



COMPANY PROFILE 2025



The sea — our responsibility

COASTAL PROTECTIONS

www.seatec-sarl.com

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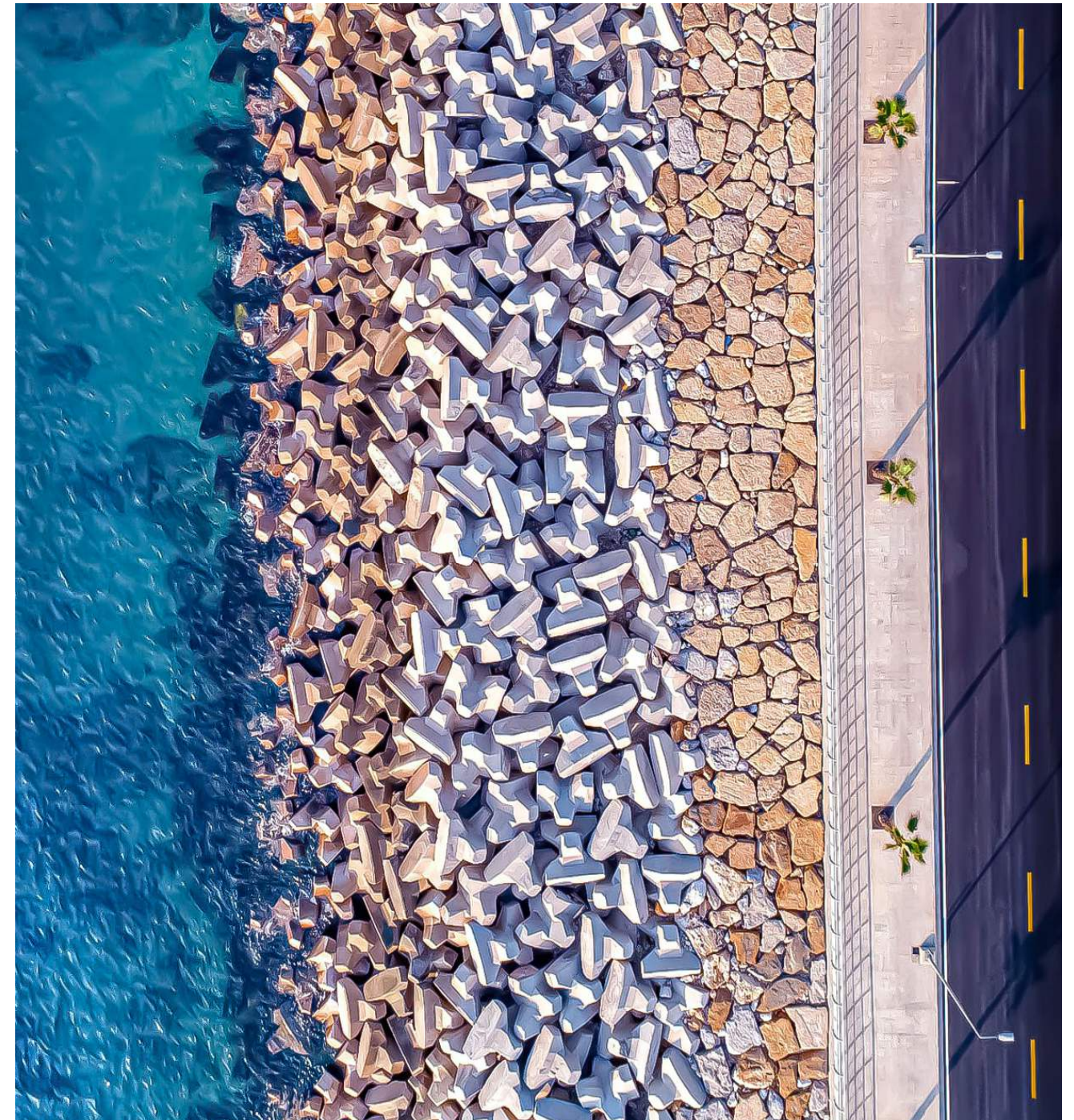
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SEATEC

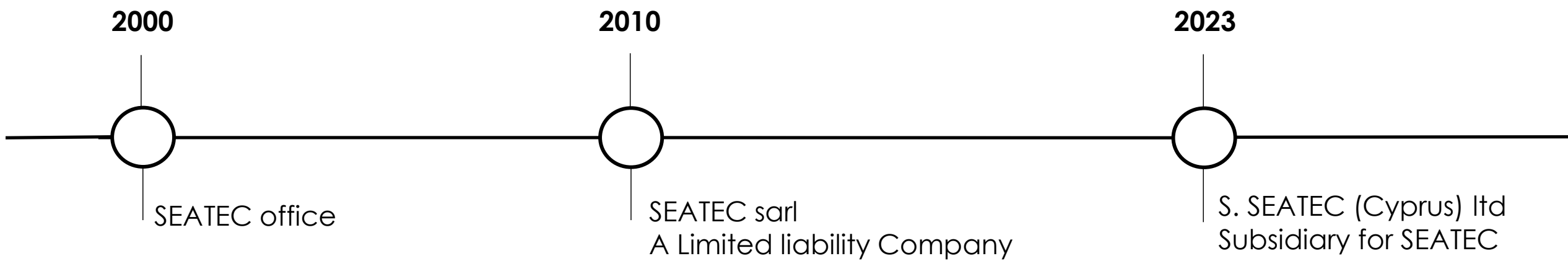
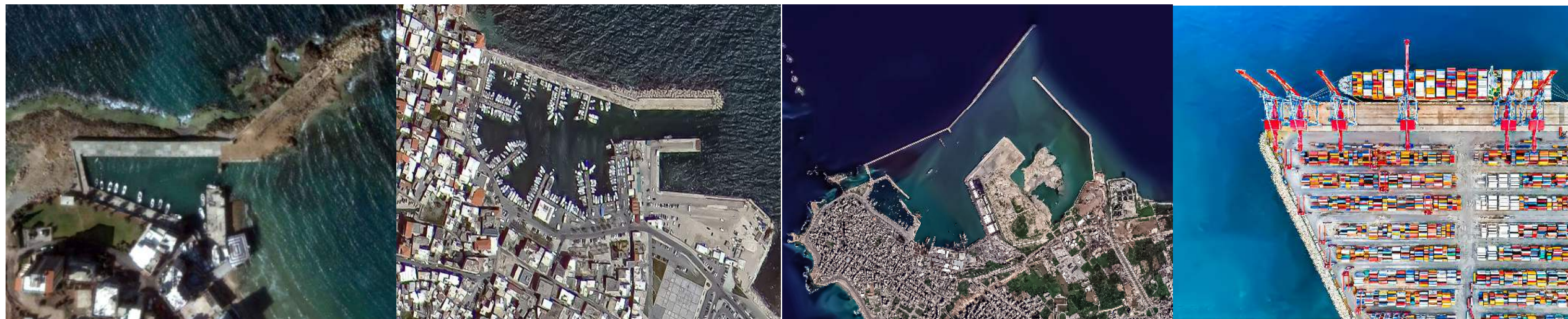
provides its clients with design and supervision services in coastal and port engineering, covering surveying, site investigation, master planning, numerical modeling, tender and detailed design, feasibility and EIA studies, permitting, construction planning, management and supervision.

Serving public as well as private sectors since 2000, SEATEC sarl is dedicated to give its clients the best engineering assistance.

SEATEC sarl operates in the EU territory through its subsidiary in Cyprus, S. SEATEC (Cyprus) Ltd.



