

SECTION 4: ELECTRICAL INSTALLATION

Volume 2 of 3: Part D (page 224-page 3)

Item
No

Carried to Collection

**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

<u>Distribution Boards</u>					
<u>Supply and install freestanding distribution boards complete with doors, frames, sub-frames, chassis, fixtures, fittings, spare capacity, busbars, etc. as per the specification</u>					
<u>Remove existing surface mounted distribution boards</u>					
3	Material				SUM
4	Labour				SUM
<u>DB-Main outdoor, plinth mounted, weather proof kiosk, complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification. (see drawing and single line for details)</u>					
5	Material	No	1		
6	Labour	No	1		
<u>DB-GEN Standby Generator complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification. (see drawing and single line for details)</u>					
7	Material	No	1		
8	Labour	No	1		
<u>DB-M (DB-M,DB-M/EMG, Meter compartment) outdoor, plinth mounted, weather proof kiosk, complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 29 of 130 (see drawing and single line for details)</u>					
9	Material	No	1		
10	Labour	No	1		
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
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	<u>DB-G (DB-G, DB-G/EMG) flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 31 of 130 (see drawing and single line for details)</u>				
11	Material	No	2		
12	Labour	No	1		
	<u>DB-1 (DB-1, DB-1/EMG) flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 33 of 130 (see drawing and single line for details)</u>				
13	Material	No	1		
14	Labour	No	1		
	<u>DB-2 (DB-2, DB-2/EMG) flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 35 of 130 (see drawing and single line for details)</u>				
15	Material	No	1		
16	Labour	No	1		
	<u>DB-3 (DB-3, DB-3/EMG) flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 37 of 130 (see drawing and single line for details)</u>				
17	Material	No	2		
18	Labour	No	1		
	<u>DB-K (DB-K, DB-K/EMG) flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 39 of 130 (see drawing and single line for details)</u>				
19	Material	No	4		
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20	Labour	No	1		
	<u>DB-C flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 41 of 130 (see drawing and single line for details)</u>				
21	Material	No	5		
22	Labour	No	1		
	<u>DB-C-1 outdoor flush mounted and weather proof complete with doors, frames, subframes, fixtures, chassis, fittings, terminations and wiring with spare space. Main isolator and busbars to be in separate busbar compartment</u>				
23	Material	No	2		
24	Labour	No	1		
	<u>DB-R flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 42 of 130 (see drawing and single line for details)</u>				
25	Material	No	1		
26	Labour	No	1		
	<u>DB-S flush mounted complete with doors, frames, subframes, fixtures, chassis, fittings, terminations, busbars and wiring with spare space as per specification, part 23 page 43 of 130 (see drawing and single line for details)</u>				
27	Material	No	5		
28	Labour	No	1		
	<u>Telephone termination box, 300x300x120 mm flush mounted complete with doors, frames, subframes, fixtures and 20mm thick soft board.</u>				
29	Material	No	9		
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

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NEWCASTLE: REPAIR AND RENOVATIONS TO
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<u>Cable drawn into sleeves and/or laid into trenches (cable sleeves and trenching elsewhere measured)</u>			
	<u>4mm² x 3 core</u>		
3	Material	m	83
4	Labour	m	83
	<u>4mm² x 4 core</u>		
5	Material	m	294
6	Labour	m	294
	<u>10mm² x 3 core</u>		
7	Material	m	56
8	Labour	m	56
	<u>10mm² x 4 core</u>		
9	Material	m	131
10	Labour	m	131
	<u>16mm² x 4 core</u>		
11	Material	m	415
12	Labour	m	415
	<u>25mm² x 4 core</u>		
13	Material	m	146
14	Labour	m	146
	<u>70mm² x 4 core</u>		
15	Material	m	36
16	Labour	m	36
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

Bare stranded copper earth wire strapped to cables
(terminations elsewhere measured)

 4mm^2

31	Material	m	294
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32	Labour	m	294
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10mm²

33	Material	m	187
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34	Labour	m	187
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16mm²

35	Material	m	410
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36	Labour	m	410
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25mm²

37	Material	m	146
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38	Labour	m	146
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70mm²

39	Material	m	277
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40	Labour	m	277
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Bare stranded copper conductor termination complete including drilling, bolting, lugs, etc., and connecting

6mm²

41	Material	No	4
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42	Labour	No	4
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16mm²

43	Material	No	8
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44	Labour	No	8
	<u>70mm²</u>		
45	Material	No	10
46	Labour	No	10
	<u>SLEEVES</u>		
	<u>Galvanised steel pipes chased into wall</u>		
	<u>32mm Diameter</u>		
47	Material	m	275
48	Labour	m	275
	<u>50mm Diameter</u>		
49	Material	m	94
50	Labour	m	94
	<u>PVC Sleeve laid in trench in ground (Excavation and backfilling measured elsewhere)</u>		
	<u>32mm Diameter</u>		
51	Material	m	57
52	Labour	m	57
	<u>50mm Diameter</u>		
53	Material	m	317
54	Labour	m	317
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110mm Diameter

55	Material	m	4,268
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56	Labour	m	4,268
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EXCAVATIONS

All excavations and backfilling

Cutting through 100mm thick concrete surface bed for trenching for piping not exceeding 300mm wide, including making good concrete

57	Material	m	112
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58	Labour	m	112
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Excavations and backfilling in soft soil 600mm x 300mm

59	Material	m	4,642
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60	Labour	m	4,642
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Excavations and backfilling in soft rock 600mm x 300mm

61	Material	m	464
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62	Labour	m	464
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Supply and installation of Yellow PVC marking tape

63	Material	m	1,375
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64	Labour	m	1,375
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EARTHING

Supply, installation and connecting up of all earthing and bonding from metal roofs, gutters, warm and cold water pipes, drain pipes, wash basins etc for the whole installation.

65	Material		SUM
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66	Labour		SUM
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Provisional amount allowed for repairs to lightning
protection and issue a certificate

67

Material

SUM

68

Labour

SUM

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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

20mm steel conduit

3 Material

m

6,574

4 Labour

m

6,574

50mm steel conduit

5 Material

m

3,925

6 Labour

m

3,925

R

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**NEWCASTLE: REPAIR AND RENOVATIONS TO
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CONDUITS AND ACCESSORIES - NEW

Conduit and accessories placed into position for casting into concrete or screed, for building into concrete or brickwork and for surface mounted in ceiling void including bending, threading, jointing, short lengths, draw boxes, couplings, tees and saddles.

20mm Galvanised conduit

7	Material	m	20,782
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8	Labour	m	7,816
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25mm Galvanised conduit

9	Material	m	8,803
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10	Labour	m	5,014
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50mm Steel conduit

11	Material	m	277
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12	Labour	m	277
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60mm Round Galvanised conduit box

13	Material	No	840
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14	Labour	No	840
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100x50mm Galvanised Wall box

15	Material	No	265
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16	Labour	No	265
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100x100mm Galvanised Wall box

17	Material	No	52
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18	Labour	No	52
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
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BLANK COVERS

Supply delivery and installation of the following:

100X100mm

19	Material	No	4
20	Labour	No	4

Weather proof box for isolators

21	Material	No	9
22	Labour	No	9

CONDUCTORS

**Supply, delivery and installation of 600/1000V grade
PVC insulated stranded copper (all colours)
conductors drawn into conduit.**

1.5mm²

23	Material	m	16,490
24	Labour	m	18,139

2.5mm²

25	Material	m	11,415
26	Labour	m	12,557

4mm²

27	Material	m	11,415
28	Labour	m	11,843

6mm²

29	Material	m	673
30	Labour	m	455

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46	Labour	m	69
<u>SOCKET OUTLETS</u>			
<u>Supply, delivery and installation of Switched socket outlet points complete with cover plates, installed flush.</u>			
<u>16A round 3-pin 250V switched socket outlet in 100x100 outlet box</u>			
47	Material	No	1
48	Labour	No	1
<u>2 x 16A round 3-pin 250V switched double socket outlet in 100x100 outlet box</u>			
49	Material	No	46
50	Labour	No	46
<u>2 x 16A round ceiling mounted 3-pin 250V switched socket outlet in 100x100 outlet box</u>			
51	Material	No	6
52	Labour	No	6
<u>16A waterproof 3-pin 250V grade switched socket outlet (red)</u>			
53	Material	No	2
54	Labour	No	2
<u>LIGHT SWITCHES</u>			
<u>Supply, delivery and installation of the following :</u>			
<u>16A, 250V single lever one way plus cover plate</u>			
55	Material	No	227
56	Labour	No	227
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

