

Item	Description	Quantity	Unit	Rate	HK \$
	<p style="text-align: center;"><u>7.4 - DRAINAGE</u></p> <p><u>WORKS TO EXISTING DRAINAGE SYSTEM</u></p> <p><u>Connect new drain pipes to existing manholes including cutting openings in reinforced concrete wall at any height above manhole invert with the diameter of the openings approximately 300 mm larger than the external socket diameter of the new drain pipes, cut away steel reinforcement as necessary, expose, clean and bend remaining reinforcement, demolish and subsequently relay concrete benchings, build in end of new pipes and provide new steel reinforcing bars around ends of pipes, grout gap solid between pipes and edge of openings with concrete, make good cement and sand rendering, form new main and branch channels in benching as required, render benching and channels with cement and sand (1:3), all to match existing, temporarily plug ends of serviceable drains during construction if required and include for all necessary extra excavation, disposal, all works outside site boundary including obtaining of required working permits, making good all works disturbed and carting away all debris</u></p>				
A	Connection of 300 mm vitrified clay pipe.	1	No.		
B	Connection of 100 mm cast iron pipe.	2	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>WORKS TO EXISTING DRAINAGE SYSTEM</u> (Cont'd)				
	<u>Demolish the existing underground drainage system including breaking up and removal of slab, concrete bed and underground obstructions encountered during excavation, backfilling, removal of surplus excavated material from site, connect the existing drain pipe to new manhole including reinstatement and making good works disturbed</u>				
A	Existing 225mm rainwater pipe. (Approximately 10 m long)	1	Item		
B	Existing 1200mm rainwater pipe. (Approximately 10 m long)	1	Item		
	<u>RAINWATER DISPOSAL SYSTEM</u>				
	<u>Excavate trench for drain pipe not exceeding 200 mm diameter with concrete bed under</u>				
C	Trench average 1.50 m deep.	134	Run		
D	Trench average 2.00 m deep.	30	Run		
	<u>Excavate trench for drain pipes and concrete bed under</u>				
E	Trench for 225 mm drain pipe average 2.50 m deep.	126	Run		
F	Trench for 225 mm drain pipe average 3.00 m deep.	40	Run		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>RAINWATER DISPOSAL SYSTEM</u> (Cont'd)				
A	Trench for 300 mm drain pipe average 2.00 m deep.	10	Run		
B	Trench for 300 mm drain pipe average 2.50 m deep.	15	Run		
C	Trench for 300 mm drain pipe average 4.00 m deep.	62	Run		
D	Trench for 450 mm drain pipe average 2.50 m deep.	87	Run		
E	Trench for 525 mm drain pipe average 2.00 m deep.	15	Run		
F	Trench for 600 mm drain pipe average 2.00 m deep.	36	Run		
G	Trench for 750 mm drain pipe average 3.50 m deep.	16	Run		
H	Trench for 900 mm drain pipe average 5.00 m deep.	4	Run		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>RAINWATER DISPOSAL SYSTEM</u> (Cont'd)				
	<u>Concrete Grade 20/20 beds and surrounds to drain pipes including all necessary formwork and blinding layer, as described</u>				
	<u>Beds and surrounds to</u>				
A	100 mm Pipe, 450 x 450 mm overall.	137	Run		
B	150 mm Pipe, 500 x 500 mm overall.	27	Run		
C	225 mm Pipe, 575 x 575 mm overall.	166	Run		
D	300 mm Pipe, 650 x 650 mm overall.	87	Run		
E	450 mm Pipe, 850 x 850 mm overall.	87	Run		
F	525 mm Pipe, 925 x 925 mm overall.	15	Run		
G	600 mm Pipe, 1000 x 1000 mm overall.	36	Run		
H	750 mm Pipe, 1150 x 1150 mm overall.	16	Run		
J	900 mm Pipe, 1300 x 1300 mm overall.	4	Run		
	<u>Cast iron pipes and fittings complying with BS437 as described</u>				
K	100 mm Pipe laid in trench.	137	Run		
L	150mm Pipe laid in trench.	27	Run		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>RAINWATER DISPOSAL SYSTEM</u> (Cont'd)				
	<u>Lead caulked spigot and socket joint cast iron pipes and fittings complying with BS 437 or BS 4622, complete with bitumen coating internally and externally, as described</u>				
A	225 mm Pipe laid in trench.	166	Run		
B	300 mm Pipe laid in trench.	87	Run		
C	450 mm Pipe laid in trench.	87	Run		
D	525 mm Pipe laid in trench.	15	Run		
E	600 mm Pipe laid in trench.	36	Run		
F	750 mm Pipe laid in trench.	16	Run		
G	900 mm Pipe laid in trench.	4	Run		
	<u>Open trapped gully and sealed trapped gully as Drawing No.60309093/DR/303</u>				
	<u>Cast iron open trapped gully with 'P' trap, outlet and vertical extension piece with branches for inlets as necessary, jointed to drains and set on and surrounded with 200 mm thick reinforced concrete and carried up to paving level, dished to form hopper with cement rendering (1:3), rebated for and fitted with cast iron sealed grating cover and frame, and including all excavation, disposal and formwork as detailed on drawing</u>				
H	Gully with 100 mm outlet and complete with cover. (OTG)	25	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO.</u> <u>60309093/DR/301 to 302</u> <u>Manholes with covers, chain anchors, chains,</u> <u>step irons and steel joists bedding and haunching</u> <u>frames in cement mortar and sealing in thick</u> <u>grease, including all excavation, concrete works,</u> <u>finishes and fittings as detailed on drawing</u>				
A	Stormwater manhole (Type E1) 1300 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
B	Stormwater manhole (Type E1) 1375 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	8	No.		
