

ÜSKÜDAR-ÜMRANIYE-ÇEKMEKÖY METRO CIVIL AND ELECTROMECHANICAL WORKS

TBM Entry Works Under Sea Level Near Istanbul Bosphorus
TURKEY





ITA TUNNELLING
AWARDS 2018



1.

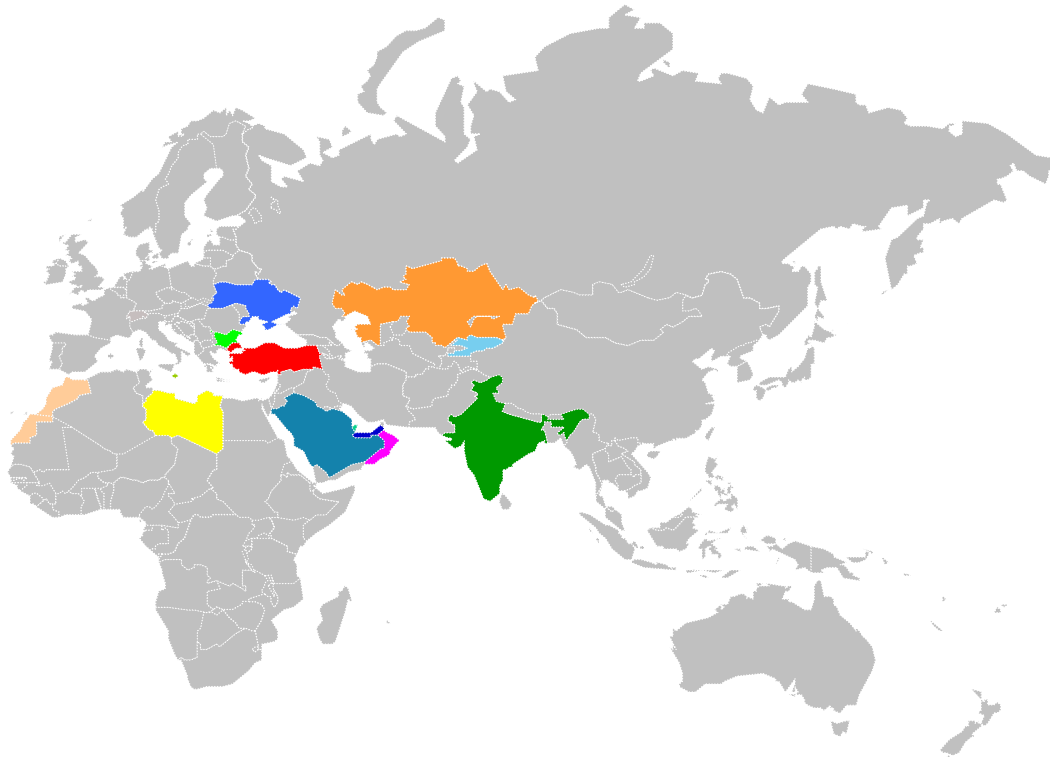
DOĞUŞ CONSTRUCTION

DOĞUŞ CONSTRUCTION AND TRADE INC.

- Doğuş Construction ranks among the most reputable construction companies with mega-infrastructure projects since its establishment in 1951
- Doğuş Construction, which has been listed since year 2003 in the “The Top 250 International Contractors” list that is determined every year by Engineering News Record (ENR) based on the previous year's foreign project revenues of the world's leading contracting firms, rose to 124th place in 2017 and carried its position to the 14th place within Turkish firms.
- “Best Place to Work” and “Occupational Health and Occupational Safety” awards in 2014 and 2017.
- More than 208 ongoing and completed projects amounting up to USD 20,6 bn in value,
 - 21 Dams and HEPPs capable of producing 3350 MW of electricity
 - 1.515 km Roads
 - 200 km Subways and Tunnels
 - 43 km Bridges and Viaducts
 - 3.000,000 m² Buildings
 - Environmental Projects, Ports, Marinas, Irrigation Projects, Sewage Systems, Office Buildings, Shopping and Leisure Centres, Residential and Industrial Buildings
- 12.078 Employees (by the end of August 2018 including subcontractors)

REGIONAL COVERAGE

- Active offices in Qatar, Oman, Bulgaria, Ukraine, Morocco, Kazakhstan, Libya, Saudi Arabia, India, Dubai and Kyrgyzstan.



1. DOĞUŞ Construction & Trade Inc. Head Office (TURKEY)
2. DOĞUŞ Construction & Trade Inc. (BULGARIA)
3. DOĞUŞ Construction & Trade Inc. (DUBAI)
4. DOĞUŞ - Soma L.L.P. (INDIA)
5. DOĞUŞ Construction & Trade Inc. (KAZAKHSTAN)
6. DOĞUŞ Construction & Trade Inc. (KYRGYZSTAN)
7. DOĞUŞ Construction & Trade Inc. (LIBYA)
8. DOĞUŞ Construction & Trade Inc. (MOROCCO)
9. DOĞUŞ Construction L.L.C. (OMAN)
10. DOĞUŞ Construction L.L.C. (QATAR)
11. DOĞUŞ Construction & Trade Inc. (SAUDI ARABIA)
12. DOĞUŞ Construction & Trade Inc. (UKRAINE)



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COMPLETED AND ONGOING PROJECTS

NORTHEAST EUROPE

538 Million \$

Metro, Road,
Motorway, Bridge and
Viaduct Projects

NORTH AFRICA

2.242 Million \$

Road, Motorway,
Bridge, Viaduct
and Building
Projects



CIS, UKRAINE & INDIA

1.356 Million \$

Metro, Road, Motorway,
Bridge, Viaduct and
Airport Projects

TURKEY

14.797 Million \$

Metro, Railway, Road,
Motorway, Bridge,
Viaduct, Dam and
Energy, Port, Building
and other Projects

