Client: Taylor Wimpey
Responsible Contractor: Bridgeway Consulting

METHOD STATEMENT

Project Title
Track Monitoring to SPC1 & DBS Sidings tracks adjacent to 102 Camley Street London.

Track Monitoring during the construction of new structure
ELR – **SPC1** Miles – **00m 38ch to 00m 55ch**
ELR – **DB Schenker Reception Sidings & Runround**

Method Statement Number
J14240/WPP/001

Revision 2

Prepared By

B Brunton **Date 13/4/15**

Checked By

R Cooper **Date 13/4/15**

Accepted by Client

					Client Acceptance:		
Version	Prepared by	Date	Checked By	Date	Required Y/N	Acceptance by	Date
Draft	B Brunton	13/4/2015	R Cooper	13/4/15	Y		
2	B Brunton	21/4/2015	R Cooper	21/4/15	Y		

AMENDMENT RECORD

This document will be updated when necessary by distribution of a complete replacement. Amended or additional parts of revised pages will be marked by a vertical black line in the right margin.

ISSUE	DATE	DESCRIPTION OF AMENDMENT
001	24 2 15	Initial issue
002	21 4 15	Minor revisions to contact details

CONTENT

A WORK DETAILS

A1 Description of work

General Description

Taylor Wimpey propose to demolish the current building located at 102 Camley St and replace it with 154 new homes. The proposed development will be a 12 storey structure and a one level basement. The overall site of approx. 0.25 ha is situated on Camley St to the west, immediately north of the Regents Canal and to the east are several railway lines, including Network Rail Midland Main Line, CTRL lines and DB Schenker sidings. There is also a St Pancras MML Electrical Substation (Substation No. 1)

The extent of the site is between approx. 00m 38ch to 00m 55ch – approx. 100m+30m+30m.

The works as we understand it are as follows:

1. 1 no. **demolition to existing structure**
2. 1 no. **installation of CFA Contiguous Piled Wall to Network Rail boundary**
3. 1 no. **installation of 13 storey structure (incl. 1 floor of basement)**

This method statement is for the track monitoring associated with items 2 and 3 above. Bridgeway have not been appointed to carry out any monitoring of item 1 at the time writing method statement for the demolition of the existing structure.

Taylor Wimpey have appointed John Sisk & Sons to carry out the physical works for the erection of the new structure.
John Sisk & Sons are the Principal Contractor and are responsible for onsite access and welfare arrangements.

During the erection of the structure, trains will continue to run at normal line speed.

Bridgeway Consulting Limited activities on site are:-

1. **Dilapidation/Baseline Survey** Bridgeway staff have been appointed to carry out a dilapidation survey of Network Rail & DB Schenker assets prior to physical construction works commencing and take a baseline survey of all track to establish the current condition of track alignment (cant/twist). No survey of CTRL lines has been commissioned.
2. **Track Monitoring**. Bridgeway staff will comply with the main contractor's method statements for site access, welfare and general site activities. Additionally Work Package Plan J14240/WPP/001 (this WPP) will apply for the specific monitoring activities.
3. **Handback Engineer**. Bridgeway have been employed by Taylor Wimpey (TBC) to provide a Handback Engineer on site 24/7 (TBC) for the construction phase and extending 1 further week after completion of the works. The supervisor will take cross levels using a cant gauge throughout the shift in support to the surveying staff as mentioned above. Communication protocols will be produced by Taylor Wimpey and agreed by DB Schenker & Network Rail PRIOR to any physical works taking place.
4. **Track Repairs**. It has been agreed with Taylor Wimpey & Network Rail, that a Track Maintenance team will be on standby to implement any track repairs if required. (TBC)

ITEM 1 – DILAPIDATION/BASELINE SURVEY

The dilapidation survey will describe the existing condition of Network Rail & DB Schenker assets including (but not limited to) sleepers, rail, clips, troughing route, ballast shoulders, debris, fencing, drainage, signalling, plant, vegetation and any other site specific infrastructure or hazards.
In addition, a Handback Engineer will be present on site to take cross levels and complete a handback form describing current condition of track.
If possible, (if train movements allow), the dilapidation survey will include a video of train movements over the affected track to capture how the track acts under dynamic loads.
Dilapidation survey to also include St Pancras MML Substation No. 1 and Regents Canal Bridge. (Scope of surveys to be clarified by TW/Conisbee/NR in meeting proposed Thursday prior to dilap survey)

ITEM 2 – TRACK MONITORING

Task 1 The installation of reflective targets/prisms attached to the rails, the establishment of fixed base locations alongside the line and initial readings of the level and line of the track.

