 | 08/06/2014 | 09/03/2016 | -4.65 -2.71 | 187 175 | | 187 182 | -2.44 -2.41 | 370 447 | | | Outstanding Outstanding |
| C510-LB11634 C510-LB11635 | Block 116 Block 116 | S11601 | Internal | Manual | LB | BRE | Swed Bank House | LIV_IBM-West-RC_Pliot_Adv-4008 LIV VD1 Enlargement Adv-41 | 08/06/2014 | 09/03/2016 | -4.42 | 175 | 0.11 | | -2.41 | 370 | | | Outstanding |
| C510-LB11636 | Block 116 | S11601 | Internal | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 09/03/2016 | -4.11 | 187 | 4.46 | | -1.96 | 370 | | | Outstanding |
| C510-LB11637 | Block 116 | S11601 | Internal | Manual | LB | BRE | Swed Bank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 31/08/2016 | -0.83 | 175 | -0.28 | | -1.42 | 447 | | | Outstanding |
| C510-LB11638 | Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 21/02/2017 | -3.61 | 127 | | | -3. 67 | 370 | | | Outstanding |
| C510-LB11639 | Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 21/02/2017 | | 127 | | | -3.36 | 370 | | | Outstanding |
| C510-LB11640 | Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/02/2017 | | 127 | | | -2.61 | 370 | | | Outstanding |
| C510-LB11641 C510-LB11642 | Block 116 Block 116 | S11601 S11601 | Internal Internal | Manual Manual | LB LB | BRE | County House County House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 14/08/2016 | 21/02/2017 | -3.97 -3.06 | 127 127 | 0.2. | | - <u>3.06</u> - <u>2.68</u> | 370 370 | | | Outstanding |
| C510-LB11642 C510-LB11643 | Block 116 Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_APTI_Enlargement_Adv-25 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 | | 127 | 0.01 | | -2.68 | 370 | | | Outstanding Outstanding |
| C510-LB11644 | Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 | - | | -1.28 | 187 | | 370 | | Within ES2 EOI- Review in rev 2 | Outstanding |
| C510-LB11645 | Block 116 | S11601 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 | | | -3.05 | | -3.17 | 370 | | | Outstanding |
| C510-LB11646 | Block 116 | S11602 | Internal | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/02/2017 | | 127 | | - | -5.67 | 370 | | Within ES2 EOI- Review in rev 2 | Outstanding |
| C510-LB11647 | Block 116 | S11602 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 🕘 | | 127 | | | -6.28 | 370 | | | Outstanding |
| C510-LB11648 | Block 116 | S11602 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 21/02/2017 | | | -8.57 | - | -8.43 | 370 | | | Outstanding |
| C510-LB11649 | Block 116 | S11602 | Internal | Manual | LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 LIV CH3 Enlargement Adv-11 | 28/08/2016 | 21/02/2017 | | 127 | | - | -3.89 -3.86 | 370 | | Within ES2 EOI- Review in rev 2 | Outstanding |
| C510-LB11650 C510-LB11651 | Block 116 Block 116 | S11602 S11602 | Internal Internal | Manual Manual | LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 21/02/2017 21/02/2017 | | 127 127 | | | -3.86 -5.06 | 370 370 | | | Outstanding Outstanding |
| C510-LB11652 | Block 116 Block 116 | S11602 | Internal | Manual | LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 21/02/2017 | | | -5.04 | | -4.56 | 370 | | | Outstanding |
| C510-LB11653 | Block 116 | S11602 | Internal | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 31/08/2016 | | | -2.01 | | -3.12 | 369 | | | Outstanding |
| C510-LB11654 | Block 116 | S11603 | Internal | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 31/08/2016 | -1.87 | 175 | -1.30 | 182 | -2.83 | 369 | | Within ES2 EOI- Review in rev 2 | Outstanding |
| C510-LB11655 | Block 116 | S11600 | External | Manual | LB | BRE | Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 31/08/2016 🥘 | | | -2.78 | | 3.33 | 369 | | Within ES2 EOI- Review in rev 2 | Outstanding |
| C510-LC11601 | Block 116 | S11603.2 | External | Manual | LC | Invar Scale | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 02/02/2017 | | 134 | | | -4.49 | 367 | | | Outstanding |
| C510-LC11602 | Block 116 | S11603.2 | External | Manual | LC | Invar Scale | County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 02/02/2017 | - | | -5.18 | | -3.10 | 365 | | | Outstanding |
| C510-LC11603 | Block 116 | S11603.2 | External | Manual | LC | Invar Scale | Swed Bank House | LIV_VD1_Enlargement_Adv-28 | 05/06/2014 | 02/02/2017 | | | -1.80 | | - <u>2.21</u> | 365 | | | Outstanding |
| C510-LC11604 C510-LC11605 | Block 116 Block 116 | S11603.2 S11603.1;S11603.2 | External External | Manual Manual | LC LC | Invar Scale Invar Scale | Swed Bank House New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 13/02/2017 13/02/2017 | | 132 132 | | _ | -1.13 -0.58 | 369 376 | | | Proposed Proposed |
| C510-LC11605 | Block 116 Block 116 | S11603.1;S11603.2 S11603.1 | External | Manual | LC | Invar Scale | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 15/05/2017 | -0.41 | 172 | - | | -0.58 | 368 | | | Proposed |
| C510-LC11607 | Block 116 | S11603.1 | External | Manual | LC | Invar Scale | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 15/05/2016 | | | -1.23 | | -2.56 | 368 | | | Proposed |
| C510-LC11608 | Block 116 | S11603.1 | External | Manual | LC | Invar Scale | New Broad St House | LIV_TBM-West-RC_Pilot_Adv-4001 | 08/03/2015 | 15/05/2016 | | 172 | | | -2.35 | 368 | | <u> </u> | Proposed |
| C510-LP11601 | Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 26/11/2012 | N/A | | N/A | | N/A | | | Covered by C502 site | Proposed |
| C510-LP11602 | Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 26/11/2012 | N/A | | N/A | | N/A | | | | Proposed |
| C510-LP11603 | Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 26/11/2012 | N/A | | N/A | | N/A | | | | Proposed |
| C510-LP11604 | Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 23/02/2017 | | 121 | | - | -13.55 | 366 | | | Outstanding |
| C510-LP11605 C510-LP11606 | Block 116 Block 116 | S11601 S11601 | External | Manual | LP | Road Stud Road Stud | Bloomfield St Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 | 23/02/2017 25/02/2017 | | 121 (123 (| -10.80 -11.51 | | -13.54 -12.77 | 366 367 | | | Outstanding |
| C510-LP11606 C510-LP11607 | Block 116 Block 116 | S11601 S11601 | External External | Manual Manual | LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 | 25/02/2017 | | | -11.51 | | -12.77 | 367 | | | Outstanding Outstanding |
| C510-LP11608 | Block 116 Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_E32_Invert_Adv-6 | 28/08/2016 | 25/02/2017 | | - | -9.90 | | -9.94 | 367 | | | Outstanding |
| C510-LP11609 | Block 116 | S11601 | External | Manual | LP | Road Stud | Bloomfield St | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 25/02/2017 | | | -7.75 | | -5.70 | 367 | | | Outstanding |
| | - | | | | | | | | | | | | | | | | | | |