COMPANY HISTORY



PROJECTS LOCATION



Countries ●	
Middle East	AFRICA
Lebanon	Egypt
Jordan	Libya
Syria	Tunis
GULF	Algeria
UAE	Djibouti
KSA	Ivory Coast
Qatar	Cameroon
Oman	Nigeria
ASIA	EUROPE
India	Cyprus

GET IN TOUCH WITH US

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HEAD OFFICE

SEATEC sarl

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E-mail : seatec@seatec-sarl.com

SUBSIDIARY OFFICE

S. SEATEC (CYPRUS) Ltd

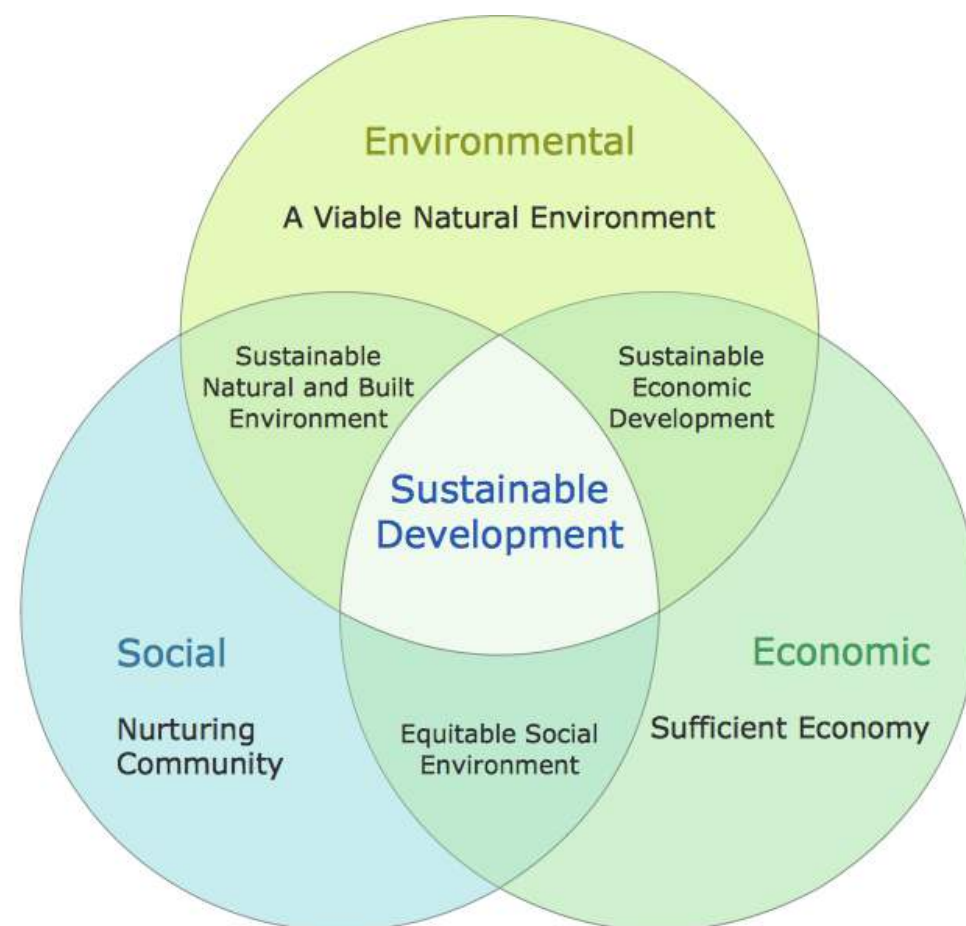
Michail Olympiou, 26 Dali,
2540 Nicosia, CYPRUS



VISION 01

SUSTAINABLE ENGINEERING SOLUTIONS

"Leading the way in creating sustainable and resilient engineering solutions that harmonize with nature and withstand the test of time"



VISION 02

ECO-FRIENDLY AND GREEN PRACTICES

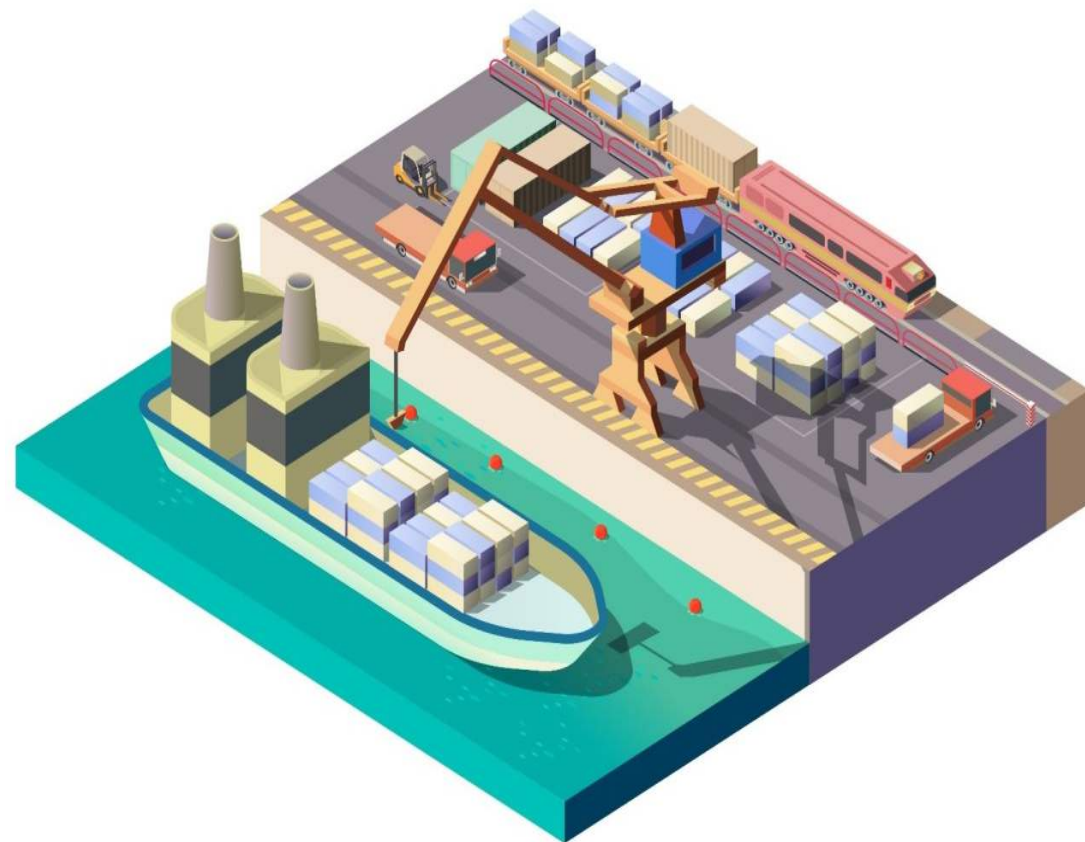
"Pioneering eco-friendly and green solutions that preserve coastlines and promote a sustainable future for generations to come"



VISION 03

SMART PORTS

"Transforming ports into smart, efficient, and interconnected hubs that drive global trade and economic growth".



VISION 04

INNOVATIVE COASTAL DEVELOPMENTS

"Fostering innovative coastal developments that boost local economies and enhance the quality of life for coastal communities".



INTRO

SERVICES

SEATEC sarl (www.seatec-sarl.com) is a multi-disciplinary engineering company, operating since 2000, mainly specialized in the design and supervision of coastal and ports projects, covering :

- Ports: commercial, cruise, marinas, fishing, industrial, naval bases...
- Specialized Terminals: Containers, general cargo, bulk, Agri bulk, oil and gas...
- Urban Waterfronts developments
- Coastal protections
- Dredging and reclamation works
- Beaches (protection and artificial nourishment)
- Offshore pipelines (outfalls, intake pipes...)
- Mooring structures, ship lifts
- Marine infra (Breakwaters, quay walls, platforms, slipways...)



CAPACITY OF THE COMPANY

9

SERVICES

SEATEC offers a range of services through an experienced team in coastal and port engineering field :

- Site selection and evaluation
- Topographic and bathymetric survey
- Underwater inspection
- Rehabilitation of existing infrastructure
- Development of new infrastructure and facilities
- Master planning (future development) and phasing
- 3D presentations (views and videos)
- Feasibility studies
- Design optimization
- Design review /value engineering
- Preliminary and detailed design
- Execution drawings
- Numerical modelling
- Environmental Impact Assessment (EIA) studies
- Permitting and consents from relevant public authorities
- Tender documents
- Assistance to clients in selection of contractors



SERVICES

- Supervision services, management and supervision of construction sites in accordance with health and safety guidelines, through an experienced team of site engineers, supervisors, surveyors and divers
- Supervising contractors, subcontractors and work activities
- Compliance of executed works with the relevant building regulations, quality standards
- Construction permit and with the specified technical documentation and guidelines
- Issuing of information and instructions on behalf of the client
- Validate of contractor's payments
- Hazards and risks assessment and Prevention of construction errors
- Carrying out regular inspections and raising safety concerns at the appropriate level
- Keeping construction on schedule, construction errors
- Completing records for site reports
- Resolving problems and implementing improvements
- Works handing over certificate



