

Stacy Warren
Director Infrastructure
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

7 August 2018
Ref: 170108-ER-DPE-TSE-Jul 18

Dear Stacy

RE: Sydney Metro City & South West Chatswood to Sydenham CSSI 15_7400 – ER Monthly Report for July 2018 – TSE Contract

Healthy Buildings International (HBI) submits this report to the Secretary in accordance with:

- Condition A24 (I) of the Sydney Metro City & South West Chatswood to Sydenham CSSI 15_7400 Approval (9 January 2017) and associated modifications (MOD1_Victoria Cross and Artarmon (18 October 2017), MOD2_Central Walk (21 December 2017), MOD4_Sydenham Station and Metro Facility South (13 December 2017), and MOD 3_ Martin Place Metro Station (22 March 2018) ; and
- As required by the subsequent appointment as the approved Environmental Representative (17 February 2017);

The attached summary details the key activities undertaken by Environmental Representatives for Sydney Metro – City and South West Chatswood to Sydenham during the month of **July 2018**.

Yours sincerely



Michael Woolley
Environmental Representative

Cc: Sydney Metro: Fil Cerone, Matt Marrinan, Ben Armstrong, Stuart Hodgson, Adam Koutsamanis, Pam Tummers, Suzanne Saunders, Rob Muir (JHCPBG)
DPE: Swati Sharma, Rob Sherry, Kate Moore



Summary of Contract Packages	Environmental Representative/s
Demolition and Tunnel and Station Excavation (TSE)	Michael Woolley
Alternate	Jo Robertson / Annabelle Reyes

Key Construction Activities	
Demolition and TSE	<p>Works conducted in July 2018 at the following sites are summarised below:</p> <p>Chatswood Dive Site and Artarmon Substation:</p> <ul style="list-style-type: none"> ➤ Chatswood dive site <ul style="list-style-type: none"> ○ Continue building the tunnel dive involving installation of concrete piles, building the capping beam, excavating and removing material from site and installing rock anchors ○ Construction of driveways, internal roads and other tunnel infrastructure involving removing concrete and asphalt slabs with jackhammers and compacting material with vibratory rollers ○ Erection of the segment shed ○ Progressively constructing the concrete walls of the spoil shed along Nelson Street (sections of the adjacent hoarding were temporarily removed during these works) ○ Installation of the hoarding on Mowbray Road and Nelson Street near the bridge ➤ Frank Channon Walk <ul style="list-style-type: none"> ○ Location of existing utility services between Ellis Street and Gordon Avenue ➤ Rail corridor <ul style="list-style-type: none"> ○ Survey and utility investigations between Brand Street and Albert Avenue ○ Modification of the existing open drain within the rail corridor near Brand Street ○ Building an access track between Brand Street and Mowbray Road involving delivering and spreading material and compacting the material with vibratory rollers ➤ Orchard Road <ul style="list-style-type: none"> ○ Location of existing utility services between Mowbray Road and Nelson Street ➤ Out-of-hours works <ul style="list-style-type: none"> ○ Brand Street <ul style="list-style-type: none"> ▪ Location of existing utility services and constructing a new driveway to access the rail corridor (refer to the recently distributed notification for more details) ○ Orchard Road <ul style="list-style-type: none"> ▪ Location of existing utility services along the western side of Orchard Road (a separate notification will be issued with more details) ○ Mowbray Road and Hampden Road <ul style="list-style-type: none"> ▪ Completion of the installation and commissioning of high voltage power cables required to power the site involving saw cutting, excavating, installing conduits and cables and reinstating works areas ▪ Moving of an oversized crane to the south eastern corner of the site via Mowbray Road ▪ Building of the site exit involving removing kerbs and footpaths, earthworks and concreting



- Nelson Street and Pacific Highway
 - Installation and commissioning of a power cable involving saw cutting, modifying the utility pits, installing a cable and reinstating works areas
- Chatswood Dive
 - Delivery and unloading of oversized plant and equipment
 - Accessing the site intermittently to load and unload materials required for out-of-hours works
- All out-of-hours works locations
 - Installation of temporary traffic and pedestrian management and establishing work areas will occur at all out-of-hours works locations

Artarmon

- Demolishing existing buildings and site establishment works will commence in August 2018.