16A. 250V multi lever one way plus cover plate

57	Material	No	14
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58	Labour	No	14
----	--------	----	----

16A, 250V multi lever two way plus cover plate

59	Material	No	65
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60	Labour	No	65
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Day/Night Switch

61	Material	No	3
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62	Labour	No	3
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ISOLATORS

80A 3 pole 250V surface IP55 mounted (Water Heating)

63	Material	No	1
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64	Labour	No	1
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60A 3 pole 250V surface IP55 mounted (Deep Fryer)

65	Material	No	1
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66	Labour	No	1
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60A 2 pole 250V surface mounted (geyser isolator)

67	Material	No	9
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68	Labour	No	9
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60A 2 pole 250V flush mounted (Hand dryer)

69	Material	No	15
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70	Labour	No	15
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	<u>40A 3 pole 250V surface IP65 mounted (Cold Room)</u>			
71	Material	No	3	
72	Labour	No	3	
	<u>40A 3 pole 250V surface IP55 mounted (Industrial Dish Washer)</u>			
73	Material	No	1	
74	Labour	No	1	
	<u>40A 3 pole 250V surface IP55 mounted (150 liter boiling pan)</u>			
75	Material	No	1	
76	Labour	No	1	
	<u>40A 3 pole 250V IP55 pedestal mounted (Chip Fryer)</u>			
77	Material	No	1	
78	Labour	No	1	
	<u>40A 3 pole 250V IP55 pedestal mounted (Combi steamer)</u>			
79	Material	No	1	
80	Labour	No	1	
	<u>40A 3 pole 250V IP55 flush mounted (Freezer)</u>			
81	Material	No	3	
82	Labour	No	3	
	<u>32A 3 pole 250V surface mounted IP55 (Hot water circulation pump)</u>			
83	Material	No	1	
84	Labour	No	1	
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32A 3 pole 250V surface mounted (Potato Peeler)

85	Material	No	1
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86	Labour	No	1
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32A 3 pole 250V surface mounted (18 liter Tilting pan)

87	Material	No	1
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88	Labour	No	1
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32A 3 pole 250V surface mounted (Servery equipment)

89	Material	No	2
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90	Labour	No	2
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40A 3 pole 250V surface mounted (Airconditioner)

91	Material	No	1
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92	Labour	No	1
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32A 3 pole 250V surface mounted (Airconditioner)

93	Material	No	2
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94	Labour	No	2
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32A 2 pole 250V surface mounted (Airconditioner)

95	Material	No	19
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96	Labour	No	19
----	--------	----	----

32A 3 pole 250V surface mounted IP55

97	Material	No	6
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98	Labour	No	6
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32A 2 pole 250V surface mounted IP55

99	Material	No	7
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100	Labour	No	7	
	<u>32A 2 pole 250V surface mounted (Meat band saw)</u>			
101	Material	No	1	
102	Labour	No	1	
	<u>32A 2 pole 250V surface mounted</u>			
103	Material	No	17	
104	Labour	No	17	
	<u>32A 2 pole 250V surface mounted (Water feature)</u>			
105	Material	No	1	
106	Labour	No	1	
	<u>32A 2 pole 250V surface mounted (Hot water)</u>			
107	Material	No	16	
108	Labour	No	16	
	<u>20A 3 pole 250V surface mounted (Heat pump)</u>			
109	Material	No	2	
110	Labour	No	2	
	<u>20A 3 pole 250V surface mounted (Extractor fans)</u>			
111	Material	No	1	
112	Labour	No	1	
	<u>20A 2 pole 250V surface mounted (Extractor fans)</u>			
113	Material	No	41	
114	Labour	No	41	
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	<u>20A 2 pole 250V surface mounted (Fire detection)</u>			
115	Material	No	2	
116	Labour	No	2	
	<u>20A 2 pole 250V surface mounted (Extractor fans)</u>			
117	Material	No	41	
118	Labour	No	41	
	<u>20A 2 pole 250V surface mounted (Ventilation & HVAC)</u>			
119	Material	No	42	
120	Labour	No	42	
	<u>PEDESTALS</u>			
	<u>Stainless steel pedestals shall be provided as indicated on the drawings to mount IP55 equipment isolators for the equipment</u>			
121	Material	No	6	
122	Labour	No	6	
	<u>LUMINAIRES</u>			
	<u>Supply, delivery and installation and mounted to round boxes including all fixings, brackets, supports, connectors, connections and lamps.</u>			
	<u>Type A: Open channel double tube fluorescent with 40W lamps and telescopic lamp holders</u>			
123	Material	No	30	
124	Labour	No	10	
	<u>Type B: Open channel single tube fluorescent with 40W lamp and telescopic lamp holders</u>			
125	Material	No	364	
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126	Labour	No	161
	<u>Type Be: Open channel single tube fluorescent with 58W lamp and telescopic lamp holders, with 20% battery emergency standby backup</u>		
127	Material	No	36
128	Labour	No	36
	<u>Type C: Cast Aluminium indoor bulkhead luminaire (BLACK) with 2x9W compact fluorescent lamps</u>		
129	Material	No	394
130	Labour	No	224
	<u>Type Ce: Cast Aluminium indoor bulkhead luminaire (BLACK) with 2x9W compact fluorescent lamps, with 20% battery emergency standby backup</u>		
131	Material	No	8
132	Labour	No	8
	<u>Type D: 208W LED IP66) wide beam floodlight with cast aluminium case and polycarbonate diffusor, complete with lamp</u>		
133	Material	No	40
134	Labour	No	11
	<u>Type E: Cast Aluminium (IP66) outdoor bulkhead luminaire with complete with lamp</u>		
135	Material	No	21
136	Labour	No	7
	<u>Type M: Recessed mounted decorative luminaire with low brightness diffusor, with double 40W fluorescent lamps and telescopic lamp holders</u>		
137	Material	No	287
138	Labour	No	136

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	<u>Type N: Recessed mounted decorative luminaire with double tube 37W LED lamps and telescopic lamp holders</u>				
139	Material	No	26		
140	Labour	No	9		
	<u>Type O: Totally enclosed, dust- and vapour-proof (IP56) luminaire with 40W single tube fluorescent lamp & polycarbonate diffuser</u>				
141	Material	No	91		
142	Labour	No	46		
	<u>Type P: Totally enclosed, dust- and vapour-proof (IP56) luminaire with double 40W LED lamps & polycarbonate diffuser</u>				
143	Material	No	52		
144	Labour	No	20		
	<u>Type Pe: Totally enclosed, dust- and vapour-proof (IP56) luminaire with 58W double tube fluorescent lamps & polycarbonate diffuser, with 20% battery emergency standby backup</u>				
145	Material	No	3		
146	Labour	No	3		
	<u>Type Q: Surface mounted down lighter with 2x37W LED lamps</u>				
147	Material	No	224		
148	Labour	No	123		
	<u>Type Qe: Surface mounted down lighter with 2x18W compact fluorescent lamps, with 20% battery emergency standby backup</u>				
149	Material	No	14		
150	Labour	No	14		
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	<u>Type R: Strobe light and ultrasonic buzzer mounted above safe door</u>		
151	Material	No	11
152	Labour	No	4
	<u>Type S: 54W LED street light with bottom entry spigot for mounting on the security fence posts. Each fitting shall be provided with a 5A MCCB in the ballast section of the fitting</u>		
153	Material	No	109
154	Labour	No	39
	<u>Type U: 54W LED Street Light luminaire with die-cast Al body and bottom entry mounting (street lighting)</u>		
155	Material	No	30
156	Labour	No	19
	<u>Type X: Flush mounted down lighter with 2x18W compact flourescent lamps</u>		
157	Material	No	46
158	Labour	No	46
	<u>Type Xe: Flush mounted down lighter with 2x18W compact flourescent lamps, with 20% battey emergency standby backup</u>		
159	Material	No	6
160	Labour	No	6
	<u>Type Y: 50W 231 Halogen track mounted floodlight with die-cast Al body</u>		
161	Material	No	11
162	Labour	No	11
	<u>PHOTO CELL</u>		
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	<u>16A photo cell mounted in empty luminaire as specified</u>		
163	Material	No	6
164	Labour	No	6
	<u>OCCUPATION DETECTORS</u>		
	<u>231V White Occupancy detectors as specified</u>		
165	Material	No	100
166	Labour	No	100
	<u>SECURITY MOTION DETECTORS</u>		
	<u>***description**</u>		
167	Material	No	17
168	Labour	No	17