| Table 4 - | Block 16 | Decommissi | oning Sta | atus Tracker RP | | | | | < 2.0 mm | | | n AMBEI | R > 3.5 mm | n RED | | |
|---|-------------------------------------|--|-------------------------------------|---|--|--|--|--|-------------------------|---|---------------------------|----------------------------------|---------------------------|--|---|---|
| C510 Sensor Name | Block | Section Int / Ext | Measurement Type | Sensor Sensor Type Description | Asset/Location | EOI Last Primary Layer Construction | Last Construction Date | Latest Surveyed Date | 120 Days | 120 Day Calculatio | 180 Days | 180 Day Calculation Period | 365 Days | 365 Day Calculation Ceased Date Period | General Comment | Decommissioning Status |
| C510-RP11601 C510-RP11602 C510-RP11603 | Block 116 Block 116 Block 116 | | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3890 LIV_TBM-East-RC_Pilot_Adv-3890 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 27/01/2015 27/01/2015 | 10/03/2015 19/02/2017 19/02/2017 | -7.96 1.56 2.72 | 120 120 | -4.04 2.19 | 180 180 180 | | 366 365 365 | Crossrail confirms in June CTO/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that the safe to the coverage to the safe term and the coverage term and the coverage term and the coverage term and the coverage term and the safe term and the coverage term and the coverage term and ter | Proposed Proposed |
| C510-RP11603 C510-RP11604 C510-RP11605 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 27/01/2015 | 19/02/2017 19/02/2017 | 1.81 3.36 | 120 120 120 | 2.08 2.78 | 180 180 180 | | 365 365 | Crossral continues in other CTC/ERP that Insa' has solucient coverage to assume responsibility of the long term automated monitoring Crossral confirms in June CTC/ERP that Insa' has sufficient coverage to assume responsibility of the long term automated monitoring Crossral confirms in June CTC/ERP that Insa' has sufficient coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11606 C510-RP11607 C510-RP11608 | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 27/01/2015 27/01/2015 | 19/02/2017 26/12/2016 19/02/2017 | 1.71 2.94 | 120 | 0.73 | 180 | 1.15 0.72 | 365 366 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Description of term automated monitoring Description of term automated Description of term | Proposed Proposed |
| C510-RP11608 C510-RP11608 C510-RP11608 | | N/A External N/A External N/A External | Automated | RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 27/01/2015 27/01/2015 | 19/02/2017 19/02/2017 25/09/2015 | 1.10 2.02 1.88 | 120 120 120 | 0.90 1.05 -0.46 | 180 180 181 | 0.82 1.16 0.37 | 365 365 464 | Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11609 C510-RP11609/ | | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3905 LIV_TBM-East-RC_Pilot_Adv-3905 | 31/01/2015 31/01/2015 | 19/02/2017 20/02/2017 | 2.77 | 120 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | 2.25 2.49 | 180 180 | 1.30 | 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| C510-RP11610 C510-RP11610/ C510-RP116108 | | | Automated | | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 LIV_TBM-East-RC_Pilot_Adv-3895 | 27/01/2015 27/01/2015 27/01/2015 | 20/02/2017 20/02/2017 17/06/2014 | 1.54 | 120 120 122 | 0.68 1.31 -10.26 | 180 180 181 | | 365 365 365 | Crossrail confirms in June CTO/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTO/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTO/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11611 C510-RP11611/ | | N/A External | Automated Automated | RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3905 LIV_TBM-East-RC_Pilot_Adv-3905 | 31/01/2015 31/01/2015 | 07/01/2016 20/07/2016 | -0.18 | 120 267 | -3.63 -0.18 | 180 267 | -2.24 | 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| C510-RP11612 C510-RP11612/ C510-RP11613 | Block 116 Block 116 Block 116 | | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3905 LIV_TBM-East-RC_Pilot_Adv-3905 LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 31/01/2015 | 20/02/2017 19/02/2017 20/02/2017 | 1.50 | 120 120 120 | 1.39 0.66 1.56 | 180 180 180 | 0.99 | 365 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11614 C510-RP11614/ | | N/A External | Automated | | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3909 LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 | 08/11/2015 20/02/2017 | 1.93 | 120 1 20 | -6.45 1.07 | 180 180 | 1.19 | 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| C510-RP11615 C510-RP11615 C510-RP11616 | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3909 LIV_TBM-East-RC_Pilot_Adv-3909 LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 31/01/2015 | 20/02/2017 19/02/2017 19/02/2017 | 1.00 | 120 120 120 | -2.43 -0.06 -3.56 | 181 180 180 | 1.09 | 377 365 370 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11617 C510-RP11618 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House New Broad Street House | | 31/01/2015 31/01/2015 | 08/06/2015 12/04/2014 | N/A N/A | | N/A N/A | | N/A N/A | | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| C510-RP116170 C510-RP116170 C510-RP116180 | Block 116 Block 116 Block 116 | N/A External N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | New Broad Street House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 07/11/2016 | 20/02/2017 19/02/2017 19/02/2017 | -5.22 -5.09 | 120 0 120 0 | -5.34 -5.40 -6.93 | 180 180 180 | -10.04 -9.88 -10.07 | 366 365 366 | Within ES2 EOL Reassess in Rev 2 Within ES2 EOL Reasses in Rev 2 Within ES2 EOL Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11618F C510-RP11619 | Block 116 Block 116 | N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House n County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 19/02/2017 20/02/2017 | -5.80 -6.33 | 120 I 120 I | -6.94 -9.49 | 180 180 | -10.04 -14.63 | 365 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11620 C510-RP11620 C510-RP11621 | Block 116 Block 116 Block 116 | N/A External N/A External N/A External | Automated Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n County House n County House n County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 07/11/2016 | 19/02/2017 19/02/2017 20/02/2017 | -7.70 | 120 | -10.87 -11.13 -8.51 | 180 180 180 | | 365 365 365 | Within ES2 EOL Reassess in Rev 2 Within ES2 EOL Reassess in Rev 2 Within ES2 EOL Reasses | Outstanding Outstanding Outstanding |
| C510-RP11622 C510-RP11622 | Block 116 Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n County House n County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 | 19/02/2017 20/02/2017 | -6.15 -6.79 | 120 I 120 I 120 I | -9.49 -9.55 | 180 180 | -11.20 -11.38 | 366 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11623 C510-RP11624 C510-RP11624/ | Block 116 Block 116 Block 116 | N/A External N/A External N/A External | Automated Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Blomfield Street n Blomfield Street n Blomfield Street | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 28/08/2016 | 07/01/2017 20/02/2017 20/02/2017 | 2.10 | 120 120 120 | -6.66 -1.70 -5.76 | 180 180 180 | | 366 365 365 | Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP116248 C510-RP116240 | Block 116 Block 116 | N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n Blomfield Street | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 19/02/2017 19/02/2017 | | 120 I 120 I | -5.50 -5.22 | 180 180 | | 365 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11625 C510-RP11626 C510-RP11627 | Block 116 Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n County House n County House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 14/08/2016 14/08/2016 | 19/02/2017 19/02/2017 19/02/2017 | -1.52 -1.97 | 120 120 211 | -0.08 -1.48 0.16 | 180 180 211 | -4.74 -4.89 | 365 365 500 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 Within ES2 FOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11628 C510-RP11629 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n County House | LIV_AP11_Enlargement_Adv-25 LIV_CP9_Enlargement_Adv-32 | 14/08/2016 23/08/2014 | 19/02/2017 09/08/2014 | 0.48 | 120 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | 1.14 -30.28 | 180 180 | -1.68 -23.13 | 365 366 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11631 C510-RP11632 C510-RP11633 | Block 116 Block 116 Block 116 | 1011 | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n County House n County House n Swedbank House | LIV_VD1_Enlargement_Adv-23 LIV_VD1_Enlargement_Adv-22 LIV_VD1_Enlargement_Adv-25 | 04/06/2014 03/06/2014 04/06/2014 | 19/02/2017 20/02/2017 19/02/2017 | -3.85 -0.85 0.00 | 887 120 | -3.85 -0.04 1.26 | 887 180 180 | -3.85 -2.30 -1.91 | 887 365 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 Within ES2 FOI- Reasses | Outstanding Outstanding Outstanding |
| C510-RP11633/ C510-RP11634 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n Swedbank House | LIV_VD1_Enlargement_Adv-25 LIV_VD1_Enlargement_Adv-25 | 04/06/2014 04/06/2014 | 20/02/2017 20/02/2017 | -0.51 -1.19 | 120 | 0.74 | 180 180 | -2.14 -1.89 | 365 365 | Within ES2 EOI- Reasess in Rev 2 Within ES2 EOI- Reasess in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11634/ C510-RP11635 C510-RP11635/ | Block 116 Block 116 Block 116 | N/A External N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n Swedbank House n Swedbank House | LIV_VD1_Enlargement_Adv-25 LIV_VD1_Enlargement_Adv-29 LIV_VD1_Enlargement_Adv-29 | 04/06/2014 05/06/2014 05/06/2014 | 20/02/2017 20/02/2017 19/02/2017 | -1.16 0.23 -0.08 | 120 120 120 | -0.78 1.48 1.20 | 180 180 180 | -1.96 -1.66 -1.80 | 365 365 365 | Within ES2 EOL Reasses in Rev 2 Within ES2 EOL Reasses in Rev 2 Within ES2 EOL Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11636/ C510-RP11636/ | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 19/02/2017 19/02/2017 | 0.36 | 120 | 1.53 1.17 | 180 180 | -1.48 -1.55 | 365 365 | Within ES2 EOI-Reases in Rev 2 Within ES2 EOI-Reases in Rev 2 | Outstanding Outstanding |
| C510-RP11637 C510-RP11637 C510-RP11638 | Block 116 Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 19/02/2017 20/02/2017 19/02/2017 | -0.90 | 120 120 120 | -0.76 -0.58 0.97 | 180 180 180 | -1.79 | 365 365 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 Within ES2 COL Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11639 C510-RP11639 | Block 116 Block 116 | N/A External N/A External | | RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 19/02/2017 19/02/2017 | -0.67 -0.90 | 120 1 20 | -0.98 -0.89 | 180 180 | -1.74 -1.67 | 365 365 | Wilhin ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11640 C510-RP11640/ C510-RP11641 | Block 116 Block 116 Block 116 | N/A External N/A External N/A External | Automated Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n Swedbank House n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 19/02/2017 20/02/2017 19/02/2017 | 1.71 | 120 120 | 1.23 1.99 -0.48 | 180 181 180 | -1.47 | 365 365 365 | Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11642 C510-RP11643 | Block 116 Block 116 | N/A External | Automated Automated | RP 3D Geodetic prism | n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 20/02/2017 20/02/2017 | -0.74 | 120 120 120 120 120 120 120 120 120 120 | 0.76 | 180 180 | -1.20 | 365 365 | months automated monitoring specification complete 28/02/2017 months automated monitoring specification complete 28/02/2017 | Proposed Proposed |
| C510-RP11644 C510-RP11645 C510-RP11646 | Block 116 Block 116 Block 116 | N/A External | | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 19/02/2017 19/02/2017 20/02/2017 | 0.07 | 120 121 120 | 0.49 0.93 -1.19 | 180 182 180 | -2.00 | 365 365 365 | 6 months automated monitoring specification complete 28/02/2017 6 months automated monitoring specification complete 28/02/2017 6 months automated monitoring specification complete 28/02/2017 | Proposed Proposed Proposed |
| C510-RP11646/ C510-RP11647 | Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 19/02/2017 19/02/2017 | -1.08 1.37 | 121 1 132 1 | -1.08 0.91 | 180 181 | -1.41 -2.08 | 365 365 | 6 months automated monitoring specification complete 28/02/2017 Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 20/02/2017 19/02/2017 19/02/2017 | -0.77 -0.71 -0.08 | 121 120 120 | -0.35 -0.06 0.57 | 180 180 180 | -0.84 | 365 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11649 C510-RP11650 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 06/07/2016 | | 120 | -6.91 0.13 | 180 180 | -5.76 -0.82 | 699 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| | Block 116 | N/A External | Automated | RP 3D Geodetic prism | n New Broad Street House n New Broad Street House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 14/02/2017 19/02/2017 19/02/2017 | 0.34 | 127 120 120 | 0.18 1.12 1.13 | 184 180 180 | -0.94 | 365 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP116518 | Block 116 | N/A External | Automated | RP 3D Geodetic prism | n New Broad Street House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 27/07/2016 | 1.12 | 121 | -7.74 2.12 | 180 180 | -1.00 | 365 365 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House n New Broad Street House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 12/03/2015 | 11/02/2017 20/02/2017 19/02/2017 | -0.76 | 129 120 120 | -1.32 0.02 0.81 | 183 180 180 | -0.92 | 365 365 365 | Crossrail confirms in June CTO/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11654/ C510-RP11654 C510-RP11655 | Block 116 | N/A External | Automated | RP 3D Geodetic prism | n New Broad Street House n New Broad Street House n New Broad Street House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 31/01/2015 | 20/02/2017 19/02/2017 09/06/2015 | 0.73 | 120 120 120 | 1.25 1.03 -1.39 | 180 180 180 | -1.13 | 365 365 366 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. That Insar has sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP. The term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage to a second provide term is the sufficient coverage | Proposed Proposed Proposed |
| C510-RP11655 C510-RP11656 C510-RP11657 | Block 116 | N/A External | Automated | RP 3D Geodetic prism | n New Broad Street House New Broad Street House New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3909 | 31/01/2015 31/01/2015 31/01/2015 | 23/09/2015 09/06/2015 | 1.31 | 293 0 120 0 | -1.39 | 293 180 | 0.73 | 365 365 366 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed Proposed |
| C510-RP11658 C510-RP11659 | Block 116 | N/A External | Automated | RP 3D Geodetic prism | | LIV_TBM-West-RC_Pilot_Adv-4008 | 31/01/2015 12/03/2015 | 19/02/2017 10/06/2015 | -0.87 | 120 | -1.90 -5.70 | 196 180 | | 370 366 | Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Crossrail confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring | Proposed Proposed |
| C510-RP11660 C510-RP11661 C510-RP11662 | Block 116 Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism | n Swedbank House n Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 12/03/2015 08/06/2014 08/06/2014 | 08/06/2015 10/06/2015 02/06/2015 | 1.24 0.89 2.74 | 120 120 120 120 120 120 120 120 120 120 | -4.40 -3.65 -3.12 | 180 180 180 | -9.33 -8.53 -9.89 | 365 366 365 | Crossral confirms in June CTC/ERP that Insar has sufficent coverage to assume responsibility of the long term automated monitoring Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11663 C510-RP11664 C510-RP11665 | Block 116 Block 116 Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 08/06/2014 | 29/08/2016 19/02/2017 09/06/2015 | 1.47 -2.39 | 124 | 2.73 -2.41 | 180 180 | -3.15 1.16 | 366 366 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11665 C510-RP11666 C510-RP11667 | Block 116 Block 116 Block 116 | N/A External | | RP 3D Geodetic prism | n Swedbank House n Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 08/06/2014 | 09/06/2015 09/06/2015 13/07/2016 | 0.05 0.96 -2.46 | 120 120 120 | -3.63 -2.87 -2.67 | 180 180 286 | -9.17 -10.18 -2.84 | 366 366 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11668 C510-RP11670 C510-RP11671 | Block 116 Block 116 Block 116 | N/A External | Automated Automated Automated | RP 3D Geodetic prism | n County House | LIV_VD1_Enlargement_Adv-41 LIV_CH3_Enlargement_Adv-11 | 08/06/2014 28/08/2016 28/08/2016 | 19/02/2017 19/02/2017 21/11/2013 | -2.75 -1.51 | 120 120 | -2.01 -2.39 | 180 180 181 | 0.89 | 366 626 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11671 C510-RP11672 C510-RP11673 | Block 116 Block 116 Block 116 | N/A External | | RP 3D Geodetic prism RP 3D Geodetic prism | n County House n County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 LIV_ES2_Enlargement_Adv-16 | 28/08/2016 24/09/2016 | 22/06/2016 19/02/2017 | | 121 122 120 | -8.00 4.62 -6.27 | 180 180 | -6.25 | 365 379 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reassess in Rev 2 | Outstanding Outstanding |
| C510-RP11674 C510-RP11675 C510-RP11676 | | N/A External | | RP 3D Geodetic prism | n County House n County House | LIV_ES2_Enlargement_Adv-16 LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 24/09/2016 07/11/2016 07/11/2016 | 23/06/2016 20/02/2017 19/02/2017 | -5.46 | 123 120 121 | -7.46 -7.20 -3.84 | 180 180 180 | -8.24 | 365 365 365 | Within ES2 EOI- Reassess in Rev 2 Within ES2 EOI- Reasses in Rev 2 Within ES2 EOI- Reasses in Rev 2 | Outstanding Outstanding Outstanding |
| C510-RP11676 C510-RP11678 C510-RP11679 | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n 12 Blomfield Street | LIV_ES2_Invert_Adv-8 LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 15/01/2015 27/04/2015 | N/A | 121 | N/A N/A | 100 | N/A N/A | 303 | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 | Proposed Proposed |
| C510-RP11680 C510-RP11681 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank Party Wall n Swedbank Party Wall | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 15/01/2015 30/05/2015 | N/A N/A | | N/A N/A N/A | | N/A N/A N/A | | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 | Proposed Proposed |
| C510-RP11682 C510-RP11683 C510-RP11684 | Block 116 | N/A External | Automated | RP 3D Geodetic prism RP 3D Geodetic prism RP 3D Geodetic prism | n Swedbank Party Wall | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 08/06/2014 | 05/06/2015 02/06/2015 11/11/2014 | N/A N/A N/A | \vdash | N/A N/A N/A | | N/A N/A N/A | | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2014 | Proposed Proposed Proposed |
| C510-RP11685 C510-RP11686 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 07/07/2015 25/08/2015 07/07/2015 | N/A N/A | | N/A N/A | | N/A N/A | | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 | Proposed Proposed |
| C510-RP11687 C510-RP11688 C510-RP11689 | Block 116 Block 116 | N/A External N/A External | Automated Automated | | n County House n New Broad Street House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 LIV_TBM-East-RC_Pilot_Adv-3909 | 28/08/2016 28/08/2016 31/01/2015 | 07/07/2015 | N/A N/A N/A | | N/A N/A N/A | | N/A N/A N/A | | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 | Proposed Proposed Proposed |
| C510-RP11690 C510-RP11691 C510 RP11691 | Block 116 Block 116 | N/A External N/A External | Automated Automated | RP 3D Geodetic prism RP 3D Geodetic prism | n New Broad Street House New Broad Street House | LIV_TBM-East-RC_Pilot_Adv-3909 LIV_VD1_Enlargement_Adv-41 | 31/01/2015 08/06/2014 | 10/06/2015 10/06/2015 | N/A N/A | | N/A N/A | | N/A N/A | | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 | Proposed Proposed |
| C510-RP11692 C510-CK11601 | | | | RP 3D Geodetic prism CK Crack Monitor | n New Broad Street House County House | LIV_VD1_Enlargement_Adv-41 LIV_CH3_Enlargement_Adv-11 | 08/06/2014 28/08/2016 | 10/06/2015 27/01/2017 | N/A 0.00 | 137 🖸 | N/A 0.00 | 184 | N/A 0.00 | 373 | Line of sight obstructed by C502 site and ATS 132 being relocated- No data since 2015 Crackmeter stable- 4 Months post construction monitoring complete 17/03/2017 (values are movement in mm) | Proposed Proposed |





