

APPENDIX TF/B**SCHEDULE OF PHASED COMPLETION FOR THE WORKS**

- 1) The Works shall be executed in six (6) Phases and the overall Contract Period shall be three hundred and four (304) days from the Overall Commencement Date as stipulated in the Letter of Acceptance. Each Phase of the Works shall be demarcated in the Architect's Drawings and briefly described hereinafter.
- 2) The Contractor shall not be given free and uninterrupted possession of the whole of the Site. Possession of the Site will be given in Phases as stated in the Architect's Drawings; corresponding with this Schedule of Phased Completion for the Works.
- 3) For the avoidance of doubt, all residual works not falling within any of the Phases as indicated in Tender Documents and Tender Drawings shall be completed within the Overall Contract Completion Date.
- 4) If the Contractor fails to complete the respective Works in the corresponding Phases within the stipulated time(s) or within any extended time(s) fixed in accordance with the Conditions of Contract, the Contractor shall be liable to the Employer for the Liquidated Damages as stated in the Appendix to Standard Conditions of Contract for each day of the respective Phase of the Works that remain incomplete as stated hereinafter; all in accordance with the Conditions of Contract and Tender Document.
- 5) The Works for the six (6) Phases are as shown in the Tender Drawings shall generally comprise but not limited to the following:-

5.1) Phase 1 – Hall 3 and Hall 4

- a. Supply, Delivery, Fabrication and Installation of new roofing sheets overlay with approved new metal roofing sheets (Optional Works).
- b. Supply, Delivery and Installation of approved fall arrest system at new roof.
- c. Supply and Apply Painting Works to all exposed steel roof trusses and steel pod trusses.
- d. Repair and/or Replacement Works to damaged structural steel members at Pod 5 and to Roof Truss BH-4.
- e. Repair and/or Replacement Works to existing vermiculite at Pod 6 and repaint to steel beam and base plate.
- f. Remove existing swing glass doors including disposal off-site and supply, deliver and install new automatic swing glass doors; complete with all necessary and related door frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- g. Remove existing motorized louvre actuators of mechanically operated vent louvres at the underside of roofs including disposal off-site and supply, deliver, install, testing and commissioning of new motorized louvre actuators to mechanically operated vent louvres.
- h. Remove existing drain covers including disposal off-site and supply, deliver and install new drain covers at Atrium Area.

- i. Refurbishment Works to existing Toilets with and including supply, delivery, installation and fixing of sanitary wares, fittings and accessories.
- j. Remove existing external floor tiles including disposal off-site and supply, deliver and lay new heavy duty homogenous tiles at Atrium Area.
- k. Remove existing ceiling boards at location identified in the Tender Drawings including disposal off-site and supply, deliver, install and apply painting system to new calcium silicate board ceiling including turning and alignment works to affected wall partitions.
- l. Making good of water seepages of walls at staircase at 3rd storey of Pod 4, Pod 5 and Pod 6, wall plaster cracks at Pod 4, Pod 5, Pod 6, Pod 11 and Pod 12.
- m. Making good of localized ground settlement at the rear of Hall 3 and Hall 4.
- n. Supply, Delivery and Installation of general signages.
- o. Supply and Apply Painting Works for Persons with Disabilities (PWD) Holding Points.
- p. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- q. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- r. Any other works identified, indicated and demarcated as within Phase 1 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 1 – Hall 3 and Hall 4:

- i. Contractor to provide half width of passage and access at Atrium Walkway in front of Hall 3 and Hall 4 at all times; covered access with lighting to external F&B Areas and 2nd storey podium mezzanine at all times, and Carpark lots during pedestrian walkway works; and Fire Engine Access-way access at all times.
- ii. Contractor to maintain at least one escalator access to 2nd storey all the times.
- iii. All external general lightings to be maintained operational at all times by the Contractor.
- iv. Contractor to ensure provision of M&E utility to be catered to maintain uninterrupted supply to all F&B outlets at all times except for one week within proposed works for shut down of F&B outlets (tentatively scheduled between 19th -25th June 2017).
- v. The two exits of SingEx Admin office on 2nd storey to be maintained at all times for egress to assembly areas.
- vi. Contractor to provide and submit micro schedule within 3 weeks after Letter of Acceptance for SO's approval for external F&B works and pedestrian walkway works.