MIDDLE EAST

1.977 Million \$

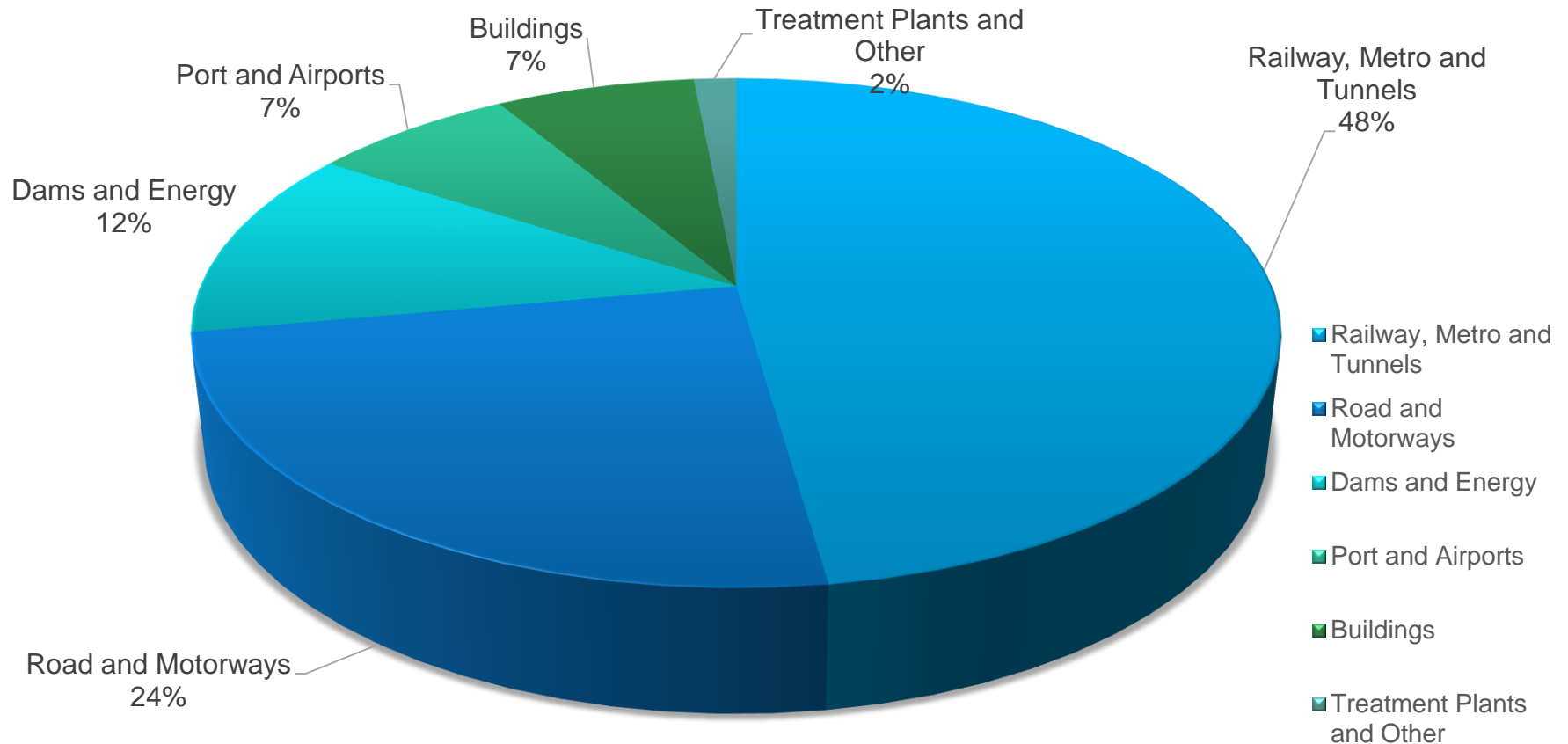
Motorway, Bridge and
Viaduct Projects



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MAJOR PROJECTS IN THE LAST 10 YEARS





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AWARDS 2018



2.

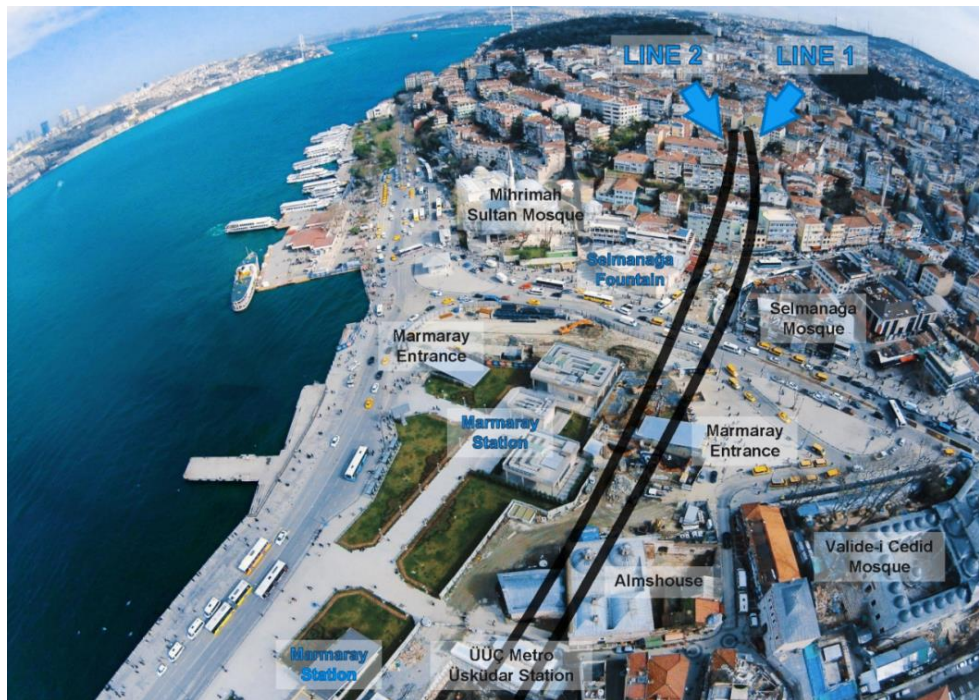
ÜSKÜDAR-ÜMRANIYE-ÇEKMEKÖY METRO



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ÜSKÜDAR-ÜMRANIYE-ÇEKMEKÖY METRO CIVIL & ELECTROMECHANICAL WORKS



EMPLOYER

İSTANBUL METROPOLITAN MUNICIPALITY
(İBB) DEPARTMENT OF RAIL SYSTEMS
ANATOLIAN SIDE RAIL SYSTEMS
DIRECTORATE



ENGINEER

YUKSEL PROJECT INTERNATIONAL INC. -
EMAY INTERNATIONAL ENGINEERING AND
CONSULTANCY J.V.



CONTRACTOR

DOĞUŞ CONSTRUCTION AND TRADE INC.



