



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main (RPDI) pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to

Book No. :-

Page No. :- **023**

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	MH 177										
	CH 10805.50	601.787	599.357	599.107			2.680				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	180.864	192.922	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.180	9.485	175.744	185.229	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							21.543			
	Deduction										
	Brick work	1			0.785	2.280	2.280	1.215	4.958		
		1			0.785	1.540	1.540	1.215	2.262		
	PCC	1			0.785	2.580	2.580	0.250	1.306		
	Soling	1			0.785	2.580	2.580	0.000	0.000		
								8.526			
	Net Qty = A - B							13.017	309.249	322.266	
	MH 178										
	CH 10841.70	602.027	599.367	599.117			2.910				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	192.922	204.979	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.410	11.334	185.229	196.563	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							23.392			
	Deduction										
	Brick work	1			0.785	2.280	2.280	1.330	5.427		
		1			0.785	1.540	1.540	1.330	2.476		
	PCC	1			0.785	2.580	2.580	0.250	1.306		
	Soling	1			0.785	2.580	2.580	0.000	0.000		
								9.210			
	Net Qty = A - B							14.182	322.266	336.448	
	MH 179										
	CH 10885.40	602.057	599.387	599.137			2.920				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.250	10.048	204.979	215.027	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.420	11.415	196.563	207.978	
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	0.200	1.608	0.000	1.608	
	Item No. 4 :- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	0.050	0.402	0.000	0.402	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							23.472			
	Deduction										
	Brick work	1			0.785	2.280	2.280	1.335	5.448		
		1			0.785	1.540	1.540	1.335	2.485		
	PCC	1			0.785	2.580	2.580	0.250	1.306		
	Soling	1			0.785	2.580	2.580	0.000	0.000		
								9.239			
	Net Qty = A - B							14.233	336.448	350.680	



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

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Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali, Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanehanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI line from Golwadi SPS to Nakshtrawadi (Kanehanwadi) STP and Ward No.98 to

Book No. :-

024

Page No. :-

Date	Particulars of work	DETAILS					Content of arrears	Last measurement		Total Upto Date Quantity
		GL	No IL	EX.L	L	B		D	Page	
	MH 180									
	CH 10911.60	601.950	599.440	599.190			2.760			
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.									
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	215.027	227.085
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.260	10.128	207.978	218.106
	Item No. 30 :- Refilling the excavated trenches ...									
	Total Excavation=							22.186		
	Deduction									
	Brick work	1		0.785	2.280	2.280	1.255	5.121		
		1		0.785	1.540	1.540	1.255	2.336		
	PCC	1		0.785	2.580	2.580	0.250	1.306		
	Soling	1		0.785	2.580	2.580	0.000	0.000		
								8.764		
								13.422	350.680	364.102
	MH 181									
	CH 10925.30	602.000	599.540	599.290			2.710			
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.									
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	227.085	239.142
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.210	9.726	218.106	227.832
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.000	0.000	132.352	132.352
	Item No. 30 :- Refilling the excavated trenches ...									
	Total Excavation=							21.784		
	Deduction									
	Brick work	1		0.785	2.280	2.280	1.230	5.019		
		1		0.785	1.540	1.540	1.230	2.290		
	PCC	1		0.785	2.580	2.580	0.250	1.306		
	Soling	1		0.785	2.580	2.580	0.000	0.000		
								8.616		
								13.169	364.102	377.271
	MH 182									
	CH 10937.75	602.340	599.580	599.330			3.010			
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.									
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	239.142	251.200
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	227.832	239.890
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.010	0.080	132.352	132.433
	Item No. 30 :- Refilling the excavated trenches ...									
	Total Excavation=							24.196		
	Deduction									
	Brick work	1		0.785	2.280	2.280	1.380	5.631		
		1		0.785	1.540	1.540	1.380	2.569		
	PCC	1		0.785	2.580	2.580	0.250	1.306		
	Soling	1		0.785	2.580	2.580	0.000	0.000		
								9.507		
								14.689	377.271	391.959
	MH 183									
	CH 10972.70	602.950	599.690	599.440			3.510			
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.									
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	251.200	263.258
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	239.890	251.948
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.510	4.100	132.433	136.532



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AURANGABAD MUNICIPAL CORPORATION.

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Book No. :-

Page No. :- **025**

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		GL	No IL	EX.L	L	B	D		Page	Quantity	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						28.215				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.630	6.652			
		1		0.785	1.540	1.540	1.630	3.035			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							10.993				
							Net Qty = A - B	17.222	391.959	409.182	
	MH 184										
	CH 11001.40	603.045	599.785	599.535			3.510				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	263.258	275.315	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	251.948	264.005	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.510	4.100	136.532	140.632	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						28.215				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.630	6.652			
		1		0.785	1.540	1.540	1.630	3.035			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							10.993				
							Net Qty = A - B	17.222	409.182	426.404	
	MH 185										
	CH 11035.10	603.305	599.845	599.595			3.710				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	275.315	287.373	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	264.005	276.063	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.710	5.707	140.632	146.339	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						29.822				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.730	7.060			
		1		0.785	1.540	1.540	1.730	3.221			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							11.587				
							Net Qty = A - B	18.236	426.404	444.640	
	MH 186										
	CH 11066.30	602.925	600.465	600.215			2.710				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	287.373	299.430	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.210	9.726	276.063	285.789	



