
BATCO GROUP

BATCO GROUP

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Batco Group is an unrivalled network of companies offering diverse operations in Engineering, Construction, Solid Waste Management and Water Treatment. With over $3 billion of completed and on-going projects, the Group's current workforce consists of more than 5,600 employees with strategically located offices in Europe, the Middle East & Gulf region, and Africa.

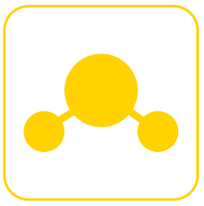
The Group consists of the following companies:

>> BATCO
>> FEDERICI STIRLING BATCO
>> LAVAJET
>> EMIT GROUP

Engineering

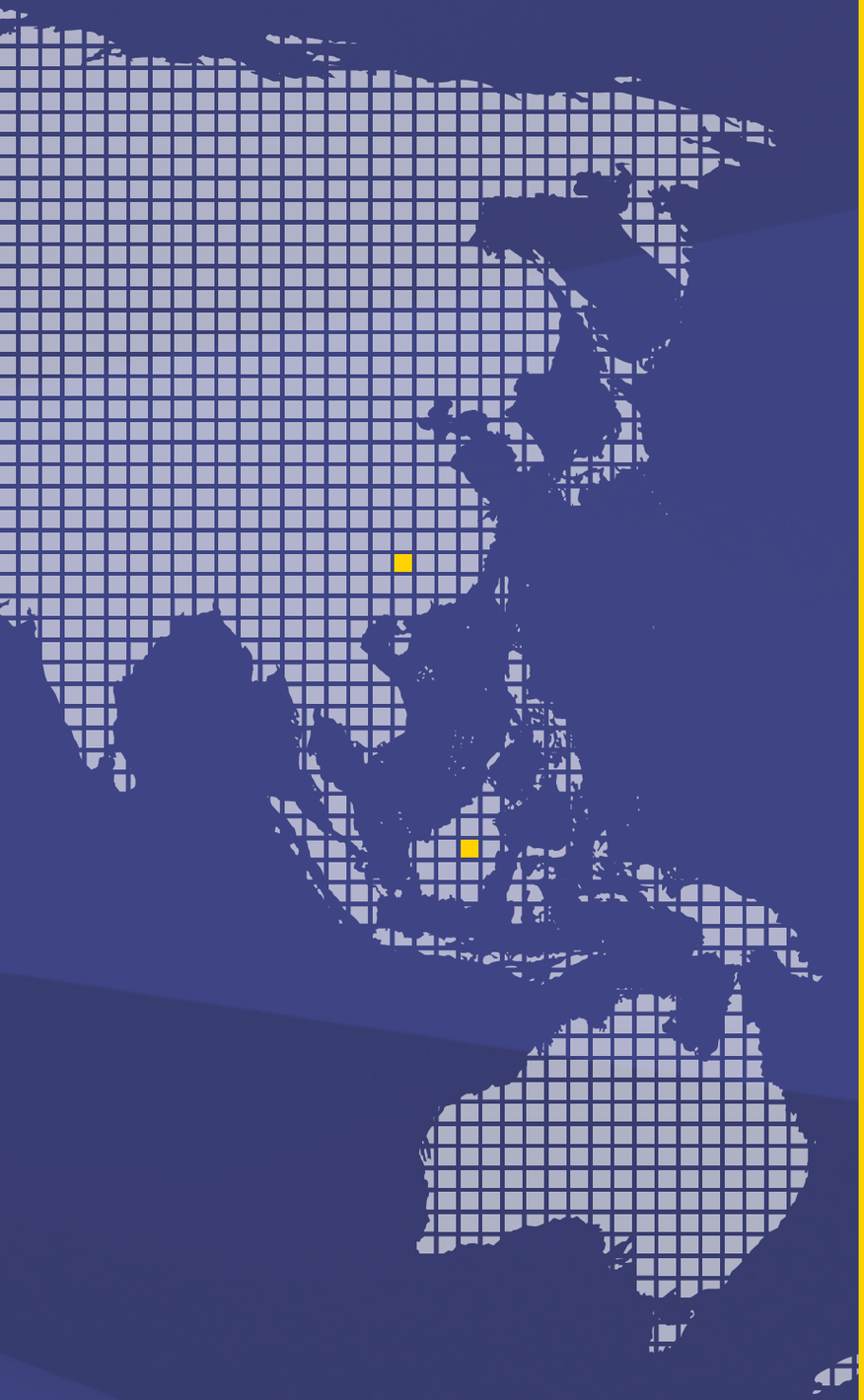
Construction

Solid Waste Management



Water Treatment

>> AREAS OF OPERATION



/ ALBANIA
/ BAHRAIN
/ BELGIUM
/ CHINA
/ CROATIA
/ EGYPT
/ INDONESIA
/ IRELAND
/ IRAQ
/ IVORY COAST
/ ITALY
/ JORDAN
/ KENYA
/ LEBANON
/ MOROCCO
/ NIGERIA
/ NICARAGUA
/ POLAND
/ ROMANIA
/ TURKEY
/ SAUDI ARABIA
/ OMAN
/ UAE

BATCO

A World of Fine Constructions

>> BATCO

OVERVIEW

BATCO is a general engineering and contracting company offering a wide range of services including design & construction of roads and highways, infrastructure networks, bridges, underpasses, tunnels, water dams, marine works, solid waste sanitary landfills and other related works.

With multidisciplinary construction projects targeting a broad range of sectors, the firm has developed from a local engineering and contracting company in the 1970s to a well reputed corporation that has become one of the pioneers in its field.

CAPABILITIES

>> Transportation
/ Roads & Highways
/ Bridges
/ Tunnels & Underpasses
/ Slope Protection

>> Infrastructure & Utilities
/ Sewer Storm & Water Networks
/ Potable & Irrigation Networks
/ Communication, Power & Lighting Networks

>> Dams & Flood Protection

>> Engineering, Construction & Operation of Sanitary Landfills

>> Marine Works, Seashore Protection & Outfall Pipelines


EASTERN CRANE CO.

FEDERICI STIRLING BATCO LLC

>> FEDERICI STIRLING BATCO

OVERVIEW

Federici Stirling Batco LLC (FSB) is a leading contracting company established in the Sultanate of Oman in 2007 by FEDERICI STIRLING, an Italian engineering and contracting company specialized in hydraulics works including dams, industrial & power plants, as well as airports, infrastructure and marine works; and BATCO.

With more than USD 700 Million worth of completed and on-going projects, FSB takes pride in offering an ideal blend of local expertise and international experience, through a wide range of engineering and contracting services including roads, bridges, tunnels, hydraulic and marine works.

FSB is renowned for its ability to perform all types of works related to the civil engineering sector using the state-of-the-art technologies and construction methods in order to provide the market with the finest construction services. In 2015, FSB signed a partnership agreement with the Italian company "Itinera", a partnership that aims at strengthening the presence of Federici Stirling Batco within the Omani and regional market.

CAPABILITIES

>> Transportation
/ Roads
/ Tunnels
/ Airports

>> Hydraulic Works:
/ Water Networks
/ Aqueducts

>> Industrial Works:
/ Hydroelectric
/ Thermo-Electric Power Plants

>> Dams & Flood Protection

>> Marine Works, Seashore Protection & Outfall Pipelines


LAVAJET

>> LAVAJET

OVERVIEW

Founded in 1990, LAVAJET is an international provider of environmental waste management services and a recognized leader in its field with a proven record for achieving the highest standards of excellence.

Lavajet delivers innovative and environmentally responsible solutions to governments, industries, and businesses including but not limited to city cleansing, construction & operation of solid waste treatment plants and sanitary landfills.

With more than 3,000 staff including Engineers, Administrators, Technicians and a highly trained labor force, Lavajet services over 2 million people worldwide.

With over 22 years of experience in the waste management sector, Lavajet collects and transfers more than 4,000 tons of waste on a daily basis and processes more than 20,000 tons per day.

CAPABILITIES

/ Solid Waste Collection & Disposal
/ City Cleansing
/ Design, Construction and Operation:
>> Transfer Stations
>> Sorting and Composting Plants
>> Sanitary Landfills: Municipal, Hazardous and Medical waste


LAVAJET

EMIT GROUP

Ercole Marelli Impianti Tecnologici

>> EMIT GROUP

OVERVIEW

Founded in 1973, EMIT Group is an EPC Italian company with a reputable record in the water sector including the design, construction and operation & maintenance of water and wastewater treatment plants. The company also has extensive capabilities in the energy production from renewable sources sectors.

The experience achieved in the study and construction of several type of plants together with the application of specific know-how and in-house technical capabilities, makes EMIT Group the leading company that offers the best Water and Wastewater Treatment services.

EMIT Group has successfully completed over 400 turn-key projects in its field. EMIT Group currently operates in more than 30 countries in Europe, Africa and the Middle East.