Task 2 The monitoring of the track geometry before and during the erection of the structure

Task 3 The monitoring of the track geometry after completion of the erection of the structure and recovery of prisms/targets.

Task 4 Carrying out a final dilapidation survey on track and a video of track under load.

The site is located adjacent to ELR SPC2 at 000m 38ch. Access to the site will be gained via an approved Network Rail Authorised Access Point.
A Task Briefing Sheet (TBS) will be produced for the proposed shifts. Works will not commence prior to receipt of the acceptance by DB Schenker and/or Network Rail of this WPP.

Exact work scope, site locations, protection arrangements, dates, hazards and risks will be detailed in Task Briefings created prior to each shift.

Methodology

Task 1 – Preparation works and base readings

- Bridgeway Consulting will set up the monitoring system and undertake base readings at least (TBC) one week prior to the start of the installation of the piled walls.
- The proposed monitoring system will be based on reflective mini prisms, fixed to the rails with the use of directional attachment and appropriate adhesive
- Retro targets/prisms will be mounted to both rails opposite to each other at 3 metres intervals, starting from the locations (specified by Network Rail and Taylor Wimpey) defining the extents of the worksite and extending 30 metres in either direction. Details will be shown on the monitoring plan (Appendix C). Targets will have a unique number, as shown on the monitoring plan (Appendix C).
- Survey Stations will be installed at the site. (Location stations TBC).

- To establish base readings retro targets will be observed twice with the use of a Total Station being set up in the middle of the site and observing the four survey control stations located outside of the affected area,
- Rail running edge positions above each target will also be recorded with the use of rail shoe to establish the relationship between the retro targets and the real running rail positions, this data will be used at a later date for accurate cant and twist error calculations,
- After the installation of the monitoring system and baseline data collection, current track geometry will be analysed and appropriate comparison and reporting spreadsheet will be set up with the agreed trigger levels (specified by NR).

Task 2 – Track movement monitoring during the construction phase

- Track monitoring will be compliant with NR/BS/LI/045 – Letter of instruction for timescales and duration. The limits for intervention will be set by the Principal Contractor, Designer (CEM/CRE) and DB Schenker/Network Rail.
- Monitoring will be undertaken with an instrument mounted on a fixed pole located at least 2m from the nearest rail. The instrument would not foul the line if it fell over.
- The instrument will be a remote operation providing data without the need for operatives to be on site 24/7.
- First set of readings will be completed one hour before the start of the construction process and compared against the previously undertaken base reading to check the track stability,
- Second set of readings will be undertaken one hour after the construction process has started,
- The following readings will be undertaken continuously during the construction process at 3 hours intervals (TBC by NR and Taylor Wimpey)
- Two additional 3 hour interval readings will be undertaken after the completion of the construction process.

Reading intervals, interpretation of the results and applied trigger levels.

- Reading intervals listed above will be followed if no significant movement is detected,
- In case of movement detection, the reading intervals are subject to immediate revision, following instruction from the CRE.
- The monitoring results will be interpreted immediately after the completion of the readings with the use of previously set up automated spreadsheet and against the agreed trigger levels with DB Schenker/Network Rail and Taylor Wimpey, Please see attached Appendix D.
- The proposed system allows precise monitoring of the following items relevant to the works taking place:
  - vertical track position,
  - horizontal track position,
  - cant and twist error calculations.
  - The proposed system will not allow to precisely monitor the following items:
  - track gauge,
  - track gauge 3 metre variance.
- The proposed trigger levels for Outside Parties are to be agreed with all asset owners in advance of site works.

- In the case any agreed trigger level is reached, the relevant asset owner will be notified immediately on the number agreed within Taylor Wimpey communication plan/protocol.

Task 3 - Track movement monitoring after the completion of the works

- 24hr monitoring at 3 hourly intervals to be carried out until following completion of the construction phase.
- If no movement has been visible monitoring is to continue for a further 24hrs,
- Once no movement has been confirmed, monitoring shall reduce to daily readings for 1 week.
- If movement occurs 24 hr monitoring shall continue until results have stabilised until further guidance is provided from the Asset Owners Track Maintenance Engineer.

