

REQUIREMENT SPECIFICATIONS

1 GENERAL

- 1.1. The Requirement Specifications shall be read in conjunction with the Conditions of Contract and all other documents included in this Contract. The Contractor shall be bound by all Contract Documents referred to in the tender and shall be deemed to have made himself acquainted with all such documents before tendering for the Contract. The Contractor understands and acknowledges that no claims for lack of knowledge in this respect will be entertained by the Agency.

2 DEFINITIONS

For the purpose of this Contract:

- 2.1 "Drains" shall mean, but is not limited to, all closed, open, common/backlane, antimalarial (AM), Earth, outlet drains, culverts and cross- culverts, roadside drains, dropinlet chambers (DICs), scupper drains, centre divider drains, the Bridgedek drainage system, discharge pipes and down pipes, submerged and non-submerged drains, drains under overhead bridges/flyovers, flyover and viaduct drains, associated drains found in drainage reserves and any other structures that serve the purpose of surface drainage that comes under the Agency's cleaning maintenance.
- 2.2 Words importing the singular include the plural and vice versa.

3 DESCRIPTION OF SERVICES

- 3.1 The Services shall generally be for the desilting and flushing of Drains in whole of Singapore.
- 3.2 The Contractor shall supply all labour, materials, vehicles, equipment, transport and everything else necessary to carry out and complete the Services to the satisfaction of the Agency and in accordance with the Price Schedule, Requirement Specifications, Conditions of Contract and shall comply with all instructions given by the Agency.
- 3.3 The Contractor may deploy mechanical, automated or manual means or any other means or any combination of these as approved by the Agency to carry out the Services and enhance the integration of the cleaning operations depending on the specific features of each site. The Contractor shall be deemed to have allowed for this in his tender. The Contractor understands and acknowledges that no additional claims would be entertained by the Agency for the performance of this service.
- 3.4 The Contractor shall desilt and flush Drains within the timeframe as stipulated by the Agency in the Works Order. as instructed by the Agency. This shall include, but not limited to, the removal of all leaves, litter, overgrown, all vegetation such as weeds, plants from the bed, invert of aprons, weepholes, crevices, cracks, joints, slopes, walls, railings, balustrades, head-walls or wingwalls of lined drains, culverts or bridges of drainage reserves, debris trapped at grating and litter trap devices, silt, mud, rubbish, refuse, algae, moss, aquatic plants, timber, debris trapped at gratings, sandbar accumulated at the mouth of outfall drains and any other waste matter in the drains.

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All desilted materials and wastes collected from the desilting works shall be contained in water-tight containers or vehicles and removed to approved disposal sites.

- 3.5 The Contractor shall, within the timeframe as stipulated by the Agency in the Works Order, flush openings, discharge pipes and down pipes of flyover and viaduct Drains (inclusive of the Bridgedek drainage system which requires a unit key to access) and closed drains including, but not limited to, closed scupper drains using high pressure flushing equipment (with working pressure from 250 bars up to 500 bars) and water tanker(s). The Contractor shall flush the Drains with water applied with *Bacillus Thuringiensis* var. *Israelensis* (BTI). The Contractor shall remove any objects or obstruction found in the openings and down pipes during flushing. He shall also remove any debris flushed out into the downstream roadside drain. The Contractor shall draw to the Agency's attention immediately to any chokes in a down pipe which could not be cleared during his cleaning operations and give details of location of the choke. The Contractor shall be deemed to have allowed for this in his tender. The Contractor understands and acknowledges that no additional claims would be entertained by the Agency for the performance of this service.
- 3.6 The Contractor shall perform the Services for the cleaning of Drains such that no litter, leaf, flotsam, debris etc. is left behind immediately after each sweeping or cleaning, as deemed acceptable by the Agency. Where there is a dispute over the interpretation of cleanliness standard for the performance of the Services by the Contractor, the Agency's opinion shall be final.