CAPABILITIES

/ Water and Wastewater Purification and Treatment Plants
/ Solid Waste Treatment Plants
/ Soil Remediation Systems
/ Energy Production from Renewable Sources
/ Process Engineering

WATER TREATMENT PLANTS	>> capacity up to 720,000 m^3/d
WASTEWATER TREATMENT PLANTS	>> capacity up to 650,000 m^3/d
PUMPING STATIONS	>> capacity up to 600,000 m^3/d
SOLID WASTE & RECYCLING PLANTS	>> capacity up to 700 ton/d
SANITARY LANDFILLS	>> capacity up to 16,000 T/d
AIR POLLUTION CONTROL SYSTEM	>> including the largest desulphurization and denitrification plants of flue gas

>> SELECTED PROJECTS

LOCATION / Batroun, Lebanon
CLIENT / Ministry of Energy and Water
CONSULTANT / Libanconsult

DESCRIPTION /

The project consists of the construction of a 400 m long and 35 m high earth dam creating a reservoir with several functions including the provision of drinking water needs until 2030 for part of the localities in Batroun and Koura regions. The project also provides water for industries and the irrigation of around 1,000 hecatres of agricultural lands located mostly north of Nahr El Jaouz.

>> CONSTRUCTION OF MSEILHA DAM

The works include the following:

> The construction of a 13 m high cofferdam integrated into the final dam body.
> A provisional diversion tunnel on the left bank having a length of 324 m and a diameter of 5 m (horseshoe section).
> A spillway that consists of a circular well, 27 m high and 10 m in diameter and a discharge gallery 131 m long and 9 m in diameter.
> A water intake tower and outlet structural tunnel staged at three levels installed on the left bank.
> Design and construction of diagram walls with depth up to 60 m and length 300 m.
> Concrete injection and slope protection of lake.

LOCATION / Danniyeh, Lebanon
CLIENT / Council for Development and Reconstruction
CONSULTANT / Dar Al Handasah Nazih Taleb & Partners

>> CONSTRUCTION OF BRISSA DAM AND LAKE

DESCRIPTION /

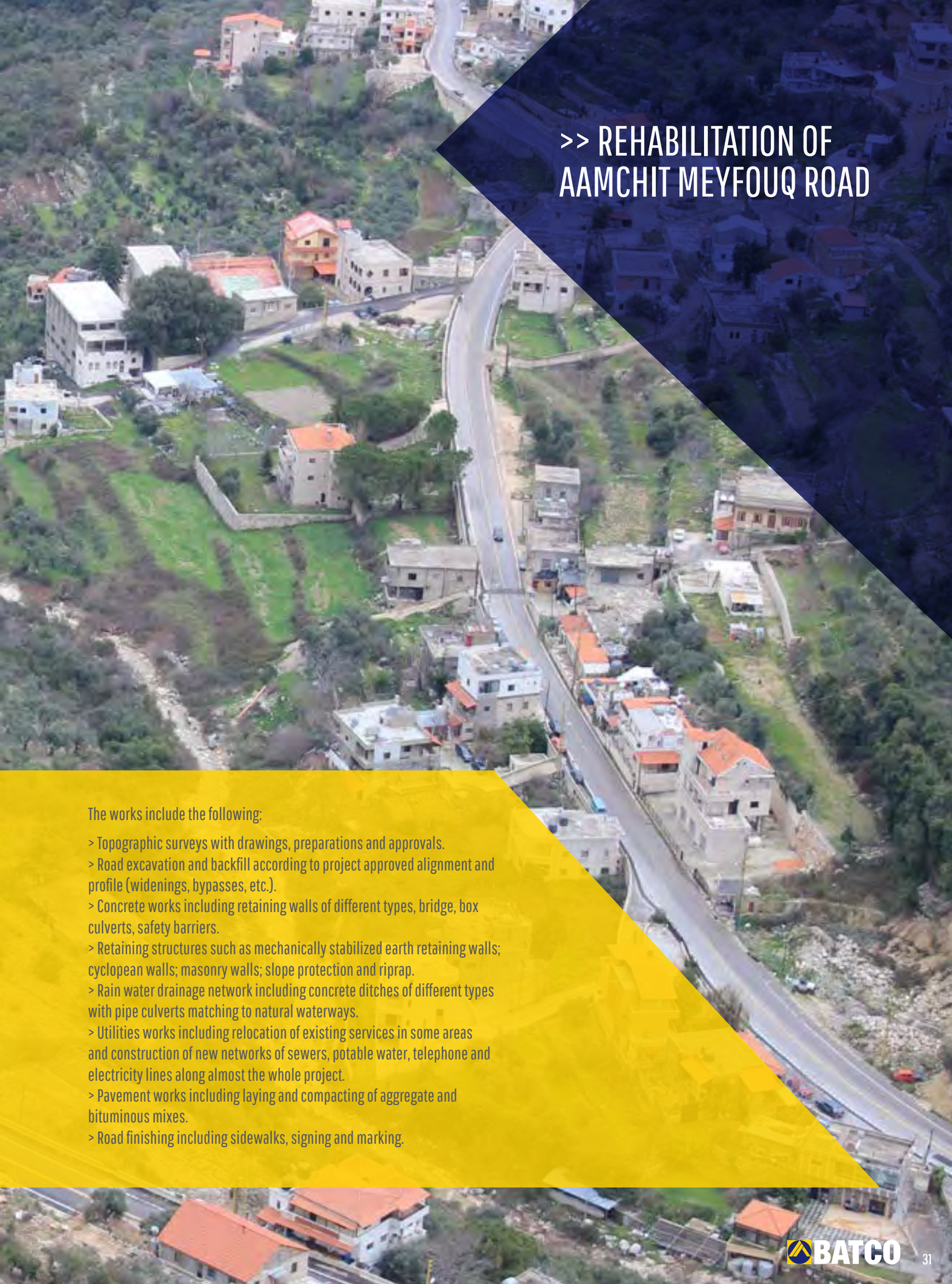
The Brissa Dam project is located in the upper part of the Menieh-Danniyeh Caza. The construction of the 700 m long dam with a 24 m crest elevation and a reservoir capacity of 1,700,000 m^3 aims to provide a better distribution of irrigation requirements to nearby agricultural lands.

LOCATION / Jbeil, Lebanon
CLIENT /Council for Development and Reconstruction
CONSULTANT /Dar Al Handasah Nazih Taleb & Partners

DESCRIPTION /

The project consists of the rehabilitation, widenining and geometrical improvement of the Aamchit - Meyfouq Road with an approximate length of 24 km, in addition to the construction of a new 4 km long road. The proposed roadway covers urban and semi-urban areas.

>> REHABILITATION OF AAMCHIT MEYFOUQ ROAD



The works include the following:

> Topographic surveys with drawings, preparations and approvals.
> Road excavation and backfill according to project approved alignment and profile (widenings, bypasses, etc.).
> Concrete works including retaining walls of different types, bridge, box culverts, safety barriers.
> Retaining structures such as mechanically stabilized earth retaining walls; cyclopean walls; masonry walls; slope protection and riprap.
> Rain water drainage network including concrete ditches of different types with pipe culverts matching to natural waterways.
> Utilities works including relocation of existing services in some areas and construction of new networks of sewers, potable water, telephone and electricity lines along almost the whole project.
> Pavement works including laying and compacting of aggregate and bituminous mixes.
> Road finishing including sidewalks, signing and marking.

>> UPGRADING OF INFRASTRUCTURE IN TRIPOLI CITY - PHASE I - PACKAGE 1A

LOCATION / Tripoli, Lebanon
CLIENT / Council for Development and Reconstruction
CONSULTANT / Dar Al Handasah Nazih Taleb & Partners

DESCRIPTION /

The project consists of the rehabilitation of roads and upgrading of underground and surface utilities in Tripoli.

The works include the following:

> Construction of new networks and rehabilitation of the existing sewer and storm networks.
> Construction of surface drainage systems, including curb inlets, gullies and interceptors.
> Construction of a new potable water network for the new Tripoli city.
> Installation of MV, LV cables & connections as well as dismantling of the overhead LV networks.
> Reconstruction of the road structures with new sidewalks.
> Landscaping plantation, street furniture such as lighting poles, luminaries.
> Connection of existing and new sewer networks to new collectors.

