Commission of Inquiry into the Diaphragm Wall and Platform Slab Construction Works at the Hung Hom Station Extension under the Shatin to Central Link Project

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WITNESS STATEMENT OF ROBERT WILLIAM MCCRAE

FOR

ATKINS CHINA LIMITED

I, Robert William McCrae, of 28th Floor, Euston Tower, 286 Euston Road, London NW1 3AT do say as follows:

1. I have been employed for the past 22 years by SNC-Lavalin (formerly Atkins) as a Technical Director in the infrastructure business. I have a PhD degree from the School of Civil and Mining Engineering, University of Newcastle upon Tyne. I am a chartered geologist (C. Geol) and Fellow of the London Geological Society. My principal area of expertise is in tunnelling and geotechnical engineering and I have led a number of major infrastructure projects as Project Manager or Design Team Leader on Atkins' detailed design assignments. For most of my professional career I have been involved in the design and project management of underground railway and tunnel projects.

2. I have worked three times in Hong Kong: in 1997 to 1999; in 2004; and in 2014 to 2016; and I have been involved in studies and design for West Rail, Shatin to Central Line, South Island Line and South Kowloon Line for Mass Transit Railway Corporation Limited ("**MTRCL**") and Kowloon-Canton Railway Corporation. I enclose my CV in attachment **RM-1**.

3. I am now based in the UK and seconded through the Engineering Development Partner ("**EDP**"), a joint venture of SNC-Lavalin, Jacobs and Sener, to High Speed 2 ("**HS2**"), a new high speed railway under construction in the UK, as Project Director for Section 2 - Northolt Tunnels in Phase 1 of the works. I took up this role shortly after returning from Hong Kong in April 2016.

4. As an experienced Design Manager, I am aware of the statutory processes for major infrastructure projects in Hong Kong and in the UK. However, I am not an expert in these processes and typically I would take advice from colleagues within Atkins. For the Shatin Central Link - Hung Hom Station Extension Contract 1112 project (the

"**Project**"), these matters were handled by the Competent Person ("**CP**") and dealt with directly by MTRCL for the underground elements.

5. I am authorised by Atkins to make this witness statement and have prepared this to assist the Commission of Inquiry (the **"Commission"**) in my role in the design teams for both Shatin to Central Link (SCL) Consultancy Agreement No. C1106 – Detailed Design for Hung Hom Station and Associated Tunnels ("**Contract C1106**") [**B7652-B8218**] and Consultancy Agreement for the Temporary Works Design of Shatin to Central Link – Hung Hom Station and Stabling Sidings Contract No. 1112 ("**Contract 1112**") [**J16-J54**]. The evidence I will provide in this witness statement has been prepared to address each of the Commission's requests as set out in Lo & Lo's letters dated 2 October 2018 [**J1-J9**] and 15 October 2018 [**J10-J12**].

6. In my Project Manager and Design Team Leader roles, I had direct involvement in the Project; and where I was not directly involved in certain design issues, I have reviewed the relevant files and from them I have produced certain items which are attached as exhibits and also to this witness statement. Also, I have had opportunity of reading certain of the witness statements provided to the Commission and a number of the exhibits. Where the facts and matters stated herein are not within my own knowledge or expertise, they are based on stated sources and are true to the best of my knowledge, information and belief.

7. Finally, I confirm that I am willing to fully assist and support the Commission in its exercise of its responsibilities.

8. I set out below my response to each of Commission's requests.

Request 1 – Roles and Responsibilities of Atkins

9. Request 1(a) from the Commission: "*With reference to an Organisation Chart of Your Company, describe and explain the roles and responsibilities of each person in Your Company involved in the **design and construction** of the diaphragm walls and EWL/NSL Slabs for Contract 1112. Identify, with names and job description, the relevant persons on the Organisation Chart and indicate whether such persons are still in the employment of Your Company. If such persons have left Your Company, please provide contact details if such information is available.*"

10. I have read the witness statement of Mr. John Blackwood at paragraphs 11 to 26 and I agree with the comments stated there.

11. I summarise below my involvement on the Project as Project Manager of Atkins' team ("**Team B**") on Contract 1112 with Leighton Contractors (Asia) Limited ("**Leighton**") and Design Team Leader for Atkins' team ("**Team A**") on Contract C1106 with MTRCL. I refer to paragraphs 11 to 16 of Mr. Blackwood's witness statement.