Carried to Collection

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Section No. 4
Bill No. 3
Small Power and Lighting (Provisional)
**RUBIQUANT
QUANTITY SURVEYORS**

**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

	<u>HAND DRIER</u>				
	<u>2.5kW Automatic electrical stainless steel 220/240volt, 50/60hz hand drier. Air rate 30litres/ second, drying time 15 seconds. SABS approved, with Infra-red automatic sensing system, with safety cut-out.</u>				
169	Material	No	15		
170	Labour	No	15		
	<u>EXTRACTOR FANS</u>				
	<u>Toilet extraction fan connected to light circuit</u>				
171	Material	No	96		
172	Labour	No	96		
	<u>POWER SKIRTING</u>				
	<u>The supply, installation and connecting up 3 channel/compartiment power skirting complete with all accessories, ends, bends etc.</u>				
	<u>3 Compartment power skirting with covers</u>				
173	Material	m	1,548		
174	Labour	m	1,548		
	<u>3 Compartment power skirting riser with covers</u>				
175	Material	m	475		
176	Labour	m	475		
	<u>Power skirting ends</u>				
177	Material	No	318		
178	Labour	No	318		
	<u>Power skirting bends</u>				
179	Material	No	382		
	Carried to Collection			R	
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	RUBIQUANT QUANTITY SURVEYORS				

**NEWCASTLE: REPAIR AND RENOVATIONS TO
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180	Labour	No	382		
	<u>Power skirting T-off</u>				
181	Material	No	29		
182	Labour	No	29		
	<u>16A single normal switch socket outlet with cover in power skirting</u>				
183	Material	No	397		
184	Labour	No	397		
	<u>16A single dedicated switch socket outlet with cover in power skirting</u>				
185	Material	No	139		
186	Labour	No	139		
	<u>Telephone socket outlet point with cover in power skirting</u>				
187	Material	No	224		
188	Labour	No	224		
	<u>Data socket outlet point with cover in power skirting</u>				
189	Material	No	207		
190	Labour	No	207		
	<u>TV outlet point with cover in power skirting</u>				
191	Material	No	1		
192	Labour	No	1		
	<u>30A double pole isolator for A/C with cable outlet grommet</u>				
193	Material	No	1		
194	Labour	No	1		
Carried to Collection				R	
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

<u>CABLE TRAY</u>				
<u>Medium duty cable tray, welded wire mesh, 300mm wide, supported in ceiling void, interconnected to power skirting complete with all accessories, bends, etc.</u>				
195	Material	m	1,672	
196	Labour	m	1,672	
<u>O-Line channel, OL9000 with cover</u>				
197	Material	m	858	
198	Labour	m	858	
<u>DRAW WIRES</u>				
<u>Galvanised steel draw wires drawn into wireways</u>				
199	1,6mm Diameter draw wires	m	2,851	
<u>LABELING</u>				
<u>Dymo Labeling of all outlets and light fittings</u>				
200	Material	No	1,560	
201	Labour	No	1,560	
<u>TESTING AND COMMISSIONING</u>				
<u>Test, commissioning and issuing of COC's for the complete electrical installation.</u>				
202	Material		Item	
203	Labour		Item	
<u>DATA INSTALLATION</u>				
204	Allow the Provisional Sum of R 500'000.00 (Five Hundred Thousand Rand) for the data installation		Item	500,000.00
205	Allow for profit		Item	
Carried to Collection				
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

206	Allow for general attendance on specialist executing the work	Item		
<u>TELKOM AND IT SLEEVES INSTALLATION</u>				
207	Allow the Provisional Sum of R 500'000.00 (Five Hundred Thousand Rand) for the Telkom and IT Sleeves installation	Item	500,000.00	
208	Allow for profit	Item		
209	Allow for general attendance on specialist executing the work	Item		
<u>EARTHING SURVEY BY LIGHTNING SPECIALIST</u>				
210	Allow the Provisional Sum of R 20'000.00 (Twenty Thousand Rand) for the earthing survey by a Lightning Specialist	Item	20,000.00	
211	Allow for profit	Item		
212	Allow for general attendance on specialist executing the work	Item		
<u>Guarantee</u>				
213	Allow for a guarantee period of twelve months on the whole of the installation as per the specification	Item		
<u>Maintenance</u>				
214	Allow for free maintenance during the guarantee period of the installation as per the specification	Item		
<u>Drawings</u>				
215	Allow for 3 sets of operating and maintenance manuals and as-built drawings as per the specification	Item		
216	Allow for submission of 3 sets of shop drawings as specified	Item		
<u>General Attendance</u>				
217	Allow for attendance on the sub-contractors	Item		
Carried to Collection			R	
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

Labelling and Marking

218	Allow for marking and labelling of all the equipment, cables, plugs, etc., as per the specification
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Item

Testing and commissioning

219 Inspections, testing and handing over of the complete
installation in the presence of the Engineer and certify
the results on the Certificate of compliance by an
accredited person.

Item

Testing and Report

220	Testing and report on existing underfloor heating system
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Item

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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

10 mm Diameter bare aluminium alloy conductor
installed on wall with fixing brackets at max 500mm
centres (horizontal)

4	Labour	m	18
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10 mm Diameter bare aluminium alloy conductor
installed on wall with fixing brackets at max 500mm
centres (vertical)

6	Labour	m	243
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10mm Diameter bare aluminium alloy conductor
installed on parapet wall with fixing brackets at max 500
mm centres (ridge conductor).

8	Labour	m	459
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Lightning Protection (Provisional)
RUBIQUANT
QUANTITY SURVEYORS

PVC Conduit and Accessories

Conduit surface mounted to brickwork, concrete, steel or ceiling void or cast into concrete or built or chased into brickwork

25mm Diameter galvanised

9	Material	m	505
10	Labour	m	505

Earth Electrode

Steel core reinforced copper rod complete with brass couplings

1800mm x 16mm Diameter earth electrode (250 micron copperweld) with driving cap, driven into ground to 500mm below finished ground level

11	Material	No	29
12	Labour	No	29

Termination of earthing conductor as specified

13	Aluminium conductor to steel guttering	No	20
14	Termination on earth electrode	No	29
15	Aluminium ridge conductor to aluminium ridge conductor	No	20
16	Aluminium ridge conductor to aluminium down conductor	No	29
17	50mm ² Aluminium conductor in short lengths not exceeding 600mm in connection between roof and guttering, including brass bolts and nuts	No	49
18	50mm ² Aluminium conductor in short lengths not exceeding 1500mm in connection between roof and roof, including brass bolts and nuts	No	49

Carried to Collection

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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

<u>Conduit boxes and fittings for test joints</u>				
<u>Wall boxes, as specified, placed in position for casting into concrete, built into or chased into brickwork or surface mounted including locknut and bushes</u>				
19	50mm Brass coupling test joint in recessed or surface mounted 100 x 100 x 100mm outlet box complete with steel blank cover plate, as specified	No	29	
<u>Inspection Pits</u>				
20	Polyurethane or Concrete Inspection pits size 150mm x 150mm x 200mm high complete as specifications	No	5	
<u>Wall mounted on insulators earth bar 6mm x 30mm x 1000mm with 10 x M10 copper bolts, nuts & 2 washers each</u>				
21	Material	No	2	
22	Labour	No	2	
<u>Steel Lightning Protection Pilons</u>				
<u>32m High Galvanised tapered steel lightning protection pilons with concrete plinths designed by a structural engineer and erected on Class C concrete base as per drawing and specifications, including excavations, carting away, etc.</u>				
23	Material	No	2	
24	Labour	No	2	
<u>General Items</u>				
<u>Testing and Commissioning</u>				
25	Allow for testing and commissioning of the whole of the installation in accordance with the Local Authorities/Architect's requirements and issue of certificate of compliance by an accredited person.		Item	
<u>Drawings</u>				
26	Allow for 3 sets of operating and maintenance manuals and as-built drawings as per the specification		Item	
Carried to Collection				R
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Lightning Protection (Provisional)				
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

27	Allow for submission of 3 sets of shop drawings as specified
	<u>Guarantee</u>
28	Allow for a guarantee period of twelve months on the whole of the installation as per the specification
	<u>Maintenance</u>
29	Allow for free maintenance during the guarantee period of the installation as per the specification

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Section No. 4
Bill No. 4
Lightning Protection (Provisional)
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NEWCASTLE: REPAIR AND RENOVATIONS TO
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NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