5.2) Phase 2 – Hall 5, Hall 6 and Foyer 2

- a. Supply, Delivery, Fabrication and Installation of new roofing sheets overlay with approved new metal roofing sheets (Optional Works).
- b. Supply, Delivery and Installation of approved fall arrest system at new roof.
- c. Supply and Apply Painting Works to all exposed steel roof trusses and steel pod trusses.
- d. Repair and/or Replacement Works to damaged structural steel members at Pod 7 and to Roof Truss BH-4.

- e. Remove existing swing glass doors including disposal off-site and supply, deliver and install new automatic swing glass doors; complete with all necessary and related door frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- f. Remove existing motorized louvre actuators of mechanically operated vent louvres at the underside of roofs including disposal off-site and supply, deliver, install, testing and commissioning of new motorized louvre actuators to mechanically operated vent louvres.
- g. Repair and/or Replacement Works to damaged cladding and its associated support structure at Foyer 2 Taxi Stand Shelter Canopy including disposal off-site and supply, deliver and install new cladding and associated supporting structures including all interfacing works to match with existing structures and finishes.
- h. Remove existing drain covers including disposal off-site and supply, deliver and install new drain covers at Atrium Area.
- i. Refurbishment Works to existing Toilets with and including supply, delivery, installation and fixing of sanitary wares, fittings and accessories.
- j. Remove existing external floor tiles including disposal off-site and supply, deliver and lay new heavy duty homogenous tiles at Atrium Area.
- k. Supply, Delivery and Installation of new aluminium louvre screens onto the existing shelter canopy at Foyer 2 Taxi Stand.
- l. Interior Refurbishment Works to existing Meeting Room M6 into Prayer Rooms.
- m. Remove existing ceiling boards at location identified in the Tender Drawings including disposal off-site and supply, deliver, install and apply painting system to new calcium silicate board ceiling including turning and alignment works to affected wall partitions.
- n. Making good of water seepages of walls at staircase at 3rd storey of Pod 7, Pod 8, Pod 9, Pod 10 and Pod 11, water seepages of walls at HV Switchroom at Pod 8, wall plaster cracks at Pod 7, Pod 8, Pod 9, Pod 10 and Pod 11.
- o. Supply, Delivery and Installation of general signages.
- p. Supply and Apply Painting Works for Persons with Disabilities (PWD) Holding Points.
- q. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- r. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- s. Any other works identified, indicated and demarcated as within Phase 2 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 2 – Hall 5, Hall 6 and Foyer 2:

- i. Contractor to provide half width of passage access at air-con Atrium Walkway in front of Hall 5 and Hall 6 at all times; Fire Engine Access-way access at all times; and POD 9 mezzanine handicap toilets to be accessible to support Muslim prayer room at all times.
- ii. Contractor to provide covered access with lighting to external F&B Areas and 2nd storey podium mezzanine at all times, internal F&B Areas and existing family facilities areas within 1st Carpark lots during pedestrian walkway works, and Foyer 2 on 1st and / or 2nd storey at all times during construction works (Minimum 3m width on both 1st storey and 2nd storey).

- iii. Contractor to maintain at least one escalator access to 2nd storey all the times.
- iv. All external general lightings to be maintained operational by the Contractor at all times.
- v. Taxi stand services to be maintained operational by the Contractor at all times.
- vi. Contractor to ensure provision of M&E utility to be catered to maintain uninterrupted supply to all F&B outlets at all times except only one week within proposed works for shut down of F&B outlets (tentatively scheduled between 19th -25th June 2017).
- vii. Contractor to maintain uninterrupted power supply for operations of Car Park Station (POD 7) and Main Car Park Gantry (POD 8) at all times.
- viii. Contractor to provide and submit micro schedule 3 weeks after Letter of Acceptance for SO's approval for F&B works and pedestrian walkway works.