LOCATION / Beirut, Lebanon
CLIENT /Council for Development and Reconstruction
CONSULTANT /Dar Al Handasah Shair & Partners

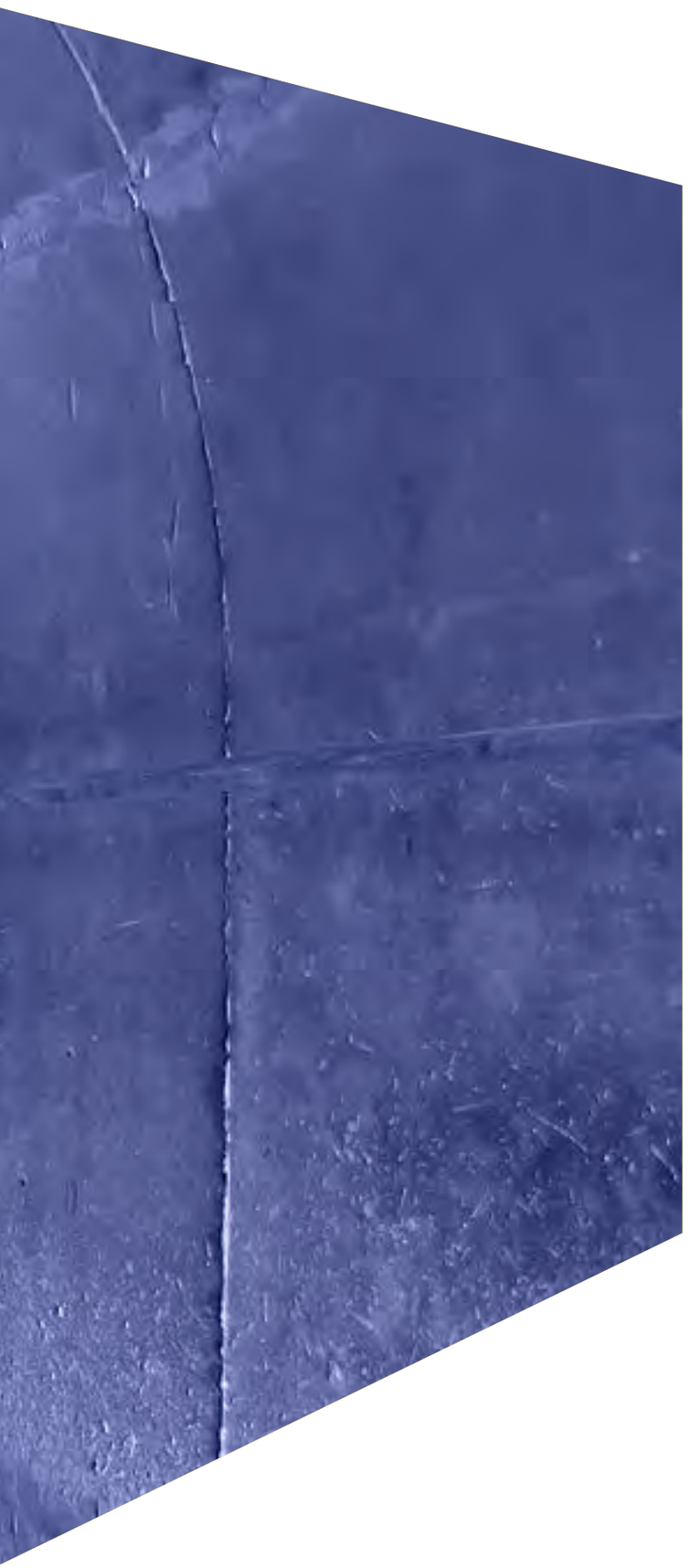
DESCRIPTION /

The project consists of upgrading the intersections at Hayek and Saloumeh Roundabouts through the construction of a cast-in-situ post-tensioned concrete girder bridge. The overall length of the bridge is approximately 560 m, with solid slab deck, prestressed concrete. The project is executed at road intersections with very heavy traffic and a very congested underground utility network.

>> UPGRADING OF HAYEK AND SALOUMEH INTERSECTIONS

The works include the following:

> Construction of cast-in-situ bridges including piles, foundations, piers, piers caps, post-tensioned concrete girders, barriers and hand rails.
> Bridge expansion joints and bearings.
> Retaining walls for ramps and sides of roads.
> Roads, asphalting, concrete barriers, curbing and tiling.
> Street lighting, traffic signals.
> Directional signs plus road signing and marking.
> Utilities and utility relocation.
> Rehabilitation and strengthening of large storm water culvert crossing under bridge ramps.
> Landscaping.



>> REHABILITATION OF ROADS & SERVICES IN THE SOUTHERN SUBURB TUNNEL OF HARET HREIK-SANDS

LOCATION / Beirut, Lebanon
CLIENT / Council for Development and Reconstruction
CONSULTANT / Dar Al Handasah Shair & Partners

DESCRIPTION /

Haret Hreik - Sands Tunnel constitutes a major part of an overall drainage system project designed to collect stormwater from Haret Hreik together with its surrounding sectors and discharge into the Mediterranean Sea at Ouzai Sands Beach, below the Ouzai main street. It is considered one of the most important hydraulic infrastructure projects in Beirut, and it is the longest in Lebanon.

The works comprised of the construction of a 1,760 m tunnel with a cross section of 12.3 m^2 and included the following:

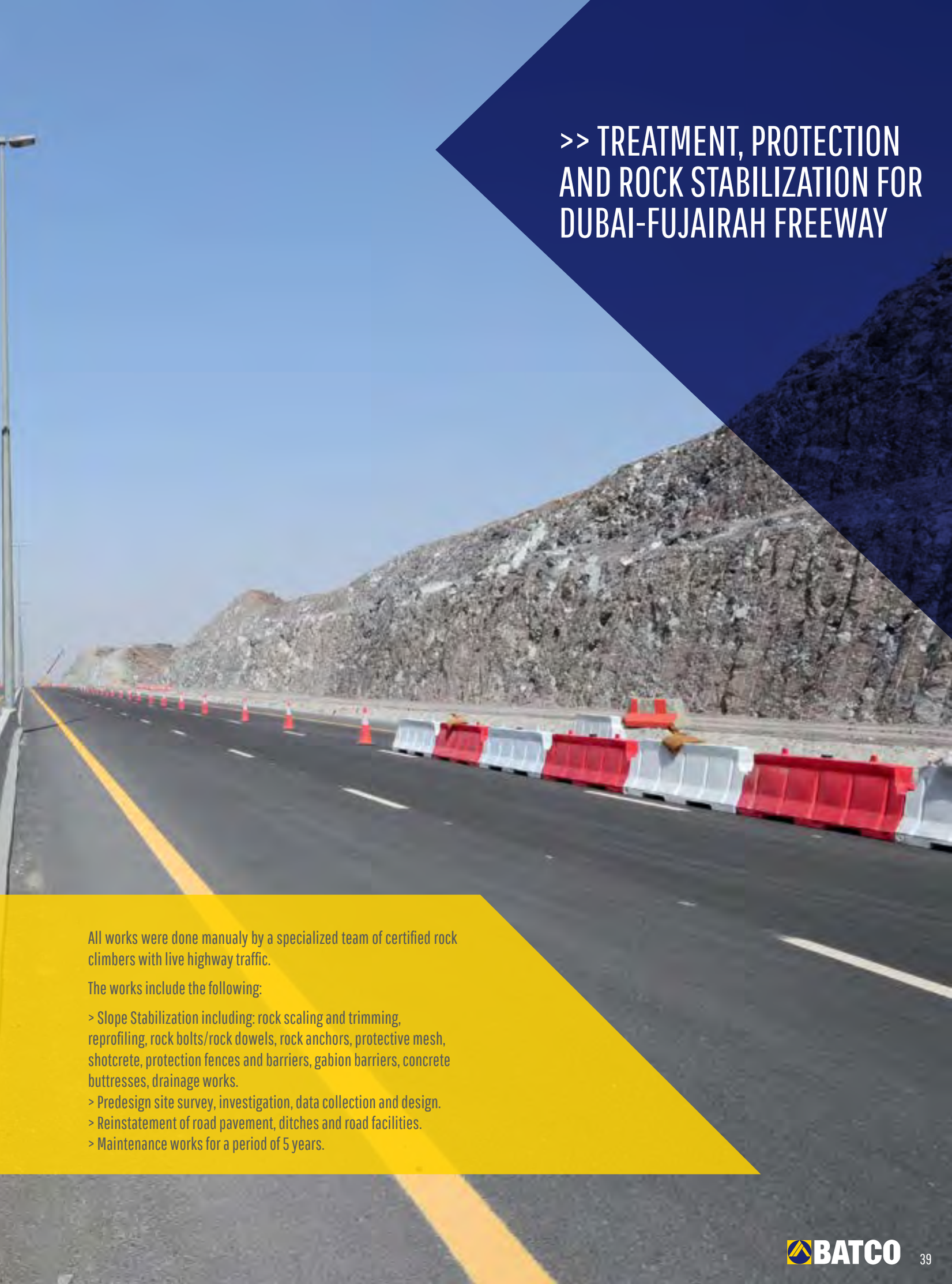
> Boreholes for soil consolidation: 32,600 m.
> Excavation works: 105,000 m^3 (including tunnel excavation of 30,000 m^3)
.
> Shotcrete: 7,200 m^3 with thickness of 40 cm.
> Steel beams: 600 tons.
> Reinforced concrete box culvert 1,200 m, cross section 12,5 m^2.
> Reinforced concrete 22,500 m^3 including reinforcing steel of 1,752 tons.
> Main shaft is 7 m in diameter, 24 m deep lined with circular steel beams and shotcrete and 40 cm thick concrete lining.
> Two shafts have a 3 m diameter and 12 m depth lined with circular steel beams and shotcrete and 20 - 30 cm thick concrete lining.