Item No		Quantity	Rate	Amount
<u>SECTION NO 4</u>				
<u>BILL NUMBER 5</u>				
<u>BUILDERS WORK</u>				
<u>MANHOLES</u>				
1	Telkom manhole, prefab manhole 1000mm top inner diameter x 900mm deep including steel telkom lid set in concrete apron, bottom layer to receive 25mm chipstone 100mm thick	No	10	
2	Computer Cables Manhole 1000mm top inner diameter x 900mm deep complete with medium duty cover, bottom layer to receive 25mm chipstone 100mm thick	No	3	
3	Inspection Manhole 1000mm top inner diameter x 900mm deep complete with medium duty cover, bottom layer to receive 25mm chipstone 100mm thick	No	1	
<u>OPENINGS THROUGH EXISTING WALLS, ETC</u>				
<u>Breaking out for and forming plain openings through brick walls to receive powerskirting, including making good to match new finishes</u>				
4	Opening not exceeding 1m ² in one brick wall	No	213	
<u>CONCRETE</u>				
<u>REINFORCED CONCRETE</u>				
<u>25 Mpa/19mm Concrete</u>				
5	Plinth under Emergency Generator	m3	2	
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Builders Work (Provisional)				
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1	Electrical Installation (Provisional)	229	
2	Low Tension Cables (Provisional)	237	
3	Small Power and Lighting (Provisional)	260	
4	Lightning Protection (Provisional)	266	
5	Builders Work (Provisional)	267	
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SECTION 5:

EPWP-NYC AND CPG

**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

Item No		Quantity	Rate	Amount
	<u>SECTION NO 5</u>			
	<u>BILL NUMBER 1</u>			
	<u>EMPLOYMENT AND TRAINING OF LABOUR ON EPWP INFRASTRUCTURE PROJECTS</u>			
	<u>PREAMBLES</u>			
	Tenders are advised to study Additional Specification SL: Employment and Training of Labour on Expanded Public Works Programme (EPWP) Infrastructure Projects: National Youth Service, as bound elsewhere in the Bills of Quantities, and then price this Bill accordingly			
	<u>EMPLOYMENT AND TRAINING OF LABOUR</u> Target : 30 Youth Workers			
	<u>TRAINING OF YOUTH WORKERS (TARGET OF 30 YOUTH WORKERS)</u>			
	<u>Skills development and technical training for workers (ref SL 11.01.01):</u>			
1	Allow the sum of R 660'000.00 (Six Hundred and Sixty Thousand Rand)Skills development and technical training for youth workers for an average of 45 days (Ref SL 11.01.01)	Item		660,000.00
2	Add profit on above if required	Item		
3	Allow for attendance on the above, if any	Item		
	<u>Life Skills Training</u>			
4	Allow the sum of R 290'000.00 (Two Hundred and Ninety Thousand Rand) for Orientation and life skills training for 20 days (Ref. SL 11.02.01)	Item		290,000.00
5	Add profit on above if required	Item		
6	Allow for attendance on the above, if any	Item		
	Carried to Collection		R	
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

7	Payment reduction due to not meeting the target as in SL 11.01.02 (Rate of R2'000.00 per Youth Worker)	No		
	<u>Employment of Youth Workers</u>			
8	Allow the sum of R 198'000.00 (One Hundred and Ninety Eight Thousand Rand) for Employment of youth workers (Ref. SL 11.02.01)	Item		198,000.00
9	Add profit on above if required	Item		
10	Allow for attendance on the above, if any	Item		
	<u>Provision of EPWP designed overalls to Youth Workers</u>			
11	Allow the sum of R 24'000.00 (Twenty Four Thousand Rand) for supply EPWP Designed overalls to youth workers (Ref. SL 11.03.01)	Item		24,000.00
12	Add profit on above if required	Item		
13	Allow for attendance on the above, if any	Item		
	<u>Provision of Small Tools for youth workers</u>			
14	Allow the sum of R 27'000.00 (Twenty Seven Thousand Rand) for supply of small tools to youth workers. Specification to be supplied by the EPWP-NYS Service Provider for the respective trades. (Ref. SL 11.04.01)	Item		27,000.00
15	Add profit on above if required	Item		
16	Allow for attendance on the above, if any	Item		
	<u>Appointment of Youth Team Leaders</u>			
17	Allow the sum of R 18'000.00 (Eighteen Thousand Rand) for supply of small tools to youth workers. Specification to be supplied by the EPWP-NYS Service Provider for the respective trades. (Ref. SL 11.04.01)	Item		18,000.00
18	Add profit on above if required	Item		
19	Allow for attendance on the above, if any	Item		
	Carried to Collection		R	
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	EMPLOYMENT AND TRAINING OF LABOUR			
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

<u>Liaison with Service provider</u>			
20	Liaison with service provider (ref SL 11.08)	Hrs	36
<u>CLO Allowance</u>			
21	Provide a budgetary allowance of One Million Two Hundred Rand (R 1'200'000.00) for CLO complete	Item	1,200,000.00
<u>Project Facilitator</u>			
22	Provide a budgetary allowance of One Million Rand (R 1'000'000.00) for Project Facilitator complete	Item	1,000,000.00
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NEWCASTLE: REPAIR AND RENOVATIONS TO
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EMPLOYMENT AND TRAINING OF LABOUR

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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

Item No		Quantity	Rate	Amount
	<u>SECTION NO 5</u>			
	<u>BILL NUMBER 2</u>			
	<u>COMMUNITY PARTICIPATION GOAL</u>			
	<u>PREAMBLES</u>			
	Note to tenderers: As CPGs may not provide any bidder a competitive advantage. Provisional amounts and fixed percentages for profit and attendance have been provided. Only the provisional amount will be adjusted once the awarded tender amount and/or the beneficiaries have been appointed, and the final values have been ascertained.			
	<u>MINIMUM TARGETED LOCAL BUILDING MATERIAL MANUFACTURERS</u>			
1	Provision is made for the Minimum Targeted Local Building Material Manufacturers CPG in the execution of this project as described in PG-01.1 (EC) / PG-01.2 (EC) SCOPE OF WORKS C3.7.2. Allowance for monitoring and monthly reporting on material purchased from Local Building Material Manufacturers by main contractor and subcontractors based on determination by PQS taking into account specific project variables	Item		
2	Add profit on above if required	Item		
3	Allow for attendance on the above, if any	Item		
	<u>MINIMUM TARGETED LOCAL BUILDING MATERIAL SUPPLIERS</u>			
4	Provision is made for the Minimum Targeted Local Building Material Suppliers CPG in the execution of this project as described in PG-01.1 (EC) / PG-01.2 (EC) SCOPE OF WORKS C3.7.3. Allowance for monitoring and monthly reporting on material purchased from Local Building Material Suppliers by main contractor and subcontractors based on determination by PQS taking into account specific project variables	Item		
5	Add profit on above if required	Item		
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**NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS**

6	Allow for attendance on the above, if any	Item		
	<u>MINIMUM TARGETED LOCAL LABOUR SKILLS DEVELOPMENT</u>			
7	Provision is made for the Minimum Targeted Local Labour Skills Development CPG in the execution of this project as described in PG-01.1 (EC) / PG-01.2 (EC) SCOPE OF WORKS C3.7.4. This allowance is for the cost for a suitably qualified and experienced training service provider appointed by the main contractor including monitoring and monthly reporting.	Item		
8	Add profit on above if required	Item		
9	Allow for attendance on the above, if any	Item		
	<u>MINIMUM TARGETED ENTERPRISE DEVELOPMENT</u>			
10	A provisional amount has been allowed for in the execution of this project as described in PG-01.1 (EC) / PG-01.2 (EC) SCOPE OF WORKS C3.7.5. The provisional amount allowed is for the appointment of training coordinator, mentor, training service providers and training of the beneficiary enterprises including monitoring and monthly reporting.	Item		
11	Add profit on above if required	Item		
12	Allow for attendance on the above, if any	Item		
	<u>MINIMUM TARGETED SKILLS DEVELOPMENT GOALS</u>			
13	A provisional amount has been allowed for the Minimum Targeted Development CPG in the execution of this project as described in PG-01.1 (EC) / PG-01.2 (EC) SCOPE OF WORKS C3.7.6. <ul style="list-style-type: none"> • stipends payable to the beneficiaries • appointment of training coordinator • appointment of mentor (where applicable) • appointment of training service providers • other additional costs as per table 3 of the Standard • monitoring and monthly reporting 	Item		
14	Add profit on above if required	Item		
	Carried to Collection		R	
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NEWCASTLE: REPAIR AND RENOVATIONS TO
DECENTRALISED TRAINING FACILITY FOR SAPS