12. In March 2014, I was seconded by Atkins Limited, UK to Atkins China Limited ("**Atkins**") to undertake various roles in Hong Kong associated with tunnelling and sub-surface construction works.

13. In May 2014, the Director acting as Project Manager for Atkins on Contract 1112 ceased to be a full time Atkins employee and I was asked to undertake the role of Project Manager for Team B. In this role I was assisted by various Atkins' colleagues at different times, however many have since left Atkins and refer to paragraph 18 of Mr. Blackwood's witness statement. On the structural design side, I was assisted by Mr. David Wilson and Mr. Edward Tse. On the geotechnical design side, I was assisted by Mr. Miller Lui.

14. My role was to manage the design resources for Team B, change requirements for Team B and managing the design delivery of the design contract between Atkins and Leighton. I refer to JB-2 attached to Mr. Blackwood's witness statement. In this role, I attended the design meetings, discussed design solutions, but did not really carry out any design calculations or draft any reports. However, I did supervise the entire process and was often approver of design submissions. At the time of my appointment, the initial scope of Contract 1112 to assist with primarily in temporary works and some alternative design proposals identified by Leighton had been largely completed. However, Atkins was instructed to carry out additional services including further temporary works alternatives and proposals to modify the permanent works design to suit Leighton's construction method.

15. The additional services for Contract 1112 were instructed via ESTs (which were estimates for the work) which were effectively change orders from Leighton. Team B then assigned resources and submitted, when complete, in the form of drawings, reports etc. to Leighton. The design work was initially managed for Leighton by Mr. Brett Buckland who was my primary contact and weekly meetings were held to review the design progress. However, later in 2015, I also regularly liaised with Mr. Justin Taylor. Atkins also had a Design Coordinator, Mr. David Wilson, whom I have mentioned above and was part of Team B and dedicated to Leighton for the Project.

16. The Atkins' services under Mr. Wilson and Team B under Contract 1112 were carried out independently from any services to MTRCL under Contract C1106 and Team A on the Project and where such staff were not available in the Hong Kong office utilised overseas offices and in particular the Atkins' office in Bangalore.

17. In November 2014, the Atkins Director serving as Design Team Leader for the Contract C1106 was reassigned to a post in the Middle East. As a consequence and following discussions with MTRCL, I was assigned the role of Design Team Leader for Team A. The reasoning was that neither the Team A nor Team B post required a full time presence. I estimate that in total they both occupied approximately 60% to 75% of my time, and having an oversight of both Contracts allowed greater efficiencies in both working and communication which was to the overall benefit of the Project.

18. Team A (for MTRC) functioned separately from that being used on the Leighton services (Team B) although informal discussions by way of verbal conversations did take place between the two teams to avoid misunderstandings and ensure a common knowledge of the design works progress and design issues. It was also important to MTRCL that the teams were separate and any formal submission or requests had to go through the proper channels. I recall that Mr. Leung Fok Veng Andy regularly insisted that the correct submission process was followed.

19. Even though there was shared knowledge between Team A and Team B the process followed did not change from that on any other comparable project with an Engineer as the Detailed Designer: that is, the Contractor's designer prepares proposals of change which are then passed by the Contractor to Client; the Client then requests his Detailed Designer, if change is acceptable, to change or modify the Detailed Design accordingly. For Contract 1112, the services instructed by Leighton were prepared by Team B and submitted to Leighton for acceptance. Then if in form of a query ("**RFI**") or change to design of the permanent works ("**CSF**") was required Leighton would submit to MTRCL. If appropriate, MTRCL would pass the design to Team A to review and they would undertake any necessary consultations with Buildings Department ("**BD**") / Geotechnical Engineering Office ("**GEO**") and preparation of Drawing Amendment Sheets ("**DAmS**") for MTRCL to issue to Leighton to implement.

20. Throughout the period from January 2015 until I left the Project in April 2016 I was involved on both Contract C1106 and Contract 1112 attending both specific contract meetings with our individual clients for Team A and Team B; and also attending meetings where both Leighton and MTRC were present.

21. From September 2015, my involvement with Contract 1112 (Team B) was mainly restricted to commercial management whereas on Contract C1106 I was more closely involved with technical decision making as well as commercial management.