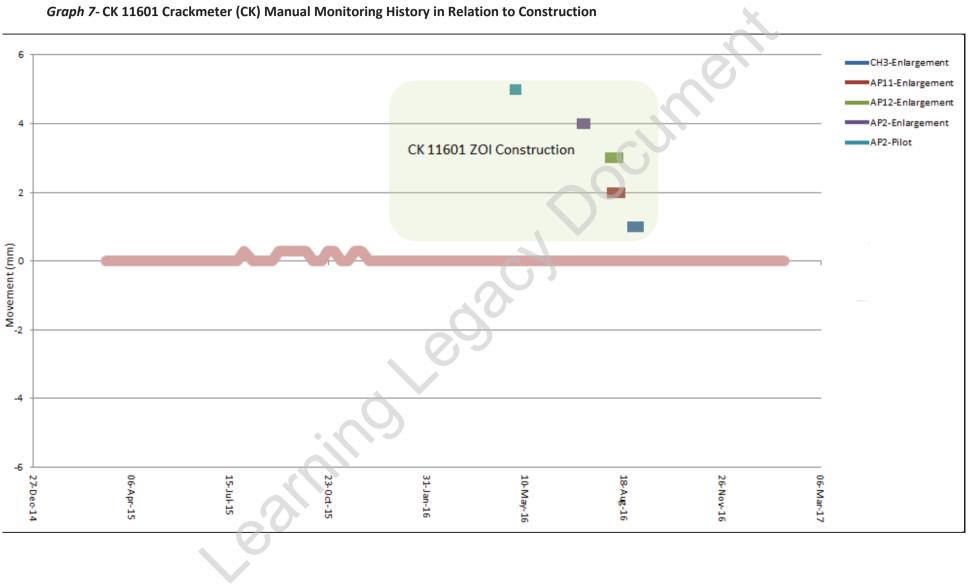
C510-BBM-C2-RGN-C101-50237 Rev.1.0



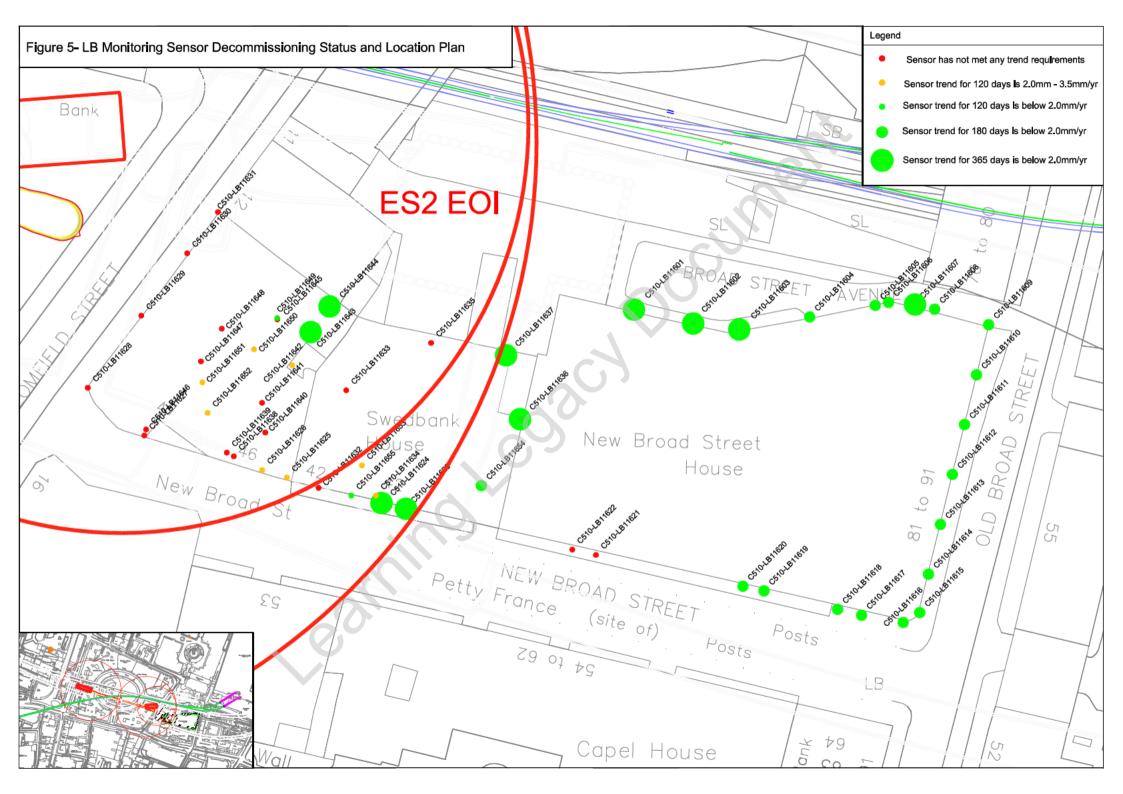
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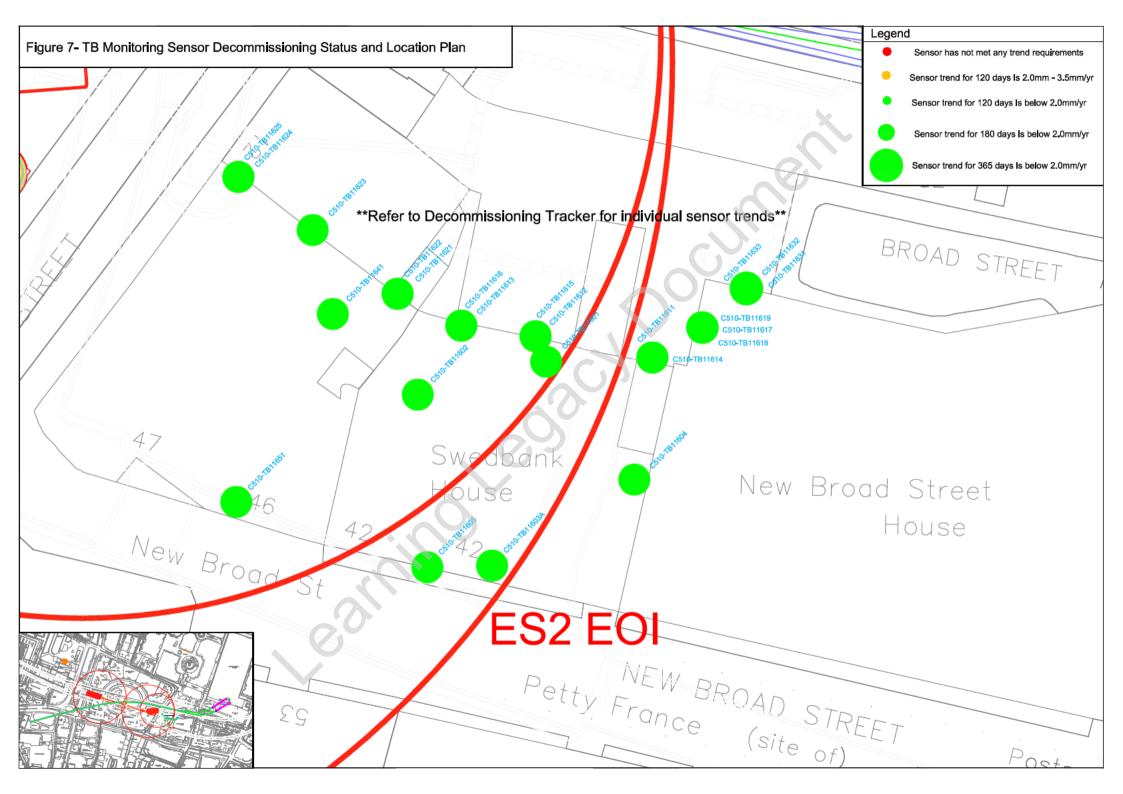