OUR TEAM

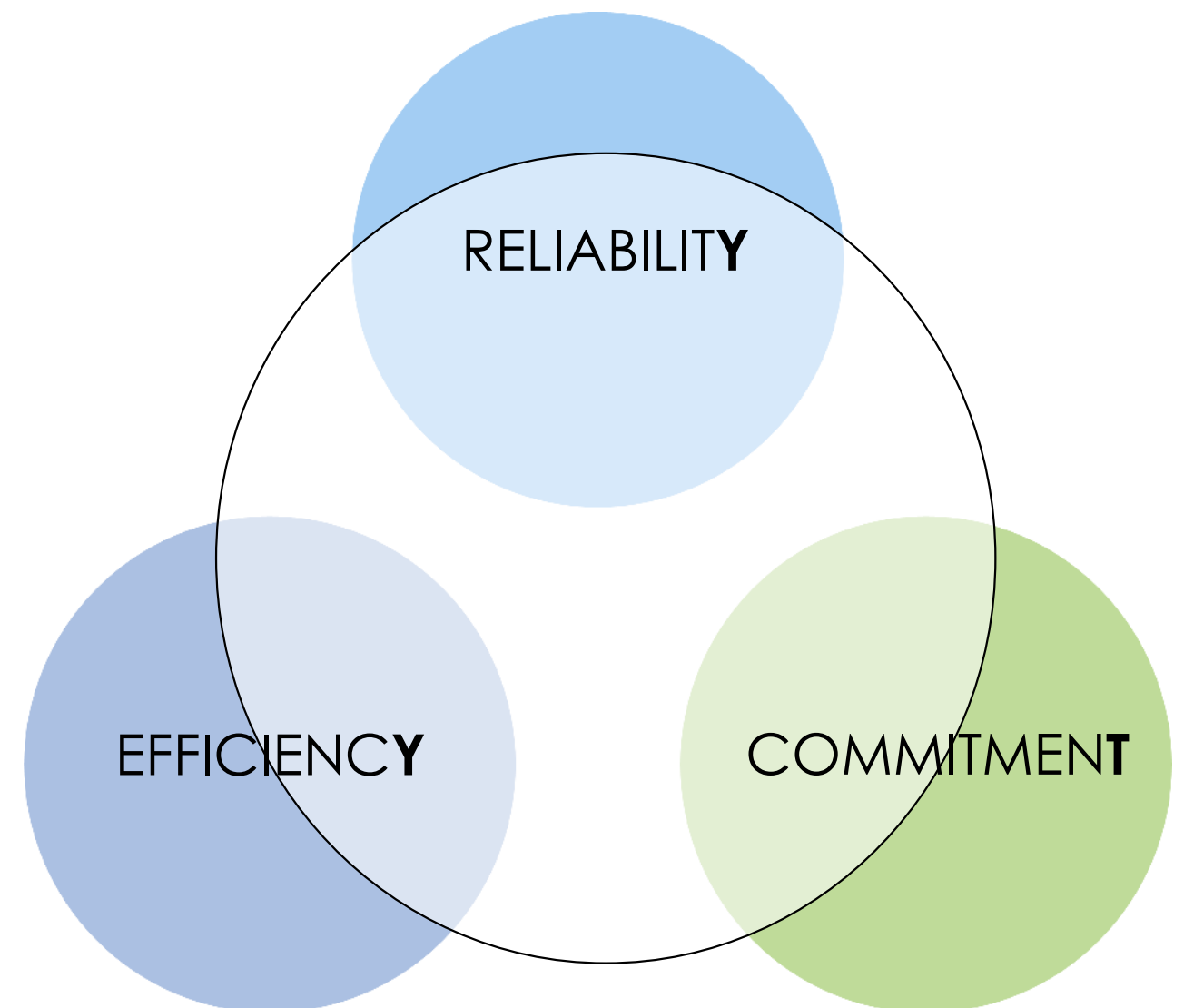
SEATEC have an experienced Team for in house design, covering all coastal and ports engineering aspects, geotechnical analysis, numerical modeling, works supervision..., keeping an excellent cooperation with leading European maritime and hydraulic laboratories for 2D/3D physical modeling.

A strong team spirit with the Client will be essential, working as part of a single entity rather than as competent individuals.

The team of experts is mostly composed of people involved in our recent projects, carefully selected for their:

- Experience in the field of expertise
- Efficiency
- Experience in working with each other
- Ability to advise both public and private Clients

Moreover, SEATEC can mobilize on short notice its technical resources when and where such expertise is needed.



OUR NUMBERS



SINCE
2000



COUNTRIES
+16



CLIENTS
+50



PROJECTS
+450

COASTAL PROTECTIONS



NAJI BEACH - 2

14

Client NAJI BEACH Resort

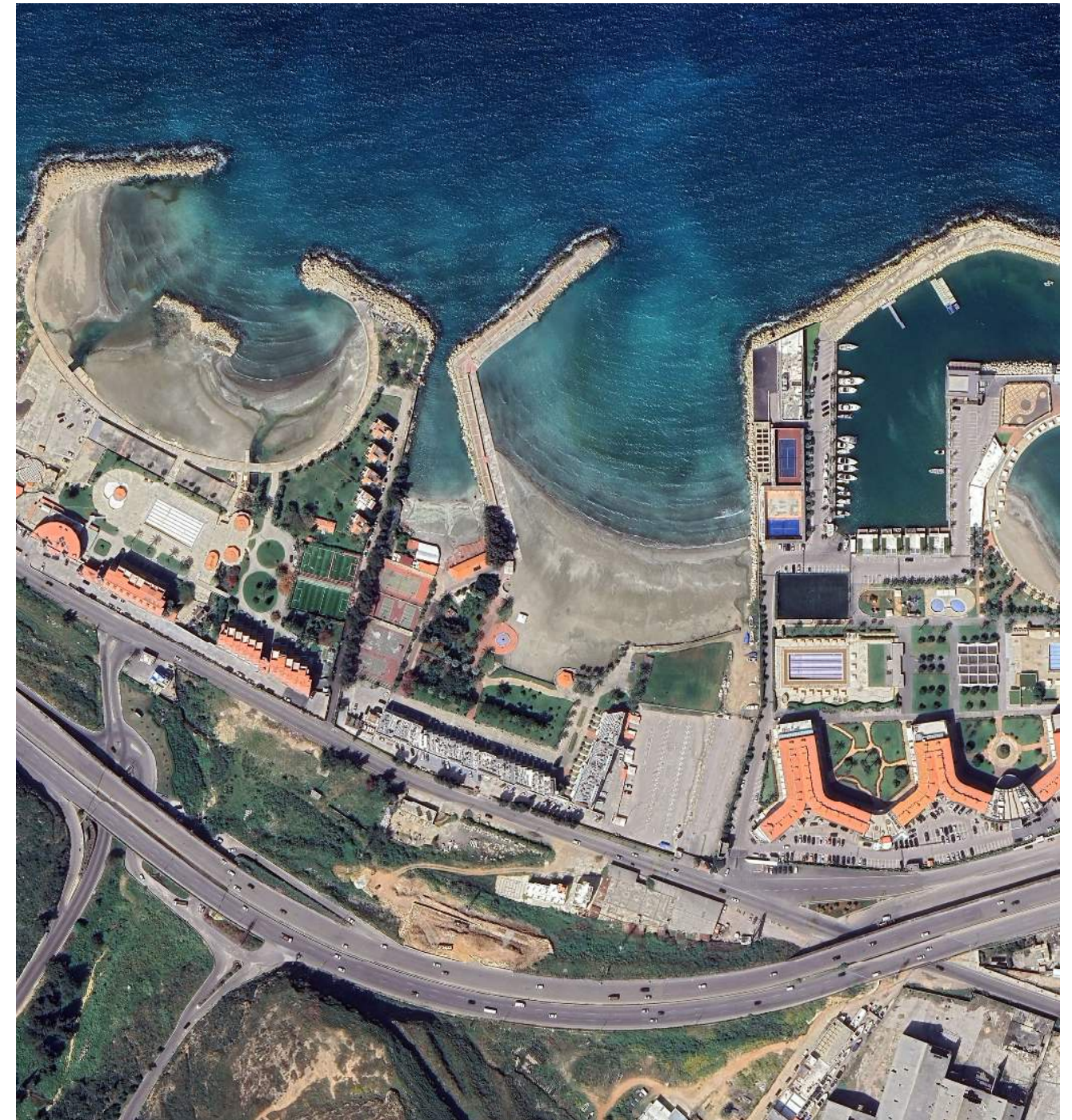
Location LEBANON - Tripoli
34°24'35" N
35°49'04" E

