

## KwaDabeka Sewer Reticulation Extension

Contract No. 30609\_5W

GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>1</b>	<b>SABS 1200A</b>	<b>GENERAL</b>				
	8.3	<b>Fixed - Charge Items</b>				
1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2	Establish Facilities on the Site :				
1.2	8.3.2.1	i) Facilities for Engineer:				
1.2.1		a) Offices: 15m <sup>2</sup> air conditioned furnished office	Sum	1		
1.2.2		b) Site notice board (2 No)	Sum	1		
1.3		ii) Facilities for Contractor:				
1.3.1		a) Offices and storage sheds	Sum	1		
1.3.2		b) Ablution and latrine facilities	Sum	1		
1.3.3		c) Water supplies, electric power and communications	Sum	1		
1.3.4		d) Dealing with water (Subclause 5.5)	Sum	1		
1.3.5		e) Access (Subclause 5.8)	Sum	1		
1.4	8.3.3	Other fixed-charge obligations	Sum	1		
1.5	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	Sum	1		
1.6	PSAH-14.1	Compliance with Occupational Health and Safety Act and Construction Regulations.	Sum	1		
1.7	PSAH-14.3	Submission of Health and Safety File	Sum	1		
1.8	PS-9	Compliance with Environmental Management Plan including all reports, meetings, approvals etc.	Sum	1		
TOTAL CARRIED FORWARD						
						67.1

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
1.9	8.4	<b><u>Time - Related Items</u></b>				
	8.4.1	Contractual Requirements	month	15		
	8.4.2	Operate and maintain facilities on the Site:				
1.10	8.4.2.1	i) Facilities for Engineer for duration of construction:				
1.10.1		a) Offices: 15m <sup>2</sup> air conditioned furnished office	month	15		
1.10.2		b) Site notice board (2 No)	month	15		
1.11	8.4.2.2	ii) Facilities for Contractor for duration of construction, except where otherwise stated:				
1.11.1		a) Offices and storage sheds	month	15		
1.11.2		b) Ablution and latrine facilities	month	15		
1.11.3		c) Water supplies, electric power and communications	month	15		
1.11.4		d) Dealing with water (Subclause 5.5)	month	15		
1.11.5		e) Access (Subclause 5.8)	month	15		
1.12	8.4.3	Supervision	month	15		
1.13	8.4.4	Company and head office overhead costs	month	15		
1.14	8.4.5	Other time-related obligations	month	15		
1.15	PSAH-14.2	Compliance with Occupational Health and Safety Act and Construction Regulations.	month	15		
1.16	PS-17	Provision of notices and temporary access to affected properties	Sum	1		
1.17	PS-27	certificate from property owners on completion of work	Sum	1		
1.18	PS-34	Electronic Project photographs with date stamp and description	No.	150		
TOTAL CARRIED FORWARD						
67.2						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
1.19	PS-36	Provision of security	Prov Sum	1	400,000	400,000
1.20		Overheads, charges and profit on item 1.19	%	400,000		
1.21	8.5	<b><u>Sums Stated Provisionally By Engineer</u></b>				
1.22		Allow for work to be undertaken by a registered Engineering Surveyor for checking positions of all services during construction of the works, survey of tie points, and additional strip surveys, as directed by the engineer.	Prov Sum	1	500,000	500,000
1.23		Overhead, charges and Profit on item 1.22	%	500,000		
1.24		General Facilities for Engineer	Prov Sum	1	450,000	450,000
		Overhead, charges and Profit on item 1.24	%	450,000		
1.25	C 1.2.3.1	Allow for Community Liaison Officer.	Prov Sum	1	250,000	250,000
1.26		Overheads, charges and profit on item 1.25 to include all additional costs for leave days, legal deductions and bonuses.	%	250,000		
1.27		Allow for repairs to existng services carried out by service provider	Prov Sum	1	75,000	75,000
1.28		Overheads, charges and profit on item 1.27	%	75,000		
1.29		Allow for removal of temporary road surfaces and reinstatement complete with all courses for Category D roads, to a width of 1m (in accordance with the requirements of the Roads Department). Rate to include for roadmarkings and road signage where necessary.	Prov Sum	1	250,000	250,000
1.30		Overheads, charges and profit on item 1.29	%	250,000		
TOTAL CARRIED FORWARD						
						67.3