15	Allow for attendance on the above, if any	Item		
<u>LABOUR INTENSIVE PARTICIPATION GOAL</u>				
16	Labour Intensive Participation Goal - Allowance for monthly reporting of labour intensive works by main contractor based on determination by PQS taking into account specific project variables. Allowance for monitoring and monthly reporting on Works executed by means of Labour Intensive methods by main contractor and subcontractors based on determination by PQS taking into account specific project variables	Item		
17	Allowance for profit all inclusive of associated costs to the contractor for implementation.	Item		
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NEWCASTLE: REPAIR AND RENOVATIONS TO
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Bill No. 2

Community Participation Goal

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FINAL SUMMARY

NEWCASTLE: REPAIR AND RENOVATIONS TO DECENTRALISED TRAINING FACILITY FOR SAPS

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PART B:

MECHANICAL INSTALLATION

Item	Description	Quantity		Rate	Amount
<div>NEWCASTLE SAPS - VAN ECK BUILDING</div> <div>REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY</div> <div>AIR CONDITIONING & VENTILATION INSTALLATION</div> <div>PART 5</div> <div>(CPAP WORK GROUP 170).</div> <div>VRV HEAT RECOVERY AIR CONDITIONING INDOOR UNITS AS PER SPECIFICATION AND DRAWINGS NO m304147-AC1 & AC2</div> <div><div><div>1</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 11.5kW.</div><div>6</div><div>No</div></div><div><div>2</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 9.7kW.</div><div>4</div><div>No</div></div><div><div>3</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 8.15kW.</div><div>2</div><div>No</div></div><div><div>4</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 7.65kW.</div><div>2</div><div>No</div></div><div><div>5</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 6.35kW.</div><div>4</div><div>No</div></div><div><div>6</div><div>Ceiling suspended "Round Flow cassette" heat recovery VRV Unit minimum cooling duty 4.7kW.</div><div>9</div><div>No</div></div><div><div>7</div><div>Standard decoration panel</div><div>27</div><div>No</div></div></div> <div><div>TO COLLECT</div><div>R</div></div> <div><div>PAGE NO 1</div><div>PART 5 - BILL NO 1</div><div>AIRCONDITIONING & VENTILATION</div></div>					

Item	Description	Quantity		Rate	Amount
	COPPER REFRIGERANT PIPING HAVING SUITABLE WALL THICKNESS FOR SYSTEM OPERATING PRESSURES OF R410A REFRIGERANT INCLUSIVE OF FITTINGS, INSULATION, CABLE TRAY SUPPORTS ETC. ALL AS SPECIFIED				
8	Piping 1/4"	50	m		
9	Piping 3/8"	200	m		
10	Piping 1/2"	75	m		
11	Piping 5/8"	20	m		
12	Piping 3/4"	20	m		
13	Piping 7/8"	35	m		
14	Piping 1 1/8"	10	m		
15	Piping 1 3/8"	10	m		
16	Piping 1 5/8"	10	m		
	BRANCH SELECTION UNITS				
17	Branch selector unit R410A as per suppliers specification	10	No		
18	Refnet Branch Piping Kit Size 20	6	No		
19	Refnet Branch Piping Kit Size 29	4	No		
20	Refnet Branch Piping Kit Size 64	5	No		
21	Refnet Branch Piping Kit Size 75	3	No		
	TO COLLECT				R
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Item	Description	Quantity		Rate	Amount
	CONTROLS				
22	Hard Wired Controller	27	No		
	PVC DRAIN PIPEWORK				
23	20 mm diameter insulated pvc drain pipework installed complete with supports.	300	m		
24	25 mm diameter pvc drain pipe.	150	m		
	REFRIGERANT				
25	Additional R410A Refrigerant	60	kg		
	CONTROLS				
26	Hard Wired Controller	27	No		
	PVC DRAIN PIPEWORK				
27	20 mm diameter insulated pvc drain pipework installed complete with supports.	300	m		
28	25 mm diameter pvc drain pipe.	150	m		
	REFRIGERANT				
29	Additional R410A Refrigerant	60	kg		
	VRV HEAT RECOVERY AIR CONDITIONING OUTDOOR MULTI CONDENSING UNITS				
30	Heat Recovery VRV multi condensing unit System 1 comprising 1 outdoor unit Duty 100kW	1	No		
31	Heat Recovery VRV multi condensing unit System 2 comprising 3 outdoor units Duty 126.6kW	1	No		
32	Outdoor unit multi connection kit 3 modules	1	No		
33	Electrical wiring between equipment		Sum		
34	UV Protection to outdoor piping		Sum		
	UNITARY AIR CONDITIONING				
35	Midwall split minimum capacity 5.3 kW each complete with wall mounted, hard wired controller and associated electrics, piping, trunking, supports etc. (refrigerant pipe run 15 metres).	3	No		
36	Midwall split minimum capacity 1.7 kW each complete with wall mounted, hard wired controller and associated electrics, piping, trunking, supports etc. (refrigerant pipe run 15 metres).	6	No		
	TO COLLECT			R	
	PAGE 3 PART 5 - BILL NO 1 AIRCONDITIONING & VENTILATION				

Item	Description	Quantity		Rate	Amount
	DEHUMIDIFIER				
37	Floor standing 25 litres/hr (KDY-25) dehumidifier complete with electrical connection, drain pipework, exhaust ducting etc.	8	No		
	FRESH AIR SUPPLY FANS				
38	Axial Flow Fan max 1440RPM c/w 2 off podded silencers, mounting feet, flexible collar connections, anti vibration spring mounts and supprt brackets and wiring connection with local on/off switch	1	No		
39	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 180l/s @ 200pa	4	No		
40	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 160l/s @ 200pa	1	No		
41	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 135l/s @ 200pa	2	No		
42	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 65l/s @ 200pa	1	No		
43	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 30l/s @ 200pa	3	No		
	EXTRACT AIR FANS				
44	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 690l/s @ 150pa	1	No		
45	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 200l/s @ 150pa	1	No		
46	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 125l/s @ 150pa	1	No		
	TO COLLECT			R	
PAGE 4 PART 5 - BILL NO 1 AIRCONDITIONING & VENTILATION					

Item	Description	Quantity		Rate	Amount
47	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 100l/s @ 150pa	7	No		
48	TD Silent type Inline Tube Fan complete with flexible connection collars, supports, anti vibration mounts and wiring connection with local on/off switch. Duty 75l/s @ 150pa	1	No		
	DUCTING - UNISULATED				
	All fixing and supports as specified as per SANS 1238 to be included in ducting rates				
	RECTANGULAR DUCTING				
49	1200 x 600	4	m		
50	550 x 550	4	m		
51	550 x 350	7	m		
52	500 x 350	6	m		
53	375 x 250	5,5	m		
54	350 x 350	8	m		
55	300 x 350	7	m		
56	300 x 300	3,5	m		
57	300 x 100	6	m		
58	250 x 250	8	m		
59	200 x 200	42	m		
60	150 x 150	2	m		
	EXTRA OVER FITTINGS				
	90 Deg bend				
61	1200 x 600	1	No		
62	550 x 550	1	No		
63	550 x 350	1	No		
64	375 x 250	1	No		
65	250 x 250	1	No		
	TO COLLECT				R
	PAGE 5 PART 5 - BILL NO 1 AIR CONDITIONING & VENTILATION				

Item	Description	Quantity		Rate	Amount
66	200 x 200 Transformation to smaller size of fan or duct	7	No		
67	1200 x 600	1	No		
68	550 x 550	3	No		
69	550 x 350	1	No		
70	500 x 350	1	No		
71	375 x 250	1	No		
72	300 x 300	6	No		
73	300 x 100	4	No		
74	250 x 250	3	No		
75	200 x 200	7	No		
76	150 x 150 45 Deg Shoe	2	No		
77	500 x 350 Stop End	1	No		
78	375 x 250	1	No		
79	350 x 350	1	No		
80	300 x 350	1	No		
81	300 x 100	4	No		
82	200 x 200 CIRCULAR DUCTING Straight Ducting	6	No		
83	300 Dia	5	m		
84	250 Dia	3	m		
85	200 Dia	16	m		
86	150 Dia	17	m		
87	100 Dia	17	m		
TO COLLECT				R	
PAGE 6 PART 5 - BILL NO 1 AIR CONDITIONING & VENTILATION					