Contingency arrangements during the monitoring period

- If at any time during the monitoring period, changes to the track geometry are recorded that exceed the trigger levels, the actions detailed in Appendix C will be implemented. See also sections B6 and B7.
- Bridgeway will have a Handback Engineer on site (TBC and 24 hours following completion of construction works to communicate directly to relevant parties as per Taylor Wimpey Communication protocols.
- If, at any time during the monitoring period, changes to the track geometry are recorded that do not exceed the trigger levels but which appear to be a definite change to the track geometry, the monitoring data will be analysed by the asset owners, Designer CRE, Taylor Wimpey and the Handback Engineer. Following review, monitoring may increase to ½ hourly frequencies until advised to resume normal monitoring.
- The flow chart for reporting protocol for site staff is to be provided by Taylor Wimpey and recorded in NR AMP. This is to be distributed to all parties.

Safe system of work

General safety and welfare arrangements will be as detailed in the main contractors Method Statement.

Work requiring track access

All installation of monitoring work will be undertaken during line blockages with additional protection. Network Rail have agreed to implement the SSoW with safety critical staff.

- Access to the site will be from the nearest approved access point and by foot along the CESS
- A COSS will be responsible for briefing the safe system of works to all staff prior to commencement
- The COSS will ensure that a safe system of work is in place prior to works commencing and will also:-
    - Distribute copy of the Task Briefing, 1 copy to be given to each work group member

  - Undertake the task briefing, all members of the workgroup are to sign to confirm their understanding and compliance
- Under the guidance of the COSS the workgroup will access the infrastructure site from the access point on foot.
- Once all works have been completed for the shift the group are to exit the infrastructure under the care of the ES/COSS
- Once all personnel are clear of the track the COSS is to secure the access and close down his safe system of work.

Monitoring

Monitoring has been designed to be carried out using a Remote Operated System without the need for operatives to be on site 24/7.
However, if for some reason, this is not possible or a change to the methodology is required, monitoring will be carried out from locations that are at least 2.0m from the nearest rail and a safe system of work will be set up by the COSS in accordance with the provisions of the GE/RT8000/HB6 Handbook 7 – General duties of COSS. Monitoring will be carried out by one person who is PTS and IWA qualified.

ITEM 3 – HANDBACK ENGINEER

The Handback Engineer will have a site presence 24/7 for the construction phase (TBC), and for 24hours following completion. The Handback Engineer will receive real time feedback from the surveying staff on site and will communicate directly to Principal Contractor and other parties in accordance with the communication protocol. He will take cross levels as required following feed back from the site surveyors and monitoring data as a secondary check on the monitoring of the track.

The Handback Engineer will be the conduit for communication between relevant parties.

ITEM 4 – TRACK REPAIRS

A P'Way Track team will remain on call 24/7 (TBC) from the commencement of the construction phase and up to 24 hours after completion. The P'way team will be equipped and available to make adjustments in the event of any misalignment to track as a result of settlement/heave/twist.
The P'Way team will use Kango packers and jack lifts and pack sleepers to rectify the track faults. Once the track has been lifted and packed, the Hand Back Engineer will use staff, level and cross level to check the track.

The P'Way team will be based in Rotherham, South Yorkshire and could attend site within 3 hour of receiving notification to mobilise.(If this is unacceptable we will need to consider putting these staff in accommodation close by)

Programme

The works are planned to commence in Week xx, xxth xxxx 2015. The works are anticipated to take approx. x days with 24/7 monitoring.

Changing the planned methodology and adding new tasks

The monitoring is of a simple nature and changes to the planned methodology are not anticipated. Minor changes may be agreed on site between the Bridgeway representative and the COSS. Any major changes to the methodology or adding new tasks must be

approved by BCL and accepted by Taylor Wimpey & relevant Asset Owners a minimum of 5 working days prior to the site works planned start date. The method statement and TBS must then be revised and re-briefed. No works must take place that are not detailed in the Method Statement. Any changes to the methodology which are required on site must be agreed between the Taylor Wimpey Project Manager and the BCL team leader.