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
1.31	PAA	<b>DAYWORKS</b>				
1.31.1	PAA 5.1	<b>LABOUR</b>				
		Unskilled workers	hr	400		
1.31.2		Skilled workers(Artisans)	hr	200		
1.31.3		Operator and drivers (where measured separately)	hr	100		
1.31.4		Foreman	hr	100		
1.32	PAA.5.2	<b>CONSTRUCTION PLANT</b>				
1.32.1		Lowbed transport of plant to and from the site	hr	1 500		
1.32.2		Cat 920 Front-end loader	hr	50		
1.32.3		4WD TLB	hr	400		
1.32.4		22t Tracked Excavator	hr	150		
1.32.5		Bomag 90 Roller	hr	400		
1.32.6		Wacker Trench Compactor	hr	200		
1.32.7		250 cfm Compressor plus 3 breakers	hr	200		
1.33		<b>Trucks:</b>				
1.33.1		6m³	hr	200		
1.33.2		10m³	hr	200		
1.33.3		1t LDV	km	10 000		
1.34	PAA.5.3	Allow a Provisional Sum for materials delivered to site	Prov. Sum	1	100000	100000
1.34.1		% mark up on item 1.34	%	100000		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
1.35	8.8.4	<b><u>Existing Services</u></b>				
1.35.1	8.8.4(c)	Excavate by hand in soft material to expose services.	m <sup>3</sup>	200		
1.36	8.8.5	<b><u>Land Survey Act</u></b>				
1.36.1		Protect beacons, etc., and reposition or re-establish, as ordered, the same by a Registered Land Surveyor on completion of the Works.	Sum	1		
1.36.2	PSA-5.1	Complete As-Built Survey of works. Y, X & Z Co-Ordinates to be supplied in digital format of all sewer manholes (cover levels and invert levels) and house connections	Sum	1		
TOTAL CARRIED FORWARD						
						67.5

KwaDabeka Sewer Reticulation Extension						
Contract No. 30609_5W						
SITE CLEARANCE						
ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>2</b>	<b>SABS 1200C</b>	<b>SITE CLEARANCE</b>				
2.1	8.2.2	Clear and grub large trees and tree stumps of girth a) Over 1m and up to and including 2m	No.	50		
2.2	8.2.5	Removal of existing fences, maintain and store on site and re-install				
2.2.1		<> Wire fences to a maximum height of 1.8m	m	120		
2.2.2		<> Brickwall up to 230mm thick and up to 1m high	m <sup>2</sup>	80		
2.2.3		<> Brickwall up to 230mm thick between 1.1 m and 2 m high	m <sup>2</sup>	80		
2.3	8.2.8	Remove existing gabion protection structures	m <sup>3</sup>	45		
2.4	8.2.10	Remove topsoil to a nominal depth of 150mm, stockpile and maintain	m <sup>2</sup>	8 000		
2.5		Saw-cut and demolish existing concrete driveways/areas (overall width 0.76m, 0.05m layer thick) and spoil material at an approved dump site (Rate to include for cutting surface with diamond saw and haulage).	m <sup>2</sup>	200.00		
2.6		Saw-cut existing asphalt surfaced driveways/areas (overall width 0.76m, 0.04m layer thick) and spoil material at an approved dump site (Rate to include for cutting road/pavement with diamond saw and haulage).	m <sup>3</sup>	200		
2.7	PS-17	Relocate within the site, existing Ventilated Improve Pit (Rate to include for all necessary equipment and labour required)	No	20		
2.8	PSDB - 5.3	Provisional Sum for dealing with crops and plants	Prov. Sum	1	75,000	75,000
2.9		% mark up on item 2.8	%	75,000		
<b>TOTAL CARRIED FORWARD</b>						
						67.6

