

**SECTION 2: REQUIREMENTS FOR SEWAGE TREATMENT PLANT
AND SEWAGE NETWORK**

SECTION 2- 1 : ELECTRICAL AND MECHANICAL REQUIREMENTS FOR .

AL RUSTUMIYAH L3 TREATMENT PLANT

CODE NO	DESCRIPTION	QTY
03-01-00404	lower bearing for screw pump type : OL180 , MAKE : ES MIL-HUBERT	10
03-01-00405	oil seal ring : BA 180x210 x15 (with .s.s spring) make : E S mil - HU bert type : OL 60	10
03-01-00406	oil seal ring : BA 60x75 x8 (with .s.s spring) Centri fugal pump : for service water and chlorinator house . manuf : S IHI halberg t ype : TKHA 12304 BN 135 . 01 .2 capacity :- 95 m3\ bur speed : 1450 V. P. M suction flange : D N 150 . PN 16 Discharge flange : DN125 .PN 16 Suction height : 4m delivery height : 60m wc	2
03-01-00407	Centri fugal pump : for row sludge . manuf : hidrostal t ype : ESK.H capacity :- 130 m3\h speed : 1450 V. P. M suction flange : D N 150 . Discharge flange : DN125 . delivery height : 35m	4
03-01-00408	Centri fugal pump : for ground storage tank manuf : SIHI. Helberg t ype : NO WC 6532 BN O 41 -02 .2 capacity :- 65M3\H speed : 1450 V. P. M suction flange : D N 80 PN,10. Discharge flange : DN65,PN10 delivery height : 33.5 M WC	2

LOW VOLTAGE CIRCUIT BREAKER

CODE NO.	DESCRIPTION	QTY
03-01-00409	Type : caloremag or equivalent Type NO : 7AA 5-3153 , 3 POLLES IE: 3150 AMP UE : 500 VOLT VDE : 0660 TYPE OF : RELEASE : R: M5 , A : 3153 THERMAL RELEASE : 0.6 -1 : I TH2 MAGNETIC RELEASE : 4- 12 : I TH2 IEC: 157 -1 U : 1000V SLP : 1	6

PENSTOKES

CODE NO.	DESCRIPTION	QTY
03-01-00410	actuator type : SA 6 (auma or equivalent) Protection : IP 67 CLOSING TORQUE : min \ max - nm -20 \ 60 Opening torque : min \max - nm -20 \60 1\min speed : 90 Lubricant : ep motor type : MD71 - 2\60 OR EQUIVALENT VOLTAGE : 380 V 3 N SPEED : 1400 MIN POWER : 0.55 KW FREQ : 50 H2 AMPERE : 4Y : 3.3 \ 1.9 AMP	10
03-01-00411	ACCT ATOR : SA 25 (AUMA OR EQUIVALENT) Protection : IP67 CLOSING TORQUE : min \ max - nm -60 - 250 Opening torque : min \max - nm -60-250 speed 1\ MIN :22 Lubricant : ep motor type : MD71 - 4\80 OR EQUIVALENT VOLTAGE : 380 V 3 N SPEED : 1400 MIN POWER : 0.55 KW FREQ : 50 H2 AMPERE : 4Y : 4.0 \ 2.5 A	4

MOTORS

CODE NO	DESCRIPTION	QTY
03-01-00412	Induction motor ,flange,type with magnetical brak,V 1. type :S E W,SA70 DT 100 L 4 or equivalent. power : 2.2 K W. speed: 1400 r.p.m. Voltage:380v,50H2. Protection: I P 55.	10
03-01-00413	Induction motor ,flange,type with magnetical brak,V 1. type :S E W,SA70 DT 100 L 4 or equivalent. power : 2.2 K W. speed: 1400 r.p.m. Voltage:380v,50H2. Protection: I P 55.	10
03-01-00414	Induction motor ,B 1, (AEG type or equivalent) type :Am 315 MM (Horizontal) or equivalent. power :160 KW, 400V, Deita,3 polles. speed: 1480 R.P.m .freq: 50 HZ.	4