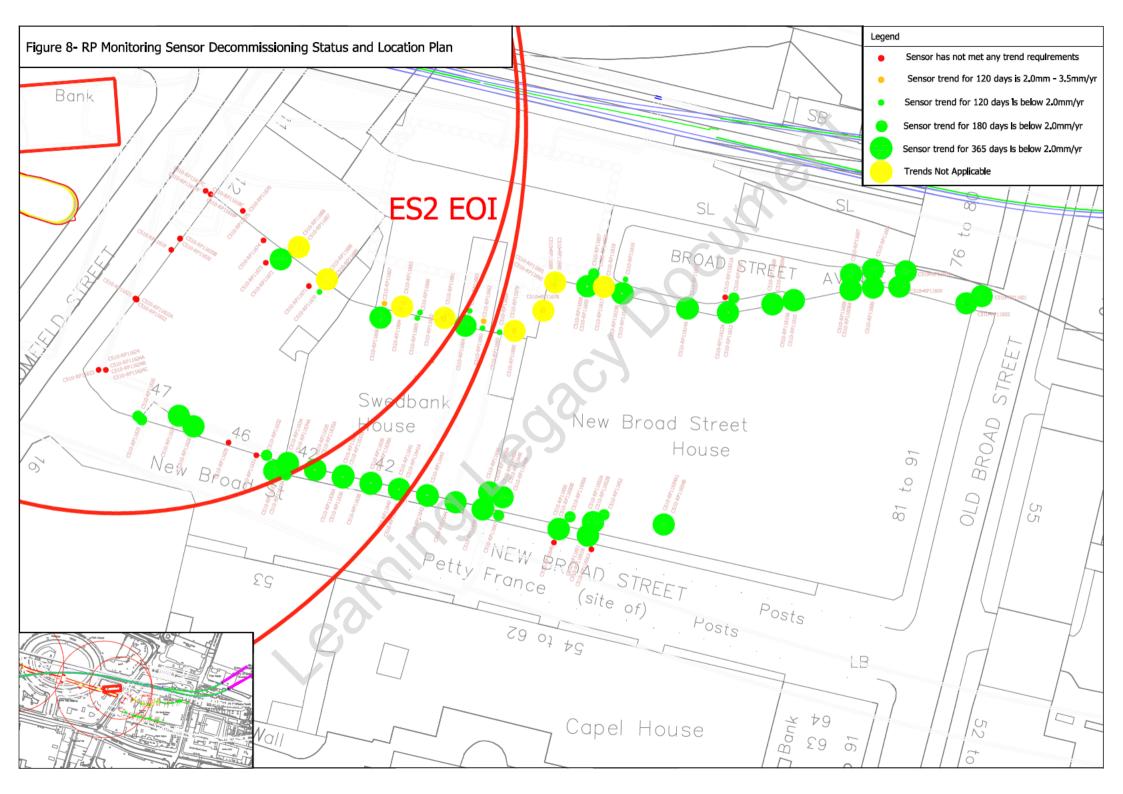
C510-BBM-C2-RGN-C101-50237 Rev.1.0

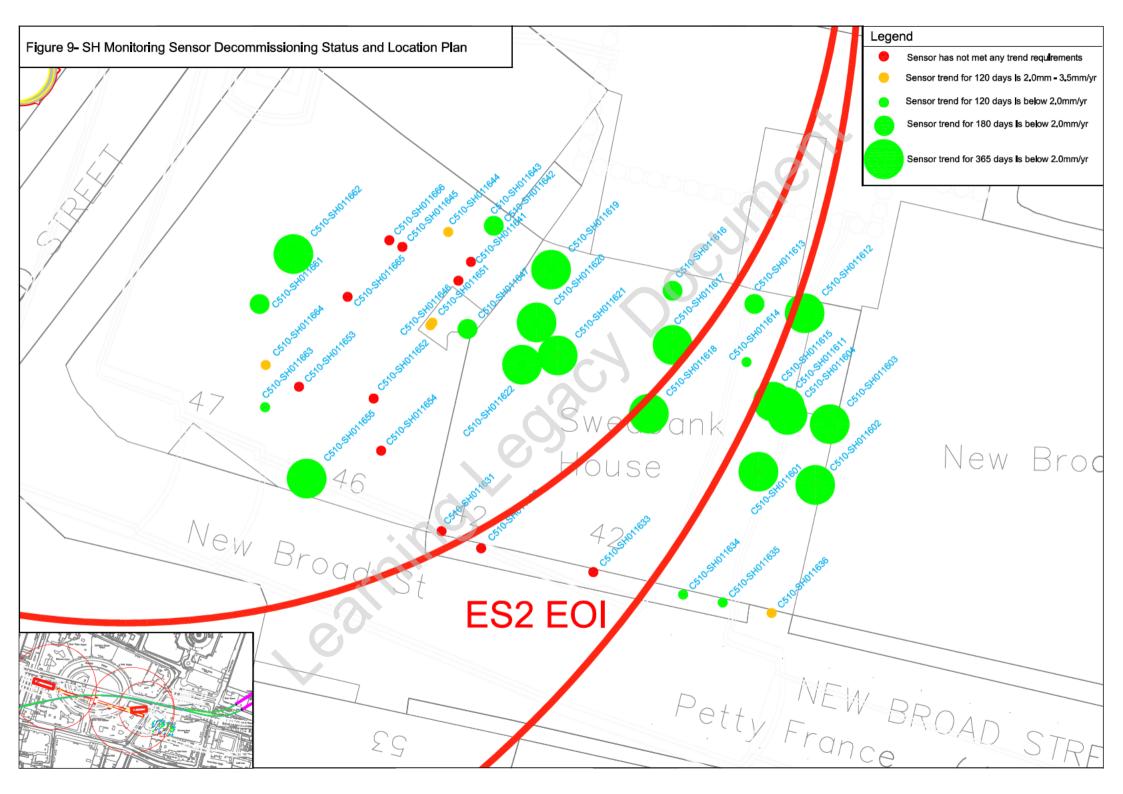


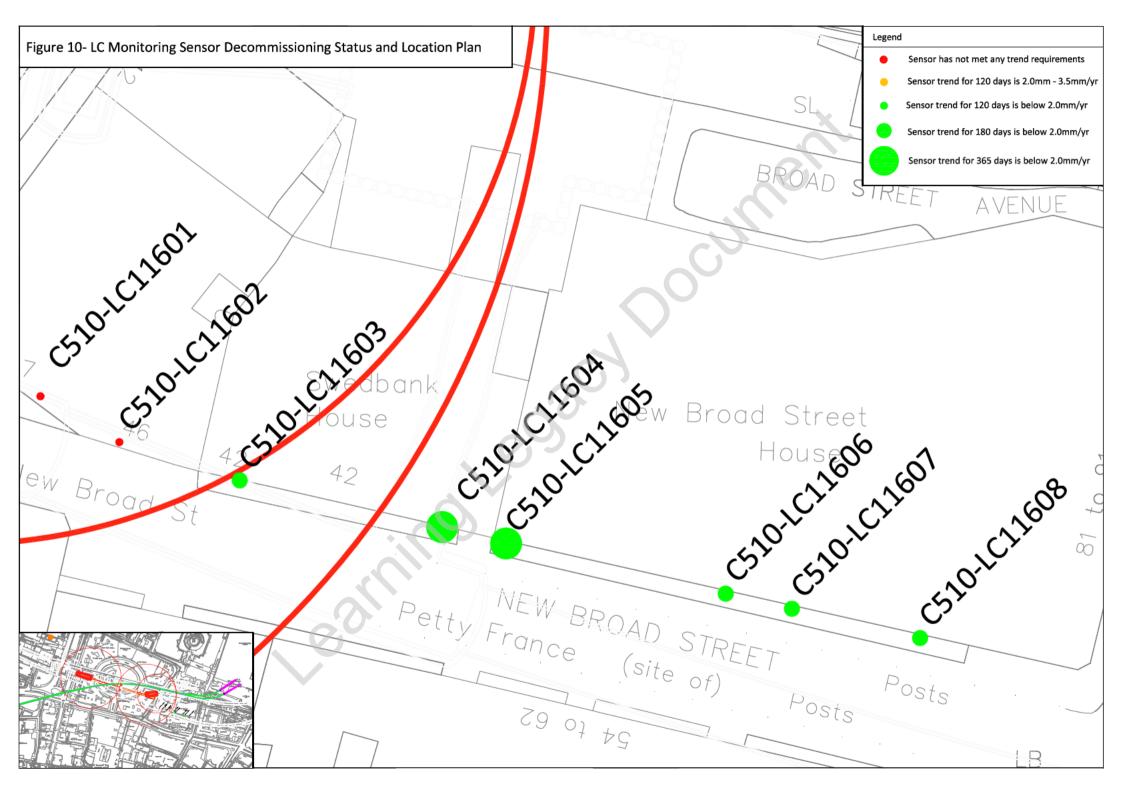
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Appendix 2 (Graphs, Tables and Figures of Rev.2) 8

Appendix 2 includes the Graphs, Tables and Figures that were used as evidence to agree decommissioning in Revision 2 of Block 16 Close out Report.

Document uncontrolled once printed. All controlled documents are saved on the CRL Document System and BBMV BC