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Book No. :- **026**
Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						21.784				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.230	5.019			
		1		0.785	1.540	1.540	1.230	2.290			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							8.616				
	Net Qty = A - B						13.169		444.640	457.808	
	MH 187										
	CH 11097.50	603.015	600.555	600.305			2.710				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	299.430	311.488	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.210	9.726	285.789	295.516	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						21.784				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.230	5.019			
		1		0.785	1.540	1.540	1.230	2.290			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							8.616				
	Net Qty = A - B						13.169		457.808	470.977	
	MH 188										
	CH 11133.70	603.425	600.665	600.415			3.010				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	311.488	323.546	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	295.516	307.573	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.010	0.080	146.339	146.419	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						24.196				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.380	5.631			
		1		0.785	1.540	1.540	1.380	2.569			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							9.507				
	Net Qty = A - B						14.689		470.977	485.665	
	MH 189										
	CH 11174.90	603.825	600.765	600.515			3.310				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	323.546	335.603	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	307.573	319.631	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.310	2.492	146.419	148.911	



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Book No. :-
Page No. :- **027**

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						26.607				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.530	6.244			
		1		0.785	1.540	1.540	1.530	2.848			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							10.398				
	Net Qty = A - B						16.209	485.665	501.874		
	MH 190										
	CH 11206.10	603.915	600.855	600.605			3.310				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	335.603	347.661	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	319.631	331.688	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.310	2.492	148.911	151.403	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						26.607				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.530	6.244			
		1		0.785	1.540	1.540	1.530	2.848			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							10.398				
	Net Qty = A - B						16.209	501.874	518.083		
	MH 191										
	CH 11237.30	604.105	601.045	600.795			3.310				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	347.661	359.718	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	331.688	343.746	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.310	2.492	151.403	153.895	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						26.607				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.530	6.244			
		1		0.785	1.540	1.540	1.530	2.848			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							10.398				
	Net Qty = A - B						16.209	518.083	534.292		
	MH 155/4										
	CH 153.50	599.300	595.925	595.675			3.625				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	359.718	371.776	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	343.746	355.804	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.625	5.024	153.895	158.919	



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Book No. :- **028**
Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Veneture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

Date	Particulars of work	DETAILS					Content of arrears	Last measurement		Total Upto Date Quantity	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						29.139				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.688	6.886			
		1		0.785	1.540	1.540	1.688	3.142			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							11.334				
							17.805		534.292	552.097	
	Net Qty = A - B										
	MH 155/2.1										
	CH 4.80	598.640	596.174	595.924			2.716				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	371.776	383.834	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.216	9.775	355.804	365.578	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.000	0.000	158.919	158.919	
	(d) For Lift 4.5m to 6.0m	1			0.785	10.240	0.000	0.000	15.032	15.032	
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	0.000	0.000	1.608	1.608	
	Item No. 4 :- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	0.000	0.000	0.402	0.402	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						21.832				
	Deduction										
	Brick work	1		0.785	2.280	2.280	1.233	5.032			
		1		0.785	1.540	1.540	1.233	2.295			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							8.633				
							13.199		552.097	565.296	
	Net Qty = A - B										



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. : 029

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

Authority No. AMC/Ward B&C/UIDSSM1/2014/184 Date 01.07.2014

8th R A BILL MEASUREMENTS Sewer "M" - Dewatering

Sr.No.	Date	Pump Capacity in Hp	No.of Pumps	Time		Total Hrs	Bhp/Hr
				From	To		
Mayur Park 400mm Dia							
1	19/12/2015	5	1	9:30	10:15	0:45	3:45:00
		5	1	11:00	11:30	0:30	2:30:00
		5	1	13:00	13:20	0:20	1:40:00
2	21/12/2015	5	1	9:15	10:15	1:00	5:00:00
		5	1	11:00	11:45	0:45	3:45:00
		5	1	14:00	15:15	1:15	6:15:00
3	24/12/2015	5	1	10:05	10:35	0:30	2:30:00
		5	1	11:10	12:00	0:50	4:10:00
		5	1	13:30	14:30	1:00	5:00:00
		5	1	14:45	15:30	0:45	3:45:00
4	28/12/2015	5	1	9:45	10:15	0:30	2:30:00
		5	1	10:30	11:30	1:00	5:00:00
		5	1	11:50	12:20	0:30	2:30:00
		5	1	14:30	15:30	1:00	5:00:00
5	31/12/2015	5	1	9:30	10:30	1:00	5:00:00
		5	1	10:45	11:50	1:05	5:25:00
		5	1	12:00	12:55	0:55	4:35:00
		5	1	14:05	14:55	0:50	4:10:00
		5	1	10:00	11:00	1:00	5:00:00
6	02/01/2016	5	1	11:05	11:35	0:30	2:30:00
		5	1	11:45	12:15	0:30	2:30:00
		5	1	12:25	13:25	1:00	5:00:00
		5	1	10:05	10:55	0:50	4:10:00
7	04/01/2016	5	1	11:15	12:00	0:45	3:45:00
		5	1	13:00	13:30	0:30	2:30:00
		5	1	14:30	15:30	1:00	5:00:00
		5	1	10:00	10:50	0:50	4:10:00
8	07/01/2016	5	1	11:00	11:30	0:30	2:30:00
		5	1	11:35	12:00	0:25	2:05:00
		5	1	12:15	13:25	1:10	5:50:00
Total						23:30:00	117:30:00
							117.50