Method of Authorising start of work and procedure on completion of the work
Commencement of the works will depend upon acceptance and authorisation of this Method Statement. In addition to this Method Statement, a TBS will be produced. Upon completion of a brief given by the BCL Team leader or individual monitor on the TBS for each activity, each member of the workgroup will be asked to sign the acceptance to show they have understood the brief. Upon the acceptance of the brief each member of the group will be issued their own copy of the TBS

The BCL Team Leader will authorise work to start, once the safe system of work has been established.

Works will be deemed complete when

a) The BCL Team leader confirms that all aspects of the planned works have been carried out to the required standard and it is safe and secure to leave the worksite.
b) Works has been formally accepted by the relevant asset owners

All relevant paperwork will be forwarded to the BCL Project Manager for archive purposes.

Temporary Works
Temporary Works are not required to facilitate the monitoring.

Emergency/Contingency Planning
In the event of an emergency, procedures as detailed in Section B7 will be followed. Any break down of equipment will not impede railway infrastructure and will be dealt with by the team leader on site.

A2 Control of Activity Risks

Hazard	Controls Specified
Being struck by train leading to loss of life	All work to be in accordance with Rule Book GE/RT8000 and controlled by the COSS.
Contaminated Ground- Risk of disease	Marlin maps to be consulted to identify known areas of contaminated ground
Treading on sharp objects	Wear approved safety footwear with mid-sole protection
Slips, Trips and Falls	Team leader to inspect site and brief team on particular hazards prior to work commencing. Worksite to be kept clear of tripping hazards as far as reasonably practicable.
Discharging train effluent. BIO hazard	Basic personal hygiene. Staff to wear gloves. Staff to wash hands prior to eating or smoking. Cuts, grazes etc. to be thoroughly cleaned and covered with a sterile dressing.

Hazard	Controls Specified
Syringes	Syringes are not known to be present on site. If syringes are encountered, they must not be disturbed.
Impaired visibility from inclement weather, spray, fog, leading to personal injury due to unsafe working conditions	BCL team leader to assess the conditions with respect to the safe systems of work to be used. Work to be cancelled if not deemed safe.
Injury whilst carrying materials and equipment on site	All persons to adhere with the manual handling regulations
Working at night	Adequate site lighting to be provided. All staff carrying out monitoring to have personal head torches.
Personal injury while clearing undergrowth	Wear full PPE specifically including gloves and safety glasses. Use small hand tools only
Being struck by train leading to loss of life	Monitoring point will be clear of the line and the monitoring will be carried out by an IWA/COSS working in accordance with GE/RT8000/HB6 Handbook 6 – General duties of an individual working alone (IWA) The NWR Site Supervisor will have lookout protection during day shifts and work to the Safe System of Work pack. The NWR Site Supervisor will take line blocks during night shifts, and will have a second operative to assist in placing boards and protection.
Tiredness – Minor/Severe injuries or death to operator or others	12hrs consecutive rest must be taken before and after the shift. Maximum working time of 12 hours including travel, breaks in accordance with working time regulations.
Buried Services – cable strike	Stakes will not be used and the tripod does not disturb the ground

A3 Resources

BCL will employ sufficient staff with appropriate skills to ensure that all planned work can be completed safely within the planned timescales. The main contractor will provide welfare and first aid resources.
Safety critical staff will be employed as the safe system of work dictates. All Bridgeway staff employed will have PTS certification as a minimum
The following approximate numbers of staff and equipment will be employed in each task:

Task 1
1 nominated BCL Team Leader
1 no. Handback Engineer
1 no. S&T Engineer
1 no. Taylor Wimpey Engineer
1 no. assistant
COSS
Lookout

Task 2 & 3
1 no. surveyor/COSS
1 no. Handback Engineer

1 no. Lookout

Task 4
1 no. engineer

P'Way Track Remedial Works
Track Jacks
Kango Packers
Shovels
Cross Level

All tasks

Equipment
2 no. total station instrument (remote instrumentation)
Approx. 450 targets/prisms with rail attachments
Cant cross level

PPE Required
Network Rail Standards and BCL PPE Policy states that as a minimum all staff must wear:

- Hard hats
- Network Rail approved hi-visibility (HV) vest or jacket and trousers
- Safety gloves
- Safety glasses
- Protective boots with toe and mid sole protection (not rigger type)
- Safety spectacles are to be carried out at all times by Bridgeway staff and in addition any other relevant PPE relating to risk assessments or weather conditions detailed within the Task Briefing Sheet.