CONTRACT VALUE

676.621.046,64 EURO



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ÜSKÜDAR-ÜMRANIYE-ÇEKMEKÖY METRO

Project Information

SITE HANDOVER DATE

20 March 2012 (Under Operation Since December 2017)

FEATURES

20 km double tube tunnel (Including 2,7 kms of connection tunnels to metro car depot area, maintenance and control center)

NUMBER OF STATIONS

16 stations + 1 depot area (serving for 68 trains)

NUMBER OF METRO CARS

21 trains and each has 6 cars (total 126 cars)

MAX. SPEED

80km/hour

PASSENGER CAPACITY OF THE TRAIN

AW3 Load (AW3 = 6 pas/m²) 1620 pass./train

HEADWAY

90 seconds

Operation Information



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WHAT MAKES THE PROJECT DISTINCTIVE?

The largest metro line awarded to sole contractor in Turkey. (Design and build, civil, track and E&M works)

The first ever UTO metro line (unmanned train operation-GoA Level 4) in Turkey

The first to have Platform Screen Gates System in the stations in Turkey



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3. ÜSKÜDAR AREA

HISTORICAL BUILDINGS WITHIN IMPACT AREA OF THE TUNNEL



Selmanağa Mosque

Valide-i Cedid Mosque



Mihrimah Sultan Mosque

Historical Almshouse

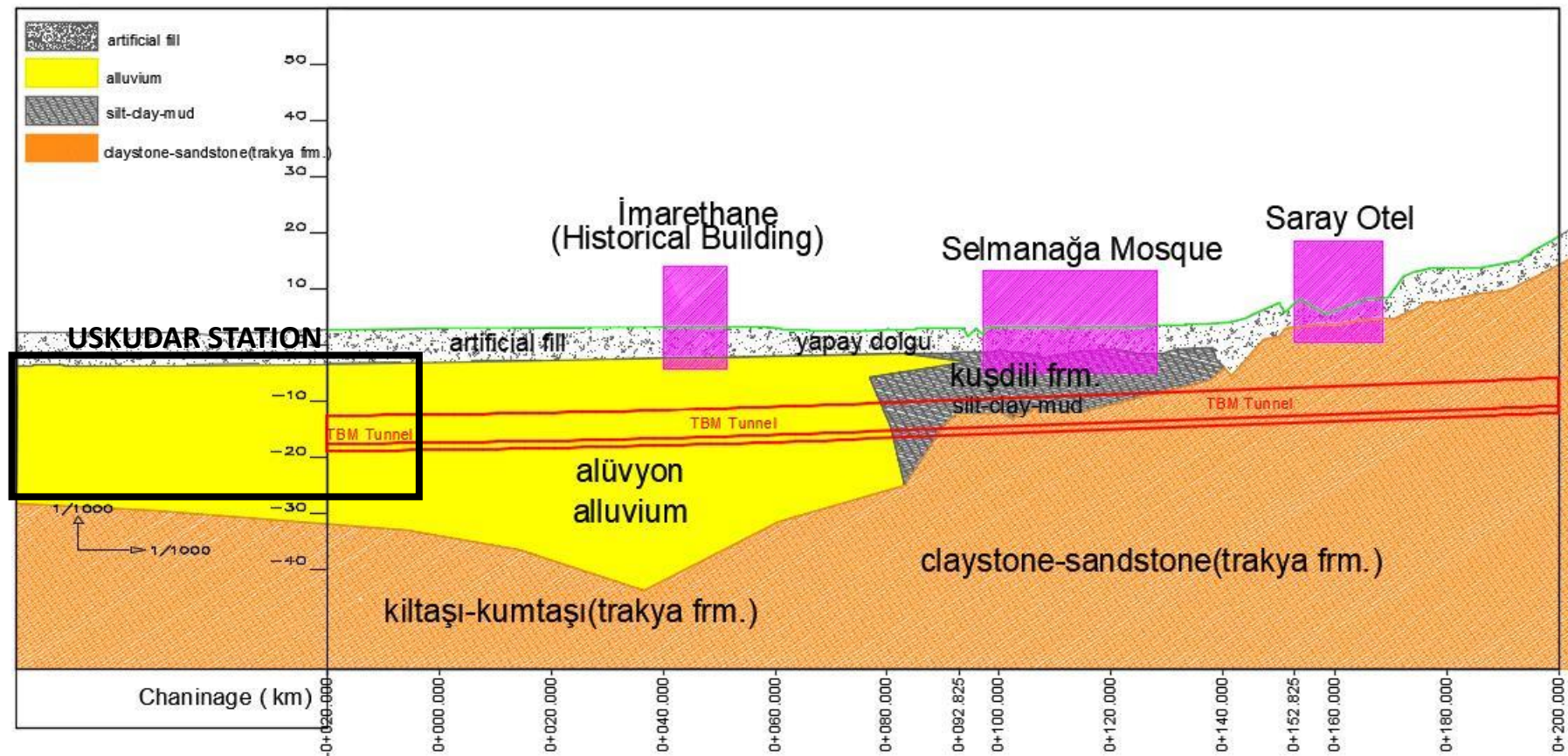


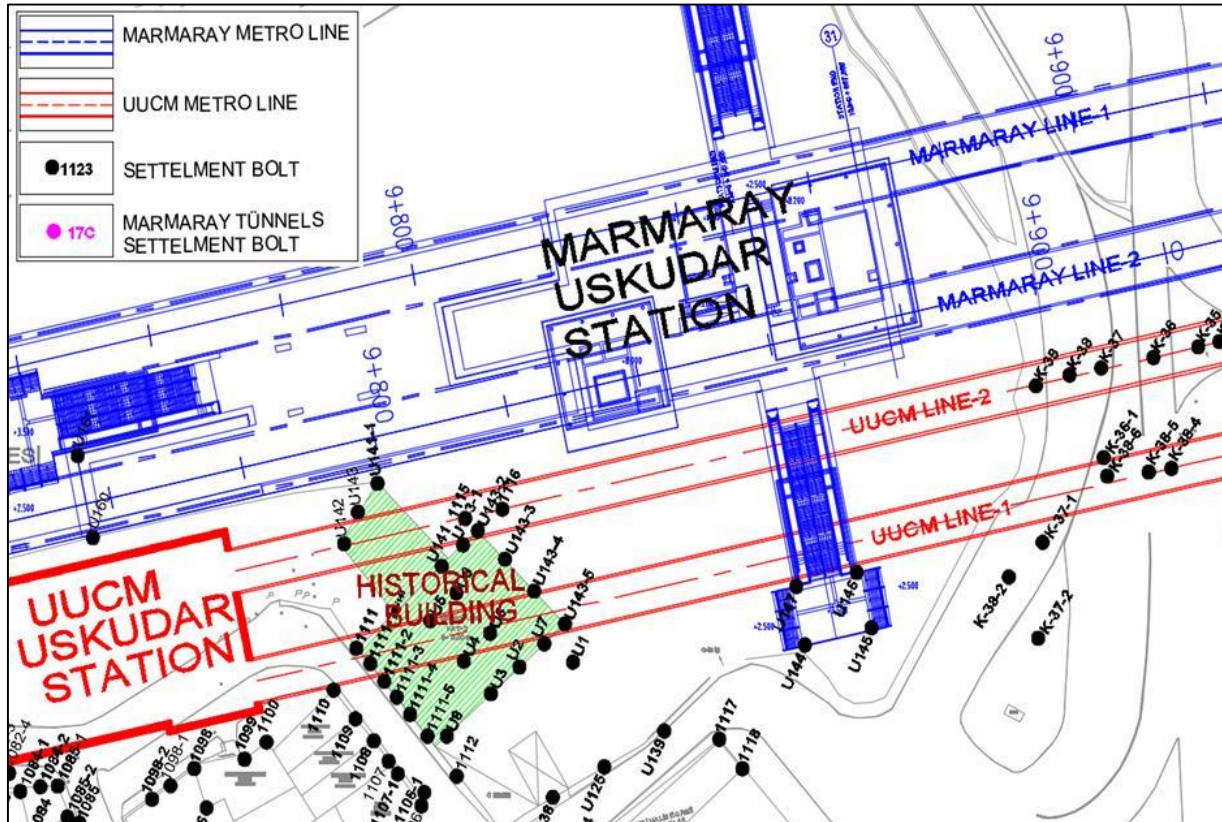
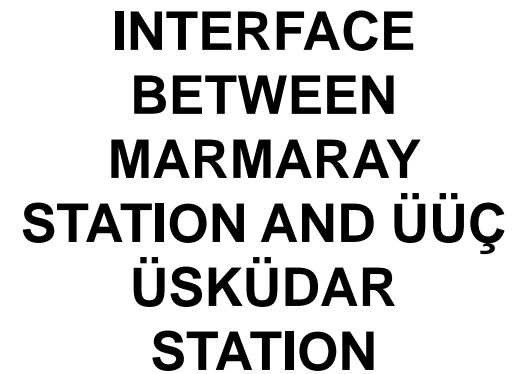


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GEOLOGICAL LAYOUT OF ÜSKÜDAR AREA





