

ANNEX 4-C OTHER AGENCIES REQUIREMENTS

Introduction

The successful tenderer shall adhere to the requirements of other Singapore government agencies, as set out herein. The successful tenderer shall be deemed aware that the requirements as stipulated in this Other Agencies Requirements are non-exhaustive and further consultation with the respective agencies are required. The successful tenderer shall obtain the relevant agencies' comments and consent prior to commencement of any works.

1. Agencies' Requirements

1.1 CAAS's Requirements

- 1.1.1 The successful tenderer shall ensure that all developments, structures, and fixtures on the site shall not exceed the maximum height of 150m SHD. Such developments, structures and fixtures include those on the roof tops, whether permanent, temporary, transient or stationary (including but not limited to the building superstructure, TV antennae, water tanks, lift motor rooms, cranes, maintenance equipment, lightning conductors, moving objects, vegetation, etc.) and all construction equipment and temporary structures (including but not limited to cranes, piling rigs, etc.) which shall all be subject to the same height limits. Republic of Singapore Air Force (RSAF)'s clearance shall be sought for the use of construction equipment and temporary structures above 153m SHD (Email: Height_Control@defence.gov.sg). For civil aviation height and requirements, the successful tenderer shall consult the Civil Aviation Authority of Singapore ("CAAS"). The more stringent height restriction(s) from the respective agencies shall apply.
- 1.1.2 The successful tenderer shall consult CAAS and DSTA through URA (Development Control Group) when the detailed development plans are available.
- 1.1.3 For applications involving land use, the successful tenderer is advised to obtain clearances from URA, which will decide whether to grant planning approval taking into account planning considerations. In the event that there are any communication installations, the successful tenderer shall seek clearance from the relevant agencies such as IMDA.

1.2 LTA's Requirements

- 1.2.1 To facilitate cycling as a mode of transportation to major transport nodes and key amenities, the successful tenderer shall construct and provide bicycle parking to accommodate a minimum number of bicycle parking lots within the land parcel according to prevailing requirements set out by the relevant Competent Authority at the formal submission stage.
- 1.2.2 As part of the latest cycling path plans, LTA may activate areas of land within Parcels E and F, along the boundary, that is adjacent to Dover Close East for the expansion of the pedestrian footpath and cycling path. Further details as shown in 1-A Location Plan.

1.3 NEA's Requirements

- 1.3.1 The subject site is located within a water catchment area, where rainwater and surface runoff are collected in the downstream reservoir for treatment to produce drinking water by PUB. The proposed development shall not cause pollution directly or indirectly to our water resources. Activity that could cause serious contamination to water resources shall not be carried out. The successful tenderer shall also ensure that the requirements for developments in water catchment areas are duly complied with and also polluting activities as stated in the Negative List are not carried out in the Development.
- 1.3.2 Sewerage and sullage water from the Development shall be discharged into the public sewer. The successful tenderer or his appointed QP shall check with PUB (Water Reclamation Network Department) on the point of sewer connection and the allowable discharge rate.
- 1.3.3 The discharge of trade effluent shall comply with the discharge limits as stipulated in the Sewerage & Drainage (Trade Effluent) Regulations for discharge into a public sewer. A written approval shall also be obtained from PUB for the discharge of trade effluent into the public sewer.
- 1.3.4 The Development shall comply with all applicable requirements and provisions of the Singapore Standard on the Code of Practice for Pollution Control (SS593:2013), the Code of Practice on Environmental Health, the Code of Practice on Sewerage and Sanitary Works, the Code of Practice on Surface Water Drainage, the Code of Practice for the Control of Legionella Bacteria in Cooling Towers, the Environmental Protection and Management Act, the Environmental Public Health Act, the Sewerage and Drainage Act, the Radiation Protection Act, the Energy Conservation Act and their Regulations.
- 1.3.5 Under the Environmental Protection and Management (Control of Noise at Construction Sites) Regulations, construction sites within 150 m of residential estates need to comply with more stringent noise limits at construction stage especially during night time hours. Hence, the successful tenderer shall implement noise control measures during the construction period to ensure that the noise emission levels from the building and construction activities are within noise limits and would not cause nuisance to any nearby residents. In addition, the successful tenderer is not allowed to carry out construction activities from 10 pm on Saturday and eve of public holiday to 7 am on the following Monday and the day after the public holiday respectively.