C	Stormwater manhole (Type E1) 1375 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
D	Stormwater manhole (Type E1) 1450 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	3	No.		
E	Stormwater manhole (Type E1) 1450 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO. 60309093/DR/301 to 302 (Cont'd)</u>				
	<u>Manholes with covers, chain anchors, chains, step irons and steel joists bedding and haunching frames in cement mortar and sealing in thick grease, including all excavation, concrete works, finishes and fittings as detailed on drawing (Cont'd)</u>				
A	Stormwater manhole (Type E1) 1600 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	4	No.		
B	Stormwater manhole (Type E1) 1675 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
D	Stormwater manhole (Type E1) 1600 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	3	No.		
E	Stormwater manhole (Type E1) 1675 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
F	Stormwater manhole (Type E1) 1750 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO.</u> <u>60309093/DR/301 to 302 (Cont'd)</u> <u>Manholes with covers, chain anchors, chains,</u> <u>step irons and steel joists bedding and haunching</u> <u>frames in cement mortar and sealing in thick</u> <u>grease, including all excavation, concrete works,</u> <u>finishes and fittings as detailed on drawing</u> (Cont'd)				
A	Stormwater manhole (Type E1) 1750 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
B	Stormwater manhole (Type L) 2300 x 2300 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
C	Stormwater manhole (Type L) 1850 x 2300 x 3000 to 4000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
D	Stormwater manhole (Type L) 1850 x 2300 x 4000 to 5000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
E	Stormwater manhole (Type L) 2450 x 2300 x 4000 to 5000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
F	Stormwater terminal manhole (Type T2) 2150 x 4200 x 4000 to 5000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO.</u> <u>60309093/DR/301 to 302 (Cont'd)</u> <u>Manholes with covers, chain anchors, chains,</u> <u>step irons and steel joists bedding and haunching</u> <u>frames in cement mortar and sealing in thick</u> <u>grease, including all excavation, concrete works,</u> <u>finishes and fittings as detailed on drawing</u> <u>(Cont'd)</u>				
A	Stormwater manhole (Type F1) 1375 x 1750 x 3000 to 4000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
B	Stormwater manhole (Type F1) 1450 x 1750 x 3000 to 4000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
	<u>SOIL, WASTE AND VENTILATION SYSTEM</u>				
	<u>Excavate trench for drain pipe not exceeding</u> <u>200 mm diameter with concrete bed under</u>				
C	Trench average 2.00 m deep.	503	Run		
D	Trench average 3.50 m deep.	30	Run		
E	Trench average 4.00 m deep.	15	Run		
F	Trench average 4.50 m deep.	20	Run		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>SOIL, WASTE AND VENTILATION SYSTEM</u> (Cont'd)				
	<u>Excavate trench for drain pipes and concrete bed under</u>				
A	Trench for 225 mm drain pipe average 3.50 m deep.	68	Run		
	<u>Concrete Grade 20/20 beds and surrounds to drain pipes including all necessary formwork and blinding layer, as described</u>				
	<u>Beds and surrounds to</u>				
B	80 mm Pipe, 430 x 430 mm overall.	40	Run		
C	100 mm Pipe, 450 x 450 mm overall.	157	Run		
D	150 mm Pipe, 500 x 500 mm overall.	371	Run		
E	225 mm Pipe, 575 x 575 mm overall.	68	Run		
	<u>Cast iron pipes and fittings complying with BS437 as described</u>				
F	80 mm Pipe laid in trench.	40	Run		
G	100 mm Pipe laid in trench.	157	Run		
H	150 mm Pipe laid in trench.	371	Run		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>SOIL, WASTE AND VENTILATION SYSTEM</u> (Cont'd)				
	<u>Lead caulked spigot and socket joint cast iron pipes and fittings complying with BS 437 or BS 4622, complete with bitumen coating internally and externally, as described</u>				
A	225 mm Pipe laid in trench.	68	Run		
	<u>Open trapped gully and sealed trapped gully as Drawing No.60309093/DR/303</u>				
	<u>Cast iron open trapped gully with 'P' trap, outlet and vertical extension piece with branches for inlets as necessary, jointed to drains and set on and surrounded with 200 mm thick reinforced concrete and carried up to paving level, dished to form hopper with cement rendering (1:3), rebated for and fitted with cast iron sealed grating cover and frame, and including all excavation, disposal and formwork as detailed on drawing</u>				
B	Gully with 100 mm outlet and complete with cover. (OTG)	15	No.		