5.3) Phase 3 – Hall 7, Hall 8, Hall 9, Hall 10 and Pedestrian Linkway

- a. Supply, Delivery and Installation of approved fall arrest system at new roof.
- b. Remove existing ventilator gas springs, ventilator motors, and motorized louvre gaskets of vent louvres including disposal off-site and supply, deliver, install, testing and commissioning of new ventilator gas springs, ventilator motors, and motorized louvre gaskets to vent louvres (performance louvres).
- c. Construction of new reinforced concrete staircase with new finishes and handrails at the rear of Hall 10.
- d. Refurbishment Works to existing Toilets with and including supply, delivery, installation and fixing of sanitary wares, fittings and accessories.
- t. Remove existing ceiling boards at location identified in the Tender Drawings including disposal off-site and supply, deliver, install and apply painting system to new calcium silicate board ceiling including turning and alignment works to affected wall partitions.
- e. Making good and repaint to existing structural steel members of existing pedestrian linkway between Hall 6 to Hall 7.
- f. Making good of water seepages of walls at Hall 7, Hall 8, Hall 9 and Hall 10.
- g. Supply, Delivery and Installation of general signages.
- h. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- i. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- j. Any other works identified, indicated and demarcated as within Phase 3 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 3 – Hall 7, Hall 8, Hall 9, Hall 10 and Pedestrian Linkway:

- i. Contractor to provide minimum 2m wide access of covered walkway for passage to Hall 1 to Hall 6 and MAX Atria at all times.
- ii. Contractor to provide covered access with lighting to traffic junction and opposite side towards Foyer 2 at all times.
- iii. Contractor to provide toilet facilities to FCC SingEx staff personnel at all times.

- iv. Contractor to provide all necessary safety provisions during works at SUTD Pedestrian Access and access to Halls 7 to Hall 10.
- v. Contractor to provide power supply to Fire Command Centre (FCC2) on 1st storey at all times.
- vi. Contractor to provide and submit micro schedule 3 weeks after Letter of Acceptance for SO's approval for covered pedestrian walkway works.

5.4) Phase 4 – Hall 1 and Hall 2

- a. Supply, Delivery, Fabrication and Installation of new roofing sheets overlay with approved new metal roofing sheets (Optional Works).
- b. Supply, Delivery and Installation of approved fall arrest system at new roof.
- c. Supply and Apply Painting works to all exposed roof trusses and pod trusses.
- d. Repair and/or Replacement Works to damaged structural steel members at Pod 2 and to Roof Truss BH-4.
- e. Remove existing swing glass doors including disposed off-site and supply, deliver and install new automatic swing glass doors; complete with all necessary and related door frames, ironmongeries, hardware, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- f. Remove existing motorized louvre actuators of mechanically operated vent louvres at the underside of roofs including disposal off-site and supply, deliver, install, testing and commissioning of new motorized louvre actuators to mechanically operated vent louvres.
- g. Refurbishment Works to existing Toilets with and including supply, delivery, installation and fixing of sanitary wares, fittings and accessories.
- h. Remove existing ceiling boards at location identified in the Tender Drawings including disposal off-site and supply, deliver, install and apply painting system to new calcium silicate board ceiling including turning and alignment works to affected wall partitions.
- i. Making good of water seepages of walls at staircase at 3rd storey of Pod 1, Pod 2, Pod 3, wall plaster cracks at Pod 1, Pod 2, Pod 3, Pod 14, Pod 15 and Pod 16, and new layer of vermiculite to be sprayed on base plate of staircase at Pod 3.
- j. Supply, Delivery and Installation of general signages.
- k. Supply and Apply Painting Works for Persons with Disabilities (PWD) Holding Points.
- l. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- m. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- n. Any other works identified, indicated and demarcated as within Phase 4 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 4 – Hall 1 and Hall 2:

- i. Contractor to provide half width of passage and access at air-con Atrium Walkway in front of Hall 2 at all times.
- ii. Contractor to provide access with lighting from Carpark lots during pedestrian walkway works.

- iii. Cargo Lift Access to 2nd storey to be maintained operational by the Contractor at all times.
- iv. Contractor to provide and submit micro schedule 3 weeks after Letter of Acceptance for SO's approval for pedestrian walkway works.