Consultant SEATEC sarl

Naji Beach Resort - 2

Year 2025
Surveying / Permitting

- Topographic survey
- Decree Drawing for Maritime Domain Occupancy / Permitting



Coastal Protections / Revetments / Surveying / Permitting

COASTAL PROTECTION PLOT 3730

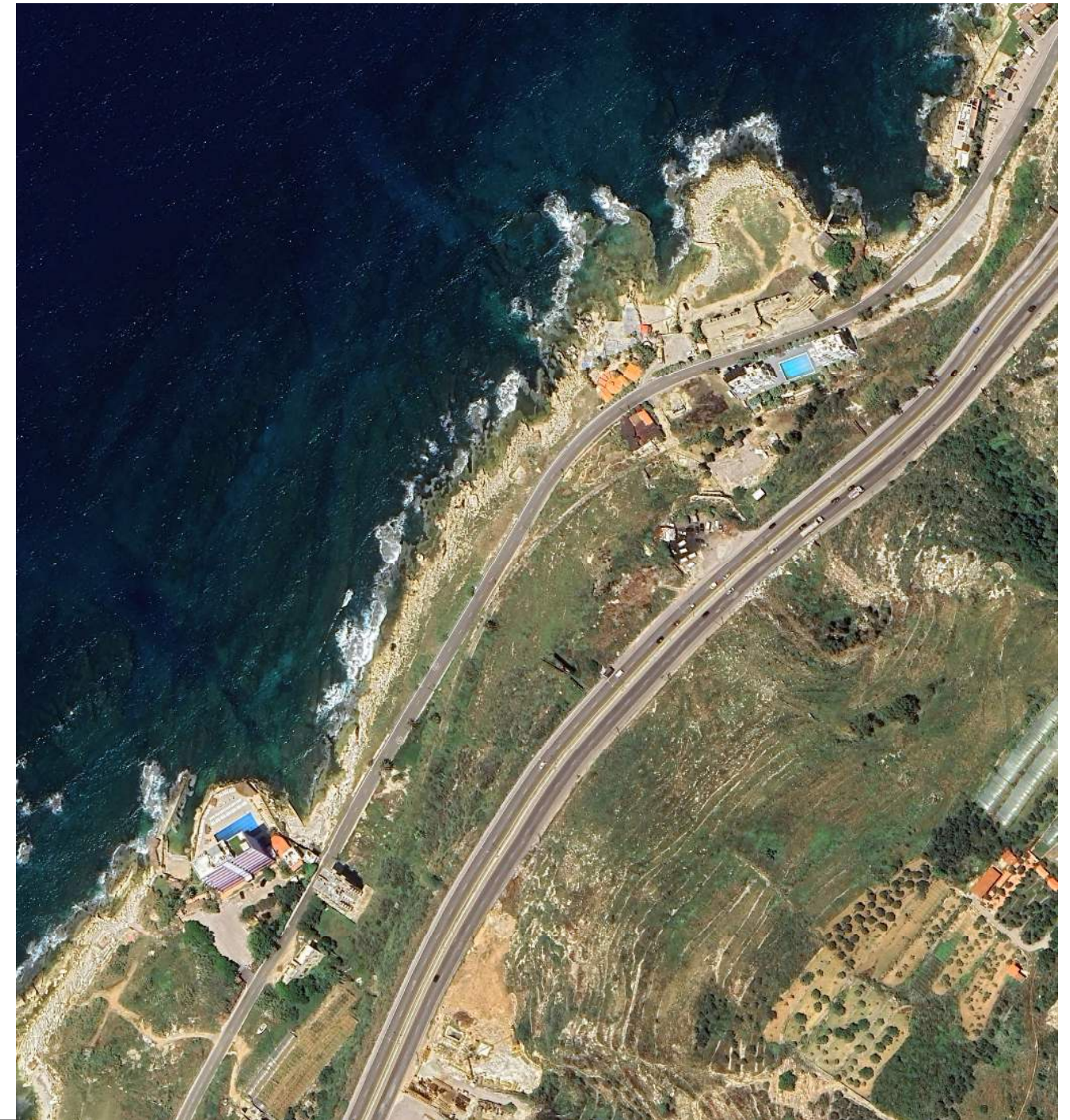
15

Client Owner Plot 3730
Location LEBANON - Amchit
34°10'01" N
35°38'36" E
Consultant SEATEC sarl

Coastal protection Plot 3730

Year 2025
Design / Surveying

- Assessment of waves runup and water discharges
- Topographic survey (10,500m²)
- Bathymetric survey (150,400m²)
- Drawings



Coastal Protections / Seawalls / Surveying

TERMINAL 829

16

Client Owners Plot 829
Location LEBANON – Zouk Bhannine
34°30'40" N
35°57'14" E
Consultant SEATEC sarl

Terminal 829

Year 2025
Design / Surveying / Permitting

- Master Plan
- Offshore pipelines (L=750m) for fuel/oil products
- Tanks for fuel/oil/gas storage
- Buildings / workshop / lab buildings in the private plot
- Offshore berth (CBM) for tankers
- Reclaimed land with rocky protection (L=220m)
- Underground passage
- Bathymetric survey (510,000m2)
- Decree for the Public maritime domain occupancy (Pipelines, tanker berth, platform...)
- Drawings / BoQ / Permitting

Ports / Oil & Gas Terminals / Sealines / Offshore Pipelines / Mooring Structures / CBM / **Coastal Protections** / **Revetments** / Surveying / Permitting



COASTAL PROTECTION PLOT 128

17

Client Owner Plot 128
Location LEBANON - Beddawi
34°27'22" N
35°51'34" E
Consultant SEATEC sarl