1.4 NParks' Requirements

- 1.4.1 Pursuant to the Parks & Trees Act (Cap.216), any tree with a girth exceeding one metre measured 0.5 metre from the ground, growing on, any tree conservation area or any vacant land shall not be cut except with the prior approval of the Commissioner of Parks and Recreation. The subject site is within a tree conservation area.
- 1.4.2 Roadside trees and green verge(s) abutting the development site are not to be affected, especially by vehicular ingress/egress, acceleration/deceleration/storage/vehicular lanes, services access, bus stops, and any structure required under statute to be erected to divert or reconstruct services or road features/elements, etc. Similarly, the developer shall ensure that pick-up/drop-off points, taxi lay-bys, loading/unloading bays and fire engine hard-standing areas are to be located within the development site.

- 1.4.3 The developer shall replace the existing roadside green verge fronting the development site if it is affected by the proposed development. The width of the replacement green verge should be in accordance to LTA's standard road code for that category of road or match the existing green verge along the road, whichever is wider. For Queensway, the Queensway Park Connector (PC) abuts the development site, and a standard roadside table incorporating the PC should be provided for where possible.
- 1.4.4 There must not be any change of soil level to the roadside planting verge without prior approval from NParks.
- 1.4.5 There must not be any widening and/or raising of existing carriageways and realignment of road kerbs and drains on abutting roads without prior approvals from the relevant authorities.
- 1.4.6 Development works are to be confined within the development site and working boundaries. There must not be any illegal dumping or storing of construction materials beyond the approved boundaries. The proposed development shall not encroach on the road reserve line and affect any roadside table.
- 1.4.7 The developer shall consult NParks' Parks and Trees Regulatory (PTR) Branch early at the planning and design stage on the felling of any trees that may be affected by the proposed development with a copy of recently survey plan of the site (of less than 2 years) and its peripheral roads, at a scale of at least 1:500, clearly indicating information of trees, such as location, species, height and girth. Relevant additional information such as plans on construction hoardings should also be submitted.
- 1.4.8 The developer is to consult NParks on the tree protection criteria for roadside trees during early planning and design stage.
- 1.4.9 The developer is to inform NParks at least 8 weeks before the commencement of works for NParks to transplant/salvage existing affected plants within the development site and/or along affected roadside tables.
- 1.4.10 The developer shall comply with planting provision and aeration requirements for open air parking at street level. More details can be viewed on NParks' website at https://www.nparks.gov.sg/-/media/nparks-real-content/partner-us/nparks-handbook_version-4.pdf.

1.5 PUB's Requirements

The successful tenderer shall comply with comments and requirements from Catchment and Waterways.

- 1.5.1 The proposed site is not affected by PUB's current drainage scheme.
- 1.5.2 The site is affected by drains within the development. Surface runoff from the site and all neighbouring lots shall continue to be allowed to discharge through the drain within the site.
- 1.5.3 The minimum platform level (MPL) for normal developments shall be 300mm above the adjacent road/ground levels, whichever is higher.