KwaDabeka Sewer Reticulation Extension						
Contract No. 30609_5W						
EARTHWORKS (PIPE TRENCHES)						
ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>3</b>	<b>SABS 1200DB</b>	<b>EARTHWORKS (PIPE TRENCHES)</b>				
		<u>Excavation</u>				
3.1	8.3.2(a)	Excavate in all materials for trenches, backfill, compact to 93% Mod. AASHTO and dispose of surplus material for 160mm and 200mm nominal diameter pipes at depths: For 160mm diameter pipes :				
3.1.1		<> from 0m to 0,99m deep	m	330		
3.1.2		<> from 1m to 1,99m deep	m	11 860		
3.1.3		<> from 2m to 2,99m deep	m	3 100		
3.1.4		<> from 3m to 3,99m deep	m	860		
3.1.5		<> from 4m to 5m deep	m	250		
		For 200mm diameter pipes :				
3.1.6		<> from 0m to 0,99m deep	m	110		
3.1.7		<> from 1m to 1,99m deep	m	2 250		
3.1.8		<> from 2m to 2,99m deep	m	708		
3.1.9		<> from 3m to 3,99m deep	m	156		
3.1.10		<> from 4m to 4,99m deep	m	120		
3.1.11		<> from 5m to 6m deep	m	110		
3.2	8.3.2(b)	Extra-over items 3.1.1 to 3.1.11 for :-				
3.2.1		Intermediate excavation (Provisional)	m <sup>3</sup>	6 964		
3.2.2		Hard rock excavation, no blasting (Provisional)	m <sup>3</sup>	9 000		
3.2.3	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional).	m <sup>3</sup>	5 000		
3.2.4	8.3.4(a)	Shore trench opposite structures, services and deep excavation.	m	3 200		
3.2.5		Shore deep trenches and excavation	m <sup>2</sup>	860		
3.2.6	8.3.3.3	Allow for excavation in confined areas	m	950		
3.2.7		Excavation under tree roots including support during excavation.	m	1 600		
		<u>Excavation Ancillaries</u>				
3.3	8.3.3.1	Make up deficiency in backfill material (Provisional)				
3.3.1	8.3.3.1(c)	<> by importation from commercial or off-site sources selected by the Contractor	m <sup>3</sup>	3 000		
TOTAL CARRIED FORWARD						
						67.7

KwaDabeka Sewer Reticulation Extension						
Contract No. WS7519						
EARTHWORKS( PIPE TRENCHES)						
ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
3.4	8.3.5	<b>Existing Services</b>				
3.4	8.3.5(a)	Services that intersect a trench:				
3.4.1	PS 5.10	<> Cables	No.	30		
3.4.2	PS 5.10	<> Pipes	No.	30		
3.5	8.3.5(b)	Services that adjoin a trench:				
3.5.1	PS 5.10	<> Cables	m	1 500		
3.5.2	PS 5.10	<> Pipes	m	1 500		
3.6	8.3.6	<b>Finishing</b>				
3.6		Reinstate driveways and road surfaces:				
3.6.1		<> Asphalt road surfaces: 50mm Mix D plus 100mm G2 (compacted to 98% MOD AASHTO) (Provisional). Rate to include prime coat (0.7l/m <sup>2</sup> ).	m <sup>2</sup>	1 400		
3.6.2		<> Concrete driveways/areas: 100mm thick (25 Mpa Concrete) plus 100mm G2 (compacted to 98% MOD AASHTO)	m <sup>2</sup>	500		
3.7		Construct new fencing (Provisional):				
3.7.1		<> Welded wire mesh, Lightly galvanised: Mesh size : 50 x 25mm Wire Diameter : 2.5mm Fences to a maximum height of 1.8m	m	400		
3.7.2		<> Imperial Brickwall : -up to 230mm thick (10-12mm mortar joint sizing hollow key jointing profile) and up to 1.8m high -25/19 Concrete grade base (600mm wide x 250mm thick)	m <sup>2</sup>	400		
TOTAL CARRIED FORWARD						
						67.8

KwaDabeka Sewer Reticulation Extension  
 Contract No. 30609\_5W

GABIONS & PITCHING

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>4</b>	<b>SABS 1200DB</b>	<b>GABIONS AND PITCHING</b>				
4.1	8.2.1	Surface preparation for bedding of Gabions	m <sup>2</sup>	1720		
4.2	8.2.2	Supply and install Gabions: 1m x 1m by 2m long pvc coated wire	m <sup>3</sup>	750		
4.3		Surface preparation for bedding of mattresses	m <sup>2</sup>	1200		
4.4		Supply all material and construct reno mattresses with PVC coated wire, 300mm deep	m <sup>3</sup>	1,500		
4.5	8.2.4	Geo-fabric blanket (U24 or equal) for gabions. The rate shall cover cost of supplying, laying, joining, cutting and waste	m <sup>2</sup>	5,000		
<b>TOTAL CARRIED TO SUMMARY</b>						
						67.9

CONCRETE (SMALL WORKS)