LOCATION / Northern Emirates, United Arab Emirates
CLIENT / Executive Committee for Developing Rural Areas

DESCRIPTION /

The project is a Design, Build and Maintaince Contract for slope collapse prevention and protection measures. The project also includes repairs and remedial works along the freeway including stabilization.

>> TREATMENT, PROTECTION AND ROCK STABILIZATION FOR DUBAI-FUJAIRAH FREEWAY



All works were done manualy by a specialized team of certified rock climbers with live highway traffic.

The works include the following:

> Slope Stabilization including: rock scaling and trimming, reprofiling, rock bolts/rock dowels, rock anchors, protective mesh, shotcrete, protection fences and barriers, gabion barriers, concrete buttresses, drainage works.
> Predesign site survey, investigation, data collection and design.
> Reinstatement of road pavement, ditches and road facilities.
> Maintenance works for a period of 5 years.

>> TAWAIAN TO DIBBA HIGHWAY ROCK SLOPE REPAIR AND REMEDIAL WORKS

LOCATION / Fujairah, United Arab Emirates
CLIENT / Ministry of Public Works
CONSULTANT / Halcrow

DESCRIPTION /

The highway linking Tawaian to Dibba is about 30 km long. Thirty slopes along the highway require slope stabilization improvements.

The works include the following:

> Excavation and clearance of debris on slopes and berms.
> Installation of rock bolts, rock dowels, wire mesh and shot crete.
> Installation of gabion boxes.
> Grouting operation for rock bolts and rock dowels.
> Construction of concrete buttresses and barriers at slope toe.
> Installation of raking drains.
> Temporary traffic management and temporary road diversions.
> Reinstatement of road pavement, ditches and road facilities.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>> CONSTRUCTION OF BRIDGE AND UNDERPASS AT NAHIL (E20 ROAD)

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / Department of Transport
CONSULTANT / AECOM Middle East Ltd.

DESCRIPTION /

Construction of a bridge and underpass at Nahil on E20 highway to Abu Dhabi to provide easy and safe access to the palace and Majlis.

The works including the following:

> Design and implementation of a traffic detour in order to maintain the traffic flow on the highway during the construction period.
> Construction of the bridge over the E20 road to the palace entrance including pilling, pile capes, abutments & piers, bridge deck post-tensioned concrete, and construction of all related ramps and slip roads construction sub base, wet mix base, and asphalt.
> Construction of underpass crossing E20 roads to Majlis entrance with ramps elevating E20 road above the underpass with associated MSE walls & structure fill.
> Upgrading of the highway E20 between the bridge and underpass including all road furniture guardrails, crush cushions, gantry signs & street lighting and electrical warning system.
> Hardscape works for all the bridge area and underpass.

>> CONSTRUCTION OF THE QATTARA ART CENTER

LOCATION / Al Ain, United Arab Emirates
CLIENT / Abu Dhabi Authority for Culture and Heritage (ADACH)
CONSULTANT / Rafik El-Khoury and Partners

DESCRIPTION /

The construction of the Qattara Art Center aims to promote artisanal art forms and encourage the local community to support handmade art. The project entails the construction of three new structures within the confines of the existing fort along with an adjacent underground energy center.

The works include the following:

> Restoration of the existing fort structures.
> Construction of a new exhibition building, public facilities and new teaching/arts studio buildings.
> Construction of a new performance hall and accommodation.
> Construction of underground plant room/energy center.
> Hard and soft landscaping.

>> DESIGN AND CONSTRUCTION OF DIBBA - KHORFAKKAN RING ROAD

LOCATION / Fujairah, United Arab Emirates
CLIENT / Ministry of Public Works
CONSULTANT / Consultant CHSS

DESCRIPTION /

The project's scope consists of the design and build of a 1.1 km by-pass road to the existing section of the road. This by-pass road includes 500,000 m^3 of rock blasting and a double tube road tunnel of 550 lm length each respectively. The tunnel excavation method is the sequential drill and blast in hard Gabro.

The tunnel is furnished with all required electromechanical items related to safety:

> Two by pass tunnels for escape in case of emergency.
> Ventilation system.
> Fire detection, fighting and alarm system.
> Tunnel control PLC system.

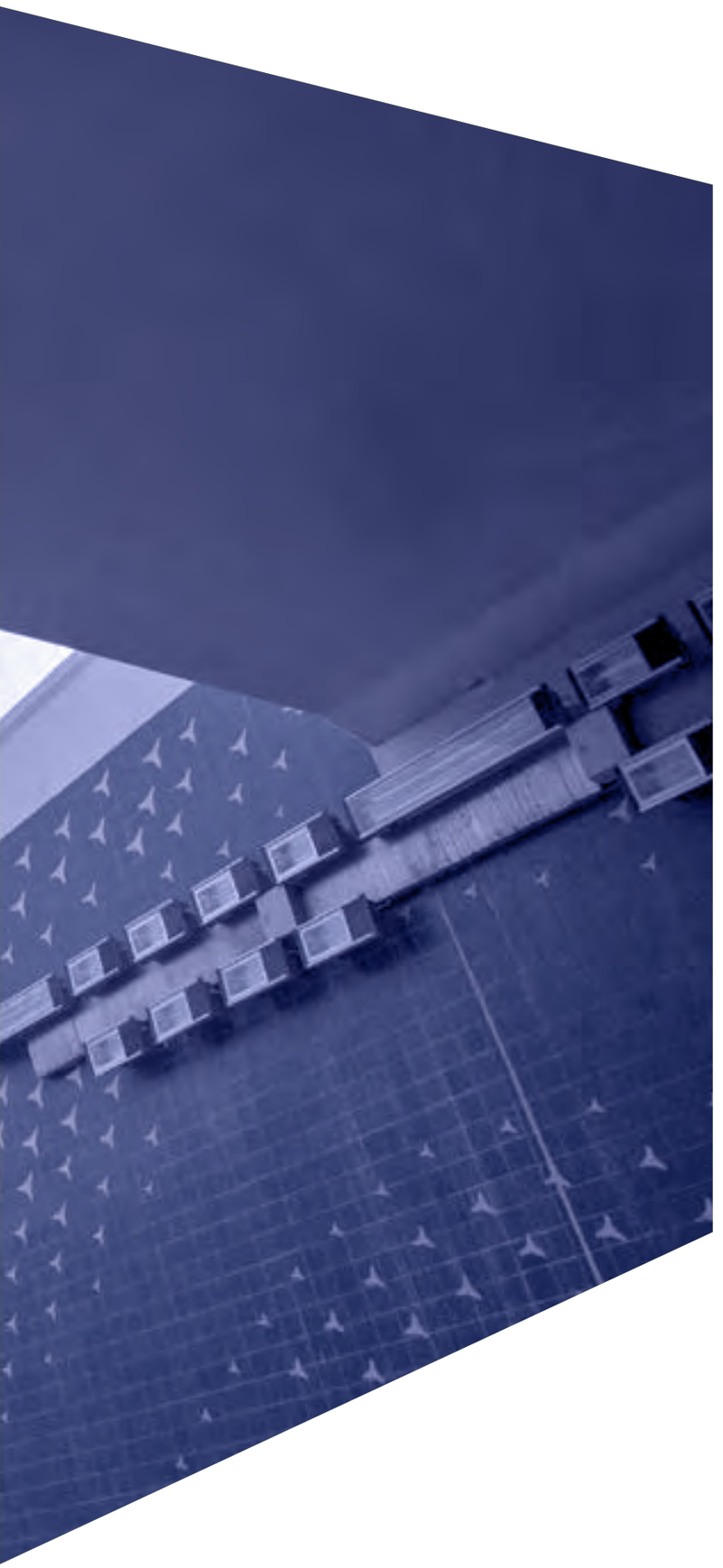
>> DESIGN AND BUILD OF PEDESTRIAN BRIDGES IN ABU DHABI

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / Department of Transport
CONSULTANT / AECOM Middle East ltd

DESCRIPTION /

The project consists of the design, procurement and construction of eight steel pedestrian bridges within Abu Dhabi City, including all associated design, approvals & permits, environmental protection works, civil works and testing & commissioning.

> The bridge decks span between 52 m (bridge Y4 – Airport road) and 150 m (Delma bridge), with a 3 m wide walkway & stair case and one level elevator implemented at both sides of the bridge.
> The bridges' substructure comprise two steel structure abutments integrally connected to the superstructure and supported on cast-in-situ concrete bored piles.
> The bridges were enclosed within aluminum cladding fixed using hidden steel subframes to enhance the aesthetics of the bridge.
> The pedestrian walkway leading to the bridges was tiled with interlock as per the design taking into consideration access for the handicaped.



>> CONSTRUCTION OF YUP-2 UNDERPASS AT AL YAS ISLAND DEVELOPMENT

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / Aldar
CONSULTANT / Halcrow

DESCRIPTION /

The project consists of the construction of an underpass with a total length of 537 m including retaining walls at both sides of the underpass.