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

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Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

1st RA BILL MEASUREMENTS M Sewer

Item No. 11										
Disposal of excavated material including loading the excavated material in trucks / tractors and unloading the same at a distance of 10 KMS as directed by engineer-in-charge.										
SR.NO.	Particulars of work	UNIT	DETAILS							
			Chainage		NO	L	B	D	QTY	Total Qty. Of Disposal
			From	To						
1	400 mm Dia		10614.50	11237.30						
	Pipe volume	Cum			0.785	622.80	0.550	0.550	147.89	297.36
	Murum bedding	Cum				622.80	1.200	0.200	149.47	
Total										297.36



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

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Book No. :- 031
Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

7th R A BILL MEASUREMENTS

M Sewer

Item No. : 23 Providing and constructing on sewer BBM manhole 1.5 m dia at bottom and 0.5 m dia at top and up to a depth of 5 M

Sr.No.	Chainage	MH No	MTL	IL	Depth	Depth Difference than 5 m	Total Difference	Rebate/Add for Excess height (per 50 cm)
1	CH 9880.60	MH 153/1	599.330	594.680	4.650	-0.350		
2	CH 9904.30	MH 153/2	599.240	594.720	4.520	-0.480		
3	CH 0.00	MH 157/1	600.025	595.475	4.550	-0.450		
4	CH 73.70	MH 157/2	600.205	595.655	4.550	-0.450		
5	CH 107.40	MH 157/3	600.185	595.735	4.450	-0.550		
6	CH 133.60	MH 160	600.150	595.800	4.350	-0.650		
7	CH 149.80	MH 161	600.090	595.840	4.250	-0.750		
8	CH 183.50	MH 162	600.267	595.917	4.350	-0.650		
9	CH 242.20	MH 163	600.407	596.057	4.350	-0.650		
10	CH 300.90	MH 164	600.547	596.197	4.350	-0.650		
11	CH 10614.50	MH 172	602.297	598.152	4.145	-0.855		
12	CH 10653.20	MH 173	600.915	598.332	2.583	-2.417		
13	CH 10699.40	MH 174	601.997	599.177	2.820	-2.180		
14	CH 10735.60	MH 175	601.817	599.267	2.550	-2.450		
15	CH 10761.80	MH 176	601.807	599.327	2.480	-2.520		
16	CH 10805.50	MH 177	601.787	599.357	2.430	-2.570		
17	CH 10841.70	MH 178	602.027	599.367	2.660	-2.340	-52.881	-105.762
18	CH 10885.40	MH 179	602.057	599.387	2.670	-2.330		
19	CH 10911.60	MH 180	601.950	599.440	2.510	-2.490		
20	CH 10925.30	MH 181	602.000	599.540	2.460	-2.540		
21	CH 10937.75	MH 182	602.340	599.580	2.760	-2.240		
22	CH 10972.70	MH 183	602.950	599.690	3.260	-1.740		
23	CH 11001.40	MH 184	603.045	599.785	3.260	-1.740		
24	CH 11035.10	MH 185	603.305	599.845	3.460	-1.540		
25	CH 11066.30	MH 186	602.925	600.465	2.460	-2.540		
26	CH 11097.50	MH 187	603.015	600.555	2.460	-2.540		
27	CH 11133.70	MH 188	603.425	600.665	2.760	-2.240		
28	CH 11174.90	MH 189	603.825	600.765	3.060	-1.940		
29	CH 11206.10	MH 190	603.915	600.855	3.060	-1.940		
30	CH 11237.30	MH 191	604.105	601.045	3.060	-1.940		
31	CH 153.50	MH 155/4	599.300	595.925	3.375	-1.625		
32	CH 4.80	MH 155/2.1	598.640	596.174	2.466	-2.534		



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52).

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali, Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CHDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CHDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. :-

032

SCHEDULE B - ABSTRACT OF COST											
Name of Work :- Development of Underground Sewerage Collection system for Zone I to VI & Zone Salim Ali, Construction of sewage Treatment Plants, Construction of sewage pumping stations, Providing Rising Main GRP/DI pipe lines for Aurangabad City under UIDSSMT.											
Date of Commencement - 01-07-2014											
Stipulated Date of Completion - 01-07-2017											
A & F Sanction No. & Date :											
		Serial No. of this Bill - 6th R.A. Bill Dt: 15/03/2016. 2501/2016									
Name of Contractor - M/s. Khilari Infrastructure Pvt Ltd.											
Technical Sanction No. & Date :											
Contract No., & Date - AMC/WARD(B&C)/UIDSSMT/2014/184 Dated 01.07.2014											
Amount of Contract - Rs. 464.00 Crs.											
SEWER "M"											
Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)		
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous
1	2	3	4	5	6	7	8	9	10	11	12
				PART-B for Designing, Providing, lowering, Laying, testing and commissioning of sewer pumping main from Golwadi Pumping Station to Nakshtrawadi STP and from Ward No. 98 pumping							
				ITEM NO. 1 :- Excavation for foundation/pipe trenches in earth soils of all types sand gravel and soft murum, manually or by using mechanical means including & removing the excavated materials, up to a distance of 50.0 m beyond the area, and lifts as below. Stacking and spreading as directed by engineer-in-charge, normal dewatering preparing the bed for foundation and excluding back filling etc complete.							
37111.91	25805.32	22454.144	3351.171	Lift 0.0 m to 1.5 m		Cum	140.80		3633388	3161544	471844
117343.06	17255.40	14581.461	2673.942	Lift 1.5 m to 3.0 m		Cum	154.00		2657332	2245545	411782
17329.23	7551.88	6351.807	1200.075	Lift 3.0 m to 4.5 m		Cum	167.20		1262675	1062022	200653
8555.99	1313.40	1204.616	108.783	Lift 4.5 m to 6.0 m		Cum	180.40		236937	217313	19624