A4 Permits
Permit to Dig required if foundations are required for remote monitoring instrument

B Site Details

B1 Access
Access to and egress from the site for the works at the site will be via the Main Contractors compounds. Any other track access required during line blockages will be via an approved track access point.
The site is located at **102 Camley St, London, postcode, NW1 0PF**

B2 Site Layout
Refer to main contractor's method statement.

B3 Control of Site Risks

Hazard	Controls Specified
Buried Services – cable strike	Stakes will not be used and the tripod does not disturb the ground
Overhead Cables – Risk of electrocution	Not applicable – no works at height. All works to be min. distance of 2.75m from OHLE.
Ground contamination	Wear correct PPE, latex gloves to be worn under normal working gloves
Incapacitating injury	Refer to main contractors method statement
Vandalism – vehicle damage/stolen property	Refer to main contractors method statement

B4 Protection and Isolation

All works to be undertaken trackside and are subject to safety planning. On-track activities will be undertaken within a line blockage or under lookout protection. Other activities will be at least 2.0m from the nearest rail.

Where required, the limits and type of protection are to be clearly briefed to the work party as part of the COSS briefing.

B5 On-track Plant and Machinery Movements

N/A

B6 Communication & Contact Details

Site communication will normally be via mobile phone. Mobile telephone reception is known to be good at the site.

Emergency contact with the signaller will be via line side telephones. All incidents will be reported to Infrastructure Group Control (IGC)

Name	Position	Contact Details
Tim Brunt	Asset Protection Manager – Network Rail	07799336798
Jakeer Mohammad	Construction Manager – Network Rail	07709483135
Gerry Frost	COSS – Network Rail (dilap. Survey)	07745273976
Duty Manager	DB Schenker	01302 575047
Controlling Signal Box	xxxxxxxxx	xxxxxxx
Barry Brunton	BCL Associate Director - Structures	07867453142
Rachel Wilson	BCL Project Manager - Geomatics	07867453142
Bridgeway On Call Manager		07966 303977
Phil Chambers	BCL S&T Manager	07436831494

Maria Bott	BCL Engineer	07971172240
Samuel Tibbitts	BCL Engineer	07916326782
Martyn Mason	Bridgeway Handback Engineer	Contact via. Bridgeway on-call manager
James Sutherland	Taylor Wimpey Project Manager	07818528020
Tom Emms	Conisbee Principal Engineer	07850639632
xxxxxxxx	John Sisk and Sons – Project Manager	xxxxxxx

B7 Emergency Arrangements

The COSS will be the responsible contact person on site (i.e. will take the lead with regards to any safety critical communications)
Qualified Emergency First Aider will be provided by the Main Contractor
Site specific emergency arrangements including the Signal Box number will be included in the TBS.
The nearest hospital with A&E Department and other details will be displayed by the main contractor. See also contact below.

Emergency Contact Numbers	
Service or Contact Name	**Telephone**
University College Hospital, 235 Euston Road, London, NW1 2BU	**020 3456 7890**

In the event of an incident affected the safety of the operational railway, the following procedure shall be followed:

- Contact Signal Box using mobile telephone
- State “THIS IS AN EMERGENCY CALL”
- Identify yourself, giving your job, title and employer
- Provide your phone number
- Provide your location and indicate which lines are blocked
- State which emergency services you require
- Remain in contact with the signaller until further notice.

Emergency Procedure for Speed Restrictions

In the event that an Emergency Speed restriction is needed, an ESR has been designed and equipment will be on site for the duration of the drilling operations. (TBC with NR)

Changing the Planned Methodology and adding new tasks

The monitoring works are of a simple nature and changes to the planned methodology are not anticipated. Any changes to the methodology or adding new tasks must be approved by Bridgeway. The Work Package Plan and Task Briefing must then be revised and re-briefed. No works must take place that not detailed in the Work Package Plan.

B8 Welfare

The main contractor shall provide suitable and sufficient welfare facilities in accordance with NR Standard NR/L3/INI/CP0036

B9 Interfaces

The meeting point for the works will be the contractor's site office.