Item	Description	Quantity		Rate	Amount
	EXTRA OVER FITTINGS				
	90 Deg bend				
88	200 Dia	3	No		
89	150 Dia	2	No		
90	100 Dia	1	No		
	Transformation to smaller size of fan or duct				
91	200 Dia	1	No		
92	150 Dia	1	No		
	Stop End				
93	200 Dia	2	No		
94	150 Dia	2	No		
95	100 Dia	2	No		
	Spigot including mounting plate				
96	300 Dia	6	No		
97	250 Dia	7	No		
98	200 Dia	4	No		
99	100 Dia	21	No		
	Unisulated Flexible Ducts including 2 clamps and duct tape				
100	300 Dia	9	m		
101	250 Dia	11	m		
102	200 Dia	6	m		
103	100 Dia	33	m		
	AIR TERMINALS				
	Aluminium weather louvre type WL 50mm blade spacing, natural anodised including bird mesh screen				
104	1200 x 600	1	No		
105	550 x 550	1	No		
	TO COLLECT			R	
	PAGE 7 PART 5 - BILL NO 1 AIR CONDITIONING & VENTILATION				

Item	Description	Quantity		Rate	Amount
	Aluminium weather louvre type RARB 19mm ribbed blade spacing, natural anodised including bird mesh screen				
106	300 x 300	5	No		
107	250 x 250	3	No		
108	200 x 200	9	No		
109	150 x 150	3,00	No		
	Fresh Air Supply Grilles and Diffusers				
	Constant volume circular steel painted white ceiling mounted supply diffuser complete with mounting brackets				
110	300 Dia	6	No		
111	250 Dia	3	No		
112	200 Dia	2	No		
113	100 Dia	9	No		
	Extract Air Grilles				
	Aluminium return air type grille 19mm blade spacing wall mounted painted white				
114	200 x 200	1	No		
	Aluminium return air type grille 19mm blade spacing mounted directly to ducting painted matt black				
115	375 x 250	3	No		
	Aluminium return air type grille 19mm blade spacing mounted to ceiling connected to ducting painted white				
116	250 x 250	1	No		
117	200 x 200	3	No		
	Constant volume circular steel painted white ceiling mounted supply diffuser complete with mounting brackets				
118	100 Dia	6	No		
	TO COLLECT			R	
	PAGE 8 PART 5 - BILL NO 1 AIR CONDITIONING & VENTILATION				

Item	Description	Quantity		Rate	Amount
	AIR CONDITIONING AND VENTILATION COLLECTION				
	Page 1				
	Page 2				
	Page 3				
	Page 4				
	Page 5				
	Page 6				
	Page 7				
	Page 8				
	Page 9				
	TOTAL TENDER PRICE TRANSFERRED TO FORM OF TENDER				
	TO COLLECT			R	
	PAGE 10 BILL NO 1 AIR CONDITIONING & VENTILATION				

Item	Description	Quantity	Rate	Amount
	<p align="center">NEWCASTLE SAPS - VAN ECK BUILDING</p> <p align="center">REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY</p> <p align="center">BILL NO 2</p> <p align="center">DOMESTIC HOT WATER INSTALLATION</p> <p align="center">(CPAP WORK GROUP 170).</p>			
1	Strip and remove the existing 2 off hot water storage vessels from site.	Sum		
	SUPPLY AND INSTALL THE FOLLOWING NEW EQUIPMENT AND COMPONENTS AT EXISTING GROUND FLOOR HOT WATER PLANTROOM			
2	AIRCO or other approved air to water heat pumps capable of 967 litres per hour flow having a 45 kW heating capacity with a 10.8kW power consumption, c/w built in circulating pump, thermostat and	2	No	
3	AIRCO or other approved air to water heat pumps capable of 817 litres per hour flow having a 30 kW heating capacity with a 9.3kW power consumption c/w built in circulating pump, thermostat and	1	No	
4	Inline booster pump duty 11,1l/s to ensure 600kPa pressure in the hot water systems c/w all pressure switches, flow switches and controls to ensure correct operation as per suppliers recommendations.	1	No	
5	Inline booster pump duty 5.87 l/s to ensure 600kPa pressure in the heating water systems c/w all pressure switches, flow switches and controls to ensure correct operation as per suppliers recommendations.	1	No	
6	Inline hot water circulating pump duty 1.4l/s @ system resistance	2	No	
7	4500 Litre Vetrical maximum 2,1m high hot water storage vessels complying to pressure regulations c/w all connections, pressure guages, saftey valve, dial thermometer, 50mm thick insulation and 0.5mm stainless steel cladding.	2	No	
8	Control panel c/w all controls, contactors, timers and safties to ensure correct operation af both domestic hot water and heating hot water system	1	No	
	TO COLLECT			R
	PAGE 1			
	BILL NO 2			
	DOMESTIC HOT WATER INSTALLATION			

Item	Description	Quantity		Rate	Amount
	Supply and install class 2 copper water piping in accordance with SANS 460, including mounting brackets, supports all as specified and as per drawing				
9	15 mm diameter pipe	m	447		
10	22 mm diameter pipe	m	828		
11	28 mm diameter pipe	m	1 077		
12	35 mm diameter pipe	m	768		
13	42 mm diameter pipe	m	192		
14	76 mm diameter pipe	m	210		
	Supply and install class 2 copper capillary fittings in accordance with SANS 1067, including mounting brackets, supports all as specified and as per drawing				
	90° Elbow				
15	15mm Diameter	No	32		
16	22mm Diameter	No	177		
17	28mm Diameter	No	48		
18	35mm Diameter	No	78		
19	42mm Diameter	No	57		
20	76mm Diameter	No	50		
	Equal Tee				
21	15mm Diameter	No	150		
22	22mm Diameter	No	207		
23	28mm Diameter	No	78		
24	35mm Diameter	No	93		
25	42mm Diameter	No	33		
26	76mm Diameter	No	30		
	TO COLLECT			R	
	PAGE 2 BILL NO 2 DOMESTIC HOT WATER INSTALLATION				

Item	Description	Quantity		Rate	Amount
	Reducer				
27	76mm to 42mm	No	8		
28	76mm to 35mm	No	2		
29	76mm to 28mm	No	2		
30	76mm to 22mm	No	2		
31	76mm to 15mm	No	5		
32	42mm to 35mm	No	6		
33	42mm to 15mm	No	24		
34	35mm to 28mm	No	3		
35	35mm to 15mm	No	39		
36	28mm to 22mm	No	15		
37	28mm to 15mm	No	102		
38	22mm to 15mm	No	128		
	Supply and install 54kg/m² mineral wool insulation 25mm thick with 0.6mm thick galvanised cladding including fittings all as specified and as per drawing				
40	15 mm diameter pipe	m	447		
41	22 mm diameter pipe	m	828		
42	28 mm diameter pipe	m	1 077		
43	35 mm diameter pipe	m	768		
44	42 mm diameter pipe	m	192		
45	76 mm diameter pipe	m	210		
	90° Elbow				
46	15mm Diameter	No	32		
47	22mm Diameter	No	177		
48	28mm Diameter	No	48		
49	35mm Diameter	No	78		
50	42mm Diameter	No	57		
51	76mm Diameter	No	50		
	TO COLLECT			R	
	PAGE 3 BILL NO 2 DOMESTIC HOT WATER INSTALLATION				

Item	Description	Quantity		Rate	Amount
	Equal Tee				
52	15mm Diameter	No	150		
53	22mm Diameter	No	207		
54	28mm Diameter	No	78		
55	35mm Diameter	No	93		
56	42mm Diameter	No	33		
57	76mm Diameter	No	30		
	Reducer				
58	76mm to 42mm	No	8		
59	76mm to 35mm	No	2		
60	76mm to 28mm	No	2		
61	76mm to 22mm	No	2		
62	76mm to 15mm	No	5		
63	42mm to 35mm	No	6		
64	42mm to 15mm	No	24		
65	35mm to 28mm	No	3		
66	35mm to 15mm	No	39		
67	28mm to 22mm	No	15		
68	28mm to 15mm	No	102		
69	22mm to 15mm	No	128		
	Valves				
	Supply and install non-reduced bore, ball valves as per specification and on drawings				
70	15mm Diameter	No	74		
71	22mm Diameter	No	39		
	TO COLLECT			R	
	PAGE 4 BILL NO 2 DOMESTIC HOT WATER INSTALLATION				