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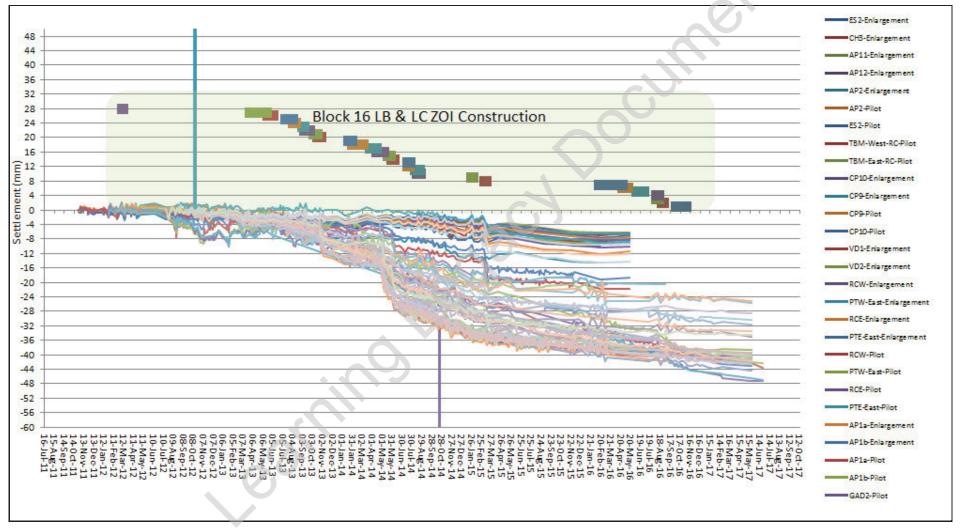
| Table 2 - Block 16 Decommissioning Status Tracker 28/06/2017 | | | | | | | | | | | n GREEN | < 3.5 m | n AMBER | > 3.5 m | m F | RED | | | |
|--|------------------------|---------------------------|------------------------|---------------------------------|--|--|--|--------------------------|--------------------------|----------------|--|------------------------|----------------------------------|------------------|-------------------------------|-------------|--|----------------------------|--|
| C510 Sensor Name | Block | Section | Int / Ext | Measurement Sensor Type Type | Sensor Description | Asset/Location | ZOI Last Primary Layer Construction | Last Construction Date | Latest Surveyed | AVERAGE SETTL | EMENT TREND 120 Day Calculation Period | 180 Days | 180 Day Calculation Period | 365 Days | 365 Day Calculation Period | Ceased Date | General Comment | Decommissioning Statu | |
| C510-LB11623 C510-LB11624 | Block 116 Block 116 | S11603.2 S11603.2 | External | Manual LB Manual LB | BRE | Swed Bank House Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 19/05/2017 | -0.39 | 254 254 | -0.39 | 254 | -0.54 | 416 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11625 | Block 116 | S11603.2 | External | Manual LB | BRE | County House | LIV_VD1_Enlargement_Adv-23 | 04/06/2014 | 19/05/2017 | -2.89 | 123 | -2.73 | 227 | -2.30 | 381 | | Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding | |
| C510-LB11626 C510-LB11627 | Block 116 Block 116 | S11603.2 S11603.2 | External External | Manual LB Manual LB | BRE | County House County House | LIV_CP9_Enlargement_Adv-32 LIV_AP11_Enlargement_Adv-25 | 23/08/2014 14/08/2016 | 19/05/2017 19/05/2017 | -1.76 | 123 121 | - <u>3.13</u> -4.93 | 185 🎱 184 🥥 | -3.13 -5.45 | 366 366 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11628 C510-LB11629 | Block 116 Block 116 | \$11603.8;S116 \$11604 | 4 External External | Manual LB Manual LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_ES2_Invert_Adv-8 | 28/08/2016 07/11/2016 | 22/06/2017 | -5.56 | 121 | -6.22 | 190 | -7.37 -11.70 | 366 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11630 | Block 116 Block 116 | S11604 S11604 | External | Manual LB Manual LB | BRE | County House County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | -2.68 | 121 121 | -5.20 -4.20 | 217 | -14.61 -10.54 | 366 366 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11632 | Block 116 | S11601 | Internal | Manual LB | BRE | Swed Bank House | LIV_VD1_Enlargement_Adv-28 | 05/06/2014 | 07/09/2016 | N/A | 121 | N/A | 217 | N/A | 300 | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2016 | Proposed | |
| C510-LB11633 C510-LB11634 | Block 116 Block 116 | S11601;S1160 S11601 | 2 Internal Internal | Manual LB Manual LB | BRE | Swed Bank House Swed Bank House | LIV_VD1_Enlargement_Adv-41 LIV_TBM-West-RC_Pilot_Adv-4008 | 08/06/2014 12/03/2015 | 09/03/2016 31/08/2016 | N/A N/A | | N/A N/A | | N/A N/A | | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2017 Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2018 | Proposed Proposed | |
| C510-LB11635 C510-LB11636 | Block 116 Block 116 | S11601 S11601 | Internal Internal | Manual LB Manual LB | BRE | Swed Bank House Swed Bank House | LIV_VD1_Enlargement_Adv-41 LIV_TBM-West-RC_Pilot_Adv-4008 | 08/06/2014 12/03/2015 | 09/03/2016 09/03/2016 | N/A N/A | | N/A N/A | | N/A N/A | | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2019 Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2020 | Proposed Proposed | |
| C510-LB11637 C510-LB11638 | Block 116 Block 116 | S11601 S11601 | Internal | Manual LB | BRE | Swed Bank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 23/08/2014 | 31/08/2016 | N/A -1.72 | 101 | N/A | 184 | N/A | 436 | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2021 | Proposed | |
| C510-LB11639 | Block 116 | S11601 | Internal | Manual LB | BRE | County House County House | LIV_CP9_Enlargement_Adv-32 LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 19/05/2017 | -2.49 | 121 121 | -2.25 -3.30 | 184 | -3.78 | 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11640 C510-LB11641 | Block 116 Block 116 | S11601 S11601 | Internal Internal | Manual LB Manual LB | BRE | County House County House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 14/08/2016 | 19/05/2017 19/05/2017 | -1.86 -2.35 | 121 121 | -2.56 -3.01 | 184 🥑 184 🥥 | -2.76 -2.97 | 436 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11642 | Block 116 Block 116 | S11601 | Internal | Manual LB Manual LB | BRE | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 19/05/2017 | -3.56 -2.35 | 121 121 | -2.86 -1.35 | 184 🥥 | -2.61 -0.43 | 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification ont met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11644 | Block 116 | S11601 | Internal | Manual LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 19/05/2017 | -1.81 | 121 | -1.80 | 184 🥥 | -1.52 | 436 | | Manual Monitoring specification not met. Reasses in Rev 3 | Outstanding | |
| C510-LB11645 C510-LB11646 | Block 116 Block 116 | S11601 S11602 | Internal | Manual LB Manual LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_AP11_Enlargement_Adv-25 | 28/08/2016 14/08/2016 | 19/05/2017 | -1.70 -3.08 | 121 121 | -2.32 -3.77 | 184 🥑 184 🥑 | -3.34 -5.46 | 436 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11647 C510-LB11648 | Block 116 Block 116 | S11602 S11602 | Internal | Manual LB Manual LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 19/05/2017 | -3.35 -2.72 | 121 121 | -2.58 -3.42 | 184 🥥 184 🥥 | -6.05 -8.15 | 436 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11649 C510-LB11650 | Block 116 | S11602 | Internal | Manual LB | BRE | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 19/05/2017 | -2.05 | 121 | -0.77 | 184 🥥 | -3.08 | 436 | | Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding | |
| C510-LB11650 C510-LB11651 | Block 116 Block 116 | S11602 S11602 | Internal | Manual LB Manual LB | BRE | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 19/05/2017 | -1.69 -2.92 | 121 121 | -0.96 -2.19 | 184 🖸 184 🖸 | -3.72 -4.71 | 443 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LB11652 C510-LB11653 | Block 116 Block 116 | S11602 S11602 | Internal Internal | Manual LB Manual LB | BRE | County House Swed Bank House | LIV_AP11_Enlargement_Adv-25 LIV_TBM-West-RC_Pilot_Adv-4008 | 14/08/2016 12/03/2015 | 19/05/2017 31/08/2016 | -2.27 N/A | 121 | 2 -2.15 N/A | 184 🥥 | -4.52 N/A | 436 | | Manual Monitoring specification not met- Reasses in Rev 3 Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2019 | Outstanding Proposed | |
| C510-LB11654 C510-I B11655 | Block 116 Block 116 | S11603 S11600 | Internal | Manual LB Manual LB | BRE | Swed Bank House Swed Bank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 31/08/2016 31/08/2016 | N/A N/A | | N/A N/A | | N/A N/A | | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2020 | Proposed | |
| C510-LC11601 | Block 116 Block 116 | S11600 S11603.2 | External | Manual LB Manual LC | Invar Scale | Swed Bank House Swed Bank House | LIV_IBM-West-RC_Pilot_Adv-4008 LIV_AP11_Enlargement_Adv-25 | 12/03/2015 | 31/08/2016 19/05/2017 | -3.01 | 123 | -4.62 | 185 🥥 | -5.15 | 366 | | Access no longer due to internal refurbishment- Agreed to cease Monitoring in CTC meeting 07/06/2021 Manual Monitoring specification not met- Reasses in Rev 3 | Proposed Outstanding | |
| C510-LC11602 | Block 116 Block 116 | S11603.2 | External | Manual LC Manual LC | Invar Scale | Swed Bank House Swed Bank House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 19/05/2017 | -2.08 -2.46 | 121 | -2.75 | 184 | -3.97 -1.96 | 366 | | Manual Monitoring specification not met- Reasses in Rev 3 Manual Monitoring specification not met- Reasses in Rev 3 | Outstanding | |
| C510-LP11601 | | S11601 | | | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 26/11/2012 | N/A | 120 | N/A | 204 | N/A | 100 | | Sensor destroyed- Unable to monitor | Proposed | |
| C510-LP11602 C510-LP11603 | Block 116 Block 116 | S11601 S11601 | External External | | Road Stud Road Stud | Bloomfield St Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 26/11/2012 26/11/2012 | N/A N/A | | N/A N/A | | N/A N/A | | | Sensor destroyed- Unable to monitor Sensor destroyed- Unable to monitor | Proposed Proposed | |
| C510-LP11604 C510-LP11605 | Block 116 Block 116 | S11601 S11601 | External | Manual LP Manual LP | Road Stud Road Stud | Bloomfield St Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | -3.83 | 121 121 | -4.80 -5.48 | 217 | -13.82 -14.52 | 368 | | Manual monitoring specification not met- Reasses in Rev 3 Manual monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LP11606 | Block 116 | S11601 | External | Manual LP | Road Stud | Bloomfield St | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | -3.40 | 121 | -4.41 | 183 | -13.12 | 368 | | Manual monitoring specification not met- Reasses in Rev 3 | Outstanding | |
| C510-LP11607 C510-LP11608 | Block 116 Block 116 | S11601 S11601 | External | Manual LP Manual LP | Road Stud Road Stud | Bloomfield St Bloomfield St | LIV_ES2_Invert_Adv-8 LIV_CH3_Enlargement_Adv-11 | 07/11/2016 28/08/2016 | 22/06/2017 22/06/2017 | -4.45 -4.85 | 121 121 | -4.93 -5.85 | 183 🥥 183 🥥 | -10.59 -8.74 | 368 368 | | Manual monitoring specification not met- Reasses in Rev 3 Manual monitoring specification not met- Reasses in Rev 3 | Outstanding Outstanding | |