The methods and procedures from Network Rail Line Standard NR/L2/OHS/019 (Protection of People Working On or Near the Line), shall be adhered to at all times. The designated Core Planner (Stage 2) will issue SSOW packs to the COSS prior to the commencement of the works.

All other interfaces will be the responsibility of the Main Contractor.

C Briefing

C1 Briefing Arrangements.

The respective BCL Site Team Leader will be responsible for ensuring that each member of their respective teams will be briefed on each individual. The BCL Site Team Leader will brief the content of the WPP and TBS. The briefing will be recorded on a Record of Briefing Arrangement Form.

The COSS where applicable will brief their team on the safe system of work in place. The briefing will be recorded on the COSS briefing Record.

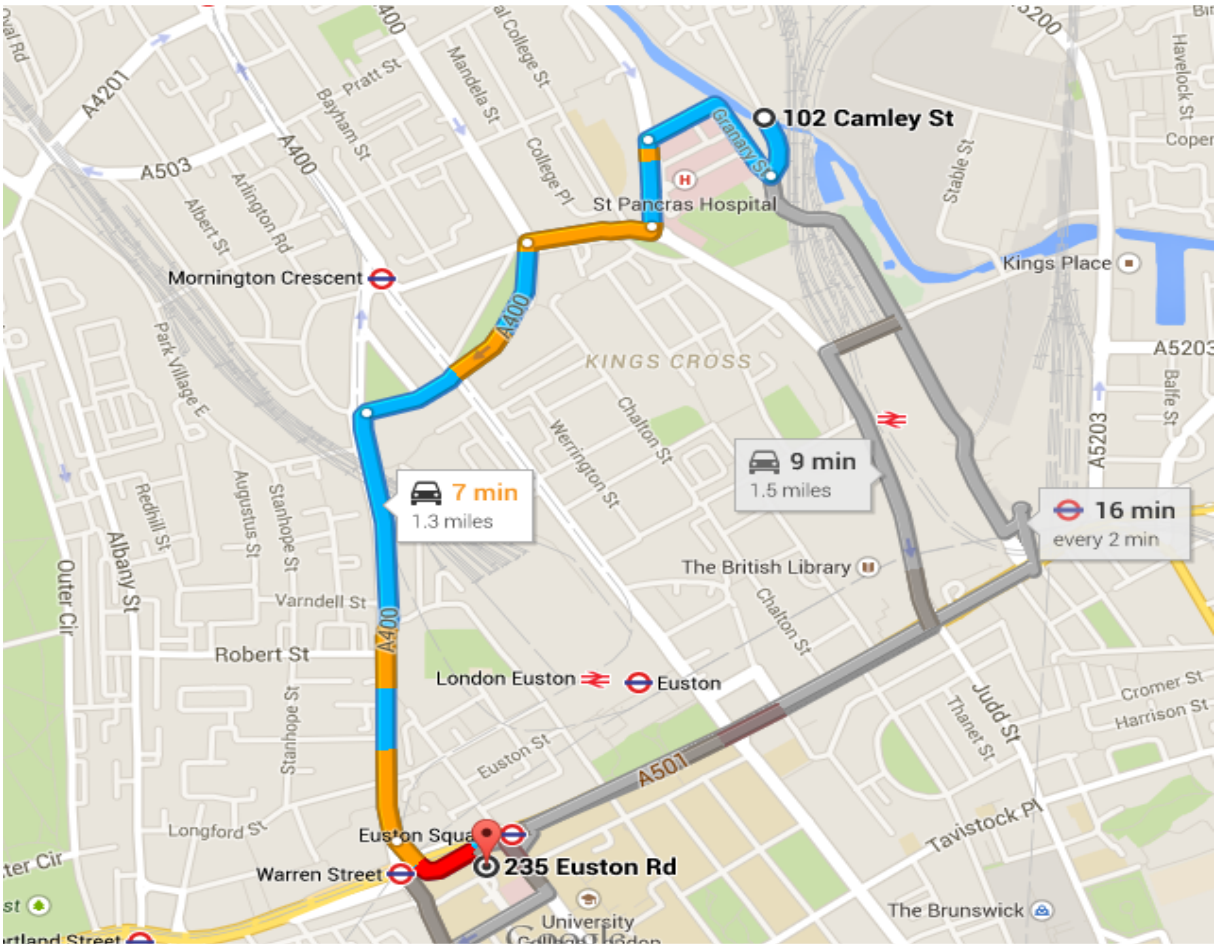
Where changes to the Task Briefing Sheet prompted by site conditions are required, the BCL Team Leader and respective Taylor Wimpey Engineer (Site) will agree an alternative method and will contact the BCL On-Call Engineer to discuss and agree any changes to be implemented if required. These changes will be documented on the Task Briefing Sheet.