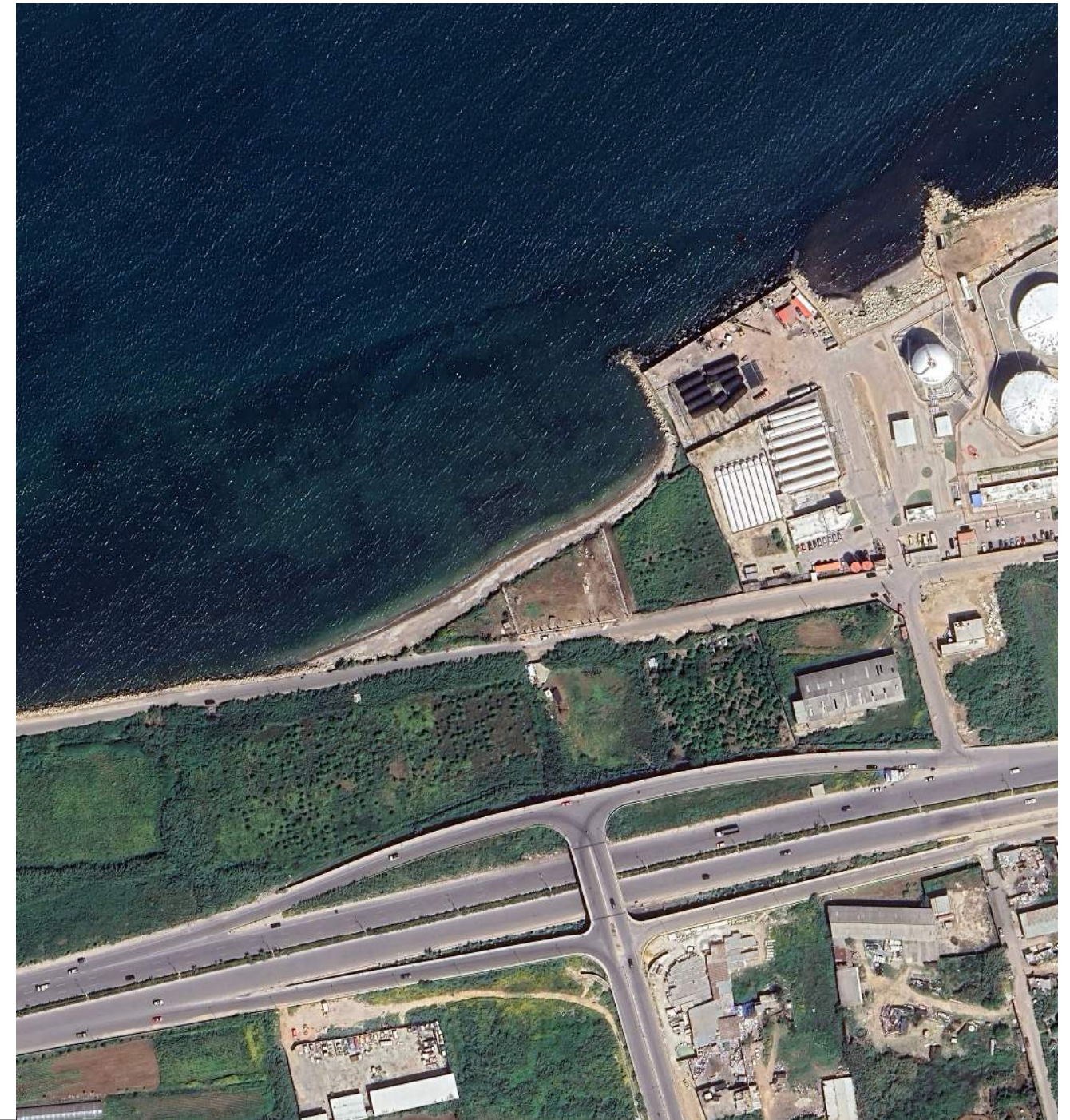
Coastal protection Plot 128

Year 2023
Design / Permitting

- Rocky coastal protection (L~53m)
- Reclamation of the Plot eroded area
- Technical Specifications / Drawings / BoQ / Permitting

Year 2024
EA (SEATEC JV SES)

- Environmental Audit study



Coastal Protections / Revetments / Enviro Studies / Permitting

COASTAL PROTECTION PLOT 223

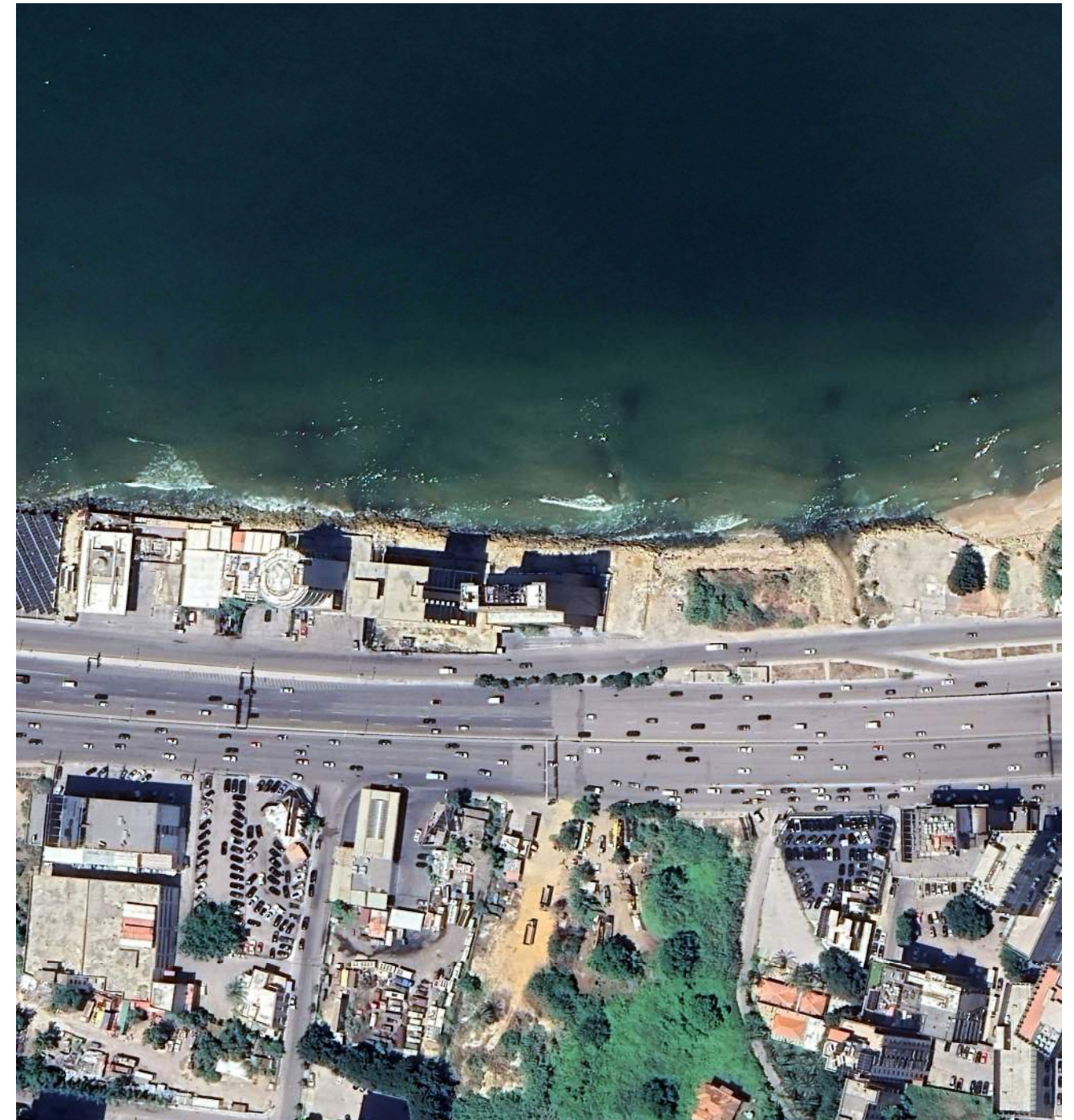
18

Client Owners Plot 223
Location LEBANON - Antelias
33°54'55" N
35°34'55" E
Consultant SEATEC sarl

Coastal protection Plot 223

Year 2023 – 2024
Design / Surveying / Permitting

- Settlement of Public Maritime Domain Occupancy: Drawings and settlement file submitted to the MPWT / DGLMT according to Law N64 dated 25/10/2017
- Rocky coastal protection (L~41m)
- Technical Specifications / Drawings / BoQ / Permitting



Coastal Protections / Revetments / Surveying / Permitting

ABATTA VILLAGE WATERFRONT

19

Client Arabian Construction Company (ACC)

Location IVORY COAST – Abidjan
5°20'00" N
3°54'13" E

Consultant SEATEC sarl

Abatta village waterfront

Year 2023
Design

- Protection of the existing lagoon waterfront (L~270m): Gabion boxes
- Walkway (4,00m width)
- T shape Floating pontoon for small boats (L~40m)
- Piled platform (25x12)m
- Technical Specifications / Drawings / BoQ



Coastal Protections / Revetments / Dredging

SARAYA AQABA BEACH NOURISHMENT

20

Client Consolidated Contractors Company (CCC)