6.1) Phase 5 – Foyer 1 and Convention Centre

- a. Remove existing swing glass doors including disposed off-site and supply, deliver and install new automatic swing glass doors; complete with all necessary and related door frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- b. Remove existing swing glass doors at foyer walkway including disposed off-site and supply, deliver and install new swing glass doors; complete with all necessary and related door frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes
- c. Remove existing fixed glass panels at Foyer 1 Walkway including disposed off-site and supply, deliver and install new fixed glass panels; complete with all necessary and related frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- d. Remove existing glazed ventilation window above the glazed door including disposed off-site and supply, deliver and install new glazed ventilation window; complete with all necessary and related frames, ironmongeries, hardwares, accessories, brackets, fixing and jointing accessories and including making good of affected claddings and finishes.
- e. Refurbishment Works to existing Toilets with and including supply, delivery, installation and fixing of sanitary wares, fittings and accessories.
- f. Supply, fabricate and install new gutter mesh to existing roof gutters and new steel eaves flashing at Convention Centre.
- g. Remove existing ceiling boards at location identified in the Tender Drawings including disposal off-site and supply, deliver, install and apply painting system to new calcium silicate board ceiling including turning and alignment works to affected wall partitions.
- h. Supply and Apply Painting Works for Persons with Disabilities (PWD) Holding Points.
- i. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- j. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- k. Any other works identified, indicated and demarcated as within Phase 5 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 4 – Hall 1 and Hall 2:

- i. Contractor to provide covered access with lighting to ECC on 1st and / or 2nd storey at all times during construction works (Minimum 3m width on both 1st storey and 2nd storey) and Bliss Garden Restaurant located at Foyer 1, 2nd Storey (Minimum 3m width); to F&B areas on 2nd storey, Starhub counter, SELECT office, Fire Command Centre (FCC1), various SingEx offices (Finance / AV / CM Offices) on 1st storey, Caterer Kitchen and access to Cargo lift at all times.
- ii. Contractor to provide access to Caterer Kitchen area & cargo lift area at 2nd storey during fit out works to 2nd storey podium mezzanine at all times and provide access with lighting from Carpark lots during pedestrian walkway works.
- iii. Contractor to provide covered canopy to F&B area (including sitting area) during construction works.
- iv. Foyer 1 Passenger Lift and at least one escalator access to 2nd storey to be maintained operational by the Contractor at all times.
- v. Contractor to plan and ensure that both male and female toilet at ECC 2nd storey are not closed for construction works at same time. Contractor to provide directional signs to opposite/nearby toilets.
- vi. Contractor to ensure provision of M&E utility to be catered to maintain uninterrupted supply to all F&B outlets at all times except only one week within proposed works for shut down of F&B outlets (tentatively scheduled between 19th -25th June 2017).
- vii. Contractor to provide and submit micro schedule 3 weeks after Letter of Acceptance for SO's approval for F&B works, pedestrian walkway works, and ECC area and Foyer 1 works.

5.5) Phase 6 – Area 4 – Foyer 1 Coach Bay

- a. Construction of new lift pit, lift shaft structure, new roof canopy, new sheltered walkway including supply, delivery, fabricate, erect and installation of new steel structure slab including new finishes and railings connecting the existing slab at Level 2 to the landing of new lift.
- b. Supply, Delivery and Installation of general signages.
- c. Felling of identified and demarcated existing trees and dispose off-site.
- d. Landscaping Works.
- e. All necessary and associated Mechanical, Electrical and Plumbing (MEP) Services Installation and Works.
- f. Making good of all affected works including finishes to the satisfaction of the Superintending Officer and/or Employer.
- g. Any other works identified, indicated and demarcated as within Phase 6 in the Tender Drawings and/or Tender Documents.

Specific Access Requirements for Phase 6 – Area 4 – Foyer 1 Coach Bay:

- i. Contractor to provide access with lighting to 2nd storey linkway from coach bay drop off area at all times during construction works (Minimum 3m width)
- ii. Cargo Lift Access and at least one escalator access to 2nd storey to be maintained operational by the Contractor at all times.

5.6) A. Summary

Phase Description	Contract Period (calendar days)	Liquidated Damages per day (S\$)
Phase 1 – Hall 3 and Hall 4	122	S\$ 20,000.00 /day
Phase 2 – Hall 5, Hall 6 and Foyer 2	120	S\$ 23,000.00 /day
Phase 3 – Hall 7, Hall 8, Hall 9, Hall 10 and Pedestrian Linkway	142	S\$ 16,500.00 /day
Phase 4 – Hall 1 and Hall 2	121	S\$ 17,000.00 /day
Phase 5 – Foyer 1 and Convention Centre	92	S\$ 8,500.00 /day
Phase 6 – Area 4 – Foyer 1 Coach Bay	212	S\$ 1,000.00 /day

B. Overall Contract Commencement Date : To be stipulated in the Letter of Acceptance.

C. Overall Contract Completion Date : To be stipulated in the Letter of Acceptance.