ÜSKÜDAR STATION - TBM ENTRY

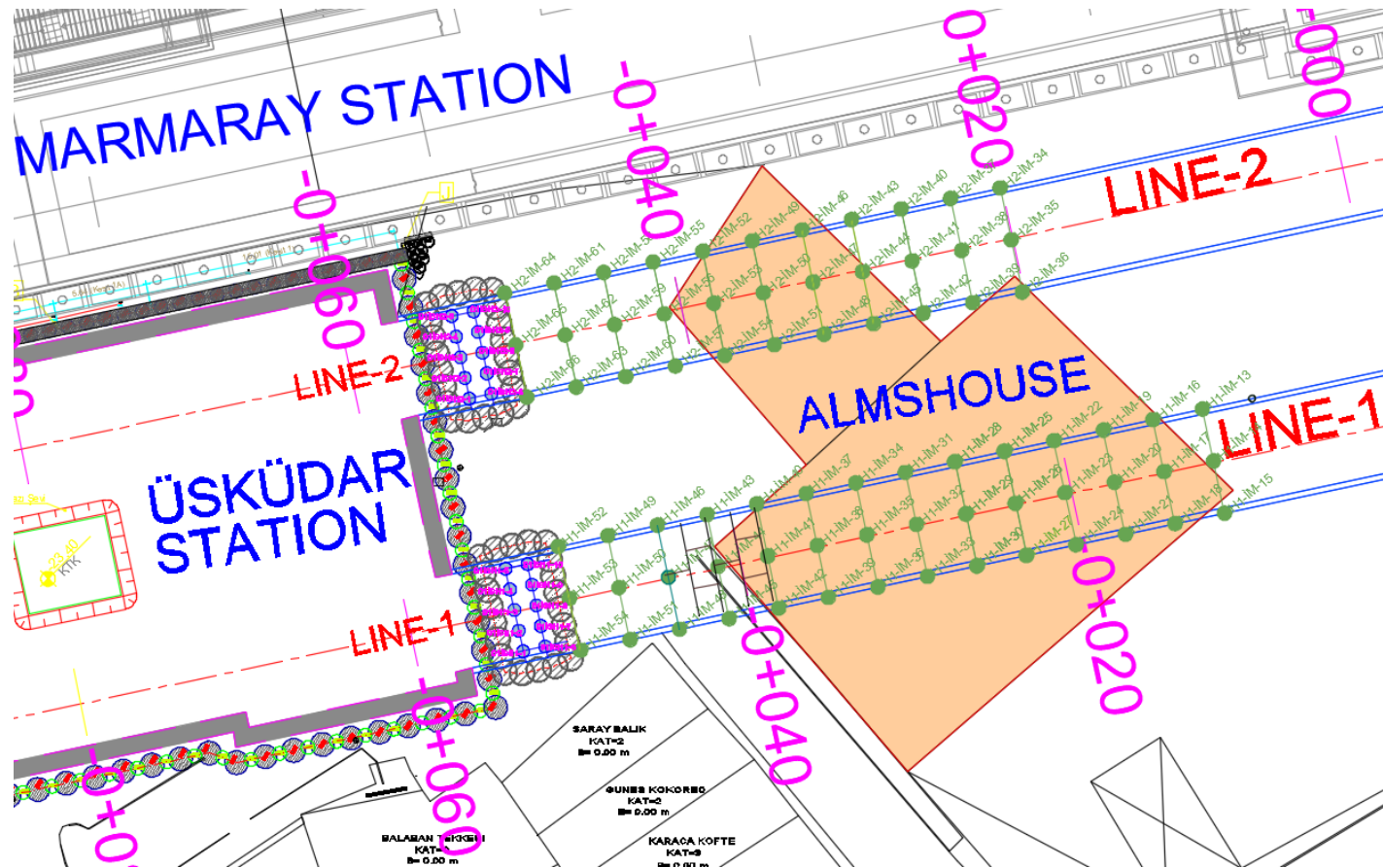




İTİA TUNNELLING
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ÜSKÜDAR STATION - TBM ENTRY