The works include the following:

> Construction of a 143 m long box-section with a width of 13.9 m.
> Construction of two 394 m long U-sections with a width of 13.9 m.
> Waterproofing membrane, painting works, and wall tiling.
> Precast concrete side barriers.
> Construction of a pumping station for the storm water drainage of the underpass.

>> THE CONSTRUCTION OF THE M10 FREEWAY - PHASE I

LOCATION / Port Harcourt, Nigeria
CLIENT / Greater Port Harcourt City Development Authority
CONSULTANT / GIBB Engineering & Services

DESCRIPTION /

The project includes the construction of about 10 km of freeway and the design and construction of five bridges, a few kilometers from Port Harcourt International Airport.

The works include the following:

> Construction of bridges on pile foundation and with post-tensioned precast concrete beams.
> Installation of new jersey barriers.
> Drainage work.
> Street lighting.
> Installation of curbstone and sidewalks, etc.
> Electrical and street lighting.
> Traffic signing and road marking.
> Boring and pouring of piles.
> Pile cap foundation.
> Piers, diaphragm beams and bearings.
> Post-tentioned precast girders.
> Precast slab with cast-in-situ top slab.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>> DUALIZATION OF ROAD FROM ZURUB TO AL-BURAIMI HOSPITAL ROUNDABOUT

LOCATION / Al Buraimi, Sultanate of Oman
CLIENT / Ministry of Transport and Communications
CONSULTANT / National Engineering Services Pakistan & Partners LLC

DESCRIPTION /

The project consists of the dualization of an existing single carriageway by constructing a 17 km dual carriageway and service road of a total length of 27 km leading to the UAE's border checkpoint.

The works include the following:

> Construction of two precast beams bridges, length 35 m.
> Construction of two underpasses, length 28.5 m.
> Construction of 30 concrete culverts in which two culverts have 16 cells each.
> Construction of road works including the following:
/ Embankment works of total quantity 2,120,000 m^3.
/ Excavation works of total quantity 440,000 m^3.
/ Pavement works for 2x2 lanes, including corrugated steel guardrail beams 35,000 m in the median with road marking and traffic lights.
/ Mechanically stabilized earth (MSE) walls.
/ Installation of road lighting network.
/ Water drainage and relocation of existing utilities and overhead electrical cables LV and MV.
/ Public utility service and traffic diversion and protection.

>> DESIGN & CONSTRUCTION OF WADI BRIDGES AND CULVERTS IN AL QURM

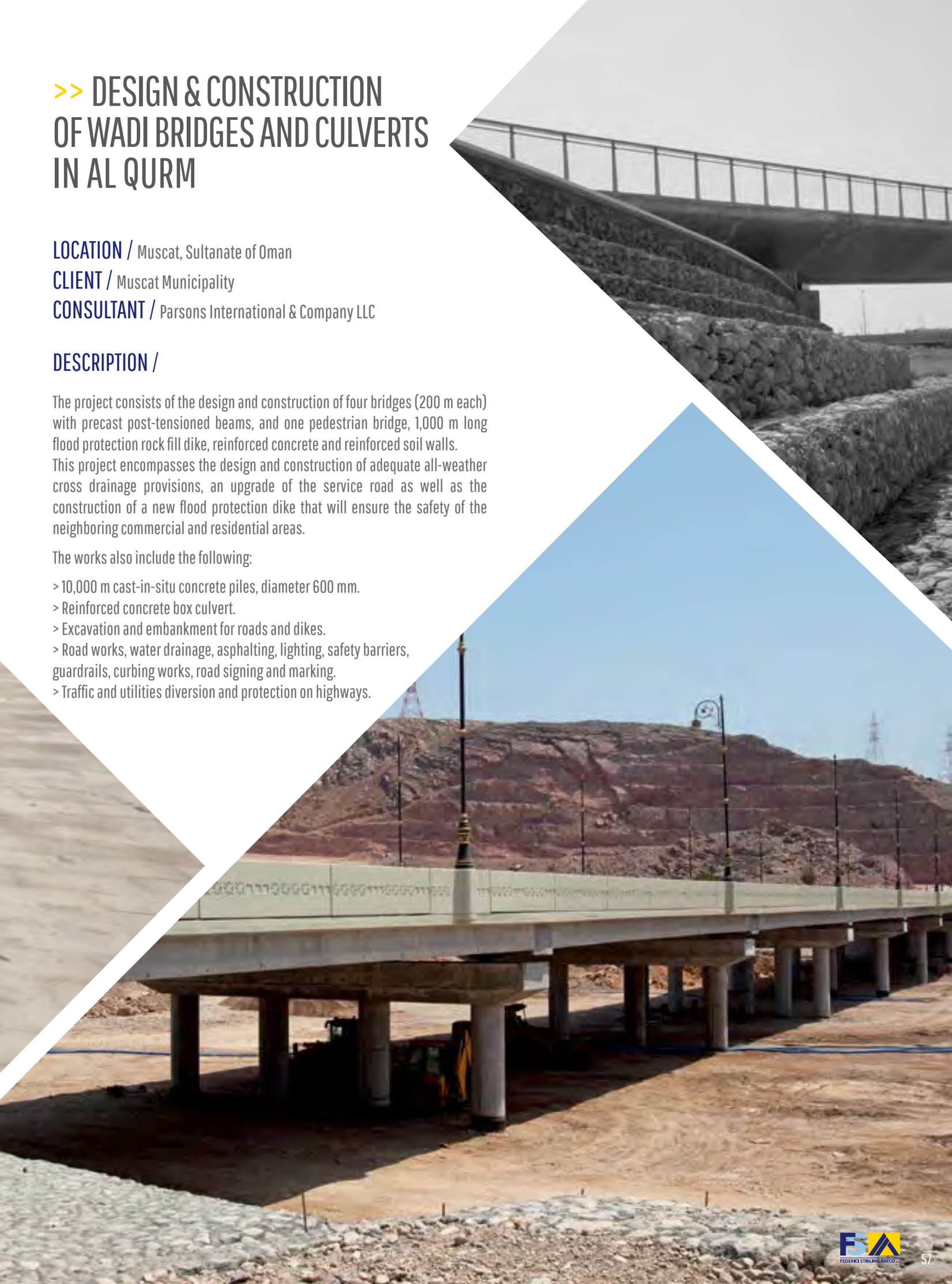
LOCATION / Muscat, Sultanate of Oman
CLIENT / Muscat Municipality
CONSULTANT / Parsons International & Company LLC

DESCRIPTION /

The project consists of the design and construction of four bridges (200 m each) with precast post-tensioned beams, and one pedestrian bridge, 1,000 m long flood protection rock fill dike, reinforced concrete and reinforced soil walls.
This project encompasses the design and construction of adequate all-weather cross drainage provisions, an upgrade of the service road as well as the construction of a new flood protection dike that will ensure the safety of the neighboring commercial and residential areas.

The works also include the following:

> 10,000 m cast-in-situ concrete piles, diameter 600 mm.
> Reinforced concrete box culvert.
> Excavation and embankment for roads and dikes.
> Road works, water drainage, asphalting, lighting, safety barriers, guardrails, curbing works, road signing and marking.
> Traffic and utilities diversion and protection on highways.



>> REHABILITATION WORKS FOR ROADS, BRIDGES AND WADIS IN QURIYAT, LOT 2

LOCATION / Quriyat, Sultanate of Oman
CLIENT / Muscat Municipality
CONSULTANT / Idroesse Infrastructure SPA

DESCRIPTION /

The project comprises raising up traffic over the main and secondary wadis all along Daghmar-Quriyat Road and to replace the Irish crossings by either box culverts or wadi bridges to ensure the non-interruption of traffic during flooding (10 km). It also includes the rehabilitation of Al Mazaraa road of 15 km.

The construction works include the following major structures:

> Construction of three wadi bridges (210 m, 180 m and 91 m) length, which were constructed by pre-cast post tensioned L girders. The foundations of the bridges inside the wadi were built on a stabilized soil by the jet grouting columns technology.
> Arrangement of the wadi bed by excavating more than 1 million cubic meter and constructing side earth dykes protected by RC walls, riprap and gabion boxes for a length of around 6000 lm.
> Construction of 4 km road works including widening & repairing, water drainage, asphalting, road lighting, safety barriers, sidewalks, road signing and marking.
> Execution of multicells box culverts of sizes (3 m x 4 m) and Irish crossings.

>> CONSTRUCTION OF BATINAH EXPRESSWAY PACKAGE 5

LOCATION / Batinah, Sultanate of Oman
CLIENT / Ministry of Transport and Communications
CONSULTANT / Botek & Partners Engineering Consultancy LLC

DESCRIPTION /

This package comprises of 41 km of the Batinah expressway.