22. I acknowledge that I held similar positions on both Contracts. However at no time was any objection, to the best of my knowledge, raised by either party. The roles were clearly explained to and understood by Leighton and MTRCL via the organisation charts attached to Mr. Blackwood's witness statement under attachment JB-5.

23. I was fully aware of and observed my responsibilities in respect of Team A and Team B, respectively.

Atkins' Role in Preparing As-built Drawings of Diaphragm Wall and EWL / NSL Slabs

24. Request 1(b) from the Commission: "*Describe and explain Your Company's role and responsibilities in preparing as-built drawings of the diaphragm walls and EWL/NSL Slabs.*"

25. In late December 2014, Team B was requested by Leighton to assist in the preparation of the D-wall as-builts. The work was done in a series of batches and the first Batch was submitted to Leighton in January 2015 and the final batch 6 in August 2015.

26. The task consisted of reviewing the information prepared by Leighton and their D-wall contractor ("**Intrafor**") and preparing records of the as-built conditions. This was part of the preparation of the information required for Certification of Completion of the Works (also called "**BA 14**").

27. As Team B was not on site, they had no role in verifying the information provided by Leighton and were required to accept it as a true record of the as-built condition of the D-walls. In effect we received drawing prepared by or on behalf of Leighton of the constructed works and any associated changes such as DAmS to prepare the final as-built drawings.

28. For the D-wall, the work of Team B also consisted of checking that the penetration into rockhead met the design requirements, the geometry of the panel met requirements and that the installed reinforcement was in accordance with the MTRCL approved design drawings.

29. In the case where the design allowed the redistribution of vertical bars between adjacent panels and these were checked by Team B (based in Bangalore) who produced full and comprehensive records of all D-wall panels.

30. Before submission of Batch 1 in January 2015, it became apparent that there were differences in the as-built reinforcement and the approved design drawings for the detail for connection of the D-wall to the EWL slab. This has been referred to as the "missing U-bar" issue. I discuss how this matter was addressed later in paragraph 32 of my witness statement.

31. On completion of the as-built records, Team B returned them to Leighton who then submitted them to MTRCL. These as-built drawings then reviewed by a different group of people in Team A on behalf of MTRCL and any comments returned to Leighton for

correction or verification. The Leighton drawings after acceptance by Team A were then used to constitute part of the document necessary for the Certification of Completion of the Works (BA 14).

32. The working design drawings prepared by Team A showed a U-bar at the top of the D-wall. When Intrafor prepared the shop drawings, this U-bar was missing and was in most cases constructed without the U-bar. Following this, there was an exercise carried out which I was involved in, whereby Team B was asked to review the design based on the missing U-bar. This consisted of reviewing and designing the reinforcement between EWL Slabs with the D-wall. Team B prepared design calculations and these were then verified by Team A and later approved by BD. This latter became document PWD-059A3. Later on 29 July 2015, MTRCL prepared an incident report on D-wall reinforcement details of HUH station [**H5538-H5720**].

33. I have described above the process we followed in the production of the D-wall as-builts. During my time on the Project I was not involved in the preparation of the as-builts for either the EWL or NSL slabs.

Request 2 – Alleged Cutting of Rebars

34. Request 2(a) from the Commission: "*Explain and confirm whether Your Company has any knowledge of the alleged cutting of threaded steel bars and existence of a gap at threaded steel bar/coupler connection for diaphragm walls to slab and slab to slab during construction period on site.*"

35. I have read the witness statement of Mr. Blackwood at paragraphs 39-40 and I agree with the contents stated there. I have no knowledge of the alleged cutting of threaded steel bars and existence of a gap at threaded steel bar / coupler connection for D-walls to slab and slab to slab during construction period on site.

Rectification and Remedial Measures

36. Request 2(b) from the Commission: "*Comment on what rectification and remedial measures should have been taken by Leighton and/or other sub-contractors if threaded steel bars within EWL/NSL Slabs had been cut as alleged and there was a gap at threaded steel bar/coupler connections for diaphragm walls to slab and slab to slab, and explain and confirm whether rectification and remedial measures have been actually carried out on site.*"

37. I have read the witness statement of Mr. Blackwood at paragraphs 42 to 44 and I agree with the comments stated there.