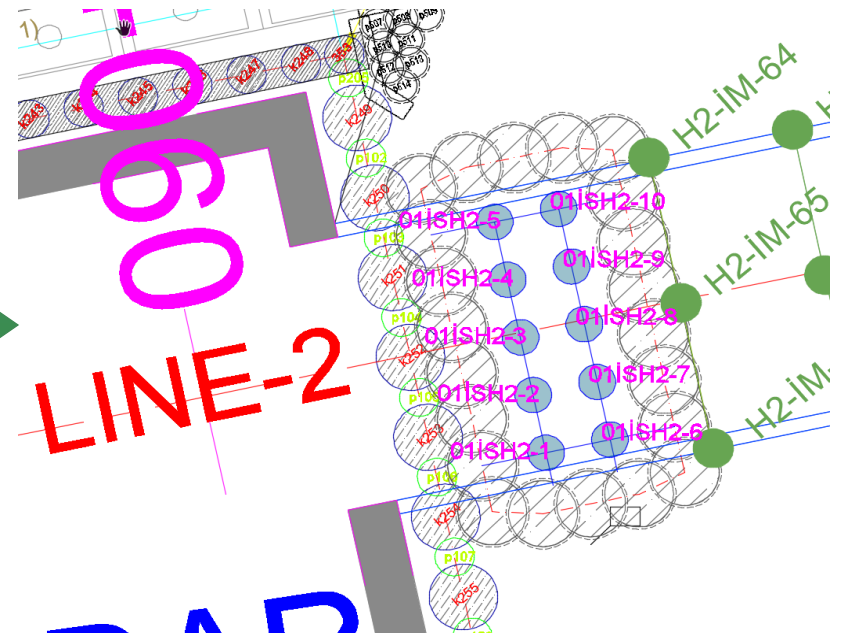
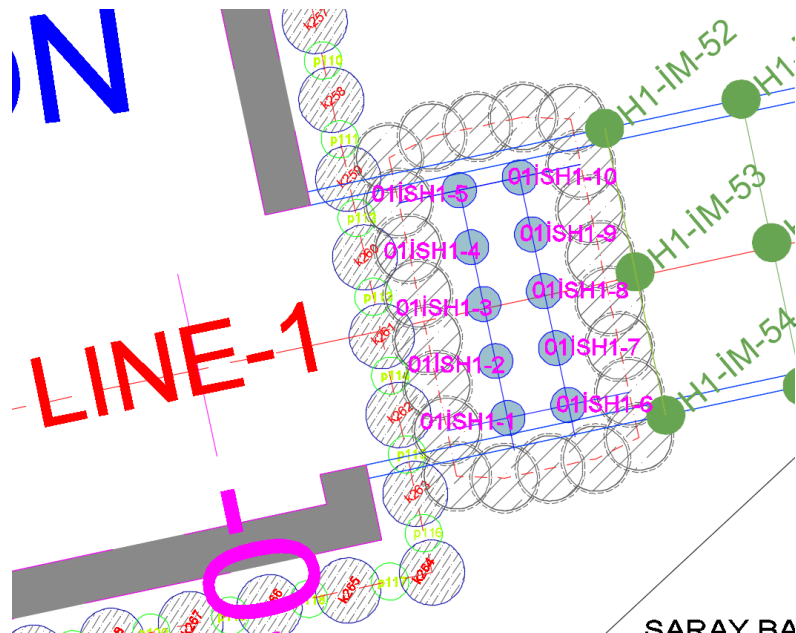




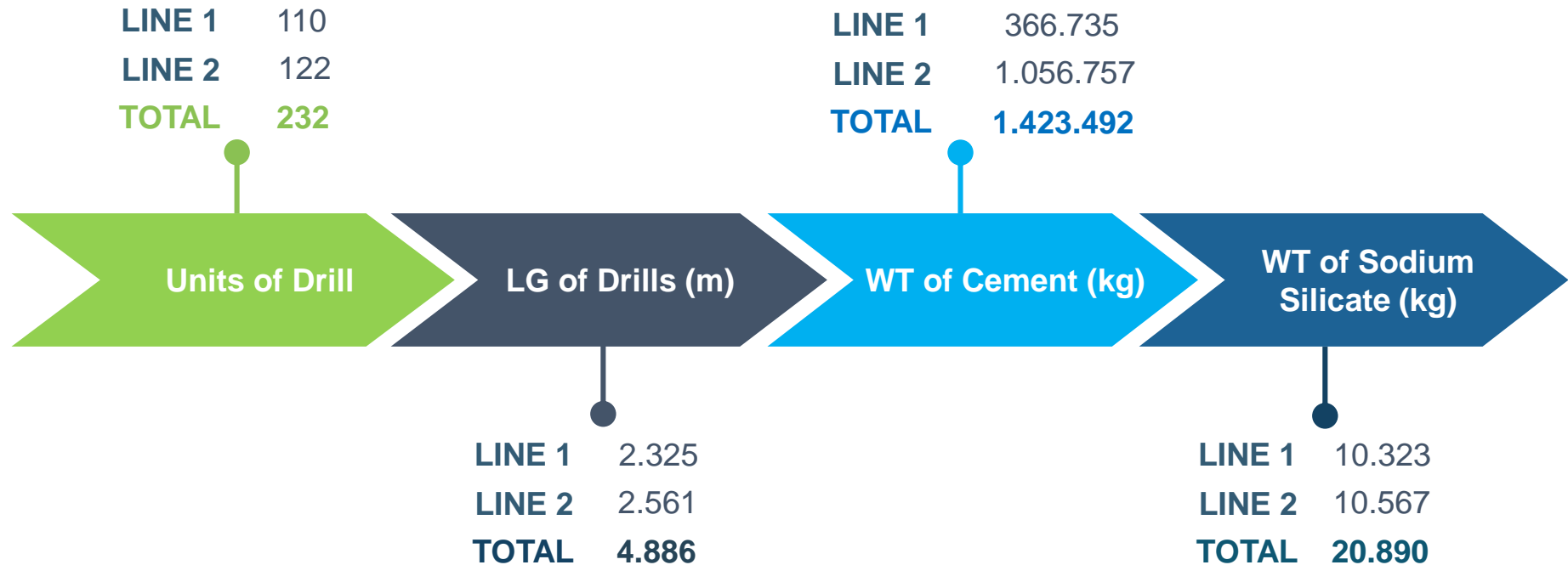
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PILE AND GROUTING LAYOUT