| C510-LP11609 C510-RP10758 | Block 116 Block 116 | S11601 N/A | External External | Manual LP Automated RP | Road Stud 3D Geodetic prism | Bloomfield St Swedbank House | LIV_CP9_Enlargement_Adv-32 LIV_CH3_Enlargement_Adv-9 | 23/08/2014 27/08/2016 | 22/06/2017 C | -5.54 | 121 | -6.79 | 183 🥥 | -7.20 N/A | 368 | | Manual monitoring specification not met- Reasses in Rev 3 Prisms were installed for temporary works- No longer producing data and no more grouting in the area | Outstanding Proposed | |
| C510-RP10759 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 11/07/2015 | N/A | | N/A | | N/A | | | Prisms were installed for temporary works- No longer producing data and no more grouting in the area | Proposed | |
| C510-RP10760 C510-RP10761 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 14/08/2016 | 01/07/2015 09/06/2015 | N/A N/A | | N/A N/A | | N/A N/A | | | Prisms were installed for temporary works- No longer producing data and no more grouting in the area Prisms were installed for temporary works- No longer producing data and no more grouting in the area | Proposed Proposed | |
| C510-RP10762 C510-RP10763 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 09/06/2015 06/07/2015 | N/A N/A | | N/A N/A | | N/A N/A | | | Prisms were installed for temporary works- No longer producing data and no more grouting in the area Prisms were installed for temporary works- No longer producing data and no more grouting in the area | Proposed Proposed | |
| C510-RP10764 C510-RP11617C | Block 116 | N/A N/A | External | Automated RP Automated RP | 3D Geodetic prism | Swedbank House New Broad Street House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 09/06/2015 | N/A | 100 | N/A | 100 | N/A | 005 | | Prisms were installed for temporary works- No longer producing data and no more grouting in the area | Proposed Proposed | |
| C510-RP11617F | Block 116 Block 116 | N/A | External External | Automated RP | 3D Geodetic prism 3D Geodetic prism | New Broad Street House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 16/06/2017 16/06/2017 | -3.42 -3.43 | 120 120 | -4.58 -4.51 | 180 I 180 I | -6.39 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11618C C510-RP11618F | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | New Broad Street House New Broad Street House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 16/06/2017 | -1.82 | 120 120 | -2.87 | 180 | -6.22 -6.26 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11619 C510-RP11620 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 16/06/2017 | -3.60 | 120 120 | -4.36 -2.60 | 180 | -9.39 -9.34 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11620B | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | County House | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 16/06/2017 | -1.69 | 120 | -2.65 | 180 🥥 | -9.47 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11621 C510-RP11622 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_ES2_Invert_Adv-8 LIV_ES2_Invert_Adv-8 | 07/11/2016 07/11/2016 | 16/06/2017 | -4.03 -2.69 | 120 120 | -4.74 -3.39 | 180 | -7.91 -7.69 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11622A C510-RP11623 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_ES2_Invert_Adv-8 LIV_CH3_Enlargement_Adv-11 | 07/11/2016 28/08/2016 | 16/06/2017 | -2.80 -2.26 | 120 132 | -3.50 | 180 | -7.86 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11624 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/06/2017 | -6.63 | 120 | -6.27 | 180 🥥 | -4.49 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11624A C510-RP11624B | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House Blomfield Street | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 16/06/2017 | -3.61 -2.83 | 120 | -4.16 -3.48 | 180 | -5.41 -4.98 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11624C C510-RP11625 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Blomfield Street County House | LIV_CH3_Enlargement_Adv-11 LIV_AP11_Enlargement_Adv-25 | 28/08/2016 14/08/2016 | 16/06/2017 | -3.58 | 120 120 | -3.88 | 180 🔮 180 🔮 | -5.09 -2.68 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11626 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | County House | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 16/06/2017 | -3.82 | 120 120 | -3.42 | 180 Ø | -2.71 | 365 365 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11627 C510-RP11628 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_AP11_Enlargement_Adv-25 LIV_AP11_Enlargement_Adv-25 | 14/08/2016 14/08/2016 | 16/06/2017 16/06/2017 | -3.73 | 120 | -4.27 | 180 | -1.47 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11629 C510-RP11630 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 09/08/2014 | N/A N/A | | N/A N/A | | N/A N/A | | | No data since 2014- Trends not applicable Prism installed but never produced any data. | Proposed Proposed | |
| C510-RP11631 C510-RP11632 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_VD1_Enlargement_Adv-23 LIV_VD1_Enlargement_Adv-22 | 04/06/2014 03/06/2014 | 16/06/2017 | -2.47 -1.52 | 120 120 | -2.16 -1.08 | 180 180 | N/A -0.52 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11633 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_VD1_Enlargement_Adv-25 | 04/06/2014 | 16/06/2017 | -1.63 | 120 | -1.32 | 180 | -0.08 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11633A C510-RP11634 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-25 LIV_VD1_Enlargement_Adv-25 | 04/06/2014 04/06/2014 | 16/06/2017 | -1.65 -0.10 | 120 120 | -1.34 0.34 | 180 | -0.23 -0.14 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11634A C510-RP11635 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-25 LIV_VD1_Enlargement_Adv-29 | 04/06/2014 05/06/2014 | 16/06/2017 16/06/2017 | -0.12 | 120 120 | 0.35 | 180 I 180 I | -0.12 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11635A | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_VD1_Enlargement_Adv-29 | 05/06/2014 | 16/06/2017 | -1.21 | 120 | -0.85 | 180 🧧 | 0.09 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11636 C510-RP11636A | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 16/06/2017 | -1.34 | 120 120 | -0.99 | 180 | 0.26 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11637 C510-RP11637A | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 16/06/2017 | 0.56 | 120 120 | 1.02 | 180 I 180 I | 0.19 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11638 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 16/06/2017 | -0.46 | 120 | -0.25 | 180 🥥 | 0.43 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11639 C510-RP11639A | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 16/06/2017 | 1.15 1.17 | 120 120 | 1.51 1.59 | 180 | 0.25 0.38 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11640 C510-RP11640A | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 12/03/2015 | 16/06/2017 | -0.21 -0.39 | 120 120 | 0.33 | 180 I | 0.71 0.65 | 365 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11641 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_TBM-West-RC_Pilot_Adv-4008 | 12/03/2015 | 16/06/2017 | 1.14 | 120 | 1.59 | 180 | 0.54 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11661 C510-RP11662 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 10/06/2015 02/06/2015 | N/A N/A | | N/A N/A | | N/A N/A | | | No data since 2015- Trends not applicable No data since 2015- Trends not applicable | Proposed Proposed | |
| C510-RP11663 C510-RP11664 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 29/08/2016 16/06/2017 | N/A 3.27 | 120 | N/A 3.21 | 180 | N/A 0.64 | 365 | | No data since 2016- Trends not applicable 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed Proposed | |
| C510-RP11665 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | Swedbank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 09/06/2015 | N/A | 120 | N/A | | N/A | 500 | | No data since 2015- Trends not applicable | Proposed | |
| C510-RP11666 C510-RP11667 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 LIV_VD1_Enlargement_Adv-41 | 08/06/2014 08/06/2014 | 09/06/2015 13/07/2016 | N/A N/A | | N/A N/A | | N/A N/A | | | No data since 2015- Trends not applicable No data since 2016- Trends not applicable | Proposed Proposed | |
| C510-RP11668 C510-RP11669 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | Swedbank House Swedbank House | LIV_VD1_Enlargement_Adv-41 | 08/06/2014 | 16/06/2017 | 2.97 N/A | 120 | 2.21 N/A | 180 | 0.33 N/A | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Prism installed but never produced any data. | Proposed Proposed | |
| C510-RP11670 | Block 116 | N/A | External | Automated RP | 3D Geodetic prism | County House | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 16/06/2017 | 0.68 | 120 | 0.57 | 180 | N/A | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11671 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism 3D Geodetic prism | County House County House | LIV_CH3_Enlargement_Adv-11 LIV_CH3_Enlargement_Adv-11 | 28/08/2016 28/08/2016 | 21/11/2013 22/06/2016 | N/A N/A | + | N/A N/A | | N/A N/A | | | No data since 2013- Trends not applicable No data for 1 year- Trends not applicable | Proposed Proposed | |
| C510-RP11672 | | | | | 3D Geodetic prism | County House | LIV_ES2_Enlargement_Adv-16 | 24/09/2016 | 16/06/2017 | 1.46 | 120 | 0.67 | 180 🥥 | -3.54 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed | |
| C510-RP11673 C510-RP11673 C510-RP11674 | Block 116 Block 116 | N/A N/A | External External | Automated RP Automated RP | 3D Geodetic prism | County House | LIV_ES2_Enlargement_Adv-16 | 24/09/2016 | 23/06/2016 | N/A | | N/A | | N/A | | | No data for 1 year- Trends not applicable | Proposed | |