Item	Description	Quantity		Rate	Amount
72	28mm Diameter	No	18		
73	35mm Diameter	No	6		
74	42mm Diameter	No	18		
75	76mm Diameter	No	8		
	Brass Non-Return Valve				
76	28mm Diameter	No	3		
77	76mm Diameter	No	4		
	Safety Valve				
78	76mm Diameter	No	2		
	Pressure Reducing Valve				
79	76mm Diameter	No	1		
	0-1000kPa Oil filled pressure gauge c/w with pigtail and ball valve				
80	Pressure gauge set	No	15		
	2 Way Hot Water Control Valve c/w Thermostatic valve all as specified				
81	15mm Diameter Duty 0.03l/s	No	114		
	3 Way Hot Water Control Valve c/w Thermostatic valve all as specified				
82	15mm Diameter Duty 0.06l/s	No	4		
	Supply and install Hot Water Radiator heaters with panel sheet 1.15mm thick, convertor sheet 0.4mm thick, top and side cover 07.mm thick and flat sheet cover 1mm thick, surface sheet to be vertically fluted and coulur to be white, the upper grille to be tear drop shape ro increase air circulation and heat transfer, universal mounting handing to suit drawing layout, 2 mounting brackets per radiator af a maximum length 1600mm. Water flow temperature max 75°C with a room temperature of 20°C delta T of 10°C				
83	RH 1 Duty 1.5kW water flow 0.03 l/s	No	116		
84	RH 2 Duty 2.1kW water flow 0.06 l/s	No	2		
	TO COLLECT			R	
	PAGE 5 BILL NO 2 DOMESTIC HOT WATER INSTALLATION				

Item	Description	Quantity	Rate	Amount
	Water Treatment			
85	Test water on site	1	Item	
86	Supply Inhibitor chemicals as per requirements from water test	1	Item	
	GENERAL			
87	Allowance for commissioning and testing of the installation	1	Item	
88	Allowance for 12 month maintenance and guarantee of the installation.	1	Item	
89	Allowance for providing operating and maintenance manuals.	1	Item	
90	Allowance for instructing the End User on the operation of the	1	Item	
	TO COLLECT			R
	PAGE 6 BILL NO 2 DOMESTIC HOT WATER INSTALLATION			

Item	Description	Quantity	Rate	Amount
	<u>BILL</u>			
	DOMESTIC HOT WATER INSTALLATION			
	COLLECTION			
	Page 1			
	Page 2			
	Page 3			
	Page 4			
	Page 5			
	Page 6			
	TOTAL TENDER PRICE TRANSFERRED TO FORM OF TENDER			
	TO COLLECT		R	
	PAGE BILL NO 2 DOMESTIC HOT WATER INSTALLATION			

Item	Description	Quantity		Rate	Amount
4	Fire hose reel cabinet size 640 x 542 x 640mm complete with hinged door, key locking mechanism, knock-out panel for key access all painted in one under coat and 2 coats of gloss fire engine red.	No	4		
	PORTABLE FIRE EXTINGUISHERS				
	All Portable Fire Extinguishers shall comply with the requirements of SANS 1910 and the Departments Document GP/M1 Rev 1				
5	4.5kg Dry chemical powder fire extinguisher complete with meranti backing board and hook	No	36		
	BOOSTER CONNECTION				
	Supply, install, test and commission double booster connection				
6	Double booster brass connection with 2500 kPa steel glycerine filled pressure gauge and bracket, pigtail pipe, shut off valve, gate valve with non-rising spindle, non-return valve cast steel body and bronze / stainless steel inside and flange connection to SANS 1023	No	1		
	FIRE STORAGE TANK				
7	Supply, install, test and commission pressed steel sectional 55kl fire tank on ground level concrete supports (by others) complete with all takeoffs and supply ball valve all as specified	No	1		
	FIRE BOOSTER PUMPS				
8	Supply, install, test and commission fire pumps set comprising 1 off electrical duty pump, 1 off diesel standby pump, 1 off jockey set pump, control panel, base mounted diesel tank with chimp pump, all mounted on a skid. Duty 25l/s at 5.2 bar. Pumps to be single stage horizontal end suction vertical discharge type pumps. Fire set to have complete detection and monitoring of the open/closed status of the main shut off valves including the suction/discharge and test line. Base frame to include suction kit, discharge manifold, expansion joints, lockable isolation valves, inspection non-return valves, test bypass kit and readable flowmeter, pressure switches and gauges, 2 off 24 litre vertical pressure vessels all factory fitted. Control panel GSM Module CIU251 for cellular communication and remote annunciation control panel, diesel engine spares part kit, residential silencer for diesel exhaust factory tested to EN 12845 I INI10779 and I INI	No	1		
	FIRE SIGNAGE				
	Photo luminiscent perpex fire equipment and direction signage location signage and warning notices in accordance with SANS 1186-1:2008, and incorporating pictographs securely fixed to wall, ceiling, door or soffit as required and as may be indicated on the drawings.				
9	Indicating fire hose reel, fire extinguisher and arrow size 570 x 190mm	No	46		
10	Indicating direction of egress size 290 x 190mm (E1)	No	55		
	TO COLLECT				
	PAGE 2				
	BILL NO 3				
	FIRE APPLIANCE INSTALLATION				

Item	Description	Quantity		Rate	Amount
	Photo luminescent chromadek fire equipment and direction signage location signage and warning notices in accordance with SANS 1186-1:2008, and incorporating pictographs securely fixed to and including foundation. 2m high galvanised pole. etc indicated on mechanical drawings				
11	Emergency Assembly point size 600 x 600mm	No	4		
12	Hydrant connection, booster connection and arrow size 570 x 190mm	No	5		
13	Hydrant connection, fire hose reel and arrow size 570 x 190mm	No	5		
	WATER SUPPLIES TO FIRE APPLIANCES				
	Class 12 HDPE fire pipe with solvent welded joints laid in trenches minimum 800mm deep, including trenching and backfilling				
14	110mm diameter pipe laid in and including trenches	m	486		
15	76mm diameter pipe laid in and including trenches	m	10		
16	25mm diameter pipe laid in and including trenches	m	48		
	Class 2 copper water piping in accordance with SANS 460, including mounting brackets, supports all as specified and as per drawing				
17	76mm Diameter	m	15		
18	54mm Diameter	m	115		
	Extra over for class 2 copper pipes for capillary fittings				
19	54mm Fittings	No	65		
	TESTING AND COMMISSIONING				
20	Allow for commissioning and testing of entire Fire Protection installation after completion to 10 Bar pressure maintained for not less than 1 hour	1	Item		
21	Allow for Non-destructive dye penetration test of weld work of pipes every 5 meters.	1	Item		
	GUARANTEE AND MAINTENANCE				
22	Provision of Guarantee of equipment and 12 month maintenance period from first delivery	1	Item		
	OPERATING AND MAINTENANCE PROCEDURES				
23	Compilation and submission of 4 off Operation & Maintenance Manuals and procedures for the Fire Protection installation	1	Item		
	TO COLLECT			R	
	PAGE 2 BILL NO 3 FIRE APPLIANCE INSTALLATION				

Item	Description	Quantity	Rate	Amount
BILL	FIRE APPLIANCE INSTALLATION COLLECTION	PAGE NO		
Bill No 1				
Bill No 2				
Bill No 3				
TOTAL TENDER PRICE TRANSFERRED TO FORM OF TENDER				
	TO COLLECT		R	
SECTION NO BILL NO FIRE APPLIANCE INSTALLATION				

FIRE APPLIANCE INSTALLATION

COLLECTION

PAGE NO

Bill No 1

Bill No 2

Bill No 3

TOTAL TENDER PRICE
TRANSFERRED TO FORM OF TENDER

TO COLLECT

R

SECTION NO
BILL NO
FIRE APPLIANCE INSTALLATION

Item	Description	Quantity		Rate	Amount
NEWCASTLE SAPS - VAN ECK BUILDING					
REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY					
BILL NO 4					
FIRE DETECTION & ALARM EVACUATION INSTALLATION					
(CPAP WORK GROUP 170).					
EQUIPMENT					
A	ZITON ZP3 4L CONTROL PANEL (Surface Mounted)	No	1		
B	BATTERIES (LEAD ACID TYPE)	No	2		
C	OPTICAL DETECTORS (Ceiling Mounted)	No	250		
D	HEAT FLAME DETECTORS (Ceiling Mounted)	No	8		
E	OPTICAL DETECTORS WITH EXTENDED LIGHT (Void)	No	4		
F	DETECTOR BASES	No	262		
G	CALL POINT (Break Glass)	No	25		
H	LOOP SOUNDERS	No	25		
I	LINE ISOLATORS + BASE	No	10		
J	ADDRESSABLE RELAY (Interface)	No	1		
K	FIRE RETARDANT CABLE (To SANS 10139 Classification PH30) 1,00 MM ²	M	2500		
	SUPPLY AND INSTALL				
L	TRANSMITTER UNIT, COMPLETE FOR DEDICATED LANDLINE LINK TO LOCAL AUTHORITY FIRE DEPARTMENT CONTROL ROOM	No	1		
WIREWAYS					
M	SUPPLY AND INSTALL SURFACE PVC "EGADUCT" YT1 (Screw Fixing) AND ALL ACCESSORIES INCLUDING FIXING BENDS,TERMINATIONS,DRAW BOXES ETC. SURFACE MOUNTED, CONDUIT C/W DRAW WIRE .	M	2500		
TO COLLECTION				R	
PAGE 1					
BILL NO 4					
FIRE DETECTION & ALARM EVACUATION					