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>5</b>	<b>SABS 1200 GA</b>	<b>CONCRETE (SMALL WORKS) PIPE BRIDGE</b>				
5.1	DA 8.3.2	<b>Restricted Excavation</b>				
5.1.1		Excavation for column bases 1,5m x 1,5m x 0.5m to suitable founding approximately 1m below ground level and compact to 93% Mod AASHTO min Density	m <sup>3</sup>	60		
		<u>Extra over item 5.1.1</u>				
5.1.2		intemediate excavation.	m <sup>3</sup>	35		
5.1.2		hard rock excavation, no blasting allowed.	m <sup>3</sup>	35		
5.2	8.2	<b>Formwork</b>				
5.2.1	8.2.1	Rough vertical plane - foundations.	m <sup>2</sup>	150		
5.2.2		Provide Access Scaffold to Piers including for the provision of working platform for laying of pipe across Piers for a length of 120m.	Sum	1		
5.3	8.3	<b>Reinforcement</b>				
5.3.1	8.3.1	Supply and fix all reinforcement as per detailed drawings, for the following:				
5.3.1		a) High Tensile Steel	t	15		
		Drill into bedrock and place Y20 bars (6 No. Per Pier Base) Minimum length of 1.0m into rock.	No	126		
5.4	8.4	<b>Concrete</b>				
		Supply and cast concrete for the following:				
5.4.1		750mm nominal Ø Class 25D precast concrete manhole rings with interlocking joints laid to form Piers.	m	450		
		a) Class 15/26				
5.4.2		i) Blinding (1.5m x 1.5m x 80mm thickness)	m <sup>3</sup>	15		
		b) Class 25/26				
5.4.3		i) Foundations	m <sup>3</sup>	75		
5.4.4		iii) Piers (Over 1m and up to 6m)	m <sup>3</sup>	200		

SADDLES AND GROUTING

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
5.5		<b>Pipe Saddle and Grouting</b>				
5.5.1		Supply and install 75mm x 6mm GRP/Fibreglass Strap	No.	50		
5.5.2		6mm x 75mm NEOPRENE pad	No.	50		
5.5.4		Supply and install 20mmØ HDG Threaded U-Bolts 2 No. M20 nut with 50mm Ø x 30mm G.M.S PL. washer	No	50		
5.5.5		Supply Reinforced Precast Saddle in grade 30/19 concrete	No	50		
		Prepare, Pour and Cure Non-Shrinkage Grout (600mm long x 500mm wide x 30mm thickness)	m <sup>3</sup>	10.00		
5.5.6		Concrete testing: 7 and 28 days	Sum	1.00		
TOTAL CARRIED TO SUMMARY						
						67.11

KwaDabeka Sewer Reticulation Extension						
Contract No. 30609_SW						
						BEDDING
ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>6</b>	<b>SABS</b>	<b>BEDDING</b>				
	<b>1200LB</b>					
6.1	8.2.2	Supply of bedding by importation from:				
6.1.1	8.2.2.3	Commercial Sources (for 160mm Ø)				
6.1.1.1	(a)	<> Selected granular material	m <sup>3</sup>	2600		
6.1.1.2	(b)	<> Selected fill material (Provisional)	m <sup>3</sup>	850		
	8.2.2.3	Commercial Sources (for 200mm Ø)				
6.1.1.3	(a)	<> Selected granular material	m <sup>3</sup>	550		
6.1.1.4	(b)	<> Selected fill material (Provisional)	m <sup>3</sup>	150		
6.2.2.5		<> Dust free 19mm stone aggregate (Provisional)	m <sup>3</sup>	100		
6.2.2.6		<> Bidim U14 grade or similar approved	m <sup>2</sup>	650		
6.2	8.2.4	ii) Pipe Encasement	m <sup>3</sup>	8.6		
6.3	SANS 1200 GA 8.4.3	20/19 Concrete cover slab with Mesh Ref 245 at a cover of 30mm	m	300		
TOTAL CARRIED TO SUMMARY						
						67.12