Crows Nest Station:

- Within and around the site
 - Construction of the concrete capping beam south of the Hume Street bridging structure
 - Pile trimming on the southern side of the site, which includes use of concrete saws and hammers
 - Installation of rock anchors around the site
 - Removal of sections of the footpath on Hume Street (north side) between Clarke Lane and the Pacific Highway
 - Spraying of concrete on the piles to form the walls of the station box
 - Installation of steel retaining beams on the station box wall near 14 Clarke Street
 - Continuing excavation of the station box on the northern section of the site (north of Hume Street) and under the Hume Street bridging structure
 - Installation of gates on Oxley Street and a turnstile entrance on the Pacific Highway
 - Piling around 14 Clarke Street
 - Starting preparations for the reopening of Hume Street in September
 - Construction of footings for site sheds to the south of Hume Street
 - Commissioning of the gantry crane
 - Relocation of site sheds, hoardings and installing site services
 - Relocation of the Pacific Highway bus stop (southbound) further to the north of its current location
 - Earthworks and transporting excavated materials from site
 - Regular deliveries of plant and materials
 - Installation of survey and monitoring equipment on buildings and in roads around the site
- Out-of-hours works:
 - Around and within the site
 - Delivery and removal of oversized plant and equipment
 - Installation of survey/monitoring equipment
 - Hume Street and Clarke Lane
 - Delivery of an oversized crane
 - Removal of Ausgrid cable

**Victoria Cross Station:**

- Victoria Cross South site
 - Installation of retention (anchors)
 - Construction of a capping beam near the Miller Street ramp entrance
 - Construction of an entrance ramp at Miller Street including excavation and steel installation
 - Installation of the acoustic shed over the northern portion of the site
 - Starting to install the acoustic shed over the southern portion of the site
 - Excavation using a road header on the northern section of the site
 - Loading out excavated materials
 - Installation of site services such as power
 - Delivery of site sheds, plant, equipment and materials
 - Installation survey and monitoring equipment on buildings and roads

- Victoria Cross North site
 - Pouring concrete for shed footings and the haul road
 - Starting to install the acoustic shed over the shaft excavation area
 - Installation of fencing, hoarding and gates around the site perimeter
 - Sewer relocation works to the east of the site near Miller Street
 - Construction of the site driveway on McLaren Street
 - Continuing excavation to the east of the site for the haulage road and spoil area
 - Construction of a base for the water treatment plant
 - Connecting the high voltage (HV) kiosk near Miller Street
 - Earthworks and load out excavated materials
 - Deliveries of plant, equipment and materials
 - Installation of survey and monitoring equipment on buildings and roads

- Out-of-hours works
 - Around the sites
 - Mobilisation and delivery/removal of oversized plant, equipment and materials
 - Installation of traffic signage, survey and monitoring equipment

 - Victoria Cross Station South site
 - Delivery and installation of acoustic shed panels
 - Delivery of a road header
 - Ausgrid works to connect power and commission the substation on Miller Street

 - Victoria Cross North site
 - Ausgrid works to connect power and the substation next to the footpath on McLaren Street

Barangaroo Station:

- Temporary access shaft inside the acoustic shed – Hickson Road
 - Excavation, rock breaking and jack hammering
 - Rock bolting and concreting works to secure the shaft walls (these works continue outside of standard construction hours)
 - Transportation of excavated material from inside the acoustic shed to the station site