03-01-00415	Induction motor ,AEG type or equivalent. type :Am 160 IR4 (Horizontal) B1. power :15 KW . speed: 1460 R.P.m .freq: 50 HZ.	10
	H.R.C Knife Fuse Isolater Swich Contact Parts must be Covered with motereal of zink or equivalent .	
03-01-00416	630 A, 3polls ,400 V	100
03-01-00417	400 A, 3p olls 400 V	150
03-01-00418	160 A, 3polls, 400 V	100
03-01-00419	DESCRPITION	QTY
03-01-00420	Bottle fuse 10A -400V (H.R.C)	1500
03-01-00421	Bottle fuse 35A -400V (H.R.C)	1500
03-01-00422	Bottle fuse 50A -400V (H.R.C)	1500
03-01-00423	Knife fuse 50A -400 (H.R.C)	500
03-01-00424	Knife fuse 80A -400V(H.R.C)	500
03-01-00425	Knife fuse 250A -400V (H.R.C)	1500
03-01-00426	Knife fuse 350A -400V (H.R.C)	1000
03-01-00427	Knife fuse 400A -400V (H.R.C)	2000

CONTTACTORS :

CODE NO	DESCRPITION	QTY
	ALL CONTTACTORS HAVE 220 V A.C ,TYPE SIEMENS OR EQUIVALNT , WITH AUXILARY , 3POLLES	
03-01-00428	I TH 2 10 A	100
03-01-00429	I TH 2 16 A	100
03-01-00430	I TH 2 55 A	70
03-01-00431	I TH 2 80 A	70
03-01-00432	I TH 2 22 A	250
CODE NO	DESCRPITION	QTY
	ALL OVER LOADS HAVE A3 POLLSAND TYPE SIMENS OR EQUIVALENT	
03-01-00433	0.63 -1A (SCREW TYPE)	50
03-01-00434	0.4 - 0.63 A (SCREW TYPE)	50
03-01-00435	4-6.3 A (SCREW TYPE)	50
03-01-00436	25-32 (SCREW TYPE)	25
03-01-00437	25-40 (SCREW TYPE)	25
03-01-00438	250 - 320 A (CURRENT TRANSFORMER TYPE)	15
03-01-00439	16-25 (SCREW TYPE)	25
CODE NO	DESCRPITION	QTY
03-01-00440	ALL MANUAL STARTER WITH (1.NO , 1.NC) CONTACT 6A (CONTROL) , 3 POLLES , 400 V , SIMENS OR EQUIVALENT 0-0.1A	100
03-01-00441	0.63-1A	50
03-01-00442	1-1.6 A	150

SECTION 2-2: ELECTRICAL AND MECHANICAL REQUIREMENTS**AL KARKH TREATMENT**

CODE NO	DESCRIPTION	QTY
03-01-00443	VERTICAL MOTOR COUPLING MAUNT ED BBC POWER : 18.5 KW SPEED : 1455 R.P.M 4 380V 36A	25
CODE NO	DESCRIPTION	QTY
	MOTOR A 220V 2.4 A Y 380 1.4A SPEED : 690 r.p.m	
CODE NO	DESCRIPTION	QTY
03-01-00444	ROLLER BEERING NU 315	20
03-01-00445	ROLLER BEARING 32305	20
03-01-00446	ROLLER BEARING 32206	20
03-01-00447	ROLLER BEARING 22308	20
03-01-00448	ROLLER BEARING 32315	20
03-01-00449	BALL BEARING 6213	10
03-01-00450	BALL BEARING 6311	20
03-01-00451	ROLLER BEARING NU 312	20
03-01-00452	ROLLER BEARING 22217	20
03-01-00453	ROLLER BEARING 22304	20
03-01-00454	BALL BEARING 6220	20
03-01-00455	BALL BEARING 6216	20
03-01-00456	BALL BEARING 11949	10
03-01-00457	BALL BEARING 48548	10
03-01-00458	BALL BEARING 7210	10
03-01-00459	BALL BEARING 7208	20
03-01-00460	BALL BEARING NU 309	15
03-01-00461	BALL BEARING NU 2211	15
03-01-00462	BALL BEARING 3209	15
03-01-00463	BALL BEARING 6205	10
03-01-00464	BALL BEARING 3315	10
03-01-00465	ROLLER BEARING NU 2315	10
03-01-00466	ROLLER BEARING NU 317	10
03-01-00467	BALL BEARING 319	10
03-01-00468	ROLLER BEARING NU320	10
03-01-00469	V - BELT SIZE 2200X 17	30
03-01-00470	V - BELT SIZE 3658X 22	30
03-01-00471	V - BELT SIZE 2100X 17	30
03-01-00472	V - BELT SIZE 750X 13	30
03-01-00473	V - BELT SIZE 975 X 13	30
03-01-00474	V - BELT SIZE 2070X 17	20
03-01-00475	OIL SEAL 100 X120 X12	30
03-01-00476	OIL SEAL 100 X125 X12	30
03-01-00477	OIL SEAL 140X 170 X12	10
03-01-00478	OIL SEAL 52 X40 X7	10
03-01-00479	OIL SEAL 130 X 160 X 12	10