The construction works include the following major structures:

> 2 cloverleaf interchanges at Falaj al Qabail & Sohar industrial area (box girder).
> 1 partial cloverleaf interchange at Liwa (box girder).
> 3 wadi bridges: Wadi Al Jizi – Wadi Bani Umer – Wadi Fizh (pre-cast beams)
> 4 underpass bridges: U.P Bridge1 – Gas Line U.P – Sohar U.P – Railway U.P (pre-cast beams)
> 1 flyover bridge (box girder)
> 4 weigh stations
> 2 service areas and 4 rest areas

The project also comprises 130 single and multi-cell reinforced concrete box culverts, median drainage system, dykes and embankment protections. The total length of the wadi bridges is 1,380 m consisting of pre-cast / post-tensioned concrete girders with pile foundations.

Main Works as considered in the Baseline:

> Clearing & grubbing 4,230,762 m^3
> Borrow earth 13,059,801 m^3
> Excavation 5,017,929 m^3
> Precast beams production 1,528 number
> Concrete 338,232 m^3
> Steel 32,500 tons

>> CONSTRUCTION OF WADI ADAI INTERCHANGE

LOCATION / Muscat, Sultanate of Oman
CLIENT / Muscat Municipality
CONSULTANT / Parsons International & Company LLC

DESCRIPTION /

The project consists of the replacement of an existing roundabout by the establishment of a third level trumpet arrangement that facilitates left turns and an under bridge signalized intersection. The interchange is located in an urbanized zone, with old underground utilities and with heavy traffic.

The Construction works include the followings:

> A third level steel structure two twin bridges of steel box girder structure with 2 RC abutments and 7 twin decorative high piers, resting on cast-in-situ bored piles.
> A second level curved steel box girder structure bridge for a total length of 272 m formed by 2 RC abutments and 6 twin decorative high piers resting on cast-in-situ bored piles and micro piles.
> Road works including the widening of the existing pavement with necessary camber corrections and the construction of a new carriage way, curbs, sidewalks, signing, marking, utilities and relocation, drainage, street lighting & safety barrier, mechanically stabilized earth walls of around 4,000 m^2, retaining walls, with RC for a length of around 1,000 lm, for works needed to deliver an appropriate finished pavement in designated areas.
> Stabilizing of an existing electrical transmission pylon by micro pilling system.
> Hill slope protection by netting system.
> Construction of double cell box culvert size 2 x (3 m x 4 m) for a length of around 1,000 lm.
> Erection of the Steel bridges using the launching beam method, ensuring traffic non-interruption during the project execution.
> Exercising a very complicated traffic diversion operation into multiple phases and involving the restricted zone of Muscat.

>> DESIGN & CONSTRUCTION OF ADDITIONAL INTERCHANGES FOR AL MUBAILA SOUTH

LOCATION / Muscat, Sultanate of Oman
CLIENT / Muscat Municipality

DESCRIPTION /

The project consists of the design and construction of two interchanges intended to provide free flow access to Al Mubaila from the Muscat expressway, the second of the two major corridors serving the Muscat Capital area.

The works include the following:

> The design and construction of three post tensioned concrete viaducts across the above mentioned expressway with a total area of 5000 m^2 including the construction of a temporary steel gantry structure to support the bridge deck formwork without interruption of traffic.
> The design and construction of all complementary roadway elements including the following:
/ The drainage network consisting of concrete box culverts, pipe culverts and the surface drainage works, floodway across Wadi al Khoud.
/ Drainage works, pipes of concrete culvert, relocation of 33 KV & 24" oil and gas line, 1.3 Million m^3 earthworks, pavement works, street lighting & finishing and road marking.

>> DUALIZATION OF AL KHARIJIYAH STREET

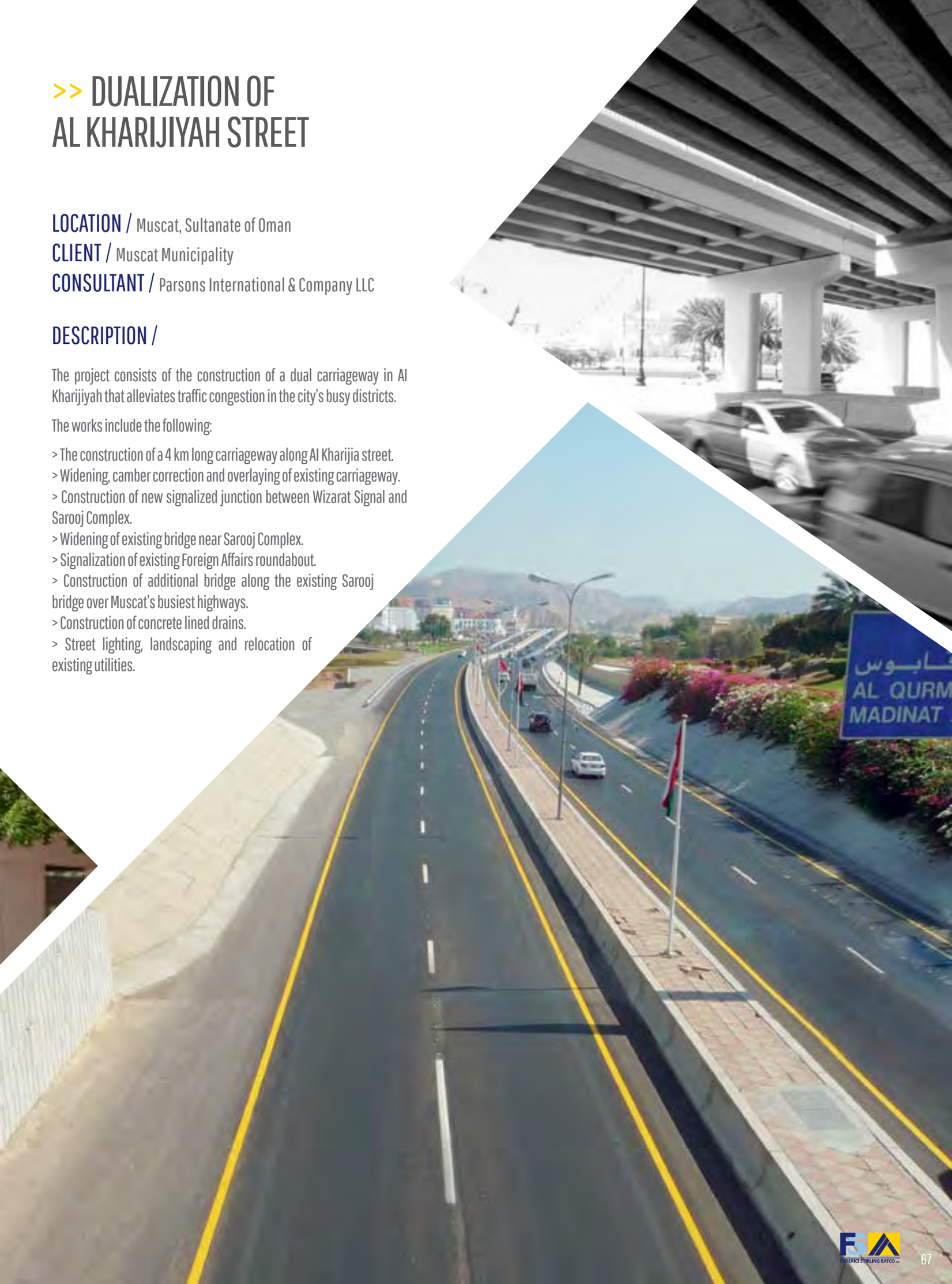
LOCATION / Muscat, Sultanate of Oman
CLIENT / Muscat Municipality
CONSULTANT / Parsons International & Company LLC

DESCRIPTION /

The project consists of the construction of a dual carriageway in Al Kharijiyah that alleviates traffic congestion in the city's busy districts.

The works include the following:

> The construction of a 4 km long carriageway along Al Kharijia street.
> Widening, camber correction and overlaying of existing carriageway.
> Construction of new signalized junction between Wizarat Signal and Sarooj Complex.
> Widening of existing bridge near Sarooj Complex.
> Signalization of existing Foreign Affairs roundabout.
> Construction of additional bridge along the existing Sarooj bridge over Muscat's busiest highways.
> Construction of concrete lined drains.
> Street lighting, landscaping and relocation of existing utilities.



>> QURUM TO SAROOJ ROAD IMPROVEMENTS

LOCATION / Muscat, Sultanate of Oman
CLIENT / Muscat Municipality
CONSULTANT / WS Atkins International & Co.

DESCRIPTION /

The project consists of the construction of two bridges over two tidal lagoons that were created as a result of the 2007 floods that hit the Qurum to Sarooj beach road. The works focused on protecting the beach and mangroves area as well as avoiding pollution while maintaining access to the mangroves.

The works include the following:

> Construction of two bridges with respective lengths of 30 m and 150 m with precast posttensioned girders.
> Implementation of concrete beams and cast-in-situ concrete piles of a diameter of 600 mm and 6,000 m length in the lagoon.
> Road works including asphalting, road lighting, safety barriers, paving & curbing, and road signing & marking.
> Rock protection against coastal erosion and sea level rise.