**KwaDabeka Sewer Reticulation Extension**

Contract No. 30609\_5W

SEWERS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>7</b>	<b>SABS 1200 LD</b>	<b>SEWERS</b>				
		<b><u>Pipes</u></b>				
7.1	8.2.1	Supply, lay, joint, bed and test sewer pipes (PE 100, Pressure Class PN 12.5) with spigot and socket joints.				
7.1.1		<> 160mm Ø Class 34 HDuPVC sewer pipe (PE 100, Pressure Class PN 12.5)	m	9,000		
7.1.2		<> 200mm Ø Class 34 HDuPVC Collector Sewer pipe (PE 100, Pressure Class PN 12.5)	m	350		
7.1.3		<> 160mm Ø Class 34 HDuPVC Sewer pipe (PE 100, Pressure Class PN 12.5) Collector Sewer pipe to run inside 1200mm Ø class 100D concrete pipe sleeve jacked under M5 Highway	m	300		
7.1.4		<> Supply, handle, erect, suspend over and bolt down to concrete piers, joint and test 250mm Ø Ductile iron C.A.C motar lined pipe sleeve	m	120		
7.2	8.2.6	<b><u>Erf Connections</u></b>				
7.2.1		Property terminal connection to connecting sewers complete as detailed on Durban Metro Water Services standard detail drawings No. SR 20/99 and SR 20/98. Allow 2m of 110mm diameter sewer per connection. Rate to include for all materials and fittings as shown.	No.	765		
7.3		Extra-over item 7.2.1 for :-				
7.3.1		<> 110mm dia. Class 34 HDuPVC pipe (PE 100, Pressure PN 12.5) from junction to property connection	m	500		
7.3.2		<> connection made into a manhole, rate to include for benching in manhole.	No.	40		
7.4	8.2.3	<b><u>Manholes</u></b>				
		Precast Concrete Manholes (1000mm dia.) with light duty cover and frame, complete with Type 'A' benching, etc. as per standard details (Durban Corp Dwg No's 38 570 & 38 574). Rate shall include for excavation, shoring, backfilling, and compaction to 93% Mod AASHTO minimum density.				
7.4.1		<> Over 0.0m and up to 1m	No.	60		
7.4.2		<> Over 1m and up to 1.5m	No.	142		
7.4.3		<> Over 1.5m and up to 2.0m	No.	100		
7.4.4		<> Over 2.0m and up to 2.5m	No.	30		
7.4.5		<> Over 2.5m and up to 3.0m	No.	10		
7.4.6		<> Over 3.0m and up to 3.5m	No.	15		
7.4.7		<> Over 3.5m and up to 5.0m	No.	5		

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
TOTAL BROUGHT FORWARD						
7.5	8.2.4	Extra-over items 7.4.1 to 7.4.7 for :-				
7.5.1		<> Construction of backdrops and ramps including extra excavation, formwork, joints, etc.				
		a) 0m- 3.5m high ramp	No.	3		
7.5.2		<> Type 'B' benching	No.	142		
7.5.3		<> Supply, fit Polymer Concrete (SANS) cover and frame in road reserve areas	No.	124		
7.5.5		<> Supply and fit heavy duty concrete manhole cover and frame as per standard details.	No.	120		
7.5.4		<> Supply and fit light duty concrete manhole cover and frame as per standard details.	No.	118		
7.6	8.2.11	Break into and connect to existing manholes for new connection, deal with live sewer flow and make good all benching.				
7.6.1		<> 160mm Ø Class 34 HDuPVC sewer pipe (PE 100, Pressure Class PN 12.5)	No.	5		
7.6.2		<> 250mm Ø Ductile iron C.A.C mortar lined Collector Sewer pipe	No.	1		
7.7	8.2.12	Raising of existing Manhole (500mm to new cover level)	No.	2		
7.8	7.2.6	Conduct manhole water test as described in Project Specification	No.	15		
7.8	8.2.9	Marker posts, complete, installed	No.	15		
TOTAL CARRIED TO SUMMARY						
						67.14

PIPE JACKING

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>8</b>	<b>SANS 1200LG</b>	<b>PIPE JACKING</b>				
8.1	8.2.1	Jacking establishment:(rate shall include excavations for Thrust and Reception pits)				
8.1.1	(a)	Fixed charges	Sum	1		
8.1.2	(b)	Time-related charges	Sum	1		
8.2	8.2.2	Supply of 1.2m nominal diameter, class 100 D, pre-cast concrete jacking pipes to be jacked.	m	300		
8.3	8.2.3	Jacking of 1.2m diameter class 100D concrete pipes	m	300		
8.2.1	8.2.4	Excavate in soft material for jacking 1.2m diameter concrete pipe sleeve.	m <sup>3</sup>	550		
8.3	8.2.5	Extra-Over Items 8.2.1 and 8.2.4 for Unforeseen Rock or Boulders (provisional)	m <sup>3</sup>	125		
8.4	8.2.9	Stabilization of unstable areas or grouting of voids where ordered				
8.4.1	(a)	Provision and establishment of equipment on site and removal on completion of operation. Rate to include for operation of equipment and materials used	Sum	1		
TOTAL CARRIED FORWARD						
						67.15

**KwaDabeka Sewer Reticulation Extension**  
**Contract No. 30609\_5W**

**SUMMARY OF SECTIONS**

	SECTION	DESCRIPTION	AMOUNT R
	1	GENERAL	
	2	SITE CLEARANCE	
	3	EARTHWORKS (PIPE TRENCHES)	
	4	GABIONS	
	5	CONCRETE (SMALL WORKS)	
	6	BEDDING	
	7	SEWERS	
	8	PIPE JACKING	
		<b>SUB-TOTAL</b>	
		15% VAT	
		<b>TOTAL</b>	
<b>TOTAL CARRIED FORWARD TO FORM OF OFFER</b>			