4 COLLECTION AND DISPOSAL OF REFUSE, SWEEPINGS, LITTER, ETC

- 4.1 The Contractor shall remove all litter, silt, debris, etc. collected in the performance of the Services for disposal.
- 4.2 The Contractor shall be a holder of a valid general waste collector licence (refer to: <https://www.nea.gov.sg/docs/default-source/our-services/waste-management/list-of-all-general-waste-collectors.pdf>) and shall dispose of all sweepings, refuse, litter, leaves, silt, debris, etc. collected in the performance of the Services at approved disposal sites (refer to <http://www.nea.gov.sg/our-services/waste-management/waste-management-infrastructure/refuse-disposal-facility>).
- 4.3 The Contractor shall pay for the disposal fees and comply with the procedures for the disposal of refuses at the approved disposal facilities. All transportation, disposal, equipment costs and disposal gate fees are deemed to have been included in the rates submitted. The Contractor understands and acknowledges that no additional claims shall be entertained in this respect.
- 4.4 The handling, transportation, treatment and disposal of toxic industrial waste in Singapore is controlled under the Environmental Public Health (Toxic Industrial Waste) Regulations 1988. A detailed list of toxic industrial waste collectors in Singapore can be found here: <http://www.nea.gov.sg/docs/default-source/our-services/pollution-control/hazardous-waste/list-of-tiw-collectors.pdf>)

5 SITE CONDITIONS

- 5.1 If the Contractor is unable to complete the Services by the specified time due to inclement weather, the Contractor is to complete the Services either within the same day at extended hours at no extra charge or to perform the Services the next day at no extra charge.
- 5.2 The Contractor shall take necessary measures to minimise nuisance, inconvenience and obstruction to high-speed vehicular flow or pedestrian flow during the performance of the Services. The Contractor shall also ensure that they will not cause any noise nuisance to the residents in the vicinity of the area during the performance of the Services.
- 5.3 The Contractor shall make necessary adjustments to his method of Services to accommodate heavy vehicular and pedestrian traffic or other obstructions during the execution of the Services.
- 5.4 The Contractor shall report any damaged Drains in the area of work if found during the course of carrying out the Services.
- 5.5 The Contractor shall provide everything necessary to prevent damage to all infrastructure including roads, drains, fencing, hedge, trees, etc when performing the Services. Any damage to existing works and properties by the Contractor's vehicles, equipment, machinery or workmen, or by operations under the Contract shall be made good at the Contractor's expense to the satisfaction of the Agency.
- 5.6 The Contractor shall be responsible for taking all precautionary measures to prevent flooding of the worksite and the adjacent areas and maintain normal water flow in the Drains including clearing of all obstructing materials, debris, refuse etc. in the course of carrying out the Services.
- 5.7 Temporary heaping up of desilted materials and litter at the worksite shall not cause obstruction to vehicular and pedestrian traffic while the cleaning works are in progress. Such temporary heaping up of desilted materials and litter must be removed before the workers leave the worksite at the end of the day.
- 5.8 The Contractor shall leave every part of the site in a clean, tidy and sound condition and make good any damage to the adjoining public or private properties resulting from his operations at his own expense and to the satisfaction of the Agency. The Agency reserves the right to employ other Contractors to rectify the defects and all costs incurred shall be deducted from the monies due to the Contractor.

6 WORKPLACE SAFETY AND HEALTH

- 6.1 The Contractor shall comply with the Workplace Safety & Health (WSH) Act and the provisions of the Workplace Safety & Health Act Subsidiary Legislations and any amendment or re-enactment thereto.
- 6.2 The Contractor shall employ suitable staff with a certification in workplace safety such as Workplace Safety and Health Officer Training Course or approved equivalent certification, hereinafter called the 'Workplace Safety and Health Officer', under the WSH Act.