LOCATION / Manama, Kingdom of Bahrain
CLIENT / Ministry of Works and Housing

DESCRIPTION OF WORK /

The project consists of the improvement of the access roads at Bahrain City Center Interchange with one left turn fly-over and the construction of slip lanes at Sheikh Khalifa Bin Salman Highway, King Abdullah Bin Al Hussain Avenue, Avenue 18 & Avenue 2891. Earthworks, drainage, footpaths, asphalt paving and pavement markings are the major elements included.

>> CONSTRUCTION OF BAHRAIN CITY CENTER INTERCHANGE

The works include the following:

> Construction of a bridge structure with a double-cell box girder and a total length of 195m. Additionally, the construction of a temporary steel gantry structure to support the bridge deck formwork without interruption of traffic.
> Construction of new roads for a length of 5 km including all the asphalt and accessories works such as street lighting, road signs, road marking and landscaping.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>> SOLID WASTE COLLECTION AND CITY CLEANSING FOR THE URBAN COMMUNITY OF AL FAYHAA', NORTH LEBANON

LOCATION / Tripoli, Lebanon
CLIENT / Urban Community of Al-Fayhaa'

DESCRIPTION /

The project includes the collection & transportation to the landfill of 350 tons per day of solid waste, mechanical & manual street sweeping, litter picking, street cleansing & washing, and poster & graffiti removal for the cities of the urban community of Al-Fayhaa', Tripoli.

Project Specifics /

> 450 tons/day
> Duration: 5 years, renewed on several occasions and is still operational
\ Start date: 2001
\ End date: Ongoing
> Population: 500,000
> Area: 35 km^2


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>> SOLID WASTE COLLECTION AND CITY CLEANSING OF AL AIN CITY (NORTHERN REGION)

LOCATION / Al Ain, United Arab Emirates
CLIENT / TADWEER
CONSULTANT / Entec

DESCRIPTION /

The project consists of collection & transfer to composting plant & landfill of 1,040 tons per day of solid waste including community collection points and door-to-door collection.
Additionally it includes servicing, washing & desinfection of solid waste containers, graffiti removal, sand removal, litter picking, mechanical & manual street sweeping & cleansing.
The works also cover special & selected services to palaces in the project's area.

Project Specifics /

> 1,040 tons/day
> Duration: 7 years, extended for 16 months
\ Start date: 2007
\ End date: 2015
> Population: 400,000
> Area: 5,635 km^2

>> SOLID WASTE COLLECTION AND CITY CLEANSING FOR ABU DHABI CITY - SERVICE AREA 1

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / TADWEER

DESCRIPTION /

The project consists of collection & transport to landfill & transfer station of 500 tons per day of solid waste including community collection points and door-to-door collection within the Service Area 1 of Abu Dhabi city.
Additionally it includes servicing, washing & desinfection of solid waste containers and mechanical & manual street sweeping & cleansing.
The works also cover special & selected services to palaces & water courses in the project's area.

Project Specifics /

> 500 tons/day
> Duration: 5 years
\ Start date: 2011
\ End date: 2016
> Population: 700,000
> Area: 50 km^2

>>DESIGN & CONSTRUCTION OF A SANITARY LANDFILL IN AL BURAIMI

LOCATION / Al Buraimi, Sultanate of Oman
CLIENT / Oman Environmental Service Holding Co. (S.A.O.C.)
CONSULTANT / Libanconsult

DESCRIPTION /

The project consists of the design, engineering, procurement and construction in accordance with USEPA's environmental regulations and technical requirements of a newly engineered sanitary landfill for receiving municipal solid waste.
The engineered landfill is designed to accommodate 500,000 m^3 of municipal solid waste.

The project includes the following:
> Design & installation of engineering barrier system consisting of HDPE/GCL composite lining system.
> Leachate collection HDPE Geonet and protective geotextiles and soil lining system.
> Leachate evaporation ponds & transfer system.
> Surface water runoff collection & storage system.
> Gas collection & venting system.
> Groundwater monitoring system.
> Embankments, circular roads & stock piling areas.
> Other facilities including a security fence around the evaporation pond, perimeters buffer zone, entrance facilities including administration building, labor camp and repair workshop-.
> Parking areas, landscaping and electronic weigh bridges.


VOLVO

>> AL DHAFRA LANDFILL AND AL MAFRAQ TRANSFER STATION

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / TADWEER

DESCRIPTION /

The project consists of operation and maintenance for the Al Dhafra Solid Waste Landfill and Al Mafraq Solid Waste Transfer Station. The project includes the rehabilitation works of facilities' entrances, upgrading of landscaping areas and installation of new electronic weighbridges with on-line monitoring.

Project Specifics /

> Duration: 3 years, extended for 2 years.
\ Start date: 2010
\ End date: 2015
> Tender Awarded for 2015-2018
> Daily Tonnage:
\ Al Dhafra Solid Waste Landfill: 20,000 t/d (daily capacity)
\ Al Mafraq Waste Transfer Station: 2,000 t/d

>> ABU DHABI LANDFILL LIQUID AND SOLID HAZARDOUS WASTE

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / TADWEER

DESCRIPTION /

The project consists of the design and construction of six hazardous waste engineered landfill cells including leachate detection and collection system, access roads, and peripheral fence.

The works include the following:

> Geotechnical Investigation.
> Environmental Baseline.
> Detailed Design.
> Installation of geogrid to increase soil bearing capacity.
> Geosynthetic and HDPE liner.


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>> ABU DHABI BEACH CLEANING & WASTE MANAGEMENT SERVICES

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / SERCO and Abu Dhabi Municipality

DESCRIPTION /

The project consists of a three years contract for three beaches in Abu Dhabi: Corniche Beach, Bateen Beach and Ladies Beach.

The works include the following:

> Janitorial works.
> Waste segregation, collection & removal.
> Beach cleaning:
/Sandy beach area & associated beach furniture;
/Litter picking;
/Cleaning gardens & walkways.

>> AMMAN WATER SUPPLY PROJECT STAGE 1 & 2

LOCATION / Amman, Jordan
CLIENT / Ministry of Water and Irrigation

DESCRIPTION /

The works include the following:

> Primary pipeline distribution with 14 km of ductile iron diam. 800 mm pumping station construction.
> Pumping station rehabilitation and installation of chlorination equipment,
> Two reservoirs construction with a combined capacity of 14,500 m^3.
> Secondary and tertiary distribution pipelines with 115 km of ductile iron with diam. from 100 to 700 mm.
> Associated house connections.

>> SANLIURFA WATER TREATMENT PLANT AND PUMPING STATION

LOCATION / Sanliurfa, Turkey

CLIENT / Ministry of Energy and Natural Resources General Directorate of State (DSI)

TREATMENT CAPACITY / 270,000 m^3/d

DESCRIPTION /

The works include the following:

> Raw water pumping station
> Aeration
> Flocculation – clarification
> Rapid gravity filtration
> Chlorination
> Chemical dosing
> Treated water pumping station
> Sludge thickening and dewatering

>> 5 WASTEWATER TREATMENT PLANTS AND 2 SEA OUTFALLS-IZMIT

LOCATION / Izmit, Turkey
CLIENT / Iller Bankasi
TREATMENT CAPACITY / 93,000 + 91,000 + 81,000 + 29,000 + 23,000

DESCRIPTION /

The works include the following:

> Pre-Treatments
> Biological Denitrification
> Biological Nitrification
> Final Sedimentation
> Sludge Thickening
> Sludge Dewatering

>> MELEN WATER TREATMENT PLANT

LOCATION / Melen, Turkey

CLIENT / Ministry of Energy and Natural Resources
General Directorate of State Hydraulic Works (DSI)

TREATMENT CAPACITY / 720,000 m^3/d

DESCRIPTION /

The works include the following:

> Aeration
> Prechlorination
> Flocculation
> Clarification
> Filtration
> Postchlorination
> Sludge thickening and dewatering

>> MERSIN WASTEWATER TREATMENT PLANT

LOCATION / Mersin, Turkey
CLIENT / General Directorate of Mersin (MESKI)
TREATMENT CAPACITY / 190,000 m^3/d

DESCRIPTION /

The project consists of the construction and operation of Mersin wastewater treatment plant.

The works include the following:

> Raw water pumping stations
> Pretreatments
> Primary sedimentation
> Activated sludge system
> Final sedimentation
> Sludge thickening
> Sludge anaerobic digestion
> Mechanical sludge dewatering
> Sludge lime stabilization
> Co-generated heat and power plants

>> AL SHABAB POWER STATION & WATER TREATMENT PLANT

LOCATION / AL Shabab, Egypt
CLIENT / Kharafi National Co.

DESCRIPTION /

The project consists of the construction of a 1000 MW Gas Turbine Power Station & Water Treatment Plant at Al Shabab.

The works include the following:

> Pre-treatments with ultrafiltration
> Reverse osmosis
> Demineralization

>> CRAIOVA WASTEWATER TREATMENT PLANT

LOCATION / Craiova, Romania
CLIENT / Compania De Apa Oltenia
TREATMENT CAPACITY / 129.600 m^3/d

DESCRIPTION /

The project consists of the design and construction of the Craiova wastewater treatment plant.