| Description No | Table 2 - Block 16 Decommissioning Status Tracker 28/06/2017 | | | | | | | | | | | 28/06/201 | 7 | < 2.0 m | m GREEN | < 3.5 m | nm AMB | ER | > 3.5 mm | | RED | | | |
|---|--|---------|----|--------|----------|--------|--------|------------------|---------------------|---------------------|---|-------------------------------------|----------------------|------------|-------------|---------|---------------|-----|----------|----------|------------------------------|-------------|---|------------------------|
| Distant Bas | | | | | | | | | | | | | | | AVERAGE SET | | | | | | | | | |
| Bits Num Bits Num Annum S Bits Num Annum S Bits Num Control State Control | C510 Sensor Name | Block | s | ection | Int / Ex | | | Sensor Type [| | Asset/Location | Z | ZOI Last Primary Layer Construction | Last Construction Da | | · _ | 120 Day | 3 to 180 Days | | | 365 Days | 365 Day Calculatio Period | Ceased Date | General Comment | Decommissioning Status |
| State Nu Users Allerer Jo Minuscular Justice Allerer Jo State Nu Users Allerer Jo State Nu State Allerer Jo State Nu | C510-SH011641 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | N/A | | N/A | | | N/A | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit- Trends unreliable due to poor network quality | Proposed |
| Description Bits N. None Alterna Head U. 0.000 Alterna Head None Head Head </td <td>C510-SH011642</td> <td>Block 1</td> <td>16</td> <td>N/A</td> <td>Unknow</td> <td>n Auto</td> <td>omated</td> <td>SH Settlem</td> <td>ent Cell-Electronic</td> <td>46 New Broad Street</td> <td></td> <td>LIV_CH3_Enlargement_Adv-11</td> <td>28/08/2016</td> <td>22/06/2017</td> <td>N/A</td> <td></td> <td>N/A</td> <td></td> <td></td> <td>19/73</td> <td></td> <td></td> <td>6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit- Trends unreliable due to poor network quality</td> <td>Proposed</td> | C510-SH011642 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | N/A | | N/A | | | 19/73 | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit- Trends unreliable due to poor network quality | Proposed |
| Bit No. Bit No. No. No. No. State No. State No. No. No. No. < | | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 3.66 | 120 | 2.11 | 180 | 0 | 1.65 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Both NA New Ame File Matheward Vi/MI Segment/A-S | | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | | -0.39 | | -2.04 | 180 | 0 | -0.22 | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Separate Separate Number Num | C510-SH011645 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 2.37 | | 1.05 | 180 | 0 | 1.96 | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Behl Nu Nu Nu Nu Nu< | C510-SH011646 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.65 | 120 | -0.81 | 180 | | 0.10 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Box 110 NA Name 91 Stement Of Linear Of Linear State | C510-SH011647 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 1.65 | 120 | 0.61 | 180 | | 0.77 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Bits III NA Users Admass Bits Enternol Enternov Ideal State Mage Top Mage Top Mage Top Mage | C510-SH011651 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.65 | 120 | -0.81 | 180 | | 0.11 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Shore May Number Number Setteen Cell-Borne Here May | C510-SH011652 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | -1.71 | 120 | -2.41 | 180 | | -0.34 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Separate Nu Vacuum Annual Set Separate Cli U/OP Engenerul, An-12 200071 Cli Addition Cli Addition <td>C510-SH011653</td> <td>Block 1</td> <td>16</td> <td>N/A</td> <td>Unknow</td> <td>n Auto</td> <td>omated</td> <td>SH Settlem</td> <td>ent Cell-Electronic</td> <td>46 New Broad Street</td> <td></td> <td>LIV_AP11_Enlargement_Adv-25</td> <td>14/08/2016</td> <td>22/06/2017</td> <td>-1.38</td> <td>120</td> <td>-1.52</td> <td>180</td> <td></td> <td>2.28</td> <td>366</td> <td></td> <td>6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit</td> <td>Proposed</td> | C510-SH011653 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | -1.38 | 120 | -1.52 | 180 | | 2.28 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Sch Teil Num Nu | C510-SH011654 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | -2.18 | 120 | -2.30 | 180 | | -0.49 | | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Sch 16 N.N. Ukron Annual 91 Statement Cal-Electrica 91 Voice Electrical | C510-SH011655 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CP9_Enlargement_Adv-32 | 23/08/2014 | 22/06/2017 | -2.40 | 120 | -3.18 | 180 | | -1.87 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Sol 18 NA Usom Aurnale Statement Call Electrone 44 Num Book State U/L/DE Langement Adv-11 200/071 0 0.42 180 0 0.43 366 6 Months post construction monitoring specification complete- Agreed to decommission the grouting addit Proceed CSS 9-91146 Book 116 NA Usom Aurnated 94 Settement Call Electrone 44 Num Book State U/L OCE Langement Adv-11 228/00/11 2.48/071 0 0.465 180 0 0.445 366 6 Months post construction monitoring specification complete- Agreed to decommission the grouting addit Proceed CSS 95111621 Book 116 NA Marmated 18 Comp Name U/L APE Langement Adv-15 148/0716 228/071 0 0.465 180 0 1.454 366 6 Months post construction monitoring specification complete- Agreed to decommission the grouting addit Proceed CSS 9111621 Book 116 NA Marmated 18 Timese- Baaid Comp Name Li/L APE Langement Adv-25 148/0716 228/071 0 0.466 120 0 0.48 </td <td>C510-SH011661</td> <td>Block 1</td> <td>16</td> <td>N/A</td> <td>Unknow</td> <td>n Auto</td> <td>omated</td> <td>SH Settlem</td> <td>ent Cell-Electronic</td> <td>46 New Broad Street</td> <td></td> <td>LIV_CH3_Enlargement_Adv-11</td> <td>28/08/2016</td> <td>22/06/2017</td> <td>1.31</td> <td>120</td> <td>-0.32</td> <td>180</td> <td>0</td> <td>-0.40</td> <td>366</td> <td></td> <td>6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit</td> <td>Proposed</td> | C510-SH011661 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 1.31 | 120 | -0.32 | 180 | 0 | -0.40 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Sci Solaritiski BixA tria Max Universe Automated Sti Solaritiski Sti Sola | C510-SH011662 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 1.66 | 120 | 0.12 | 180 | 0 | -0.90 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Select Hig NA Ustrom Automale Statement Cell Electron 64 Nee adsaute LV (DIS Enlagement Adv-11 2008/017 0 167 100 167 366 6 Months post construction monitoring specification complete-Agreed to decommission the grouping adit Propend CS10-97116721 Biox N16 NA Hermal Automale TS Threet-Bioal Contry hose UV /API Enlagement Adv-51 90.07 0 90.07 <td>C510-SH011663</td> <td>Block 1</td> <td>16</td> <td>N/A</td> <td>Unknow</td> <td>n Auto</td> <td>omated</td> <td>SH Settlem</td> <td>ent Cell-Electronic</td> <td>46 New Broad Street</td> <td></td> <td>LIV_AP11_Enlargement_Adv-25</td> <td>14/08/2016</td> <td>22/06/2017</td> <td>0.22</td> <td>120</td> <td>-1.35</td> <td>180</td> <td>0</td> <td>-0.53</td> <td>366</td> <td></td> <td>6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit</td> <td>Proposed</td> | C510-SH011663 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.22 | 120 | -1.35 | 180 | 0 | -0.53 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| Story 11166 Biok 116 NA Unrow Advanded St Settlement Call Difference Convert Name Convert Nam Convert Nam ConverN | C510-SH011664 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 0.99 | 120 | -0.65 | 180 | 0 | 0.24 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| S10 T311227.4 Biox 116 NA Internet-Bascal County House UV_AP1[Engreent_AA-25 14082016 2006271 0.007 120 0.049 180 2 0.13 365 6 Months post construction monitoring specification complete-Agreed to decommission the grouting adit Proposed C510-T311228 Biox 116 NA Internet-Bascal County House UV_AP1[Engreent_AA-25 14082016 20062017 0.049 180 0.24 365 6 Months post construction monitoring specification complete-Agreed to decommission the grouting adit Proposed C510-T311228 Biox 116 NA Internet Advanted TB Timete-Bascal County House UV_AP1[Engreent_AA-25 14082016 20062017 0.049 180 0.24 365 6 Months post construction monitoring specification complete-Agreed to decommission the grouting adit Proposed C510-T311228 Biox 116 NA Internet Advanted TB Timete-Bascal County House UV_AP1 Engreent_AA-25 14082016 20062017 0.041 180 0.042 365 6 Months post construction monitoring specification complet | C510-SH011665 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 1.57 | 120 | 0.65 | 180 | 0 | 1.54 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| C510 TB11/21/E Block 116 N/A Internal Automated Tile Tilemate-Basial Courty Hoase L/V, AP11_Entregement, Abs-25 1098/2016 2008/2017 0 0.04 180 0 0.24 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed C510 TB11622A Block 116 NA Internal Automated TB Tilmater-Basal Courly Hoase L/V, AP11_Entregement, Abs-25 10482016 2208/2017 0 0.04 180 0 0.24 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed C510 TB11622A Block 116 NA Internal Automated TB Tilmater-Basal Courly Hoase L/V, C45 Entergement, Abs-25 1060216 2062017 0 0.04 180 0 -0.010 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed 1060216 2062017 0 0.04 180 0 -0.010 365 6 Months post construction monitoring specification complet | C510-SH011666 | Block 1 | 16 | N/A | Unknow | n Auto | omated | SH Settlem | ent Cell-Electronic | 46 New Broad Street | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 2.38 | 120 | 1.04 | 180 | 0 | 1.97 | 366 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| C510 TB11621R Biok 116 NA Internal Advanted TB TImeder-Bioxial Courty-hoses LUX AP11_Enlargement, Ab-23 10682016 20062017 0 0.416 108 0 0.424 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510 TB116228 Blok 116 NA Internal Advanted TB Timeder-Bioxial Courty-hoses LUX AP11_Enlargement, Ab-25 1080216 2006217 0 0.416 108 0 0.42 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510 TB11628 Blok 116 NA Internal Advanted TB Timeder-Bioxial Courty-hose LUX AP1_Enlargement, Ab-11 2060216 2006217 0 0.46 180 0 -0.14 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510 TB1162A Blok 116 NA Internal Advanted TB Timeder-Bioxial Courty-hose LUX AP1_Enlargement, A | C510-TB11621A | Block 1 | 16 | N/A | Interna | I Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.07 | 120 | 0.49 | 180 | 0 | 0.13 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |
| C510*TB11622A Blox 116 NA Internet -Biaxial Courty House LV AP11_Entragement, Ab-:5 1408/2016 200:207 0 0.46 120 0 43 160 0 263/5 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed C510/TB11622A Blox 116 NA Internet -Biaxial Courty House LV AP11_Entragement, Ab-:1 200/2016 200/201 0 0.46 180 0 4.10 865 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed C510/TB11622A Blox 116 NA Internet -Biaxial Courty House LV AP11_Entragement, Ab-:1 200/2016 220/2017 0 0.41 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed C510/TB11622A Blox 116 NA Internet -Biaxial Courty House LV X-ES1 (ment, Ab-:8 0711/105 220/2017 0 0.42 0.65 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proceed 0.66 0.616 | C510-TB11621B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | -0.26 | 120 | -0.11 | 180 | 0 | 0.24 | 365 | | | Proposed |
| C510T11622A Block 16 NA Internet-Biasia County House UV_AP11_Enlargement_AAv-3 14082076 2202017 3 0.01 180 3 0.011 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510T11622A Block 16 NA Internet-Biasia County House UV_AP1_Enlargement_AAv-11 2000207 0.015 120 0.011 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510T11622A Block 16 NA Internet-Biasia County House UV_AP1_Enlargement_AAv-11 2000207 0.012 120 0.017 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510T11624A Block 16 NA Internet-Biasia County House UV_S52_ment_A4v-8 07/112/16 2080207 0.042 120 0.045 0.056 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed Proposed Proposed Proposed Proposed Proposed | C510-TB11622A | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.06 | 120 | 0.13 | 180 | 0 | 0.22 | 365 | | | Proposed |
| C510/TB11622A Block 116 NA Internel-Biasial County House L/V_CA3_Enlagment_Abr-11 28082016 2002017 0<0.20 120 0<13 180 0<11 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11622A Block 116 NA Internel-Biasial County House L/V_CA3_Enlagment_Abr-11 28082016 22082017 0<0.42 | C510-TB11622B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_AP11_Enlargement_Adv-25 | 14/08/2016 | 22/06/2017 | 0.15 | 120 | -0.01 | 180 | 0 | -0.10 | 365 | | | Proposed |
| C510:T116238 Block 16 NA Internal Advanted TB Tilmeste-Biasial Curvy Hoase L/L / CAB_ Enlogment, Adv-11 2008/216 0.07 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11624A Block 116 NA Internal Automated TB Tilmeste-Biasial County Hoase L/L / CB2 Jmet, Adv-8 0711/2016 2008/217 0.42 120 0.62 180 0.065 65 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C610/TB11624A Block 116 NA Internal Automated TB Tilmeste-Biasial County Hoase L/L / CB2 Jmet, Adv-8 0711/2016 2008/2017 0.42 120 0.62 180 0.065 65 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11625A Block 116 NA Internal Automated TB Tilmeste-Biasial County Hoase L/L / CB2 Jmet, Adv-8 0711/2016 2008/2017 0.46 <td< td=""><td>C510-TB11623A</td><td>Block 1</td><td>16</td><td>N/A</td><td>Interna</td><td>Auto</td><td>omated</td><td>TB Tilt</td><td>meter-Biaxial</td><td>County House</td><td></td><td>LIV_CH3_Enlargement_Adv-11</td><td>28/08/2016</td><td>22/06/2017</td><td>0.20</td><td>120</td><td>0.13</td><td>180</td><td>0</td><td>-0.11</td><td>365</td><td></td><td></td><td>Proposed</td></td<> | C510-TB11623A | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 0.20 | 120 | 0.13 | 180 | 0 | -0.11 | 365 | | | Proposed |
| C5/07181/E24A Block 1/6 NA Internel Automated TB Tiltmeter-Biascial County House L/V_ES2_InterLAh-8 Of/11/2016 2208/2017 0.42 120 0.42 180 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C51/07181/624A Block 116 NA Internel Advanted TB Tiltmeter-Biascia County House L/V_ES2_InterLAh-8 Of/11/2016 2208/2017 0.40 120 0.40 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C51/07181/624A Block 116 NA Internel Automated TB Tiltmeter-Biascia County House L/V_ES2_InterLAh-8 Of/11/2016 2208/2017 0.404 120 0.66 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C51/07181/624B Block 116 NA Internel Automated TB Tiltmeter-Biascia County House L/V_CAS_Entergement_Ah-11 2208/2017 0.46 120 0.46 | C510-TB11623B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV CH3 Enlargement Adv-11 | 28/08/2016 | 22/06/2017 | 0.37 | 120 | 0.12 | 180 | | -0.17 | 365 | | | Proposed |
| C510/TB11624A Block 116 NA Internet-Biasial County House LV_ES2_Inext_Abris Offit 120 0.40 120 0.41 180 0.406 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11625A Block 116 NA Internet-Biasial County House LV_ES2_Inext_Abris 07/11/2016 2208/2017 0.40 120 0.401 180 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11625A Block 116 NA Internet-Biasial County House LV_ES2_Inext_Abris 07/11/2016 2208/2017 0.406 120 0.401 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11641A Block 116 NA Internet-Biasial County House LV_CR3_Enlagment_Abris 2208/2017 0.25 120 0.46 180 0.11 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11 | C510-TB11624A | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV ES2 Invert Adv-8 | 07/11/2016 | 22/06/2017 | 0.42 | 120 | 0.62 | 180 | | 0.05 | 365 | | | Proposed |
| C510-TB11623A Block 116 NA Internal Automatel TB Calumate-Basical County House UV_ES2_Intert_Adv-8 Off/11/2016 2080201 C30-D31 | C510-TB11624B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV ES2 Invert Adv-8 | 07/11/2016 | 22/06/2017 | 0.40 | 120 | 0.21 | 180 | 0 | -0.06 | 365 | | | Proposed |
| C510/TB11625B Block 116 NA Internal Automated TB Titmeter-Biaxial County House UV_ES2_Invert_Adv-8 07/11/2016 2208/2017 0.661 180 0.644 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11621A Block 116 NA Internal Automated TB Titmeter-Biaxial County House UV_CAS_Entragement_Adv-11 2808/2017 0.26 120 0.26 180 0.11 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11641A Block 116 NA Internal Automated TB Titmeter-Biaxial County House UV_CAS_Entragement_Adv-11 2808/2017 0.26 120 0.26 180 0.11 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11641A Block 116 NA Eternal Automated TB Titmeter-Biaxial County House UV_CPS_Entragement_Adv-12 208/2017 0.64 | C510-TB11625A | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | 0.35 | 120 | 0.97 | 180 | 0 | 0.18 | 365 | | | Proposed |
| C510/TB11641A Block 16 NA Internet-Biasial Canny House L/V_CAB_Enlagment_Ab-r11 28082016 2002017 0 0.66 180 0 11 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510/TB11641A Block 16 NA Internet Automated TB Tiltmeter-Biasial County House L/V_CRB_Enlagment_Ab-r12 28082016 2002017 0 0.64 120 0 64 120 0.64 120 <t< td=""><td>C510-TB11625B</td><td>Block 1</td><td>16</td><td>N/A</td><td>Interna</td><td>Auto</td><td>omated</td><td>TB Tilt</td><td>meter-Biaxial</td><td>County House</td><td></td><td>LIV_ES2_Invert_Adv-8</td><td>07/11/2016</td><td>22/06/2017</td><td>-0.60</td><td>120</td><td>-0.61</td><td>180</td><td>0</td><td>-0.44</td><td>365</td><td></td><td></td><td>Proposed</td></t<> | C510-TB11625B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_ES2_Invert_Adv-8 | 07/11/2016 | 22/06/2017 | -0.60 | 120 | -0.61 | 180 | 0 | -0.44 | 365 | | | Proposed |
| C510-TB11641B Block 116 NA Internal Automated TB Tittmeter-Biaxial County House LIV_CH3_Enlargement_Adv-11 2208/2016 0.54 120 0.66 180 0.21 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed C510-TB11651A Block 116 NA External Automated TB Tittmeter-Biaxial County House LIV_CP9_Enlargement_Adv-32 2308/2014 2208/2017 0 0.11 120 0 0.66 365 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit Proposed | C510-TB11641A | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | meter-Biaxial | County House | | LIV_CH3_Enlargement_Adv-11 | 28/08/2016 | 22/06/2017 | 0.25 | | 0.26 | | | 0.11 | | | | Proposed |
| C510-TB11651A Block116 NA External Automated TB Tiltmeter-Biaxial County House LIV_CP9_Enlargement_Adv-32 23082014 22082017 2 0.11 12 0 0.08 18 0 -0.46 365 6 Months post construction monitoring specification complete-Agreed to decommission the grouting adit | C510-TB11641B | Block 1 | 16 | N/A | Interna | Auto | omated | TB Tilt | neter-Biaxial | County House | | LIV CH3 Enlargement Adv-11 | 28/08/2016 | 22/06/2017 | 0.54 | | 0.56 | | | 0.21 | | | | Proposed |
| | C510-TB11651A | Block 1 | 16 | N/A | Externa | I Auto | omated | TB Tilt | neter-Biaxial | County House | | LIV CP9 Enlargement Adv-32 | 23/08/2014 | 22/06/2017 | 0.11 | | 0.08 | | | -0.46 | | | | Proposed |
| | C510-TB11651B | Block 1 | 16 | N/A | Externa | I Auto | omated | TB Tilt | neter-Biaxial | County House | | LIV CP9 Enlargement Adv-32 | 23/08/2014 | 22/06/2017 | 0.03 | 120 | -0.01 | 180 | | 0.02 | 365 | | 6 Months post construction monitoring specification complete- Agreed to decommission the grouting adit | Proposed |