[illegible]

Item	Description	Quantity		Rate	Amount
<div>NEWCASTLE SAPS - VAN ECK BUILDING</div> <div>REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY</div> <div>BILL NO 5</div> <div>KITCHEN UPGRADE</div> <div>(CPAP WORK GROUP 170).</div> <div>Supply and install kitchen equipment as specified and as per drawings complete with electrical connections, water connections and drains.</div>					
1	Wash hand basin	No	4		
2	Single bowl pre-rinse sink 1650 x 650 x 910mm high	No	2		
3	Hood type dishwasher	No	1		
4	Stainless steel wall mounted tubular pot rack 2000 x 400mm	No	1		
5	DCBPS - 2250 - Double centre bowl pot sink 2250 x 650 x 915	No	1		
6	VPS-L Prep sink 1850 x 650 x 910mm high	No	1		
7	VPS-R Prep sink 1850 x 650 x 910mm high	No	1		
8	VR - 9/8 - Crockery rack	No	2		
9	DCBPS - 2250 - Double centre bowl pot sink 2250 x 650 x 915	No	1		
10	SWB - 1650 stainless steel table complete with splashback to rear 1650 x 650 x 910mm high	No	10		
11	SWB - 2250 stainless steel table complete with splashback to rear 2250 x 650 x 910mm high	No	1		
12	Stainless steel wall mounted shelf 2000 x 500	No	1		
13	Camshelving 4 shelf 1220 x 610 x 1830mm high	No	9		
14	Camshelving 4 shelf 1070 x 610 x 1830mm high	No	1		
15	Econo shelving 5 shelf 1120 x 380mm	No	11		
16	Econo shelving 5 shelf 820 x 380mm	No	6		
17	Table mounted hand operated chip cutter	No	1		
TO COLLECT				R	
PAGE 1 BILL NO 5 KITCHEN UPGRADE					

Item	Description	Quantity		Rate	Amount
18	First Aid box in office	No	1		
19	Fire blanket	No	1		
20	Unheated stainless steel serving counter 1105 x 750 x 910mm high	No	5		
21	Electric deep fryer four pans c/w with 4 mech frying baskets	No	1		
22	135l Electric oil jacketed boiling pan	No	1		
23	TP 80 Electric tilt frying pan 80 litre capacity	No	1		
24	FTG-10 Electric ribbed griller	No	1		
25	R-E3 3 Solid top electric range with oven	No	1		
26	BT60-4 Open burner gas with 4 burners	No	1		
27	Comenda Prime Line 48 litre hooded dishwasher	No	1		
28	Deluxe Toaster	No	1		
29	Conveyor Toaster	No	1		
30	5 Pan electric Bain Marie 1785 x 750 x 910mm High	No	2		
31	25 Litre wall mounted hot water boiler	No	2		
32	30 L Industrial Microwave 1000w	No	1		
33	Table top mixer	No	1		
33	4900 x 2600 x 600mm high cyclovent extract canopy complete with ducting to roof	No	1		
34	Axial flow extract fan duty 6.36m³/s c/w 2 off Melanix lined podded sound attenuators, anti vibration mounts and electrical	No	1		
TO COLLECT					R
PAGE 2 BILL NO 5 KITCHEN UPGRADE					

Item	Description	Quantity	Rate	Amount
GENERAL				
35	Allowance for commissioning and testing of the installation	1	Item	
36	Allowance for 12 month maintenance and guarantee of the installation.	1	Item	
37	Allowance for providing operating and maintenance manuals.	1	Item	
38	Allowance for instructing the End User on the operation of the	1	Item	
TO COLLECT				R
PAGE 3 BILL NO 5 KITCHEN UPGRADE				

Item	Description	Quantity	Rate	Amount
	<u>BILL</u>			
	KITCHEN UPGRADE AND REFURBISHMENT			
	COLLECTION			
	PAGE NO			
	Page 1			
	Page 2			
	Page 3			
	TOTAL TENDER PRICE TRANSFERRED TO FORM OF TENDER			
	TO COLLECT			
	PAGE 4 BILL NO 5 KITCHEN UPGRADE			

Item	Description	Quantity		Rate	Amount
<p>NEWCASTLE SAPS - VAN ECK BUILDING</p> <p>REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY</p> <p>BILL NO 6</p> <p>KITCHEN COLD AND FREEZER ROOM INSTALLATION</p> <p>(CPAP WORK GROUP 172).</p> <p>Refer to Specification and Drawings in Separate volume</p> <p>COLD ROOM</p> <p>Measured on site to suit existing cold room designed for conditions as set out in the specifications including floor, walls, door, 100mm dial thermometer and roof as per drawings. Approximate size of existing cold room structure 4700 x 2400 x 2800mm High 100mm thick chromadek clad polyurethane insulated panels and roof.</p> <p>Condensing unit and control panel complete with and including epoxy powder coated cabinet with lockable door as per specification Refrigeration capacity 3.66kW</p> <p>Ceiling mounted evaporator with insulated interconnecting refrigerant piping and cables, valves fittings and insulated drain as per specification, duty 3.66kW</p> <p>FREEZER ROOM</p> <p>Measured on site to suit existing freezer room designed for conditions as set out in the specifications including floor, walls, door, 100mm dial thermometer and roof as per drawings. Approximate size of existing cold room structure 2350 x 2400 x 2800mm High 100mm thick chromadek clad polyurethane insulated panels and roof.</p> <p>Condensing unit and control panel complete with and including epoxy powder coated cabinet with lockable door as per specification Refrigeration capacity 5.32kW</p> <p>Ceiling mounted evaporator with insulated interconnecting refrigerant piping and cables, valves fittings and insulated drain as per specification, duty 5.32kW</p> <p>REFRIGERATION CONTROL PANEL</p> <p>Combined Control Panel for both Cold and Freezer Rooms.</p> <p>REFRIGERATION AND COLD ROOM</p>					
1		No	1		
2		No	1		
3		No	1		
4		No	1		
5		No	1		
6		No	1		
7		No	1		
					R

Item	Description	Quantity		Rate	Amount
	COMMISSIONING, MAINTENANCE, ETC				
13	Allow for commissioning and testing of the complete kitchen cold and freezer room installation	1	Item		
14	Allow for 12 month maintenance and guarantee of the complete kitchen cold and freezer room installation	1	Item		
15	Allow for providing three (3) copies of Operating and Maintenance Manuals	1	Item		
	Allow for preparation of workshop and final record drawings for the complete kitchen cold and freezer room installation	1	Item		
	ITEM SUM				
	TO COLLECT			R	
PAGE 3 BILL NO 6 REFRIGERATION AND COLD ROOM					

Item	Description	Quantity		Rate	Amount
	<p>NEWCASTLE SAPS - VAN ECK BUILDING</p> <p>REPAIRS & RENOVATIONS TO DECENTRALISED TRAINING FACILITY</p> <p>BILL NO 7</p> <p>LAUNDRY EQUIPMENT</p> <p>(CPAP WORK GROUP 170).</p> <p>Supply and install laundry equipment as per specifications and drawing c/w electrical connections, water connection, drain connection and exhaust ducting</p>				
1	approved	No	2		
2	Speed queen or other approved 23kg front loading tumble dryer c/w exhaust ducting to outside.	No	2		
3	SST-2250 - Stainless steel table complete with galvanised under shelf 2250 x 750 x 915mm High	No	4		
TO COLLECT					R
PAGE 1 BILL NO 7 LAUNDRY EQUIPMENT					

[illegible]

Item	Description	Quantity		Rate	Amount
BILL	LAUNDRY EQUIPMENT				
COLLECTION					
Page 1					
Page 2					
TOTAL TENDER PRICE TRANSFERRED TO FORM OF TENDER					
TO COLLECT				R	
PAGE 3 BILL NO 7 LAUNDRY EQUIPMENT					