38. I am not a structural engineer and so I am not qualified to comment on these issues.

Knowledge of Cutting of Threaded Steel Bars and Existence of Gap

39. Request 2(c) from the Commission: "*Explain and confirm whether Your Company has any knowledge of any cutting of threaded steel bars and existence of a gap at threaded steel bar/coupler connections for diaphragm walls to slab and slab to slab in the as-built structures without any rectification.*"

40. Atkins' Team A and Team B had no supervisory role on site. Although I occasionally visited the site I have no knowledge of nor ever saw any cutting of threaded steel bars and existence of a gap at threaded steel bar/coupler connections for D-walls to slab and slab to slab in the as-built structures without any rectification during construction period on site.

Effects of Cutting of Threaded Steel Bars and Existence of Gap – Quality, Safety and Integrity of the Diaphragm Walls and EWL / NSL Slabs

41. Request 2(d)(i) from the Commission: "*On the basis of the evidence given by the witness as extracted above: comment on whether such shortening and cutting of the steel bars of EWL/NSL Slabs and the existence of a gap at threaded steel bar/coupler connections for diaphragm walls to slab and slab to slab would compromise the quality, safety and integrity of the diaphragm walls and EWL/NSL Slabs.*"

42. I have read the witness statement of Mr. Blackwood at paragraphs 48 to 54 and I agree with the comments stated there.

43. I am not a structural engineer and so I am not qualified to comment on these issues.

Effects of Cutting of Threaded Steel Bars and Existence of Gap – Original Design Intent of the Diaphragm Walls and EWL / NSL Slabs

44. Request 2(d)(ii) from the Commission: "*Comment on whether cutting of threaded steel bars and the existence of a gap at threaded steel bar/coupler connections for diaphragm walls to slab and slab to slab would affect the original design intent of the diaphragm walls and EWL/NSL Slabs.*"

45. I have read the witness statement of Mr. Blackwood at paragraphs 56 to 58 and I agree with the contents stated there.

46. I am not a structural engineer and so I am not qualified to comment on these issues.

Alleged Change of Connection Details between EWL Slab and East Diaphragm Walls

Atkins' Role and Participation in the Process

47. Request 3(a) from the Commission: "*Please address the following matters from the perspective of the designer: Explain and describe Your Company's role and participation in this deviation in connection details.*"

48. I have read the witness statement of Mr. Blackwood at paragraphs 60 to 96 and I agree with the comments stated there.

49. Around February 2015, Team B was requested by Leighton to prepare a design consultation document for the temporary load cases of the excavation lateral support system ("**ELS**") in Area C to enable the bulk excavation to commence.

50. The main purpose of this document was to consider the D-wall design and the temporary work design to enable Leighton to commence the initial bulk excavation to -0.5mPD following the completion of the D-walls.

51. On the 14 May 2015 **[C10846-C10847]** timed at 19:52, Team B provided a draft report to Leighton TWD–004B2 ("**TWD-004B2**"). The report was prepared under the direction of Mr. David Wilson who reviewed it on completion. I signed TWD-004B2 as approver of the document [**JB-6**].

52. I do not know if TWD–004B2 document was ever formally submitted by Leighton to MTRCL however, there were discussions of this document between Leighton and Team B as on 23 May 2015 I was copied in on these emails [**C10842-C10850**].

53. The ELS temporary work submission document ("**First Submission**") reference TWD–004B2 included:

    53.1 At paragraph 1.3.5 a revised rebar arrangement for the EWL and OTE slab which included remedial proposals provision at mid-span due to the U-bar in D-wall as well as showing the full tension straight through bars at the top of the diaphragm wall as Figure 1.4 [**C20877**]; and

    53.2 Section 6.2 titled "Construction Sequence" where it stated that the top of the D-wall panel will be trimmed down to the lowest level of the top rebar for the EWL slab (minimum 420mm of below the top level of EWL slab); the top rebar of the EWL slab will then fix to the top rebar of the OTE slab to achieve full tension laps; and the EWL and OTE slab will be cast concurrently. [**JB-6**]

54. Following the submission of TWD–004B2 there were discussions from 22 May 2015 to 29 May 2015 between Leighton and Team B [**JB-7**] as to the detail of this report. It

was decided following conversations with Mr. Kevin Yip of MTRCL, see email dated 27 May 2015 (timed 8:52am) [**JB-7**] that parts of the TWD–004B2 will be omitted in particular reinforced concrete detail in order to get the approval from BD of the ELS design to enable initial bulk excavation to -0.5mPD to commence and so as not to confuse BD.