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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to CTD, Etc. Aurangabad City.

Book No. :-

Page No. :- **033**

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)				
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous		
13744.21	2689.43	2628.125	61.308	ITEM NO. 2 :-Excavation for foundation / pipe trenches in hard murum and Boulders,WBM road including removing the excavated material upto a distance of 50 M and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling etc.complete. Lift 0.0 m to 1.5 m		Cum	157.72		424177	414508	9669		
84957.29	3070.86	3070.860	0.000		Lift 1.5 m to 3.0 m		Cum	170.67		524104	524104	0	
45745.08	1551.38	1551.381	0.000		Lift 3.0 m to 4.5 m		Cum	183.61		284849	284849	0	
14196.46	161.12	161.120	0.000		Lift 4.5 m to 6.0 m		Cum	196.56		31670	31670	0	
6357.01	203.122	200.420	2.702	ITEM NO. 4 :- Excavation for foundation/pipe trenches in soft rock and old cement and lime masonry foundation asphalt road manually or by using mechanical means including & removing the excavated materials, up to a distance of 50.0 m beyond the area, and lifts as below. Stacking and spreading as directed. Lift 0.0 m to 1.5 m		Cum	493.90		100322	98988	1334		
50974.37	1720.826	1720.826	0.000		Lift 1.5 m to 3.0 M		Cum	517.00		889667	889667	0	
45745.08	1567.225	1567.225	0.000		Lift 3.0 m to 4.5 M		Cum	540.10		846458	846458	0	
23660.76	758.511	758.511	0.000		Lift 4.5 m to 6 M		Cum	563.20		427193	427193	0	
				ITEM NO. 5 :- Excavation for foundation / pipe trenches in laterite rock masses by chiseling,weighting, line drilling or by mechanical means or by all means other than blasting including trimming and leveling bed, removing the excavated material upto a distance of 50 M beyond the area and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering excluding backfilling etc by all means. Lift 0.0 m to 1.5 m		Cum	856.90		363737	363737	0		
3178.51	424.480	424.480	0.000		Lift 1.5 m to 3.0 M		Cum	880.00		4077662	4077662	0	
84957.29	4633.707	4633.707	0.000		Lift 3.0 m to 4.5 M		Cum	903.10		2894485	2894485	0	
73192.13	3205.055	3205.055	0.000		Lift 4.5 m to 6 M		Cum	926.20		871558	871558	0	
47321.52	941.004	941.004	0.000		Lift 6.0 m to 7.5 M		Cum	949.30		0	0	0	
75389.18	0.000	0.000	0.000				CuM					0	
							Cum						0
							Cum						0
							Cum						0

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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :- **034**
Page No. :-

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)		
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous
703.68	14.550	14.550	0.000	Item No. 6 Providing and laying in situ Cement Concrete of trap/granite/quartzite/gneiss metal for RCC work in foundation like raft/grillage/strip foundation and footing of RCC columns and steel stanchions including normal dewatering form work ,bally,steel props,compaction finishing and curing etc.complete.(by weigh,batchingand mix design for M250 and M300 only.Use of L&T, ACC,Ambuja ,Birla gold etc. cement is permitted.		CuM	5155.50		75013	75013	0
70514.84	2568.45	2315.752	252.701	ITEM NO. 7 :- Filling in plinth and floors /trenches with available stuff for bedding in 15cm to 20cm layer including watering & compaction etc.complete.		CuM	63.00		161813	145892	15921
3450.00	13.500	13.500	0.000	Item No. 8 Dismantling RCC Concrete work including brakingconcrete by chiselling, welding etc.including cutting the reinforcement, stacking the serviceable material and the debris separately upto a distance of 50 m or spreading the debris as directed ect. complete.		CuM	393.23		5309	5309	0
105968.05	2795.50	2678.000	117.500	ITEM NO. 10 :- Dewatering the excavated trenches and pools of water in the building trenches / pipeline trenches, well works by using pumps and other devices including disposing off water to safe		Bhp/Hr	63.00		176117	168714	7403
131578.86	5534.72	5237.356	297.364	Item No. 11 Disposal of excavated material including loading the excavated material in trucks / tractors and unloading the same at a distance of 10 KMS as directed by engineer-in-charge.		CuM	336.76		1863872	1763732	100140