SOIL IMPROVEMENT WORKS - ALMSHOUSE LOCATION



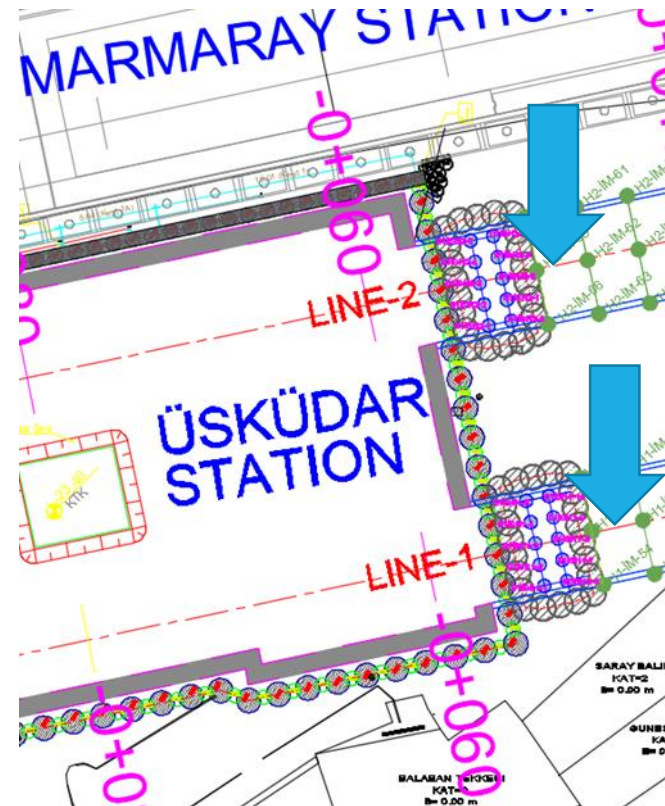


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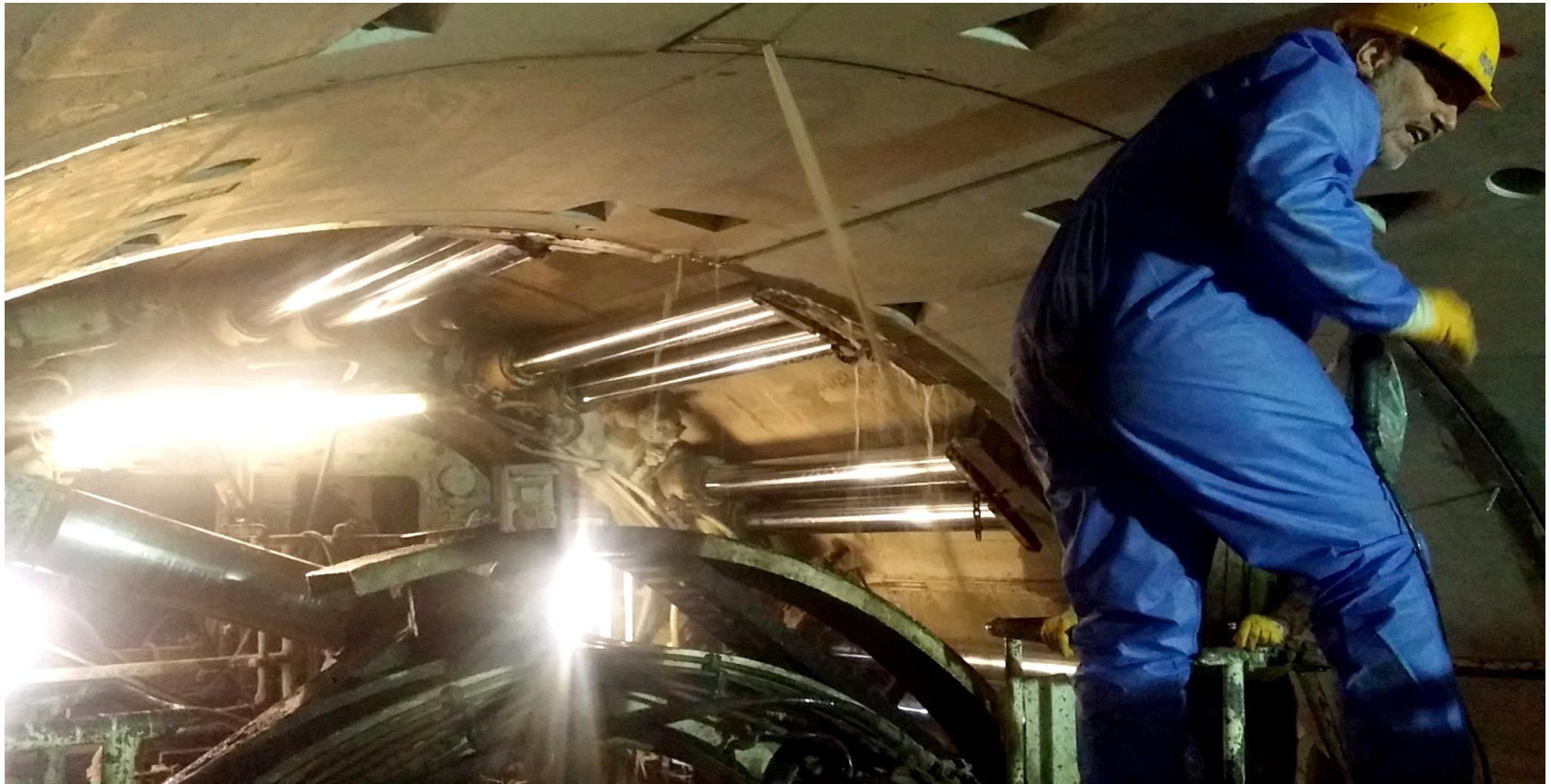