	<ul style="list-style-type: none">➤ Hickson Road (between Dalgety Road bridge and High Steps)<ul style="list-style-type: none">○ Heritage investigations○ Piling and steel works for the Hickson Road support structure○ Civil works, high pressure grouting, piling, excavation and concreting works ➤ Nawi Cove and Barangaroo foreshore<ul style="list-style-type: none">○ Setting up the water and slurry separation plants○ Installation of a spoil shed ➤ Out-of-hours works<ul style="list-style-type: none">○ Temporary access shaft inside the acoustic shed – Hickson Road<ul style="list-style-type: none">▪ Deliveries of concrete, materials, plant and equipment▪ Rock bolting and concreting works to secure the shaft walls▪ Operation of the gantry crane inside the acoustic shed ○ Hickson Road (between Dalgety Road bridge and High Steps)<ul style="list-style-type: none">▪ Relocation of underground utilities involving saw cutting, excavating and backfilling trenches, installing conduits, installing/pulling cables and reinstating work areas▪ Removal of an overhead power cable▪ Deliveries of materials, plant and equipment ○ Corner of Sussex Street and Erskine Street<ul style="list-style-type: none">▪ Installation of underground electrical cables involving saw cutting, excavating and backfilling trenches, installing conduits, installing/pulling cables and reinstating work areas <p>Martin Place Station:</p> <ul style="list-style-type: none">➤ Bligh Street site<ul style="list-style-type: none">○ Deliveries and removing equipment, machinery and materials○ Delivery of the second roadheader machine to site○ Excavation of the pedestrian caverns from the Bligh Street decline under the Martin Place North site.○ Rock bolting and concreting works to secure the cavern’s excavated walls○ Removal of excavated material from within the acoustic shed ➤ Martin Place North site<ul style="list-style-type: none">○ Removal of scaffolding and the existing B-class hoarding and replacing it with A-class hoarding○ Finalisation of structural demolition works and removing materials and demolition equipment from site ➤ Martin Place South site<ul style="list-style-type: none">○ Installation of scaffolding to prepare 39 Martin Place for demolition○ Removal of hazardous materials○ Delivery of equipment and materials to and from site○ Removal non-structural walls○ Using the tower crane to lift large equipment to and from the roof○ Installation of a hoist on the Castlereagh Street side of the site○ Utility works in front of the MLC building between Elizabeth and Castlereagh streets during standard construction hours○ Removal of the Shopping Circle stairs○ Redirection of pedestrian traffic under the Shopping Circle
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	<ul style="list-style-type: none">➤ Out-of-hours works<ul style="list-style-type: none">○ Hunter, Castlereagh and Elizabeth streets, Martin Place (between Elizabeth and Castlereagh streets) and the Shopping Circle<ul style="list-style-type: none">▪ Utility works including Ausgrid pit inspections, trial hole investigations, pit installation and trenching for conduit and cable installation▪ Utility relocation of existing services and decommissioning two electrical substations from below the Shopping Circle and 39 Martin Place▪ Oversized equipment deliveries and crane mobilisations for lifting equipment into sites▪ Footpath restoration works▪ Installing monitoring equipment▪ Installing new hoarding around the Shopping Circle stairs towards Castlereagh Street▪ Graphics will be installed on the existing hoarding around 39 Martin Place○ Bligh and O'Connell streets<ul style="list-style-type: none">▪ Oversized equipment deliveries and crane mobilisations for lifting equipment into site▪ Excavation of the pedestrian caverns under the Martin Place North site (these works will occur 24 hours a day, up to seven days a week)▪ Concrete deliveries▪ Haulage truck movements▪ Installing monitoring and survey points for tunnelling activities <p>Pitt Street Station:</p> <ul style="list-style-type: none">➤ Pitt Street North site<ul style="list-style-type: none">○ Installation of a substation kiosk and upgrading services on the corner of Pitt Street and Park Street.○ Construction of the acoustic shed.○ Excavation of the Pitt Street North shaft.➤ Pitt Street South site<ul style="list-style-type: none">○ Installation of scaffolding and safety structures.○ Removal of hazardous materials, stripping out buildings and removing waste.➤ Out-of-hours works<ul style="list-style-type: none">○ Pitt Street North<ul style="list-style-type: none">▪ Installing cladding on the acoustic shed▪ Commissioning of the tower crane○ Pitt Street South<ul style="list-style-type: none">▪ Installing survey markers <p>Waterloo Station:</p> <ul style="list-style-type: none">➤ Waterloo Station site<ul style="list-style-type: none">○ Demolition of 69 piles and previous building basement structure with jack hammers.○ Completion of the Raglan Street site driveway, involving excavation and concrete work.○ Continuing to build piling platforms and foundations, involving compacting activities using vibratory rollers.○ Installation of concrete piles and building the capping beam around the station box to support the ground during excavation.
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	<ul style="list-style-type: none">○ Installation of the project banner on the Botany Road and Wellington Street hoardings.○ Installation of a higher hoarding at Wellington Street boundary, which will wrap around to Cope Street.○ Installation of ground anchors, through the concrete piles, which will extend beyond the site boundary beneath Wellington, Cope and Raglan streets.○ Continuing the station box excavation, including ground support concrete and anchoring work➤ Wellington Street<ul style="list-style-type: none">○ Footpath drilling work to install a monitoring device that will collect information from tunnelling and excavation work. The team will carry out excavation work to expose and identify underground services before drilling work. The drilling activities will take 2-3 days to complete at each location (see map overleaf).➤ Raglan Street<ul style="list-style-type: none">○ Installation of a construction viewing window for the public to look at construction activities.➤ Out of Hours Works<ul style="list-style-type: none">○ Raglan Street<ul style="list-style-type: none">▪ Separate a watermain located within the road from the site. <p>Marrickville dive site:</p> <ul style="list-style-type: none">➤ Marrickville dive site<ul style="list-style-type: none">○ Construction of site structures including spoil shed, site offices, conveyor footings and structure installation○ Demolition of existing structures and removal of existing concrete and asphalt slabs involving hammering○ Ongoing construction activities of the dive site include earthworks, shotcrete and rock/ground anchoring work, construction of piling rig pads, installation of concrete piles and building the capping beam around the dive area to support the ground during excavation○ Ongoing construction of the internal road network○ Haulage of excavated material from site○ Ongoing installation of site hoarding and artwork➤ Marrickville precast facility<ul style="list-style-type: none">○ Concrete segment production within the acoustic shed○ Ongoing construction of the precast facility and support infrastructure○ Storage yard crane operation○ Commencement of 24-hour operation of the precast facility➤ May Street, St Peters<ul style="list-style-type: none">○ Restoration of a small section of May Street○ Some asphaltting and cleaning down the work area.➤ Out-of-hours works<ul style="list-style-type: none">○ Marrickville dive site<ul style="list-style-type: none">▪ Setting up work area and traffic and pedestrian management▪ Removal of the traffic island on Railway Road with an excavator▪ Installation of a temporary guard on Railway Road▪ Cleaning of the worksite, removing plant equipment and traffic and pedestrian management.
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	<ul style="list-style-type: none">○ Edinburgh Road, Marrickville (adjacent to site) - Bedwin Road and Edinburgh Road intersection upgrade<ul style="list-style-type: none">▪ Removal of three trees on Edinburgh Road, near site access gate (refer to location overleaf).▪ Underground service identification and utilities relocation and installation▪ Upgrade of median kerbing, pavement and asphalt work▪ Line marking and installation of new road signage▪ Traffic signal installation.
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ER Inspections