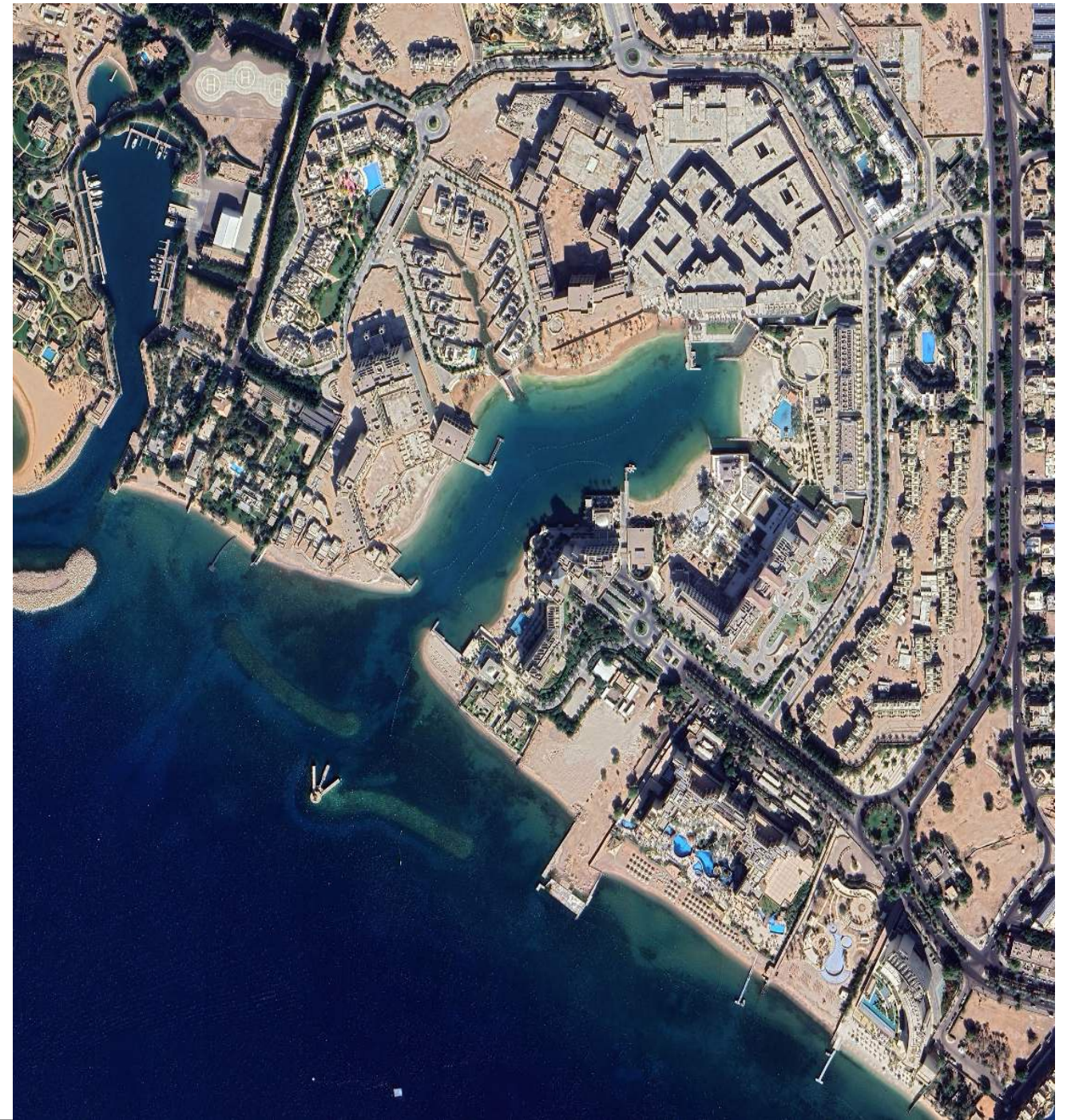
Location JORDAN – Aqaba
29°32'6" N
34°59'26" E

Consultant SEATEC sarl

Saraya Aqaba beach nourishment

Year 2022 – 2023
Design review

- Review of recent surveying data of all beaches
- Determining the extent of required sand nourishment of above-mentioned beaches
- Design of beach management structures (Rocky / geotubes groynes)
- Drawings / BoQ / Reporting



Waterfronts / **Coastal Protections** / **Revetments** / Beaches

COASTAL PROTECTION PLOT 2699

21

Client Owner Plot 2699
Location LEBANON - Chekka
34°19'47" N
35°43'28" E
Consultant SEATEC sarl

Coastal protection Plot 2699

Year 2022
Design / Surveying / Permitting

- Rehabilitation of the existing heavily damaged marine infrastructure
- Sloped protection (Rubble mound type, L=167m @max - 6.00m, core material, rocky filter and rocky armor layer)
- RC seawalls and platforms
- Topographic survey (6,800m²)
- Bathymetric survey (52,00m²)
- Drawings / BoQ / Permitting



Coastal Protections / Revetments / Surveying / Permitting

FTZ / JETTY AT AKWA IBOM (1/2)

22

Client CONE ltd
NDM Consultancy

Location NIGERIA - Akwa Ibom
4°30'14" N
7°35'11" E

Consultant SEATEC sarl

FTZ / Jetty at Akwa Ibom

Year 2021
Conceptual Design

The Free Trade Zone (FTZ) is situated in the south-western part of Akwa Ibom State and extends across Ikot Abasi, Eastern Obolo, Mkpai Enin, Ibeno, Onna and Oruk Anam Local Government Areas, covering an area of 500Km².

The site will be developed into a world class Mega Industrial City, with a Free Trade Zone which will consist of a multipurpose jetty for shipment of general goods, Agri bulk cargoes, ferry services, ro-ro services, oil and gas logistics and coastal supply of petroleum products.

Ports / **Coastal Protections** / **Revetments** / Mooring structures / Dolphins / Dredging / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Container Terminals / Service Ports



FTZ / Jetty at Akwa Ibom

Conceptual Design

1. Assessment of existing studies and design report

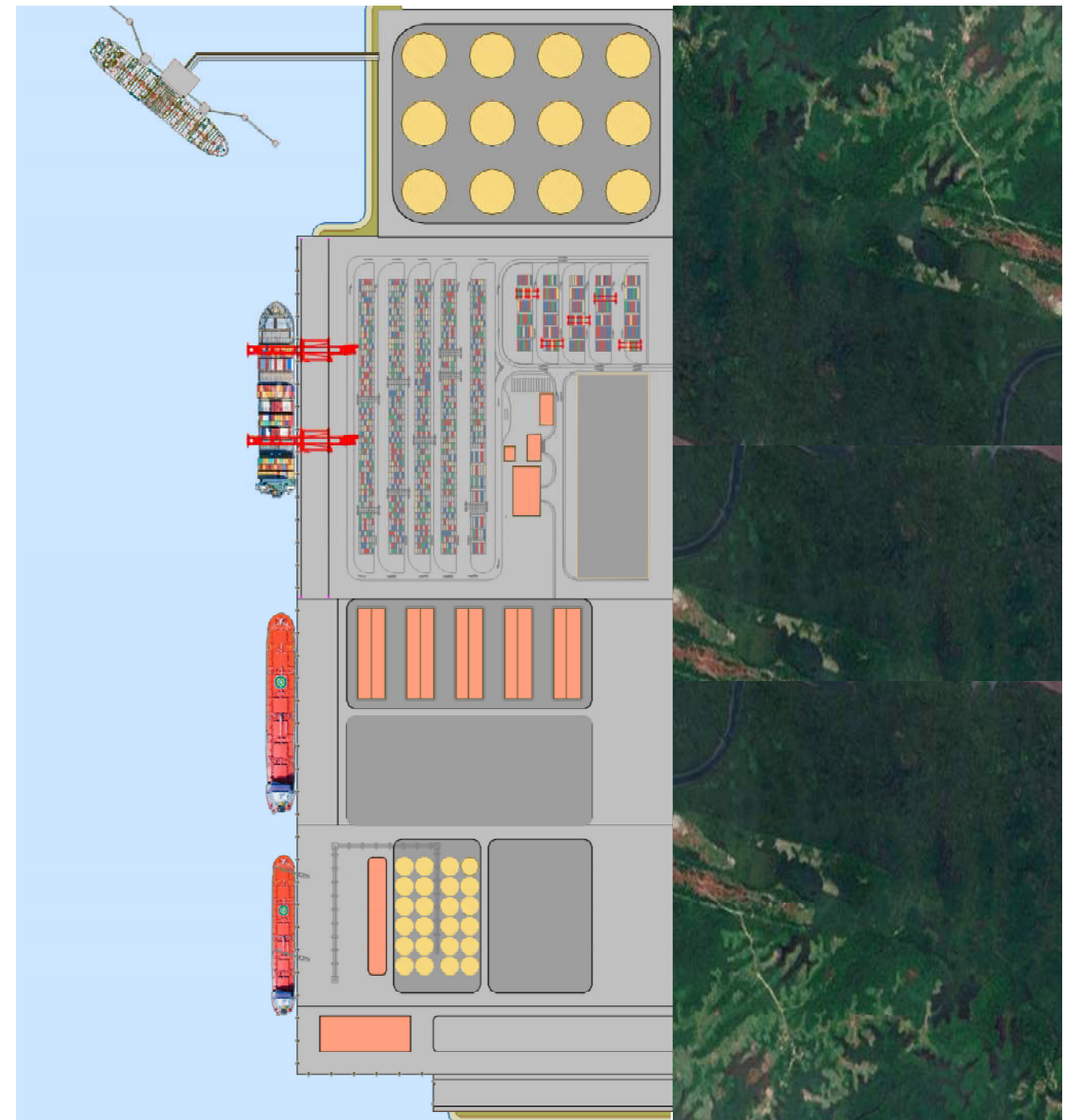
1. New conceptual layout / master plan of the FTZ:

- Petroleum and Energy District
- Industrial District
- Commercial District
- Central Business District
- Residential District
- Recreational and Eco-tourism District
- Agro-allied District