55. The missing U-bars in the D-wall meant that it would be difficult to form the fully fixed connection between the EWL slab and wall. I understood from discussions in 2015 with Mr. David Wilson and Mr. Torgeir Rooke, members of the original design team, this requirement for a fixed connection was due to concerns about resulting ground movement and providing as rigid a structure as possible. If sufficient reinforcement could not be installed a revised connection would have to be developed. This developed through discussion into a solution of providing anchorage into the OTE structure on the outside of the D-wall and assuming moment distribution requiring increased reinforcement at mid point of the EWL slab.

56. On 17 June 2015, Team B submitted the "*Design Report for HUH Station Primary Structure, Primary Slabs for Temporary Loadcases Area C (Gridline 22–40), BD Consultation Document, (Volume 1) – TWD–004B3*" ("**TWD-004B3**") also called the "**Second Submission**" [**B7262 - B7319**]. TWD–004B3 was similar to TWD–004B2, however paragraph 1.3.5 was re-written and there was no Figure 1.4 showing the revised rebar arrangement. I do not know the exact reason for this. On 8 July 2015, all three volumes of the TWD-004B incorporating final amendments were submitted by Team B [**C14369-C14370**] to Leighton.

57. Following this submission there were some minor revisions to report TWD–004B3 and I understand it was finally submitted to MTRCL by Leighton on 29 July 2015 [**B8894**].

58. Around the same time, beginning from early June 2015, I was involved in another report regarding design amendments to the D-wall. The purpose of this report was because the D-wall had not been constructed in accordance with the design drawings (mainly due to the missing U-bars) and Team B were asked to analyse and demonstrate that it still complies with the design requirements.

59. Beginning from June 2015 to the final report on 9 July 2015, Team B produced a report titled "*Discussion on Design Amendments Works -D-wall, [Deliverable No. PWD-059A3]*" ("**PWD-059A3**") [**C21765 to C21779**]. PWD-059A3 explained the differences between the designed case (see Figure 2 on page 1) [**C21770**] and the as-built case (see Figure 3 on page 2) [**C21771**]. Team B were instructed to evaluate the design to ensure that it fulfilled the detailed design requirements and provide the necessary calculations and analysis.

60. As part of the amendment we considered providing anchorage into the OTE slab. On 21 July 2015, timed at 2:30 PM, Team A provided a solution to provide 1200 mm length anchorage into the horizontal section of the OTE. This is shown on [**B7514**]. There was discussion over the next few days, between Leighton and Team B, as to the requirements for casting of the OTE slab at the same time as the EWL slab. It was desirable to pour both slabs together but Atkins was asked if it was essential.

61. On 24 July 2015, timed at 16:20, Team B replied stating that they had provided a copy of the 3m EWL slab full tension anchorage arrangement "*and this corresponding detail will incorporate on to the Contractor drawings for construction*" and that the OTE wall should be concreted together at the same time (monolithically) with the EWL slab. [**B7512-B7513**]. The requirement to concrete both sections together arose from Atkins' structural engineers' understanding of BD requirements.

62. On 25 July 2015, timed at 14:05, I confirmed a telephone discussion between Mr. Brendan Reilly (MTR Project Manager) and Mr. CK Chan (who was registered structural engineer ("**RSE**")) if it was necessary to cast the EWL slab and the OTE monolithically for the pour at EH72 and EM74. In this conversation Mr. Chan considered that it would be acceptable to cast the OTE slab after the EWL slab, in this case, providing it was cast before future activities that would result in loading of the connection between D-wall and EWL slab [**B7255**]. I refer to the email sent 25 July 2015, timed 14:39 **[B7254]**.

63. Around the same time on the 27 July 2015, Leighton raised a technical query (**"TQ"**) regarding the OTE wall and EWL slab connection ("**TQ-33**") [**B2986-B2996**]. This was regarding an L-shaped reinforcement bar which could not be fixed perfectly and Team B provided a response to this on 29 July 2015 (it is dated 22 July 2015 however that must be an error) that reduced the dimension required for anchorage [**B2997**]. I refer to paragraphs 81 to 83 in Mr. Blackwood's witness statement regarding this issue.

64. At the same time on 27 July 2015, Leighton also raised a technical query regarding D-wall panel EH74 and the misalignment of the top layer of reinforcement ("**TQ-34**"). This affected one layer of reinforcement and Team B provided a response on 29 July 2015 [**B12527**] and I refer to paragraphs 84 and 85 in Mr. Blackwood's witness statement in this regard.