GROUT CORE AFTER CEMENT INJECTION

CHEMICAL POLYURETHANE INJECTION FROM INSIDE OF THE SEGMENTS

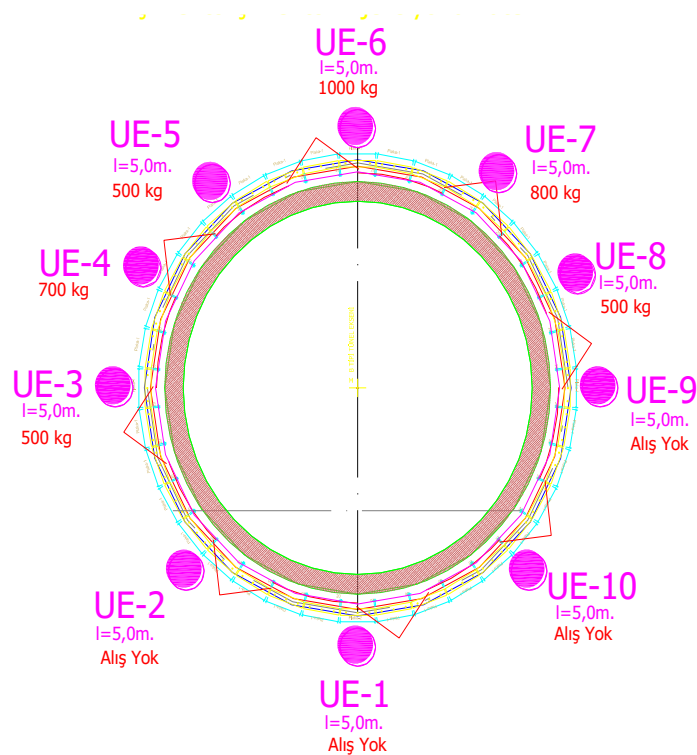


CHEMICAL POLYURETHANE INJECTION FROM INSIDE OF THE SEGMENTS



GROUTING WORKS THROUGH THE STATION PILES

LINE 1

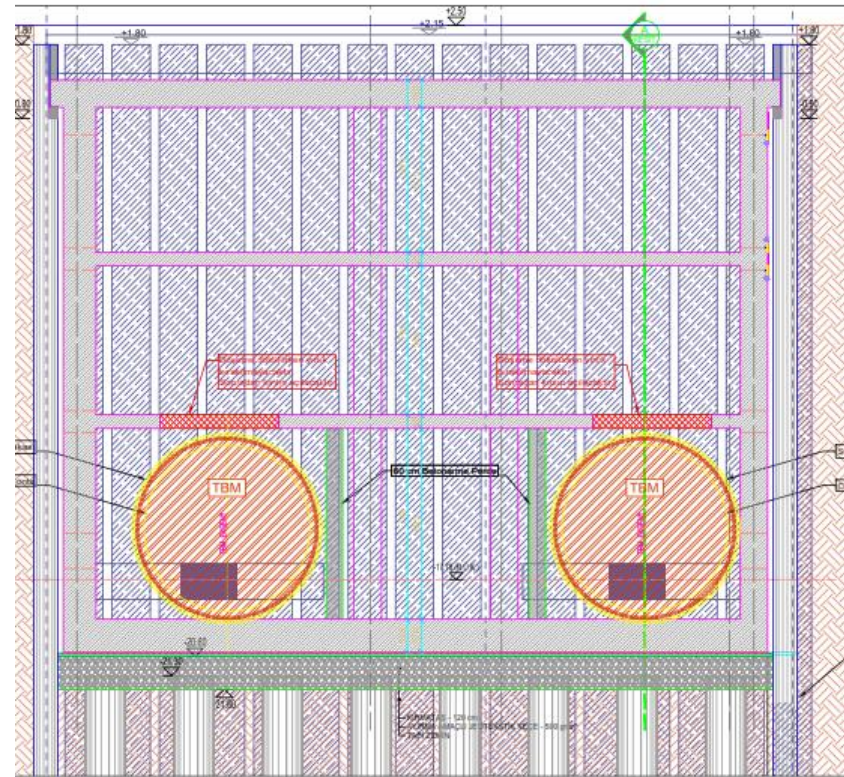
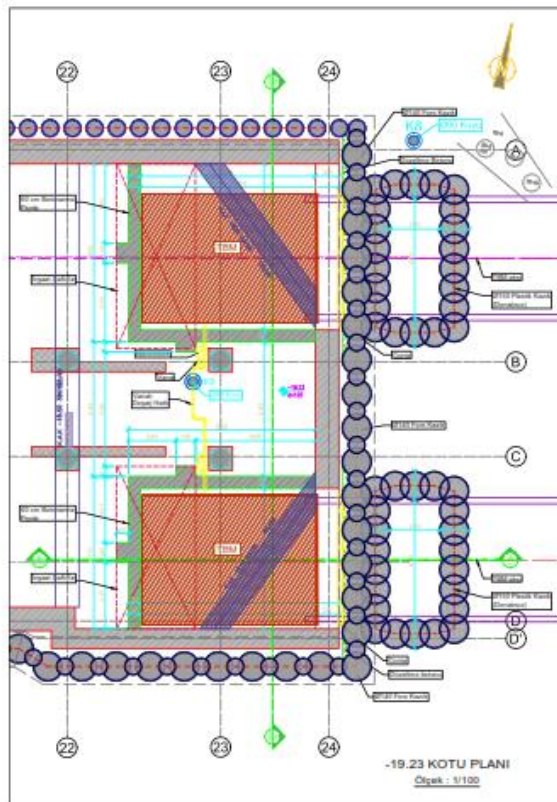