C	Gully with 150 mm outlet and complete with cover. (OTG)	1	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>SOIL, WASTE AND VENTILATION SYSTEM</u> (Cont'd) <u>Open trapped gully and sealed trapped gully as</u> <u>Drawing No.60309093/DR/303</u> <u>Cast iron sealed trapped gully with 'P' trap,</u> <u>with 100 mm vent pipe, outlet and vertical</u> <u>extension piece with branches for inlets as</u> <u>necessary, jointed to drains and set on and</u> <u>surrounded with 200 mm thick reinforced</u> <u>concrete and carried up to paving level,</u> <u>dished to form hopper with cement</u> <u>rendering (1:3), rebated for and fitted with</u> <u>cast iron sealed grating cover and frame, and</u> <u>including all excavation, disposal and</u> <u>formwork as detailed on drawing</u>				
A	Gully with 100 mm outlet and complete with cover. (STG)	7	No.		
B	Gully with 150 mm outlet and complete with cover. (STG)	8	No.		
	<u>MANHOLES AS DRAWING NO.</u> <u>60309093/DR/301 to 302</u> <u>Manholes with covers, chain anchors, chains,</u> <u>step irons and steel joists bedding and haunching</u> <u>frames in cement mortar and sealing in thick</u> <u>grease, including all excavation, concrete works,</u> <u>finishes and fittings as detailed on drawing</u>				
C	Foul water manhole (Type D1) 850 x 1275 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	11	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO.</u> <u>60309093/DR/301 to 302 (Cont'd)</u>				
	<u>Manholes with covers, chain anchors, chains,</u> <u>step irons and steel joists bedding and haunching</u> <u>frames in cement mortar and sealing in thick</u> <u>grease, including all excavation, concrete works,</u> <u>finishes and fittings as detailed on drawing</u> (Cont'd)				
A	Foulwater manhole (Type D1) 850 x 1275 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
B	Foulwater manhole (Type D1) 925 x 1275 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
C	Foulwater manhole (Type E1) 1300 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	9	No.		
D	Foulwater manhole (Type E1) 1300 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	4	No.		
E	Foulwater manhole (Type E1) 1375 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	6	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>MANHOLES AS DRAWING NO. 60309093/DR/301 to 302 (Cont'd)</u>				
	<u>Manholes with covers, chain anchors, chains, step irons and steel joists bedding and haunching frames in cement mortar and sealing in thick grease, including all excavation, concrete works, finishes and fittings as detailed on drawing (Cont'd)</u>				
A	Foulwater manhole (Type F1) 1450 x 1750 x 3000 to 4000 mm deep complete with heavy duty double seal recessed type cover and frame.	1	No.		
B	Foulwater manhole (Type L) 1700 x 2300 x 4000 to 5000 mm deep complete with heavy duty double seal recessed type cover and frame.	4	No.		
C	Wastewater manhole (Type D1) 850 x 1275 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
D	Wastewater manhole (Type E1) 1300 x 1750 x 2000 to 3000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
E	Wastewater manhole (Type E1) 1300 x 1750 x 1000 to 2000 mm deep complete with heavy duty double seal recessed type cover and frame.	2	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
A	<u>PETROL INTERCEPTOR AS DRAWING NO. 60309093/DR/302</u>				
	Petrol interceptor consisting of three chambers, each in 925 x 750 mm (minimum) x 3000 - 4000 mm deep internally complete with 675 x 675 mm heavy duty cast iron double seal manhole covers and frames bedded and haunched in cement mortar and sealed in thick grease, cast iron step irons, 150 mm cast iron 'L' shaped interconnecting pipes and waterproof cement rendering to all internal surface, including all excavation, disposal, formwork, finishes and fittings.	1	No.		