APPENDIX A

SITE LOCATION PLAN

APPENDIX B

HOSPITAL LOCATION PLAN



APPENDIX C

MONITORING PLAN AND TRIGGER LEVELS
DB SCHENKER SIDINGS

Fault limits are in accordance with NR/BS/LI/045 (issue 3)

FAULT	TRIGGER LEVEL
LEVEL 1	TWIST>1/300
LEVEL 2	TWIST>1/200
LEVEL 3	TWIST>1/125
LVEL 4	TWIST>1/90
CANT VARIATION	CHANGES IN CANT +/- 20mm OR +/- 15mm
DISPLACEMENT FAULT	25mm DIFFERENCE FROM ORIGINAL

MONITORING PLAN AND TRIGGER LEVELS
NETWORK RAIL MML LINES (SPC1)

Fault limits are in accordance with NR/BS/LI/045 (issue 3)

FAULT	TRIGGER LEVEL
LEVEL 1	TWIST>1/300
LEVEL 2	TWIST>1/200
LEVEL 3	TWIST>1/125
LVEL 4	TWIST>1/90
CANT VARIATION	CHANGES IN CANT +/- 20mm OR +/- 15mm
DISPLACEMENT FAULT	25mm DIFFERENCE FROM ORIGINAL

It should be noted, we understand from the Form 1 Submission by Arup that the design has predicted a settlement as shown in table below:

Vertical movement

ASSEST	DISTANCE OF NEAREST RAIL FROM BASEMENT (m)	MAX. TOTAL SETTLEMENT (mm)	CANT (mm)	TWIST
RECEPTION SIDING	5.8	11	1.2	1/5,000
RUN ROUND SIDING	9.3	8	1.1	1/4,286
MML DOWN FAST	15.9	6	0.3	1/10,000
MML UP FAST	19.1	5	0.3	1/10,000

The recommended intervention levels are as follows:
Vertical Settlement: (ALL TBC WITH NETWORK RAIL)
0mm to 5mm – No Action Required (Green)
5mm to 10mm – Inform CRE/CEM/Asset owners (Amber)
>10mm – Cease all works (Red)

The values above override those specified in Network Rail Letter of Instruction 045.

In addition, the design has a predicted horizontal movement as per below;

Horizontal movement

ASSEST	DISTANCE OF NEAREST RAIL FROM BASEMENT (m)	LATERAL MOVEMENT DUE TO INSTALATION (mm)	LATERAL MOVEMENT DUE TO EXCAVATION (mm)	TOTAL LATERAL MOVEMENT (mm)
RECEPTION SIDING	5.8	3.4	5.8	9.2
RUN ROUND SIDING	9.3	3.0	4.7	7.7
MML DOWN FAST	15.9	2.4	2.7	5.1
MML UP FAST	19.1	2.0	1.8	3.8

APPENDIX D

MONITORING SYSTEM

The remote monitoring system provides outputs via an excel spreadsheet based on a laptop computer that is maintained on site. The spreadsheet is pre-loaded with the base readings. Each set of monitoring readings is input into the spreadsheet immediately after being taken. The spreadsheet will calculate changes to:-

- Horizontal Position of each rail
- Vertical Position of each rail
- Cant.

Any changes that result in the trigger levels of 3m TWIST, Vertical Position or Horizontal Position will be flagged up automatically.

Lesser movement at all will be noted by the technical staff in charge of the monitoring and reported to the Asset Owners and BCL managers.
Bridgeway will provide real-time reporting back to the Asset Owners

APPENDIX E

RISK ASSESSMENT

Proposed Track Monitoring at 102 Camley St, London.

Technical risk assessment.

This assessment is ONLY to identify risk to the track geometry caused by the HDD of the pipe under the track. Other risk assessments for the works are included in specific method statements issued by the main contractor.