65. I understand that the report PWD-059A3 as well as the temporary works ELS design report TWD-004B3 were submitted to MTRCL on 29 July 2015 for onward submission to BD [**B8888**].

66. We also received TQ-0044 ("**TQ-44**") from Leighton on 1 August 2015 which effectively (as Item (i)), asked for an explanation for how the missing U-bar issue had

been addressed and supporting information. The TQ was as a result of an NCR (NCR No. 1112-NCR-CM(SCLC)-QUM-000026) raised by MTRCL to Leighton [**C11049-C11051**]. We responded on 12 August 2015 and indicated that this had been addressed in our report PWD-059A3. I acknowledge a typographical error in the response referring to TWD-059 but the enclosed report is PWD-059A3 as referred to in my paragraph 59 above [**JB-11**].

Explain and confirm whether such Deviation in Connection Details requires the Expressed Approval of the BD

67. Request 3(b) from the Commission: "*Please address the following matters from the perspective of the designer: Explain and confirm whether such deviation in connection details requires the expressed approval of the BD. If it is required, state the procedures and identify the party or parties who should take steps to seek approval from the BD. If approval is not required, explain why not. Explain the role Your Company as the design consultant under Contract No. 1112 would play in the procedures for seeking approval from the BD.*"

68. I have read the witness statement of Mr. Blackwood at paragraphs 98 to 100 and I agree with the comments there.

69. I am not an expert on BD procedures and especially for projects exempted from the Building Ordinance. During the period of my involvement on the Project I would consult with Mr. CK Chan who was an RSE and was familiar with the BD submission process although he was not the CP for the Project. During the Project, I would sometimes ask his advice and if necessary I would express our views on BD procedures and requirements as part of the design team meetings.

70. I have read the views of Mr. Blackwood at paragraph 100 of his witness statement. I agree with his comments there though he is more knowledgeable about such matters.

Effect of the Alleged Deviation in Connection Details

71. Request 3(c) from the Commission: "*Please address the following matters from the perspective of the designer: Explain whether and how the deviation may affect the design intent of the east diaphragm wall. Comment on the effect of the alleged deviation in connection details on the EWL Slab and East Diaphragm Walls structures themselves and on the overall design scheme.*"

72. I have read the statement of Mr. Blackwood at paragraph 102 and I agree with the comments there. I understand that the opinion of the structural engineers from within Atkins whom Mr Blackwood has consulted is that the deviation does not change the design intent of the east D-wall.

As-built Connection Details

73. Request 3(d) from the Commission: "*Please address the following matters from the perspective of the designer: Explain and confirm with the aid of drawings the as-built connection details between EWL Slab and east diaphragm walls. Provide a set of the relevant as-built drawings. If such as-built drawings are not available, explain why they are not available. Confirm whether it is Your Company's responsibility to provide as-built drawings.*"

74. The EWL as-built drawings were not prepared during my time on the Project. Atkins' position has been stated by Mr. Blackwood at paragraphs 104 to 106 of his witness statement.

Request 4 – Presentation to Professor David A Nethercot

75. Request from the Commission:

"*(a) Explain and describe the contents of the presentation given to Professor David A Nethercot.*

(b) Confirm who gave the presentation on behalf of Your Company.

(c) Explain, with the aid of any presentation materials given to Professor David A Nethercot, what is the overall design scheme of the diaphragm walls and EWL/NSL Slabs and the details of the slab/wall connections.

(d) Please produce the relevant paper, notes, power point, slides and/or video of the presentation."

76. I was not at this meeting I have read the witness statement of Mr. Blackwood at paragraphs 108 to 110 and have no comments on the comments stated there.

Close

77. I trust that the information provided in this Statement and its exhibits are of assistance to the Commission. I will be pleased to supplement with any additional information which the Commission may find helpful.

Dated 13 November 2018

Robert William McCrae

Corrigendum to the Witness Statement of Robert William McCrae

dated 13 November 2018

Page	Paragraph	Content
J3351	51	Replace "*I signed TWD-004B2 as approver of the document [**JB-6**]*" with "*Although my name appears on the Document Title Page, I have not wet signed TWD-004B2 [**J94**] as it was a work in progress and would only be wet signed for formal issuance*".