Demolition and TSE	<p>Weekly inspections continued under the management of the TSE contractor for the demolition sites. The DPE Compliance Officer attended the Inspections on 17/07/2018 and 24/07/2018. Sites inspected in July 2018 comprised:</p> <ul style="list-style-type: none">➤ Victoria Cross South – 03/07/2018, 17/07/2018, 31/07/2018➤ Victoria Cross North – 03/07/2018, 17/07/2018, 31/07/2018➤ Chatswood – 03/07/2018, 17/07/2018, 31/07/2018➤ Martin Place – 03/07/2018, 17/07/2018, 31/07/2018➤ Bligh Street – 03/07/2018, 17/07/2018, 31/07/2018➤ Crows Nest – 03/07/2018, 17/07/2018, 31/07/2018➤ Barangaroo – 10/07/2018, 24/07/2018➤ Pitt Street – 10/07/2018, 24/07/2018➤ Waterloo – 10/07/2018, 24/07/2018➤ Marrickville – 10/07/2018 , 24/07/2018 <p>ER Inspection reports have been prepared and issued to Sydney Metro and the TSE Contractor. Actions identified during the inspections comprised:</p> <ul style="list-style-type: none">➤ Inspection on 03/07/2018<ul style="list-style-type: none">○ Chatswood – erosion and sediment controls○ Victoria Cross South – erosion and sedimentation controls➤ Inspection on 10/07/2018<ul style="list-style-type: none">○ Marrickville Dive site– dust, erosion and sedimentation controls○ Waterloo – chemical storage; ongoing discussion of the Waterloo Church vibration exceedances➤ Inspection on 17/07/2018<ul style="list-style-type: none">○ Chatswood – heritage management○ Crows Nest – tracking of dirt on the road○ Martin Place – tracking of dirt on the road➤ Inspection on 24/07/2018<ul style="list-style-type: none">○ Marrickville – Concrete wash out, erosion and sedimentation controls, chemical storage○ Waterloo – Engineer provided more detailed update on management of works in respect of cracking at the Church and exceedances of vibration criteria, erosion and sedimentation controls.➤ Inspection on 31/07/2018<ul style="list-style-type: none">○ Chatswood – erosion and sedimentation controls, dust○ Crows Nest – erosion and sedimentation controls, dirt on the road○ Victoria Cross – chemical storage, dirt on road
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	<p>JHCPBG provided a briefing to DPE and ER and AA on blasting proposed at Victoria Cross North during the monthly DPE meeting on Friday 27 July 2018.</p> <p>Various notes were made in the reports reflecting commitments made by the TSE Contractors.</p>
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Endorsed Document/s	
Sydney Metro	<p>The following documents were reviewed and endorsed by the ER with the assistance of Alternate ERs (not just specific to TSE related works):</p> <ul style="list-style-type: none"> ○ Staging Report Version 4.2
TSE	<p>The following TSE documents were reviewed, comments provided to the TSE Contractor and Sydney Metro where relevant, and endorsed by the ER with the assistance of alternate ERs:</p> <ul style="list-style-type: none"> ➤ Consistency Assessment <ul style="list-style-type: none"> ○ 180620 TfNSW 25 - Consistency Assessment - Additional Land- Barangaroo Block 7 ○ Blues point utilities and modified site access area ➤ Out of hours works (OOHW) approvals <ul style="list-style-type: none"> ○ TBM Delivery Works at 3 locations ○ Weekend works at Martin Place South for 9 months ○ Optical Prism installation - extension of works to VC and PS ○ Metropolitan OOHWs on Saturday - Extension to existing Permit ➤ Site Establishment Plan <ul style="list-style-type: none"> ○ Clyde Barging Wharf SEP ○ White Bay SEP ○ Barangaroo SEP ➤ Construction Traffic Management Plans (CTMP) <ul style="list-style-type: none"> ○ Chatswood Utility Works - Addendum ○ Pitt Street North Site Operations CTMP ○ CTMP Martin Place Stage 2 ➤ CNVIS <ul style="list-style-type: none"> ○ Barangaroo CNVIS Rev 8 ○ Northern Corridor Works CNVIS ○ White Bay CNVIS Rev 6 ➤ Other <ul style="list-style-type: none"> ○ Blues Point AMS (Historical Heritage and Aboriginal)
Demolition	<ul style="list-style-type: none"> ➤ Out of hours works (OOHW) approvals <ul style="list-style-type: none"> ○ Extension to weekend works at Martin Place North (Metropolitan)
USP- Martin Place	<ul style="list-style-type: none"> ➤ EWA Door Infill works at 9-19 Elizabeth Street and 50 Martin Place Bld ➤ E14 Archival Photos of 9-19 Elizabeth Street