B	<u>GREASE INTERCEPTOR AS DRAWING NO. 60309093/DR/302</u>				
	Grease interceptor (type GT-01) consisting of two chambers, each in 1500 x 1600 mm (minimum) x 1000 - 2000 mm deep internally complete with 550 x 550 mm light weight cast iron double seal manhole covers and frames bedded and haunched in cement mortar and sealed in thick grease, cast iron step irons, 150 mm cast iron 'T' shaped interconnecting pipes and waterproof cement rendering to all internal surface, including all excavation, disposal, formwork, finishes and fittings.	1	No.		
C	Grease interceptor (type GT-02) consisting of two chambers, each in 900 x 1000 mm (minimum) x 1000 - 2000 mm deep internally complete with 550 x 550 mm light weight cast iron double seal manhole covers and frames bedded and haunched in cement mortar and sealed in thick grease, cast iron step irons, 150 mm cast iron 'T' shaped interconnecting pipes and waterproof cement rendering to all internal surface, including all excavation, disposal, formwork, finishes and fittings.	1	No.		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
A	<p><u>BUILDER'S WORKS IN CONNECTION WITH SERVICES</u></p> <p>Allow for all builder's works in connection with the Drainage Installation including cutting or forming chases, holes and openings, etc. of all sizes up to 1.00 square meter in area (formwork to edges of openings in the structure exceeding 1.00 square meter in area as detailed on the structural drawings have been measured in the "Concrete Works" section), to both existing and new structures, all necessary additional trimming reinforcement around openings, installing or casting in of all embedded items provided by the Drainage Installation Specialist Sub-contractor, providing and building in sleeves and the like, filling and sealing around sleeves, pipes, conduits, ducts, cables, etc. through openings with approved fire resistant packing materials and sealant, supplying cement mortar for fixing brackets, holderbats, bolts and the like, bedding and grouting behind frames including supply cement or waterproof cement mortar, covering chases with a strip of metal lathing and fixing to wall, filling around and painting surface wiring exposed to view, painting conduits exposed to view, providing all necessary sealants, jointing materials, metal lathing, etc. as required at the interfaces with the Drainage Installation Specialist Sub-contractor's works, making good all works disturbed, provision of holding facilities, and anchor plate as described, provision of plinths, and all other necessary work of a like nature whether or not mentioned in the Specification or shown on the Drawings.</p>	1	Item		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>GENERAL WORKS</u>				
A	Allow for providing earthing up to the nearest earthing terminals, all as described.	1	Item		
B	Allow for providing sample boards, all as described.	1	Item		
C	Allow for supplying and fixing non fire rated sleeves and the like and fixing fire rated sleeves and the like.	1	Item		
D	Allow for disconnecting, setting aside and refixing for the convenience of other trades.	1	Item		
E	Allow for testing and commissioning the drainage installation as directed by and to the satisfaction of the Architect including all necessary fuel, and consumable stores, as described.	1	Item		
F	Allow for providing all necessary submissions, making applications to relevant authorities for tests and inspections and obtaining all necessary certificates and approvals, including the completion of all forms, preparation of all shop drawings and other documents necessary for submissions and inspection purposes and payment of all fees and charges, as described.	1	Item		
G	Allow for marking the position of holes, mortises, chases and the like in the structure during the construction of the building.	1	Item		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>GENERAL WORKS</u> (Cont'd)				
A	Allow for providing all necessary record documents including as-fitted drawings, operation and maintenance manuals, reports, negatives, CAD diskettes and other information necessary recorded in CD-ROM for the satisfactory execution of the Works, as described.	1	Item		
B	Allow for providing all necessary free inspection, attendance, operation, maintenance, guarantees and breakdown services commencing from the completion of the installation and up to the end of the Defects Liability Period.	1	Item		
C	Allow for providing instruction and training to the Employer's staff in the operation and maintenance of the drainage installation, as described.	1	Item		
D	Allow for providing all necessary spare parts, test kits, loose keys, and tools in connection with the drainage installation, as described.	1	Item		
E	Allow for providing all necessary identification painting, signage and labels including specification plates, manufacturers name plates and the like, as described.	1	Item		
Carried to Collection					

Item	Description	Quantity	Unit	Rate	HK \$
	<u>GENERAL WORKS</u> (Cont'd)				
A	Allow for the preparation of shop drawings including detailed design, catalogues, test reports, listing and approval certificates, design / installation manuals, programme, method statements, diagrams, manufacturer's data for equipment and materials and engineering calculations for completion of the entire drainage installation, as described.	1	Item		
B	Allow for expansion joint for all pipes when crossing the expansion joint of the building.	1	Item		
Carried to Collection					