3. FTZ multipurpose jetty:

- Oil and Gas Terminal (81,000m² tank farm / Unloading Fuel Jetty L~250m @ -12.00m)
- Container Terminal (166,000m² / Quaywall L~400m @ -12.00m)
- General Cargo Terminal (103,000m² / Quaywall L~250m @ -12.00m)
- Agri-bulk Terminal (83,000m² / Quaywall L~200m @ -12.00m)
- Ferry Terminal (42,000m² / Quaywall L~75m @ -8.00m)

Ports / **Coastal Protections** / **Revetments** / Mooring structures / Dolphins / Dredging / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Container Terminals / Service Ports



HARWEEB SEA BORDER SULTANATE OF OMAN

24

Client Sarooj Construction Company
Location SULTANATE OF OMAN - Harweeb
16°39'00" N
53°36'02" E
Consultant SEATEC sarl

Harweeb Sea border (Sultanate of Oman)

Year 2021
Design

- Main breakwater serving as a delimitation line between the Sultanate of Oman and Yemen (L=25m, Rubble mound breakwater type, core material, rocky filter and rocky armor layer)
- ATON
- Drawings / BoQ



Coastal Protections / Revetments

SAIDA PORT FISH MARKET PROTECTION

25

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

UNDP Lebanon (United Nation Development Program)

Location LEBANON – Saida
33°33'49" N
35°21'59" E

Consultant SEATEC sarl

Saida Port Fish Market Protection

Year 2020
Design / Surveying

- Coastal protection for the future fish market against waves attack
- RC curved seawall (L=208m)
- Reclaimed platform (4,800m²)
- Excavation for seawall foundation
- Topographic survey (15,800m²)
- Bathymetric survey (42,500m²)
- Tender Documents / Drawings / BoQ

Ports / Fishing Ports / **Coastal Protections** / **Seawalls** / Surveying



MARASSI MARINA

26

Client HOMAN GROUP (Contractor)
EMARR (Owner)

Location EGYPT – Marsa Matruh / Sidi Abed Rahman
30°58'01" N
28°46'04" E

Consultant SEATEC sarl

Marassi Marina

Year 2020 – 2021
Design review / Contractor technical assistance

- Marina Master Plan review
- Main Breakwater (Rubble mound type, core material, rocky filter and precast concrete Core-loc blocks)
- Secondary Breakwater (Rubble mound type, core material, rocky filter and precast concrete Core-loc blocks)
- Concrete crown walls
- Quaywalls / Underwater concrete blocks (Gravity QW) and sheetpiles QW
- Reclaimed platforms
- Dredging of basins and access channel
- Accessories (Bollards, fenders...)
- Specifications / Drawings / BoQ

Ports / Marinas / **Coastal Protections** / **Revetments** / Dredging



ARCADA MARINA RESORT

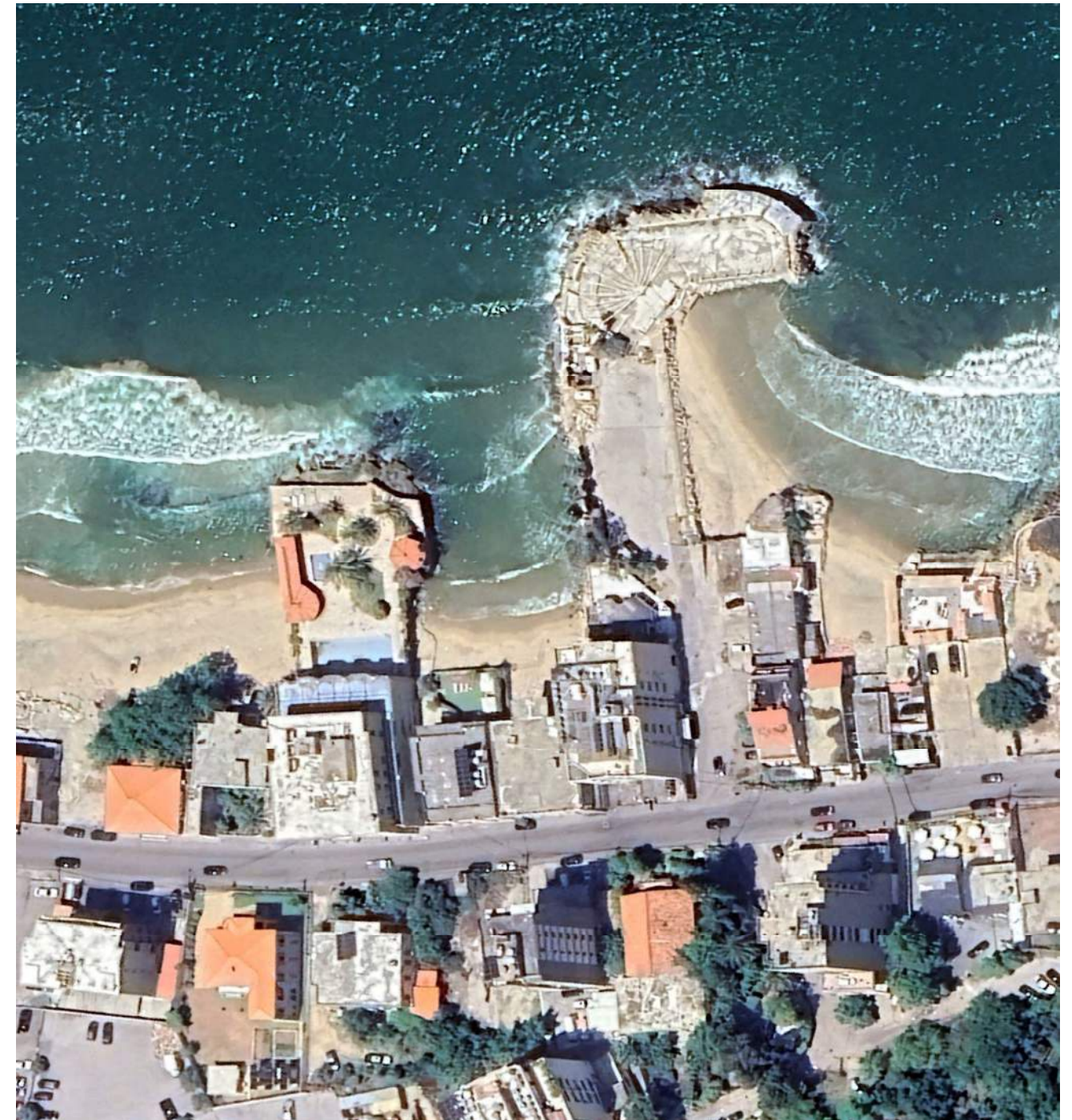
27

Client Arcada Marina sal
Location LEBANON - Jounieh
33°59'22" N
35°38'14" E
Consultant SEATEC sarl

Arcada Marina resort

Year 2020
Surveying / Permitting

- Settlement of Public Maritime Domain Occupancy: Drawings and settlement file submitted to the MPWT / DGLMT according to Law N64 dated 25/10/2017 (Permitting)
- Permit (Decree) for reclaimed land occupancy
- Topographic survey (620m2)
- Drawings / Permitting