Complaints / Incidents / Non-compliance	
TSE and demolition	<p>It is understood that Sydney Metro has been providing summaries of complaints to DPE daily. Responses to each complaint have been noted in each complaint report, with follow up actions often defined in revised reports.</p> <p>The following events/incidents have been reported to the ER that occurred during the reporting period:</p> <ul style="list-style-type: none"> ● Gas Strike at Martin Place on 6 July 2018. The incident involved a hydraulic hammer fitted



	<p>to a 2.7 tonne Kobelco excavator contacting a 150mm diameter steel Jemena gas main while undertaking investigation works. This contact caused a release of natural gas to the atmosphere. On 11 July 2018 JHCPBG held a briefing attended by DPE and the EPA. JHCPBG completed an incident report dated 19-7-18 which is understood to have been issued to DPE. JHCPBG stated that the full safety investigation report is still being finalised.</p> <p>No other incidents occurring during the reporting period have been reported to the ER at the time of writing this report.</p> <p>The following reports were provided for ongoing events or events that occurred in prior reporting periods:</p> <ul style="list-style-type: none"> • High Impact Works – Crows Nest Site 18-6-18: The report is understood to have been provided to DPE and covers works carried out within agreed respite times on 18 June 2018; • Vibration Exceedance – Martin Place North -7 April 2018. The report dated 23 July 2018 is understood to have been provided to DPE and covers a vibration exceedance on 7 April 2018 at Martin Place north. • Vibration Triggers – Waterloo Congregational Church: JHCPBG provided a report dated 3 July 2018 on the vibration exceedances at the Waterloo Congregational Church. This has been provided to DPE. Further reports including a Heritage Consultants report and an Engineers Report were provided to the ER and DPE dated 30 July 2018. • On 31 July 2018 a report was provided to the ER covering an event dated 22 June 2018 comprising <i>“damage to the rear wall and roof of the church - render grazed off wall due to movement of piling rig”</i> dated 22 June 2018. This event was reported as a Safety Incident/Property Damage, which delayed the reporting of the incident to the ER. JHCPBG reported that to complete the approved design the piling rig was required to work very close to the church and that repairs to make good will be undertaken in consultation with the custodians of the Church.
<p>Sydney Metro</p>	<p>There were no non-compliances/complaints received in relation to works undertaken directly by Sydney Metro.</p> <p>There were no incidents related to Sydney Metro conducted works as defined by the project approval definition for incidents reported to DPE under condition A41.</p>

Audits	
TSE	Nil
Demolition	Nil
Sydney Metro	Nil

Looking Forward	
<p>Demolition and TSE</p>	<p>Core Focus Areas for the month of August 2018 are:</p> <ul style="list-style-type: none"> ➤ ERSED controls and mud tracking from sites across the project. ➤ Dust management in the dry conditions. ➤ Site establishment works and operations at the White Bay Truck Marshalling area; ➤ Initial investigations and other early works at Blues Point; ➤ Proposed blasting at Victoria Cross North; ➤ Review of CTR for Q2 2018 including provision of real time monitoring; ➤ Review of SEPs and CNVIS's for new works or updates for existing sites; and ➤ Set up of mitigation controls as part of site establishment across all sites.