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- 6.3 The Contractor shall be on the bizSAFE programme that promotes workplace safety and health and has attained bizSAFE Level 3 or higher. Information on the bizSAFE programme developed by the Workplace Safety and Health Council can be found on <http://www.wshc.sg>.
- 6.4 The Contractor shall also submit his Risk Assessment for the Services before commencement of the Contract and resubmit the Risk Assessment to the Agency whenever there are subsequent changes or as and when required by the WSH Act of the Agency.

7 ACCIDENTS, TRAFFIC AND PUBLIC SAFETY

- 7.1 In the event of any accident or incident resulting in injuries to persons or damage to property, the Contractor shall make an immediate verbal report to the Agency. This shall be followed by a submission of a written report to the Agency via fax or email within two (2) hours of the accident or incident during working hours, or by 8.00am on the next day in the event of accidents occurring after working hours.

8 UNIFORM

- 8.1 The Contractor shall provide all his workers with a distinctive uniform. The uniform must be worn at all times while the workers are on duty and maintained in a good and clean condition. The uniform must bear the Contractor's company name prominently. In addition, the Contractor shall provide all the necessary safety gears, equipment and luminous safety vests, etc., for the workers.
- 8.2 The Contractor shall submit a description and photos of the uniform for the Agency's approval prior to the commencement of the Contract.

9 VEHICLE, VESSEL AND EQUIPMENT

- 9.1 The Contractor shall comply with the Land Transport Authority's (LTA) requirements and other matters pertaining to vehicle and road usage.
- 9.2 The Contractor shall ensure that:
- (a) The company's name and telephone number(s) are displayed clearly on all vehicles for easy identification.
 - (b) All vehicles and vessels when used in performing the Services shall clearly display signs approved by the Agency indicating that the Contractor has been duly appointed by the Agency together with the contract number.
 - (c) All vehicles, vessels and equipment deployed are in good working condition as follows:
 - i Not mechanically faulty, resulting in spillage or leakage of refuse sullage water.
 - ii (For vehicles) Road-worthy and conforming to the Agency's standards for vehicle emissions.

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- 9.3 The Contractor shall use suitable equipment to carry out operations and continually implement innovative methodology to increase productivity. All tools, equipment and methodology to be used for the carrying out of Services must be approved by the Agency.

10 TECHNOLOGY INTRODUCED BY THE AGENCY

- 10.1 The Contractor shall be required to use any technological systems and devices provided by the Agency. Training will be provided to the Contractor to use such systems and devices and the Contractor is expected to fully participate in the training as and when directed by the Agency.
- 10.2 The Contractor shall allow the Agency to install any devices on their vehicles for the monitoring of work done and the performance of the Contractor. The Contractor shall not tamper with, modify, remove, or do anything to destroy or damage the devices. Only the Agency and its authorised partners or contractors shall be entitled to operate or maintain the devices installed. Any devices supplied by the Agency to the Contractor which are lost or damaged by the Contractor shall be made good at the Contractor's expense to the satisfaction of the Agency.
- 10.3 The provisions of clause 10 of the Requirement Specifications shall not absolve the Contractor of the overall responsibility to perform the Services and shall not affect the rights and remedies expressly reserved herein to the Agency.

11 TRAINING

- 11.1 As required under NEA's Enhanced Clean Mark Accreditation Scheme, supervisors and designated cleaners employed by the Contractor to carry out the Services are required to undergo skills certification under the Singapore Workforce Skills Qualifications (WSQ) framework.

12 MONITORING AND QUALITY MANAGEMENT

- 12.1 The Contractor shall provide quality service in executing the Services through proper supervision, management and monitoring of employees' performance. The Contractor is to put in place proper monitoring and quality management such that the Services as required under the Contract are carried out properly and promptly. The Contractor shall be deemed to have been included this in the rates submitted and no additional claims shall be entertained.
- 12.2 Notwithstanding clause 12, the Agency reserves the right to monitor the Contract using whatsoever methods and systems as he shall choose. The Contractor shall at all times co-operate fully with the requirements of the Agency in respect to the monitoring of the Contract.
- 12.3 The Agency shall be given access to all operational records, devices and systems used by the Contractor for the purpose of monitoring and quality management

DAILY PROGRESS REPORTS

- 12.4 The Contractor shall submit daily progress updates of cleaning operations done according to the required Services, in a format and a frequency required by the Agency.