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Total up to Date	10
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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. :-

035

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)		
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous
				Item No. 12 Providing and supplying ISI standard DWC pipes for non pressure UGD with smooth internal and corrugated external surface with anti-rust property conforming to ISO 211383:2007 with necessary jointing material like mechanical connector i.e.thread/insert joint/quick release coupler/ compression fitting joint / flanged joint including all local and central taxes,transportation and freight charges,inspection charges,loading and unloading charges,conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains etc complete.							
				DWC Pipes							
28531.84	30.0	30.000	0.000	d)315mm Supply 70%		Rmt	10982.24	768.77	23063	23063	0
				Laid 15%		Rmt	164.74		4942	4942	0
				Commissioning 15%		Rmt	0.00		0	0	0
				Item No. 13 Lowering laying and jointing HDPE / MDPE pipes in proper position including all specials by Compression fitting/ Electro fusion and but fusion jointing procedure including hydraulic testing as per relevant IS code complete with all material for jointing procedures like Electro fusion machine with hydraulic jack, top loading clamp etc. pump and accessories for hydraulic testing and all labours as directed by engineer in charge as per IS 7634 part II.							
28531.84	30.0	30.000	0.0	d)315mm Laid 90%		Rmt	63.00	56.70	1701	1701	0
				Commissioning 10%		Rmt		6.30	0	0	0
				ITEM NO. 15 :- Providing ISI standard R.C.C. NF3 pipes in standard lengths of following class and diameter suitable for either collar joints or rubber ring joints, including all taxes (Central and local), inspection charges, transport to departmental stores/site, unloading and stacking etc. complete as per IS 458/1988 (One rubber ring should be supplied with each full length of socketed pipe)							
5789.90	745.000	375.000	370.000	Glass NP - III		Rmt	3826.24	1278.37	952384	479388	472996
				a)400mm Supply 70%		Rmt		273.94	195864	31503	164361
				Laid 15%		Rmt		273.94	0	0	0
				Commissioning 15%		Rmt		273.94	0	0	0

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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

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Book No. :-

Page No. :-

C36

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)			
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous	
1975.70	147.500	107.500	40.000	b)450mm Supply 70%		Rmt	2171.52	1520.06	224209	163407	60802	
	147.500	120.000	27.500	Laid 15%		Rmt		325.73	48045	39087	8958	
1954.30	1712.500	0.000	0.000	c)Commissioning 15%		Rmt						
	1712.500	1732.500	-20.000	e)500mm Supply 70%		Rmt	2411.76	1688.23	2891097	2924862	-33765	
	1712.500	1310.000	402.500	Laid 15%		Rmt		361.76	619521	473911	145610	
8649.98	3345.000	0.000	0.000	Commissioning 15%		Rmt		361.76				
	3345.000	3990.000	-645.000	d)600mm Supply 70%		Rmt	3178.24	2224.77	7441849	8876824	-1434975	
	3344.500	3344.500	0.000	Laid 15%		Rmt		476.74	1594444	1594444		
8022.30	470.000	0.000	0.000	Commissioning 15%		Rmt		476.74				
	470.000	490.000	-20.000	e)700mm Supply 70%		Rmt	4319.12	3023.38	1420990	1481458	-60468	
	469.500	469.500	0.000	Laid 15%		Rmt		647.87	304174	304174		
4013.90	380.000	0.000	0.000	Commissioning 15%		Rmt		647.87				
	380.000	445.000	-65.000	f)800mm Supply 70%		Rmt	5145.92	3602.14	1368815	1674997	-306182	
	380.000	380.000	0.000	Laid 15%		Rmt		771.89	293317	293317		
9295.40	1627.500	0.000	0.000	Commissioning 15%		Rmt		771.89				
	1627.500	1627.500	0.000	g)900mm Supply 70%		Rmt	5943.60	4160.52	6771246	6771246		
	1627.500	1627.500	0.000	Laid 15%		Rmt		891.54	1450981	1450981		
1676.10	1082.500	0.000	0.000	Commissioning 15%		Rmt		891.54				
	997.500	1082.500	-85.000	h)1000mm Supply 70%		Rmt	7271.68	5090.18	5510116	5510116		
	0.000	972.500	25.000	Laid 15%		Rmt		1090.75	1088025	1060756	27269	
	0.000	0.000	0.000	Commissioning 15%		Rmt		1090.75				
				ITEM NO. 17 :-Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in C.M.I. 1:1 proportion of socketted R.C.C. pipes with rubber joints (excluding cost of conveyance from stores to site of work, cost of jointing material, labour, giving Hydraulic testing etc.complete as directed by engineer in-charge (For all Class of Pipes as per IS 783-1985)								
32606.20	715.000	115.000	600.000	a)400mm Laid 90%		Rmt	162.75	146.48	104730	16845	87885	
	0.000	0.000	0.000	Commissioning 10%		Rmt		16.28				
4612.48	147.500	120.000	27.500	b)450mm Laid 90%		Rmt	194.25	174.83	25787	20979	4808	
	0.000	0.000	0.000	Commissioning 10%		Rmt		19.43				
11676.10	1712.500	1310.000	402.500	c)500mm Laid 90%		Rmt	213.15	191.84	378517	251304	77213	
	0.000	0.000	0.000	Commissioning 10%		Rmt		21.32				
12344.36	3344.500	3344.500	0.000	d)600mm Laid 90%		Rmt	266.70	240.03	802780	802780		
	0.000	0.000	0.000	Commissioning 10%		Rmt		26.67				
9414.10	469.500	469.500	0.000	e)700mm Laid 90%		Rmt	303.45	273.11	128223	128223		
	0.000	0.000	0.000	Commissioning 10%		Rmt		30.35				
4605.20	380.000	380.000	0.000	f)800mm Laid 90%		Rmt	350.70	315.63	119939	119939		
	0.000	0.000	0.000	Commissioning 10%		Rmt		35.07				

