



BUILD  
YOUR  
FUTURE



## Istanbul Metropolitan Municipality Water and Sewerage Works Administration (ISKI) Kadikoy Wastewater Preliminary Treatment & Pumping Station

Kadiköy Wastewater Pre-Treatment, Pumping Station and Sea Discharge project is a part of decontaminating studies carried out by ISKI which was financed 100% by exterior credit. It is a real ornament for Lidya Construction to complete this 833.000 m<sup>3</sup>/day capacity project in such a short time like 3 years and got the Istanbul Anatolian Side residents together with their clean marine environment again.

Contract Start : April 1998

Contract Value : EUR 60.000.000

Capacity : 833.000 m<sup>3</sup>/day

Population Served : > 4.000.000 PE

Footprint : 120.000 m<sup>2</sup> (Reclaimed area)

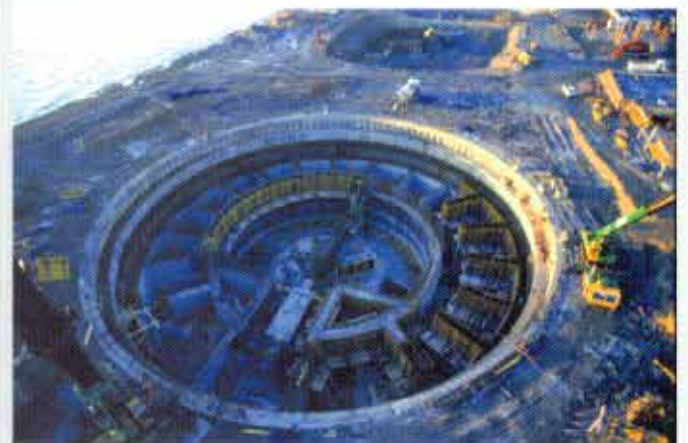
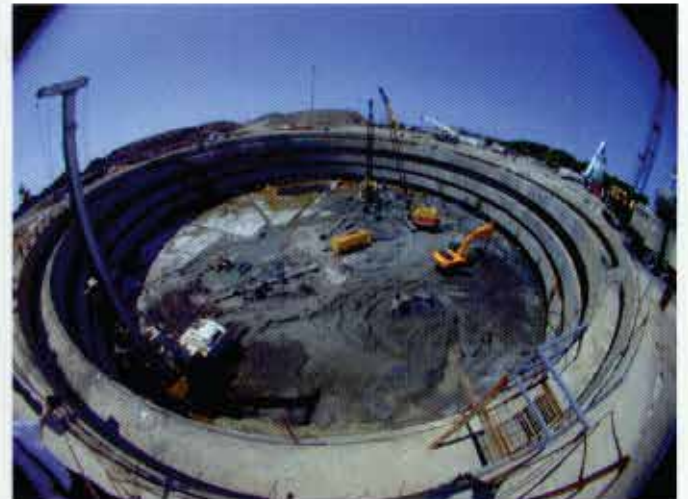
Excavation : > 94.000 m<sup>3</sup>

Reinforced Concrete : > 150.000 m<sup>3</sup>

Main Wastewater Collector Dia. : Ø4.000 mm

Sea Outfall : Ø2.200 dia. mm, 2.200 m length, -51.00 m

Discharge depth





**Istanbul Metropolitan Municipality Water and Sewerage Works Administration (ISKI) Ataköy Biological Treatment Plant Construction and Operation**

Ataköy W.W.T.P. is the largest wastewater treatment plant in Turkey and one of the largest in Europe among existing ones. Plant contains all the latest technologies concerning wastewater treatment including sludge digestion and sludge drying.

- Contract Start :** 2007
- Contract Value :** EUR 108.500.000 (1<sup>st</sup> stage)
- Duration :** 900 Days of Construction 1.824 Days of Operation
- Capacity :** 400.000 m<sup>3</sup>/day (1<sup>st</sup> stage) 600.000 m<sup>3</sup>/day (2<sup>nd</sup> stage)
- Population Served :** 1.600.000 PE (1<sup>st</sup> stage)  
2.500.000 PE (2<sup>nd</sup> stage)
- Footprint :** 430.000 m<sup>2</sup>
- Excavation :** > 1.000.000 m<sup>3</sup>
- Reinforced Concrete :** 160.000 m<sup>3</sup>
- Pressurized HDPE Lines :** 9.000 m.
- Non-pressurized PE Lines :** 15.000 m.
- Non-pressurized PE-FKS process lines:** 4.100 m.
- GRP Wastewater Collecting Lines :** 800 m.
- Drainage Lines :** 6.000 m. (with dia. From  $\varnothing 32$  mm to  $\varnothing 2.400$  mm)
- Generated Biogas :** 1.921 Nm<sup>3</sup>/h
- Energy Consumption :** 5.400 to 5.700 kW depending on the season
- Digesters :** 6 x 10.000 m<sup>3</sup>
- No. of operating staff :** 55
- Sludge Dryers :** 6 x 70 ton/day
- Externally Received Sludge :** 150 ton/day
- Generated Sludge :** 350 ton/day
- Generated Electricity :** by 2x4,6 MW Turbines