**SECTION 2-3: ELECTRICAL AND MECHANICAL REQUIREMENTS FOR RUSTUMIYAH /0+1
TREATMENT PLANT**

CODE NO	DESCRIPTION	QTY
03-01-00480	<p>PUMP STATION F1</p> <p>COMPLETE SET PUMP WITH MOTOR , VERTICAL SHAFTS</p> <p>pump :- sewage center fugal volute case pump 585 rpm , 5400 m3/h H=10.55M</p> <p>WITH stainless steel Impeller , sleeve , shaft with automatic grease pump (mechanical rotational type)</p> <p>MOTOR 3~ 380V slip - ring 585 rpm 290kw the slip - ring are completely</p> <p>separated from the motor winding and have shorting ring , with IP= 5U coils and ip = 23 for slip ring , the coolness by metal fan fixed on mean shaft under the slip - ring have (thermo - couple) with 5 sets of holders and graphite brushes as spare</p> <p>THE PENAL is complete for two incoming one from mean 2000A 4p THE Other for generator mean 2000A with inter locked , have level control altra - sonic with sensors have 3 cubicals for starting . Motors , the ammeters and digital , the safety factor not lees then (3) , with power factor improve up(o,q) the over loads are electronic with three separated rooter starters oil resistance type have motor to change the starting speed. the panel have cubicles for lights and distribution</p> <p>the shaft are tow pieces Garden type</p>	3

CODE NO	DESCRIPTION	QTY				
	Complete rotating starter (rotor) for slip-king motors (electronic type)					
	<table border="0" style="width: 100%;"> <tr> <td style="width: 25%;">Rotor voltage</td> <td style="width: 25%;">current</td> <td style="width: 25%;">power</td> <td style="width: 25%;">rpw</td> </tr> </table>	Rotor voltage	current	power	rpw	
Rotor voltage	current	power	rpw			
03-01-00481	430v	2				
03-01-00482	455v	2				
03-01-00483	475v	2				
03-01-00484	500v	1				
03-01-00485	290v	4				
03-01-00486	375v	2				
03-01-00487	260v	2				

GENERATORS
DESCRIPTION

GENERATORS ACCESSORIES

CODE NO	DESCRIPTION	QTY
03-01-00488	ALL accessories for generator with G.O.S (automatic) bobindus -Belgium Engine type- TBD 510.L08 -- ENGINE NO : 510.08-01033 Speed 750 rpm 2940 KW AVK 11KV 2830 KVA 148A 0.8 p.f 50HZ Using aluminum radiator The provider is responsible for all spare parts needed to operate the generator	1

SECTION2-4: SEWAGE NET WORKS REPAIR REQUIREMENTS : U.P.V.C.PIPES AND FITTINGS

CODE NO	DESCRIPTION	QTY
	UPVC pips and fittings for sewers and shall comply with the requirments of Din (8061 -8062), wall thickness to comply with Din 8062 ,all pipes and fittings shall have rubber ring joints +10% additional quantity of rubber ring joints	
03-01-00489	Dia 110 mm	50000m
03-01-00490	Dia 160 mm	5000m
03-01-00491	Dia 710 mm	4000m
03-01-00492	Dia 800 mm	4000m
03-01-00493	Dia 900 mm	3000m
03-01-00494	Dia 1000 mm	2500m
03-01-00495	Dia 1200 mm	2000m