Total up to Date

10

Handwritten signatures and stamps including:
 - A circular stamp: "Forrest Infrastructure Advisory Services" (Government of Maharashtra)
 - A circular stamp: "Khilari Infra Pvt. Ltd. Navi Mumbai"
 - Handwritten initials: "JG", "JG", "JG"



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Bancwadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to

Book No. :- **037**

Page No. :-

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)			
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous	
10206.80	1627.500	1627.500	0.000	Ø1900mm Laid 90%		Rmt	387.45	348.71	567517	567517	0	
	0.000	0.000	0.000	Commissioning 10%		Rmt		38.75		0	0	
2403.90	972.500	972.500	25.000	Ø1100mm Laid 90%		Rmt	424.20	381.78	380826	371281	9545	
	0.000	0.000	0.000	Commissioning 10%		Rmt		42.42	0	0	0	
				Item No. 21 Providing and constructing on sewer.BBM manhole 1.2 m dia at bottom and 0.5 m dia at top and up to a depth of 2.0 M in CM 1:4 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C.1:2:4 proportion, finishing channel, in smooth rendering, providing C.I dapuri type steps each weighing 5.5 kg, 1:2:4 coping and providing and fixing approved make and quality SFRCC frame and cover of 56 cm dia etc., complete as directed by engineer- in-charge.								
6945.00	1.000	1.000	0.000	Manhole-1.2M dia 2.0M depth		Nos.	21025.20	18922.68	18923	18923	0	
	0.000	0.000	0.000	Commissioning		Nos.		2102.52	0	0	0	
4167.35	-0.560	-0.560	0.000	21.1)Rebet for every decrease in depth of 50cm or part there of. diduct amt		Nos.			-1611	-1611	0	
				Item No. 22 Providing and constructing on sewer. R.C.C circular manhole 2.2 m dia and up to a depth of 5 M of Reinforced Cement Concrete (M-20) including excavation, concrete, steel reinforcement and haunches and channels in C.C.1:2:4 proportion, finishing channel, in smooth rendering, providing C.I dapuri type steps each weighing 5.5 kg, and providing and fixing approved make and quality SFRCC frame and cover of 56 cm dia etc., complete as directed by engineer- in-charge. (As Per Rate Analysis)								
245.00	37.000	37.000	0.000	Manhole-2.2M dia 5.0M depth		Nos.	144531.36	130078	4812886	4812886	0	
	45.000	45.000	0.000					130078	5853520	5853520	0	
122.00	37.000	37.000	0.000	22.1)Rebet for every decrease in depth of 50cm or part there of. diduct amt		Nos.			607025	607025	0	
	30.840	30.840	0.000						445793	445793	0	



Total up to Date
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AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to

Book No. :-

039

Page No. :-

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)				
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous		
				Item No. 23 Providing and constructing on sewer.BBM manhole 1.5 m dia at bottom and 0.5 m dia at top and up to a depth of 2 to 5.0 M in CM 1:4 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C.1:2:4 proportion, finishing channel, in smooth rendering, providing C.I dapurti type steps each weighing 5.5 kg, 1:2:4 coping and providing and fixing approved make and quality SFRCC frame and cover of 56 cm dia etc., complete as directed by engineer- in- charge.									
727.00	68.000 0.000	36.000 0.000	32.000 0.000	Manhole-1.5M dia, 2.0 to 5.0M depth Commissioning		Nos. Nos.	58791.60 5879.16	57912.44 5879.16	3598046 0	1904848 0	1693198 0	0	
387.00	-167.370	-61.61	-105.762	23.1)Rebet for every decrease in depth of 50cm or part there of. deduct amt		Nos.	5913.60		-989759	-364325	-625434	0	
				Item No. 24 Providing and constructing on sewer .R.C.C circular manhole 2.5 m dia and up to a depth of 9 M of Reinforced Cement Concrete (M-20) including excavation, concrete, steel reinforcement and haunches and channels in C.C.1:2:4 proportion, finishing channel, in smooth rendering, providing C.I dapurti type steps each weighing 5.5 kg, and providing and fixing approved make and quality SFRCC frame and cover of 56 cm dia etc., complete as directed by engineer- in-charge. (AS Per Rate Analysis)									
142.00	2.000 1.000	2.00 1.00	0.000 0.000	Manhole-2.5M dia, 9.0M depth Commissioning		Nos. Nos.	302462.87 30246.29	272216.58 272216.58	544434 272217	544434 272217	0 0	0 0	
71.00	1.000 1.000 -3.500	1.000 1.000 -3.500	0.000 0.000 0.000	24.1)Rebet for every decrease in depth of 50cm or part there of. deduct amt		Nos.	30246.29	-151231.00 -151231.00	-151231 -151231	-151231 -151231	0 0	0 0	