- 1.5.4 The minimum platform level (MPL) for commercial/multi-unit residential developments with basements (e.g. shopping malls, large office buildings and condominiums) shall be 600mm above the adjacent road/ground level, whichever is higher.
- 1.5.5 The successful tenderer shall conduct thorough investigations and survey of the site so as to determine the details of the existing drains within the sites.
- 1.5.6 The existing drainage system within and in the vicinity of the sites shall be upgraded/improved to cater for increased runoff from the development. In addition, new drains, contingents to the type and nature of the development may be evolved within the site in conjunction with the development proposal. JTC/the developing agency shall submit comprehensive drainage plans within the development sites for our further comments and approval. Appropriate drainage reserves shall be set aside for drains in accordance with the current Code of Practice on Surface Water Drainage.
- 1.5.7 There may be other smaller drains on the sites which are not indicated in the plans. JTC shall determine the details of these drains on sites. JTC shall also ensure that these drains are safeguarded in the proposed sites. Surface runoff from the sites and all neighbouring lots must be allowed to discharge through the drains within the site. Please be reminded that all existing drains within the sites shall not be altered/interfered with without prior approval of the Department.
- 1.5.8 The existing drain within the site shall not be filled or interfered with until approval permanent drains have been constructed and functioning satisfactory.
- 1.5.9 The design and construction of the proposed development within the site shall not cause or affect the structural integrity of the outlet/roadside drain.
- 1.5.10 The existing drainage system within and in the vicinity of the proposed sites shall not be altered, disturbed, filled, diverted, blocked or interfered with without the prior approval from the Department.
- 1.5.11 The runoff within, upstream of and adjacent to the proposed site shall be effectively drained away without causing flooding within the site and in the vicinity of the site.
- 1.5.12 The proposed development sites are within Pandan Water Catchment Area.
- 1.5.13 Strict pollution control measures such as silt control and oil spillage preventive measures shall be incorporated in the design and during the construction of the proposed development.
- 1.5.14 All sewage and sullage water shall be discharged into a public sewer.
- 1.5.15 Storage of toxic chemicals and hazardous materials are not allowed within the water catchment area.
- 1.5.16 If there is any earth filling work at the development site, use good earth free of any debris or construction waste materials. If sand is used for backfilling, do not use marine sand. Only washed sand with chloride content not exceeding 0.01% (by Weight) shall be allowed. Test reports on the chloride content of the washed sand shall be submitted to Catchment & Waterways Department, PUB for records before commencement of work.

- 1.5.17 All pollution control measures stipulated in NEA's EPMA shall be adopted.
- 1.5.18 The planning, design, construction activities and procedures for plan submission shall comply fully with the requirements as stipulated in the current edition of the Code of Practice on Surface Water Drainage and The Sewerage and Drainage (Surface Water Drainage) Regulations 2007. You may download the latest version of the COP from the PUB website <http://pub.gov.sg/-/media/PUB/PDF/Code-of-Practices-and-Submission-Guidelines/Surface-Water-Drainage/COP-Surface-Water-Drainage-7th-Edition-Addendum-No-2.pdf>.
- 1.5.19 Effective erosion and sediment control measures shall be provided by the developer/owner and the QP shall advise his developer/owner to provide such effective measures and facilities with inputs from Qualified Erosion Control Professional (including site management system and perimeter cut-off drain, silt traps, storage ponds, treatment plants, etc.) to ensure clean discharge that complies with the statutory requirement. The proposed erosion and sediment control measures shall be submitted by a Qualified Erosion Control Professional (QECP) to Public Utilities Board before commencement of works. All affected watercourses shall be desilted and cleared until completion of work. For reference, the information can be found in the website https://www.pub.gov.sg/-/media/PUB/PDF/Compliance/Earth-Control-Measures/ECM_Guidebook.pdf.

The successful tenderer shall also comply with comments and requirements from Water Reclamation Network.

- 1.5.20 There are existing sewers of various diameters and private sanitary drain lines within/in the close proximity of the site.
- 1.5.21 All sewers and manholes shall remain readily accessible at all times so that any maintenance and repair/excavation works can be carried out expeditiously.
- 1.5.22 Thorough site investigation shall be carried out to determine the exact positions and levels of the existing sewer.
- 1.5.23 No structure/piling/retaining structure (whether temporary or permanent) shall be sited over or close to the sewers. All new structures shall be kept as far away from existing sewers as possible and no nearer than the following minimum lateral clearances from the centerline/outer edge of the sewer pipe:

| Sewer Pipe Diameter (mm) | Nett Clearance Required |
|-------------------------------|--|
| 150 to 600 (depth ≤ 3 m) | 1.0 m from outer edge of any structure to centreline of sewer pipe |
| 150 to 600 (depth > 3m to 5m) | 1.5m from outer edge of any structure to centreline of sewer pipe |
| 150 to 600 (depth > 5m) | 2.0m from outer edge of any structure to centreline of sewer pipe |

- 1.5.24 It is critical to note that **no** building works, including all preliminary activities like trial trench, soil investigation works, earthwork, excavation/digging, piling, ground drilling/penetration works, etc. shall commence within the required setback (see above clause) for the sewer until a written clearance from PUB has been obtained.
- 1.5.25 JTC shall comply with PUB's general requirements for protection of the existing sewers, pumping mains and DTSS tunnels & structures. The standard advisory note to the Agencies/QPs/Contractors on the procedure and requirements to prevent the sewerage system from being damaged by construction activities can be found in PUB website at https://www.pub.gov.sg/-/media/Images/Feature/Content-Pages/Professionals/Compliance/Applications/Revised_PUB_WRN_AdvisoryNotes_Mar_2023.pdf.