The progress report shall minimally include the following information:

- (a) Date and time of Services performed.
- (b) Site where Services was done (e.g. name of drains, lat long coordinates etc.).
- (c) Geo-tagged, date and time-stamped photos indicating progress of work.
- (d) Description of Services done (e.g. de-silting works or flushing of drains etc.).
- (e) Cleaning operator details (e.g. cleaning team, cleaning supervisor or vehicle licence number etc.).
- (f) Any other information requested by the Agency.

13 PROJECT PROPOSAL

- 13.1 The Tenderer is required to submit a detailed project proposal containing, but not limited to the following:

- (a) Operational Management
 - i Deployment of resources
 - ii Specifications and methodologies
 - iii Technology, monitoring and quality management system
- (b) Relevant Track Records
 - i Track records of current and previous similar projects in the last 5 years
 - ii Relevant accreditation and awards received in the last 5 years (NEA Enhanced Clean Mark accreditation, ISO, SQC)

OPERATIONAL MANAGEMENT

- 13.2 The Tenderer shall submit during the tender the operational management plan to carry out the Services specified. This shall include, but is not limited to:

- (a) Resources, specifications and methodologies
- (b) Technology, monitoring and quality management system

- 13.3 Resources, specifications and methodologies

- (a) The Tenderer shall submit the proposed resources, specifications and methodologies to carry out the Services specified. This shall include, but is not limited to:

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- i. summary of proposed resources, including maximum number of flushing teams that can be deployed per day (e.g. vehicles, tools, equipment and manpower) committed to carry out the Services using template in **Appendix I**; and
- ii. photographs and/or videos and statements showing the proposed methods of performing the Services and full specifications (including water pressure of the flushing equipment and optimum cleaning speed of proposed vehicles and equipment) and any supporting literature, brochures, catalogues and videos of the proposed vehicles, tools and equipment to be deployed for performing the Services.

13.4 Technology, Monitoring and Quality Management

- (a) The Tenderer shall submit his technology, monitoring and quality management plan including but not limited to:
 - i. Adoption of technology and/or innovation to improve productivity (including digital solutions); and
 - ii. Monitoring and quality management system framework and a comprehensive audit plan to oversee the Services performed by the Contractor's internal audit team.

RELEVANT TRACK RECORDS

- 13.5 The Tenderers shall submit the track records of current and previous similar projects in the last 5 years (including testimonials, if any) and the relevant accreditation and awards received in the last 5 years.

14 COMMENCEMENT AND DURATION OF OPERATIONS

- 14.1 The Contract shall tentatively commence in December 2020 for a period of sixteen (16) months. The actual date of commencement shall be indicated in the Letter of Acceptance. The Agency shall have the option to extend the Initial Contract Period for up to a period of 12 months.
- 14.2 The detailed cleaning schedule, showing the deployment of resources sequence and timings for carrying out the Services, Risk Assessment for the Services and Business Continuity Plan shall be submitted to the Agency one (1) month after award of tender, or at a schedule as approved by the Agency.
- 14.3 Upon commencement of the Contract, the Contractor shall be bound to deploy the approved vehicles, tools and equipment for performing the Services as submitted and accepted in the tender, or at a schedule as approved by the Agency. The Contractor may however, with the Agency's approval during the period of the Contract, introduce other vehicles, tools and equipment that can be proven to outperform the approved vehicles, tools and equipment.

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- 14.4 Deployment of other types of vehicles, tools and equipment that were not submitted and accepted in the tender or approved by the Agency and other unapproved means of performing the Services shall give the Agency the rights to render the Contract null and void. For the avoidance of doubt, non-compliance of this clause shall be deemed a breach of Contract and the Agency shall have the right to exercise its sole discretion to terminate the Contract.