Handwritten signatures and initials



Total up to Date
10



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

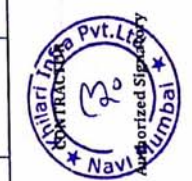
Book No. :-

Page No. :-

039

Quantity as per BOQ	Upto date quantity	Quantity Upto last bill	Quantity Since Previous	Description of Item	MB page No.	Unit	Rate		Payment on the basis of actual measurements (Amount)		
							Full Rate	Part rate	Upto date Amount	Amount Upto last bill	Since Previous
60.70	0.346	0.346	0.000	Item No. 28 STEEL REINFORCEMENT Providing and fixing in position steel bar reinforcement of various diameters for RCC piles caps, footing foundations, slabs, beams, columns, canopies, staircases, newells, chajjas lineals, pardiess, copings, fins arches etc. as per detailed designs, drawings and schedules including cutting bending, hooking the bars, binding with wires or tack welding and supporting as required etc. complete. (Including cost of binding wire)		MT	61122.60		21159	21159	0
627240.78	67319.7	60846.941	6472.779	ITEM NO. 30 :- Refilling the trenches with available excavated material with soft material first over pipeline and then hard material in 15 cm layer with all leads and lifts including consolidation, surcharging etc. complete		CuM	62.92		4235757	3828490	407267
				Total for Part B					75481506	73544043	1937463
				Add 21.69% Above					163771939	15951703	420236
				Total For BOQ					91853445	89495746	2357699
				EXTRA ITEM							
		21.79	0.000	Extra Item no.-5. a) Providing Rubble soling in 15 to 20 cm thk layer		Cum	912.45		19881	19881	0
		56.06	0.000	Extra Item no.-5. b) Providing & casting M 15 Grade Concrete		Cum	4206.30	2944.41	235823	235823	0
		21.85	0.000	Extra Item no.-5. c) Construction of UCR Masonry work in 1:6 CM		Cum	3106.95		67879	67879	0
				Total for ERL					323583	323583	0
				Total for BOQ + ERL					92177028	89819329	2357699

CLIENT
 Dy. Engineer
 Ex. Engineer
 Dy. Engineer
 P. Engineer
 P. Engineer



Total up to Date
10



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :- 043

Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

Sr. No.	Description of Item	MB page No.	Payment on the basis of actual measurements (Amount)		
			Upto date Amount	Amount Upto last bill	Since Previous
		3	4	5	6
1	PART-B for Designing, Providing, lowering, Laying, testing and commissioning of sewer pumping main from Golwadi Pumping Station to Nakshtrawadi STP and from Ward No. 98 pumping		92177028	89819329	2357699
2	Amount of Bill for sewer "M"		251592	0	251592
3	Amount For Road Restoration Work At " MAYUR PARK "		505140	0	505140
	Total For BOQ		92933759	89819329	3114430

SEWER "M"

J.P.R.
 Jr. Engineer

Dy. Engineer

Ex-Engineer

PMc

Fortess Infrastructure Advisors
 Division of Fortess

Khilari Infrastructure Pvt. Ltd. & GECPL
 Authorized Signatory

Total up to Date
10



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. : **041**

Page No. :-

1 of 7

M Sewer 400,300mm, 300mmDWC, 200mm SW

9th RA BILL MEASUREMENTS

Sewer "M"

Date	Particulars of work	DETAILS						Content of area	Last measurement		TOTAL TO DATE
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	400mm dia at Mayur Park										
	Width of Trench - For										
	Bottom Lift 0.00-1.50m- 0.4+0.15+0.15+0.5=1.2m										
	From Bottom Lift 1.50m-3.00m- 0.4+0.15+0.15+0.5+0.4=1.6m										
	From Bottom Lift 3.00m-4.50m- 0.4+0.15+0.15+0.5+0.4+0.4=2.0m										
	CH11237.30	604.105	601.045	600.845			3.260	3.260			
	CH11272.95	604.105	601.045	600.845			3.260				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			34.05	2.000	1.500	102.150	0.000	102.150	
	(b) For Lift 1.5m to 3.0m	1			34.05	1.600	1.500	81.720	0.000	81.720	
	(c) For Lift 3.0m to 4.5m	1			34.05	1.200	0.260	10.624	0.000	10.624	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			34.05	1.200	0.200	8.172	0.000	8.172	
	Item No. : 11 Transportation of earth Transportation charges including loading							16.258	0.000	16.258	
	Item No.17 (a) :- Lowering & Laying RCC NP3 class pipe of 400mm Dia	1			35.00			35.000	0.000	35.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							194.494			
	Deduction										
	pipe area	1		0.785	34.05	0.550	0.550	8.09			
	soling							0.00			
	PCC							0.00			
	Murum bedding							8.17			
	Total = B							16.26			
	Net Qty = A - B							178.24	0.000	178.236	
	MH 191										
	CH11272.95	604.105	601.045	600.845			3.260	3.140			
	CH11295.05	604.105	601.285	601.085			3.020				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			18.90	2.000	1.500	56.700	102.150	158.850	
	(b) For Lift 1.5m to 3.0m	1			18.90	1.600	1.500	45.360	81.720	127.080	
	(c) For Lift 3.0m to 4.5m	1			18.90	1.200	0.140	3.175	10.624	13.799	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			18.90	1.200	0.200	4.536	8.172	12.708	
	Item No. : 11 Transportation of earth Transportation charges including loading							9.024	16.258	25.282	
	Item No.17 (a) :- Lowering & Laying RCC NP3 class pipe of 400mm Dia	1			20.80			20.800	35.000	55.800	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							105.235			
	Deduction										
	pipe area	1		0.785	18.90	0.550	0.550	4.49			
	soling							0.00			
	PCC							0.00			
	Murum bedding							4.54			