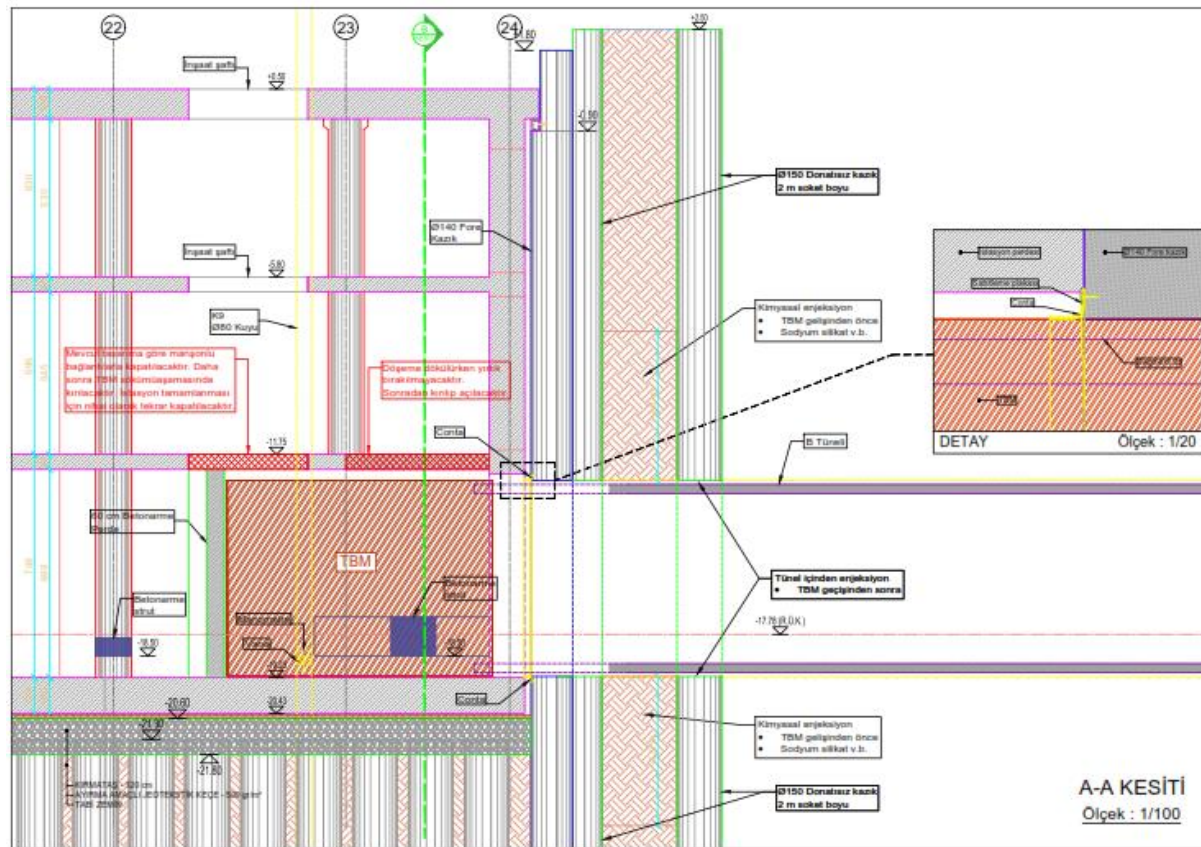
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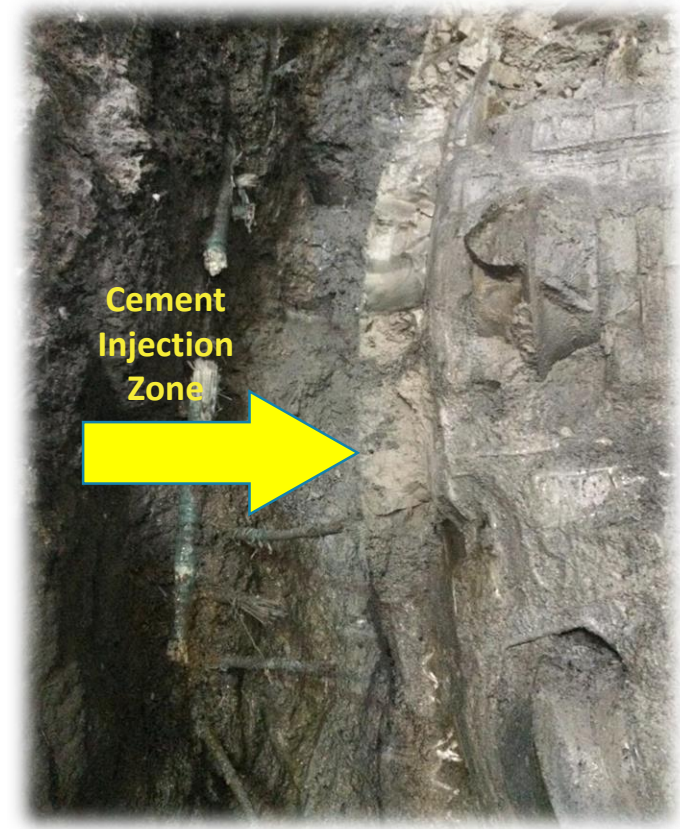
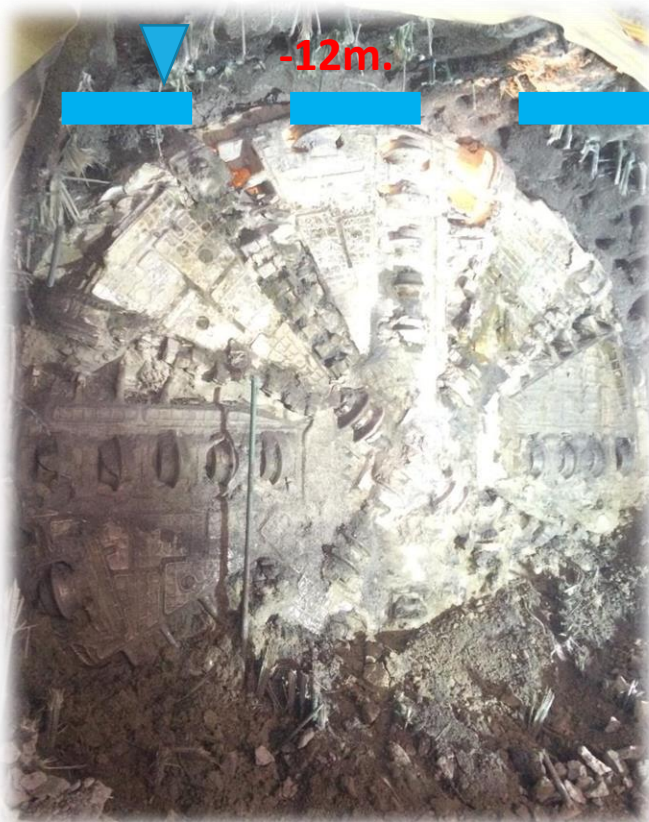
ADDITIONAL PRECAUTION - RC POOL IN THE STATION



ADDITIONAL PRECAUTION - RC POOL IN THE STATION



GROUND CONDITION AFTER BREAKTHROUGH



DRIVING THE TBM INTO THE STATION





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THANKS & BEST REGARDS