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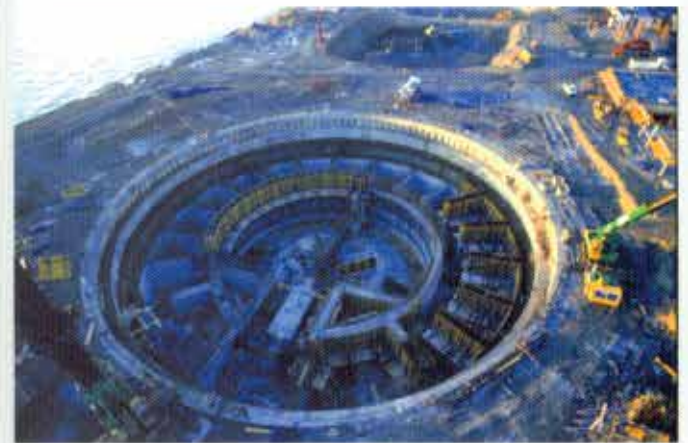
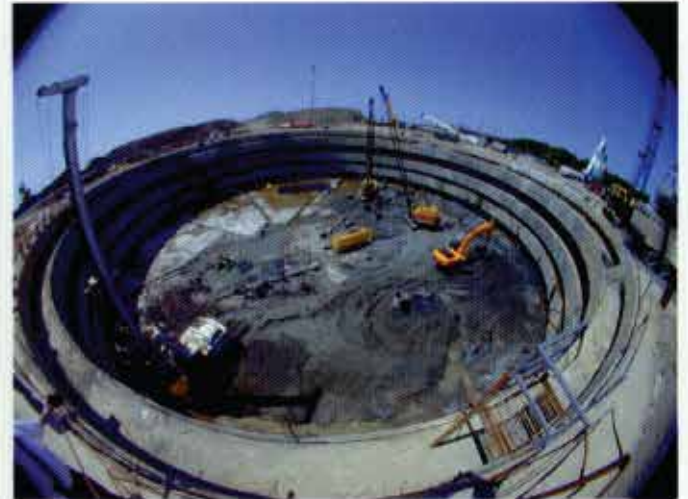
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Discharge depth





## KADIKÖY WASTE WATER SEA OUTFALL

Pipe Type	: Steel (API5L X52)
Pipe Diameter	: 2235,2 mm
Wall Thickness	: 31,8 mm
Pipe Weight	: 1742,000 Kg/m
Concrete Coating Thickness	: 205 mm
Weight of Concrete Coating	: 3862,000 Kg/m
Total Weight (Cathodic protection elements, rebar and welding inclusive)	: 5630,000 Kg/m
Density of Sea Water	: 1,014 Kg/m <sup>3</sup>
Lifting Force of the Water	: 5569,000 Kg/m
Weight of 1 meter of Pipe in the Water	: 61,000 Kg/m
Total Weight of the Pipe in the Water	: 140.300,000 Kg
Total Weight of the Coated Pipe	: 12.949.000,000 Kg
Number of the Diffusers	: 13 pieces
Sea Depth at the Tip of the Pipe	: 51,00 mt.
Debi Qmax	: 9,95 m <sup>3</sup> /sn.





**ELECTRO-MECHANICAL WORKS**

**Effluent Treatment Plant (Ultrafiltration Plant)**

- Capacity : 1.200 m<sup>3</sup>/day
- Scope : Design, procurement and commissioning

**Odor Treatment Plant (Ozone)**

- Capacity : 150.000 Nm<sup>3</sup>/h
- Scope : Design, procurement and commissioning

**Sludge Treatment Building Electro-mechanical Installation**

- Piping : 4.500 m (AISI 316)
- Pipeline isolation : 2.500 m.
- Scope : Design, procurement, testing and commissioning

**Manufacturing and Installation of Vapor Cooling Condensers**

- Dimension : Ø2.500 mm x Ø1.800 mm
- Material : AISI 316

**Manufacturing and Installation of Sludge Heating Condensers**

- Dimension : Ø2.250 mm x Ø3.500 mm
- Material : AISI 316



Sand Filter (Ø 3.200 x 3.500 mm)



Installation of 6 pcs. of Sludge Dryers (70 tonnes each)



Installation of Ozone Generators (2 x 2 kg/h)



UF Module for Wastewater Reuse





**MARINE WORKS**

Construction of more than 70% of Sea Outfalls in Turkey...



■ **SEA OUTFALLS**

- Ø200 mm – Ø2.400 mm diameter
- HDPE, Steel, GRP
- 0 to -70 m discharge depth
- More than 55.000 m outfall length

■ **JETTIES**

■ **DREDGING WORKS**

■ **SEA TERMINALS**

■ **SUBMARINE GAS PIPELINES**

■ **SUBMARINE COOLING WATER PIPELINES**





## SEWAGE WORKS

- PUMPING STATIONS
- DISTRIBUTION MAINS
- COLLECTORS
- SEWAGE NETWORKS
- UTILITY TUNNELS



## RECIDENCES AND COMMERCIAL BUILDINGS CONSTRUCTION



Sefakoy Shopping Mall (70.000 m<sup>2</sup> commercial area)



Demirören Shopping Mall (45.000 m<sup>2</sup>)



LidyaFlats (55.000 m<sup>2</sup> residential area)



Sabancı University Dormitory Construction (22.000 m<sup>2</sup> dormitory and campus)

**LIDYA**  
YAPI CONSTRUCTION



**Lidya Yapı San ve Tic A.Ş.**  
**Lidya Construction Inc.**  
Şehit Er Cengiz Karcioğlu Sok.  
No.10 Lidya Plaza 34810  
Kavacık/Beykoz - İstanbul/Turkey  
Tel: +90 216 322 57 57 (pbx)  
Fax: +90 216 322 57 58  
[www.lidyayapi.com](http://www.lidyayapi.com)