

PARTICULAR SPECIFICATION

APPENDIX Z

SCHEDULE OF UTILITIES

Table 1 - Schedule of Utilities to be Undertaken by the Advanced Utilities Contractor CR2016

S/N	Utility Services Reference	Utility Category	Size & Type	Utility Agency	Temp. Diversion	Perm. Diversion	Expected Date Of Completion (Note 13)	Remarks
ELECTRICAL (SP POWERGRID LTD)								
1		HV	1 Nos. of 6.6kV Circuits	SPPG DNC	✓		30-Dec-24	The diversion will be carried out by SPPG. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.
2		HV	8 Nos. of 22kV Circuits	SPPG DNC	✓		30-Dec-24	
TELECOMMUNICATIONS (SINGTEL LTD AND NETLINK TRUST)								
3		Telco	Fixed Network Cable - 12W	SingTel	✓		30-Dec-24	The diversion will be carried out by Singtel. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.
		Telco	Fixed Network Cable - 9W	SingTel	✓		30-Dec-24	
		Telco	Fixed Network Cable - 3W	SingTel	✓		30-Dec-24	
		Telco	Fixed Network Cable - 2W	SingTel	✓		30-Dec-24	
		Telco	Fixed Network Cable - 1W	SingTel	✓		30-Dec-24	
TELECOMMUNICATIONS (SP TELECOM)								
4		Telco	Fixed Network Cable - 6W	SP Tel	✓		30-Dec-24	The diversion will be carried out by SPTel. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.
SEWER (PUBLIC UTILITIES BOARD)								
5		Sewer	525mm dia. Sewer Pipe	PUB WRN	✓		30-Dec-24	The diversion will be carried out by CR2016. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.
WATER (PUBLIC UTILITIES BOARD)								
6		Water	300mm dia. Water Pipe	PUB WSN	✓		30-Dec-24	The diversion will be carried out by CR2016. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.
7		Water	1200mm dia. Water Pipe	PUB WSN	✓		30-Dec-24	

GAS PIPE PLAN (POWERGAS LTD)								
8		Gas	M300 mm dia Gas Pipe	SP PowerGas	✓		30-Dec-24	The diversion will be carried out by SPGas. The Contractor shall coordinate with CR2016 for the as-built information and diversion completion timeline.

Notes:

- 1) The Contractor shall investigate and ensure that the services do not affect his ERSS work; else he shall plan for alternative diversion at his cost and time.
- 2) The Contractor shall liaise, coordinate and allow in his programme, the completion of his utilities works.
- 3) The Contractor shall include the cost for permanent diversion of water pipes including but not limited to supply and installation, testing, commissioning and handover to the relevant authorities in his Contract Price.
- 4) The Contractor shall divert (temporary or permanent), support, protect all other utilities affected by his construction works, not limited to the utilities listed, at his cost and time.
- 5) Where utility services conflict with his works, and not feasible to be diverted, they must be supported and protected during construction of the Works at the Contractor's cost and time.
- 6) The Contractor shall protect all utilities and not limited to the utilities listed above.
- 7) The Contractor shall carry out the utility trench excavation, provide and lay pipes/conduits and cable slabs as required by the agencies, construction of draw-pits/manholes with cover at every 150m spacing or at spacings required by agencies, milling and patching works, reinstatement and all associated works, necessary to the satisfaction of the Engineer and handing over to the agencies.
- 8) Based on the utilities diversion proposal shown on the Authority's Drawings, the Contractor shall note that there are no proposed StarHub cable diversions required for the Works under this contract. The Contractor shall coordinate, divert, support, protect these utilities if affected by his construction works at the Contractor's cost and time .
- 9) Refer to PS Clause 16.6 for works associated with sewers.
- 10) Refer to PS Clause 16.7 for works associated wih water services.
- 11) Refer to PS Clause 16.5 for the works to be undertaken by the Contractor or the Utility Agencies.
- 12) Refer to PS Clause 16.5 for the minimum diversion period required by the Utility Agencies.
- 13) The date indicated as Expected Date of Completion is indicative and Contractor shall liaise with relevant utility agencies for completion of utility diversion and shall allow the remaining utility diversion works in the Contractor's construction programme

Table 2 - Schedule of Utilities Diversion to be undertaken by Contractor as Design and Build

S/N	Utility Services Reference	Type of Utilities	Estimated length(1) (One Way Length) (m)	Utility Agency	Temp. Diversion	Perm. Diversion	Design and construction of utility trenches including backfilling and reinstatement	Supply and install of pipes / conduits/ valves/ manholes/ joint pits (Note 2)	Supply of cables, cables pulling, testing and commissioning
ELECTRICAL (SP POWERGRID LTD)									
1		22kV cables		SPPG DNC		✓	C	C	UA
2		6.6kV cables		SPPG DNC		✓	C	C	UA
TELECOMMUNICATIONS (SP TELECOM)									
3		SP Telecom cables - 6 ways		SP Tel		✓	C	C	UA
TELECOMMUNICATIONS (SINGTEL LTD AND NETLINK TRUST)									
4		Singtel cables - 12 ways		SingTel		✓	C	C	UA
		Singtel cables - 9 ways				✓			
		Singtel cables - 3 ways				✓			
		Singtel cables - 2 ways				✓			
		Singtel cables - 1 way				✓			
WATER (PUBLIC UTILITIES BOARD)									
6		Water Pipe - 300 mm Dia		PUB WSN		✓	C	C	All necessary works for connection/joints, testing and commissioning shall be under Contractor
		Water Pipe - 1200 mm Dia		PUB WSN		✓			
		Water Pipe - bulkchamber and internal connection to Maju		PUB WSN/ MINDEF/ DSTA		✓			
		Water Pipe - bulkchamber and internal connection to		PUB WSN/ SIM/ SUSS		✓			
WATER (PUBLIC UTILITIES BOARD)									
7		Sewer Pipe - 525mm dia.		PUB WRN		✓	The Contractor shall coordinate and seek approval from PUB for decommission of the 525mm dia. sewer pipe. The Contract shall remove and grout the abandoned pipelines, remove affected manholes and reinstate the areas to the satisfaction of the landowners and to the acceptance of the Engineer.		

Notes:

C: by Contractor

UA: by Utility Agencies (Authority's Works Orders)

NA: Not Applicable

- Estimated Length is indicative and for information only. The Contractor shall not claim against the Authority for any variances in the Actual Length.
- C: The Contractor shall design and construct utility common trenches, coordinate, supply and install pipes/conduits, manholes, joint pits, draw pits and other ancillary works to meet the requirements of the respective Utility Agencies.

UA: The Contractor shall coordinate for the Utility Agencies to carry out all their works including laying of cables and/or gas pipes. All cables and/or gas pipes are supplied and installed by the respective Utility Agencies at the Authority's costs.

- The Contractor shall provide the necessary attendances and coordination works with the Utility Agencies to facilitate the diversion of other existing utility services not shown in the above Table but necessary for the completion of his Works at his costs.