Handwritten signature



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :- 042
Page No. :-

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M Sewer 400,300mm, 300mmDWC, 200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EXL							
	Total = B						9.02				
		Net Qty = A - B					96.21		178.236	274.447	
	300mm dia at Mayur Park										
	Width of Trench - For										
	Bottom Lift 0.00-1.50m- 0.3+0.08+0.08+0.5=0.96m										
	From Bottom Lift 1.50m-3.00m- 0.3+0.08+0.08+0.5+0.4=1.36m										
	From Bottom Lift 3.00m-4.50m- 0.3+0.08+0.08+0.5+0.4+0.4=1.76m										
	MH 192										
	CH11295.05	604.105	601.285	601.085			3.020				
	CH11326.35	603.915	601.405	601.205			2.710	2.865			
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			28.10	1.360	1.500	57.324	158.850	216.174	
	(b) For Lift 1.5m to 3.0m	1			28.10	0.960	1.365	36.822	127.080	163.902	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			28.10	0.960	0.200	5.395	12.708	18.103	
	Item No. : 11 Transportation of earth Transportation charges including loading							8.580	25.282	33.862	
	Extra item no.-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			30.00			30.000	0.000	30.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							94.146			
	Deduction										
	pipe area	1		0.785	28.10	0.380	0.380	3.19			
	soling							0.00			
	PCC							0.00			
	Murum bedding							5.40			
	Total = B							8.58			
		Net Qty = A - B					85.57		274.447	360.013	
	MH 193										
	CH11326.35	603.915	601.405	601.205			2.710				
	CH11347.00	604.013	601.705	601.505			2.508	2.609			
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			19.05	1.360	1.500	38.862	216.174	255.036	
	(b) For Lift 1.5m to 3.0m	1			19.05	0.960	1.109	20.281	163.902	184.184	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			19.05	0.960	0.200	3.658	18.103	21.761	
	Item No. : 11 Transportation of earth Transportation charges including loading							5.817	33.862	39.679	
	Extra item no.-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			20.00			20.000	30.000	50.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							59.143			
	Deduction										
	pipe area	1		0.785	19.05	0.380	0.380	2.16			
	soling							0.00			
	PCC							0.00			
	Murum bedding							3.66			
	Total = B							5.82			
		Net Qty = A - B					53.33		360.013	413.339	
	CH11347.00	604.013	601.705	601.505			2.508				



Jan



AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

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Book No. :- **043**

Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

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M Sewer 400,300mm, 300mmDWC ,200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	CH11367.55	604.110	602.005	601.805			2.305				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	1.250	32.674	255.036	287.710	
	(b) For Lift 1.5m to 3.0m	1			19.22	0.960	0.906	16.717	184.184	200.900	
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murum etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	0.200	5.228	0.000	5.228	
	Item No. 4:- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	0.050	1.307	0.000	1.307	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			19.22	0.960	0.200	3.690	21.761	25.451	
	Item No. : 11 Transportation of earth Transportation charges including loading							5.869	39.679	45.548	
	Extra item no.:-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			20.00			20.000	50.000	70.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							55.926			
	Deduction										
	pipe area	1		0.785	19.22	0.380	0.380	2.18			
	soling							0.00			
	PCC							0.00			
	Murum bedding							3.69			
	Total = B							5.87			
					Net Qty = A - B			50.06	413.339	463.396	
	MH 194										
	CH11367.55	604.110	602.005	601.805			2.305	2.273			
	CH11383.65	604.110	602.070	601.870			2.240				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			13.44	1.360	1.500	27.418	287.710	315.128	
	(b) For Lift 1.5m to 3.0m	1			13.44	0.960	0.773	9.974	200.900	210.874	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			13.44	0.960	0.200	2.580	25.451	28.032	
	Item No. : 11 Transportation of earth Transportation charges including loading							4.104	45.548	49.652	
	Extra item no.:-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			15.00			15.000	70.000	85.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							37.391			
	Deduction										
	pipe area	1		0.785	13.44	0.380	0.380	1.52			
	soling							0.00			
	PCC							0.00			
	Murum bedding							2.58			
	Total = B							4.10			
					Net Qty = A - B			33.29	463.396	496.683	
	MH 194 to Old Manhole										
	CH0.00	604.110	602.005	601.805			2.305	2.360			
	CH19.05	604.280	602.065	601.865			2.415				



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