N.B. It should be noted that adjacent Crossrail works have blocked line of sight for a number of prisms- Therefore decommissioning of these sensors has been proposed



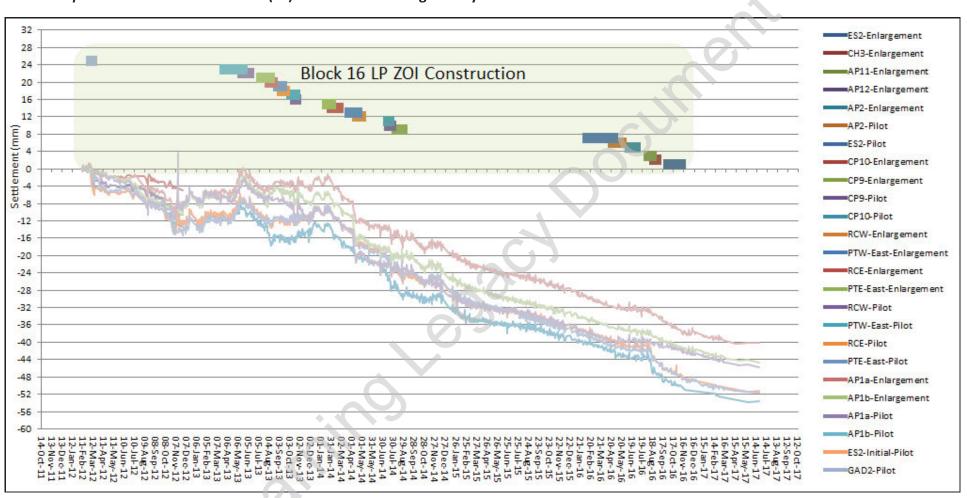




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C510-BBM-C2-RGN-C101-50237 Rev.2.0

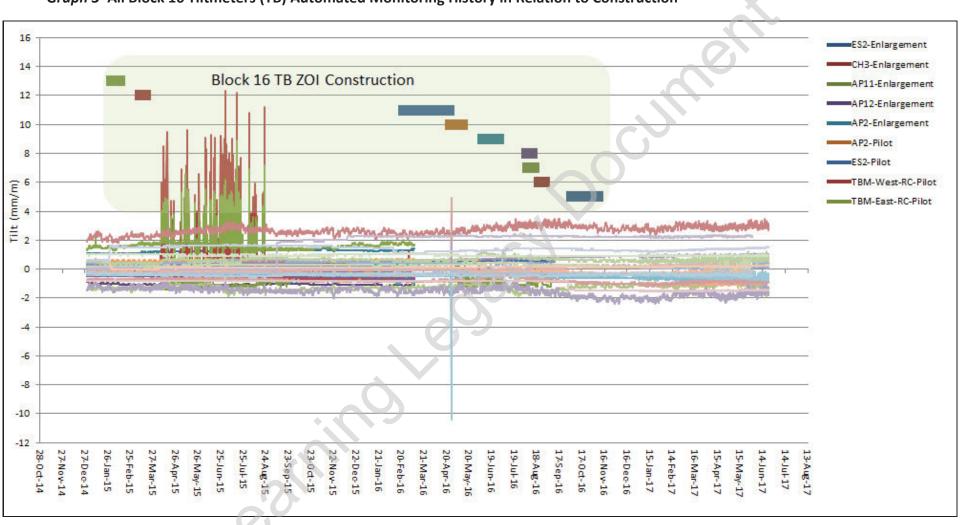


Graph 2- All Block 16 Road Studs (LP) Manual Monitoring History in Relation to Construction

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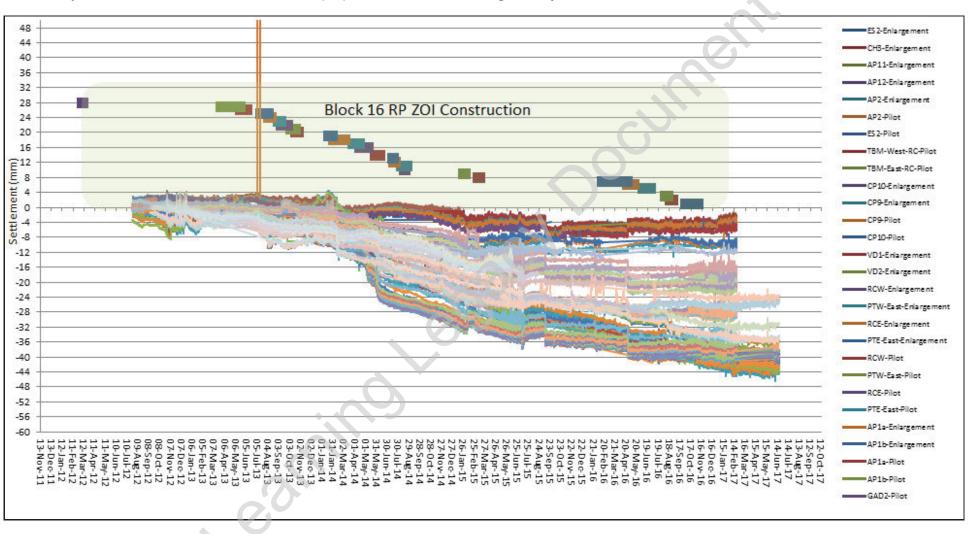
C510-BBM-C2-RGN-C101-50237 Rev.2.0



Graph 3- All Block 16 Tiltmeters (TB) Automated Monitoring History in Relation to Construction

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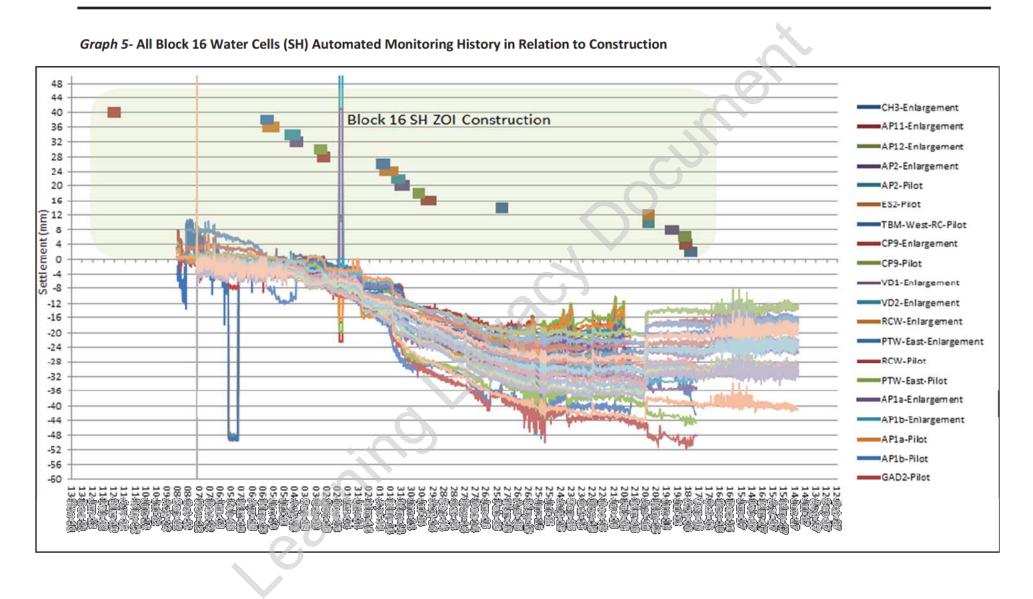




Graph 4- All Block 16 3d Geodetic Prisms (RP) Automated Monitoring History in Relation to Construction

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