The works include the following:

> Pretreatments
> Primary sedimentation
> NBR activated sludge system
> Final sedimentation
> Sludge thickening
> Sludge anaerobic digestion
> Mechanical sludge dewatering
> Co-generation system

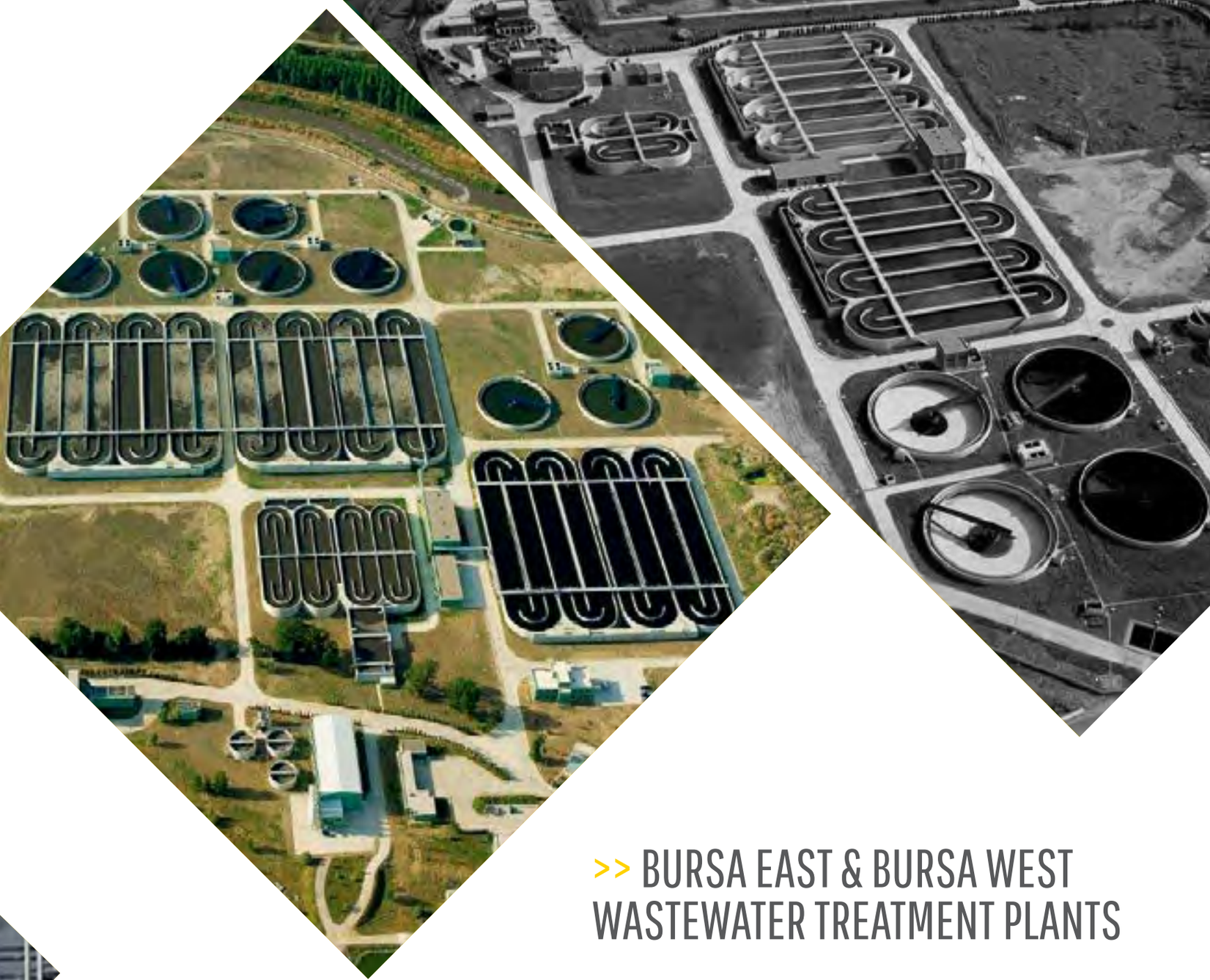
>> SAADIYAT ISLAND WASTEWATER TREATMENT PLANT STP2

LOCATION / Abu Dhabi, United Arab Emirates
CLIENT / Kharafi National Co.
TREATMENT CAPACITY / 20,000 (Phase I) m^3/d
78,000 (Final prevision) m^3/d

DESCRIPTION /

The works include the following:

> Main Pumping Station (with odor control)
> Pre-treatment
> BOD and nitrate removal
> MBR system
> UV Desinfection
> Treated Water Reservoir and Pumping Station for water reuse (irrigation purposes)
> Water reuse
> Odour control system
> Sludge stabilization and dewatering



>> BURSA EAST & BURSA WEST WASTEWATER TREATMENT PLANTS

LOCATION / Bursa East and Bursa West, Turkey
CLIENT / BUSKI Bursa Water and Sewerage Administration
TREATMENT CAPACITY / 351,000 + 165,000 m^3/d

DESCRIPTION /

The project consists of the construction and operation of Bursa East and Bursa West wastewater treatment plants.

The works include the following:

> Pre-treatments
> Biological phosphorus removal
> Bod removal
> Biological denitrification
> Biological nitrification
> Final sedimentation
> Sludge stabilization and dewatering

>> VASLUI, BARLAD AND HUSI WASTEWATER TREATMENT PLANT

LOCATION / Vaslui, Romania
CLIENT / SC Aquavas SA Vaslui
CONSULTANT / SC TRANSTECH GLOBAL ENGINEERING SRL

DESCRIPTION /

The project consists of the design and execution works related to the rehabilitation of wastewater treatment plant in Vaslui, Barlad and Husi.
The scope of work includes the design, supply of electromechanical equipment, SCADA system, erection, training and supervision during defect notice.

>> SUEZ THERMAL POWER PLANT

LOCATION / Suez, Egypt
CLIENT / Metito Water Treatment
TREATMENT CAPACITY / 1800m^3/h

DESCRIPTION /

The project consists of a Polishing Treatment Plant with a capacity of 1800m^3/h.
The scope of work includes the design, engineering, supply, supervision of installation commissioning and start-up, guarantee and warrantee of the condensate polisher system for Suez Thermal Power Plant 1X650 MW Gas/Oil Fired Unit.

>> IASI WASTEWATER TREATMENT PLANT UPGRADE

LOCATION / Iasi, Romania
CLIENT / S.C. Apavital S.A. Iasi
CONSULTANT / SC EPTISA ROMANIA SRL

DESCRIPTION /

The project consists of the upgrade of the existing wastewater treatment plant in order to reach a capacity of 191 m^3/h.
The scope of work includes: electromechanical engineering, equipment supply, supervision of erection and start up.

>> IASI PROVINCE WASTEWATER TREATMENT PLANTS REHABILITATION

LOCATION / Iasi, Romania
CLIENT / S.C. Apavital S.A. Iasi
CONSULTANT / SC EPTISA ROMANIA SRL
TREATMENT CAPACITY / 14,470 m^3/d.

DESCRIPTION /

The project consists of the rehabilitation of three wastewater treatment plants in Iasi province.
The scope of work includes: electromechanical engineering, equipment supply, supervision of erection and start up.

>> ISALNITA'S WASTEWATER TREATMENT PLANT

LOCATION / Isalnita, Romania
CLIENT / APA OLTENIA
CONSULTANT / SC EPTISA ROMANIA SRL
TREATMENT CAPACITY / 86,400m³/d

DESCRIPTION /

The project consists of the construction of a water treatment plant with a capacity of 86,400 m³/d.
The scope of work includes the design, supply and erection of electromechanical works, start up, commissioning and assistance during DNP.

>> RASTU NOU & BECHET WASTEWATER TREATMENT PLANT AND COLLECTORS

LOCATION / Rastu Nou & Bechet, Romania
CLIENT / Apa Oltenia
CONSULTANT / SC EPTISA ROMANIA SRL
TREATMENT CAPACITY / 7,600 m^3/d

DESCRIPTION /

The project consists of the construction of a water treatment plant with a capacity of 7,600 m^3/d and collectors in Rastu Nou & Bechet.
The scope of work includes the design, supply and erection of electromechanical works, start up, commissioning and assistance during DNP, and construction of part of the sewage line.

>> CERTIFICATIONS

>> Lloyd's Quality Management Systems - ISO 9001

>> UKAS' Quality Management System - ISO 9001

>> UKAS' Environmental Management System - ISO 14001

>> OHSAS' Occupational Health & Safety Management Systems - ISO 18001

In relation to the EPC activity in Italy, EMIT Group holds the associated top ranking qualifications for public works:

CATEGORY	CLASSFICATION	DESCRIPTION
OS 14	V	>> Disposal and recovery solid waste plants
OS 12	IV	>> Sanitary landfills and polluted soil remediation
OS 22	VIII	>> Water and wastewater treatment plants
OS 9	V	>> Power Plants
OS 6	VII	>> Pipelines

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