RISK ASSESSMENT MATRIX

The table identifies the activities/tasks to be carried out, what the hazards are, the likelihood, consequence and risk where:

Likelihood (L): 5 = Highly Probably, 4 = Probable, 3 = Occasional, 2 = Improbable, 1 = Highly Improbable

Consequence (C): 5 = Multiple fatalities, 4 = Fatality, 3 = Major Injury, 2 = Minor Injury (time off work), 1 = Accident (no time off work)

Risk (R): = Likelihood x Consequence

Activity/Task	Identifiable Hazard	Degree of Risk without control measure			Control Measure Required	Residual Risk		
		L	C	R		L	C	R
Setting up and removing targets and datum	Being struck by train leading to loss of lift	2	4	8	Work is only to be carried out when the railway is closed to traffic. Work to be pre-planned and will not start until protection is in place and COSS has authorised work to start.	1	4	4
Setting up and removing targets and datum. Taking regular monitoring readings	Contaminated ground – risk of disease	2	3	6	Normal PPE plus gloves to be worn. No smoking, drinking or eating until after washing and in the site compound. Team Leader is responsible. Team Leader may also be COSS	1	3	3
	Treading on sharp objects	2	2	4	Wear safety boots with mid-sole protection	1	2	2

Bridgeway Consulting Limited	**METHOD STATEMENT** **Track Monitoring during construction work at Camley St.** **J14240**	

Activity/Task	Identifiable Hazard	Degree of Risk without control measure			Control Measure Required	Residual Risk		
		L	C	R		L	C	R
Setting up and removing targets and datum. Taking regular monitoring readings.	Slips trips and falls	2	2	4	COSS/Team leader to inspect worksite and identify and brief particular hazards prior to commencing. All staff PTS trained/competent for task. Worksite to be kept clear of tripping hazards as far as reasonably practicable.	1	2	2
	Discharging train effluent. BIO hazard	2	2	4	Basic Personal Hygeine. Staff to wear gloves. Staff to wash hands prior to eating or smoking. Cuts, grazes etc to be thoroughly cleaned and covered with a sterile dressing	1	2	2
	Syringes	2	4	8	Syringes are not known to be present on site. If syringes are encountered, they must not be disturbed.	1	4	4
	Exposure to substances hazardous to health	2	3	6	Ground to be left undisturbed. Any substances revealed during the work to be left undisturbed and presence reported to Network Rail	1	3	3
	Carrying materials and equipment	2	3	6	Adhere to manual handling regulations	1	3	3
Taking regular monitoring readings	Working at night	3	3	9	Adequate site lighting to be provided. All staff carrying out monitoring to have personal head torches	1	3	3
	Being struck by train leading to loss of life	2	4	8	Monitoring is carried out from a place of safety. A safe system of work will be set up by the COSS. This may include the use of blue 'Netlon' fencing or a site warden	1	4	4
Establishing location for monitoring instrument and walking route to this location	Personal injury while clearing undergrowth	2	3	6	Wear full PPE specifically including gloves and safety glasses. Use small hand tools only	1	3	3
Access to establish targets	Slips trips and falls	2	2	4	Access to be from authorised access point	1	2	2
	Being struck by train leading to loss of life	2	4	8	Access is only to be allowed when the railway is closed to traffic. Access to be pre-planned and will not start until protection is in place and COSS has authorised access. COSS is responsible for control measures	1	4	4
Access for monitoring track	Slips trips and falls	2	2	4	Access to be from authorised access point. Access route to be cleared of underfoot hazards	1	2	2
	Being struck by train leading to loss of life	2	4	8	Monitoring point will be clear of line and the monitoring will be carried out by an IWA/COSS working in accordance with GE/RT8000/HB6 Handbook 6 – General duties of an individual working alone (IWA)	1	4	4

Activity/Task	Identifiable Hazard	Degree of Risk without control measure			Control Measure Required	Residual Risk		
		L	C	R		L	C	R
Monitoring required over an extended period	Tiredness – Minor/Sever injuries or death to operator or others	2	3	6	12 hrs consecutive rest must be taken before and after the shift. Maximum working time of 12 hrs including travel, breaks in accordance with working time regulations	1	3	3
Establishing datum	Buried Services – cable strike	1	4	4	If stakes are used, the area will be scanned employing an RD4000 CAT & signal generator in all three modes prior to excavation	1	4	4