1.6 SP PowerGrid (SPPG)'s Requirements

- 1.6.1 Prior to any excavation works, the successful tenderer shall request for gas services returns and acquire the gas plans.
- 1.6.2 A minimum clearance of 300 mm shall be maintained between SPPG's gas pipes and all other services or structures.
- 1.6.3 Where any gas pipes are affected, the successful tenderer shall liaise with Gas Distribution Projects for diversion of pipes. As far as possible, no gas pipes shall be within the hoarding area of the work site.
- 1.6.4 The successful tenderer shall provide a corridor too facilitate diversion.
- 1.6.5 Wherever possible, isolation valves shall be inserted to enable quick isolation of pipeline within the work site (e.g. crossing of bored tunnels, cut-and-cover tunnels, etc.). These isolation valves should not be located inside the work site.
- 1.6.6 Where the cut-and-cover tunnels runs parallel to the existing gas mains, there shall be a minimum clearance of 5 m from the diaphragm wall.
- 1.6.7 All vent shafts to the tunnels shall be at least 20 m away from the existing gas mains.
- 1.6.8 All piles shall be at least 5 m away from the exiting gas mains, which shall be determined by trial holes.
- 1.6.9 All crossings over cut-and-cover tunnels shall be replaced temporarily with steel pipes for suspension and subsequently replaced with the original pipe materials upon the completion of the construction work. The steel pipe supports shall be endorsed by a Professional Engineer and submitted to SPPG Gas Operations for approval. The support system shall allow access to the pipe for inspection and for fire-fighting purposes in the event of an emergency.
- 1.6.10 No air intake or outlet shall be located nearby exiting gas mains.
- 1.6.11 Depending on the extent and complexity of diversion, a long lead-time may be required. Hence, the successful tenderer is advised to consult SPPG Gas Operations early.
- 1.6.12 The successful tenderer shall coordinate all diversion activities.

- 1.6.13** Where required, the successful tenderer shall peg the agreed corridor for the laying of the diversion pipe.
- 1.6.14** The successful tenderer shall be aware of all gas pipes within the work site, and shall ensure that all parties working within the site are also aware of the locations of the gas pipes. Where possible, prominent markers indicating the pipe route shall be displayed.
- 1.6.15** The successful tenderer shall be responsible to inspect, protect and maintain the integrity of gas pipes within the work site, and observe the following:
- (i) No building structure is allowed to be built over all existing gas mains.
 - (ii) No heavy machinery or equipment is allowed to be placed or constructed over all existing gas mains.
 - (iii) No heavy machinery or vehicle movement over the existing gas mains.
 - (iv) Leak survey along the pipe route within the work site shall be conducted regularly.
- 1.6.16** Wherever possible, no hot work is allowed in the vicinity of gas pipes. If hot work is unavoidable, the successful tenderer shall take all necessary measures, including but not limited to the following:
- (i) The site shall be certified gas-free by a qualified Safety Officer.
 - (ii) Gas-free checks shall be conducted regularly before commencement of work and throughout the work.
 - (iii) All necessary precautions to prevent damage to the existing gas mains shall be taken.
 - (iv) All possible occurrence of fire hazards shall be eliminated.
 - (v) Where possible, physically separate the gas pipe from the heat source.
 - (vi) Where necessary, consult SPPG Gas Operations on other precautionary actions to be taken.
- 1.6.17** Valve chambers which are still located within the work site due to site constraints, shall be raised 0.5 m above ground and kept visible and accessible at all times, to enable easy identification and operation in the event of an emergency.
- 1.6.18** The successful tenderer shall notify SPPG Gas Operations of any works directly or indirectly affecting the exiting gas mains or the newly diverted gas mains.
- 1.6.19** The successful tenderer shall monitor possible ground movements or soil subsidence in the vicinity of their work sites and inform SPPG Gas Operations immediately if any such movements or subsidence is observed or detected and were gas pipes are present.

- 1.6.20** In the event that any gas leak is detected, all works shall cease immediately and SPPG Gas Operations 24 hours Gas Service Operation Centre shall be contacted at Tel: 1800-752-1800 for assistance.