Coastal Protections / Revetments / Surveying / Permitting

PLOT 2138 LAND RECLAMATION

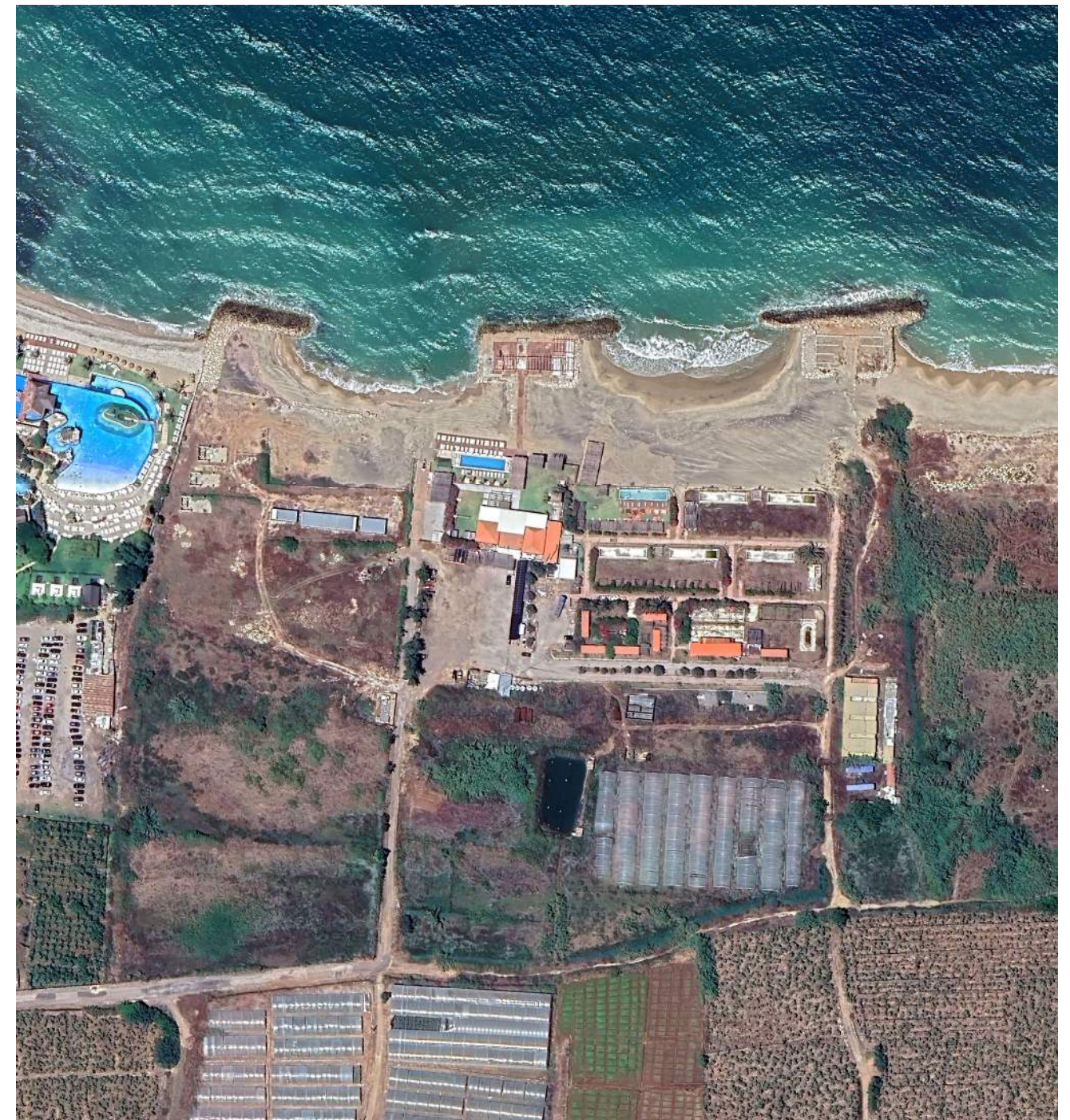
28

Client Owner Plot 2138
Location LEBANON - Damour
33°43'51" N
35°26'45" E
Consultant SEATEC sarl

Plot 2138 land reclamation

Year 2020
Surveying / Permitting

- Topographic survey for the reclaimed area and the maritime boundary
- Drawing / Permitting



Coastal Protections / Revetments / Surveying / Permitting

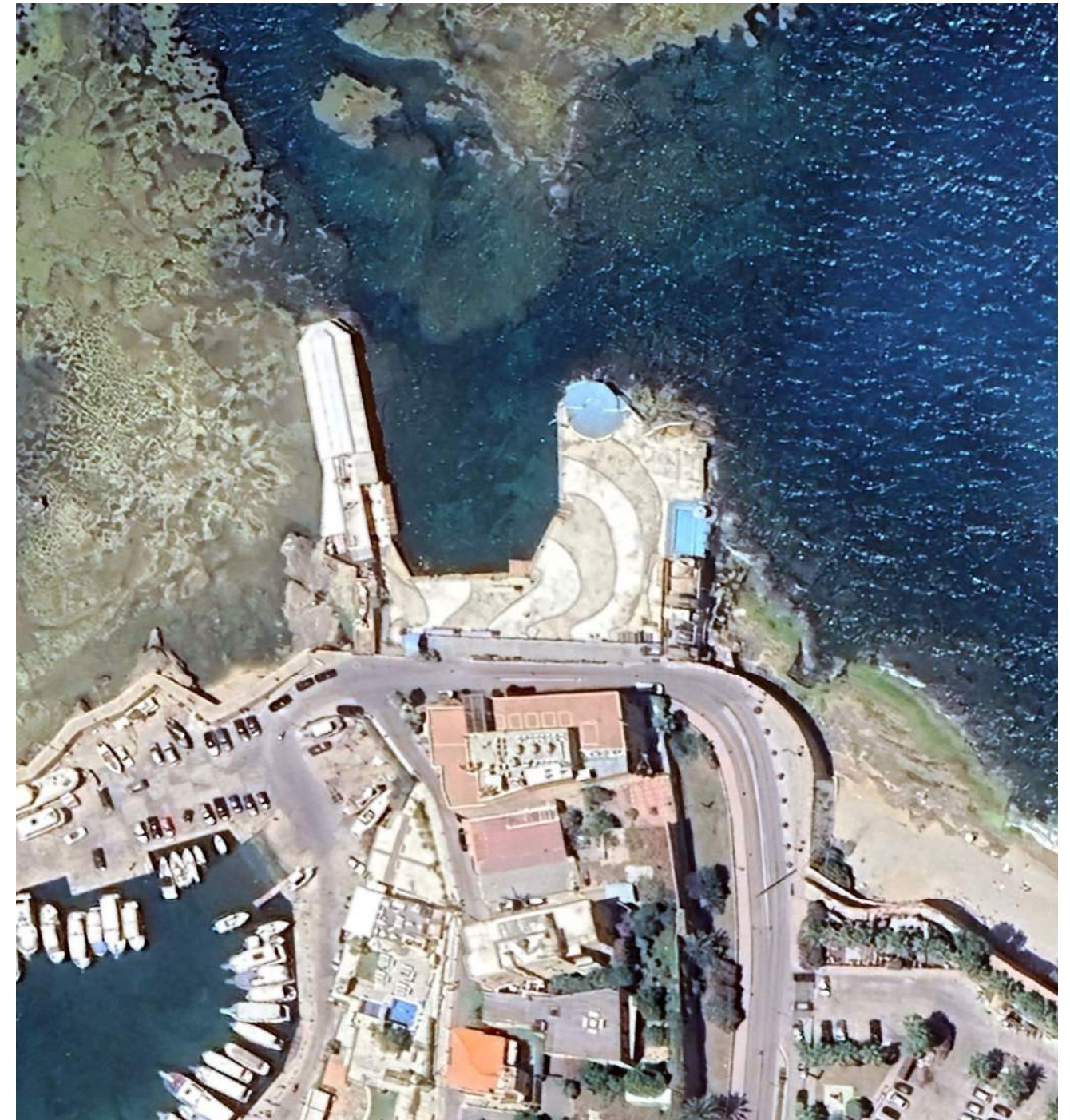
Client Byblos Sur Mer
Location LEBANON - Byblos
34°07'21" N
35°38'32" E
Consultant SEATEC sarl

Byblos Sur Mer

Year 2020
Surveying / Permitting

- Settlement of Public Maritime Domain Occupancy: Drawings and settlement file submitted to the MPWT / DGLMT according to Law N64 dated 25/10/2017 (Permitting)
- Permit (Decree) for the reclaimed land occupancy
- Topographic survey (2,900m²)
- Drawings / Permitting

Coastal Protections / Seawalls / Surveying / Permitting



MARASSI NORTH BEACH

30

Client HOMAN GROUP (Contractor)
EMARR (Owner)

Location EGYPT – Marsa Matruh / Sidi Abed Rahman
30°59'03" N
28°44'55" E

Consultant SEATEC sarl

Marassi North Beach

Year 2020 – 2021
Design / Contractor technical assistance during execution

- Sandy beach artificial nourishment and protection works along ~ 1600m of shoreline
- Groynes N1/2 (Rubble mound type, core material, rocky filter and armor layers)
- Groyne N3 (Rubble mound type, core material, rocky filter and Core-loc precast concrete blocks armour layers)
- Submerged / detached geotubes for the protection of the newly artificial sandy nourished beach
- Dredging works
- Assessment of swimming safety and beach downtime period
- Specifications / Drawings / BoQ

Coastal Protections / Revetments / Beaches / Permitting



DBAYEH WATERFRONT – PHASE 2 (1/2)

31

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Roads and Buildings

Location LEBANON – Dbayeh
33°57'10" N
35°35'32" E

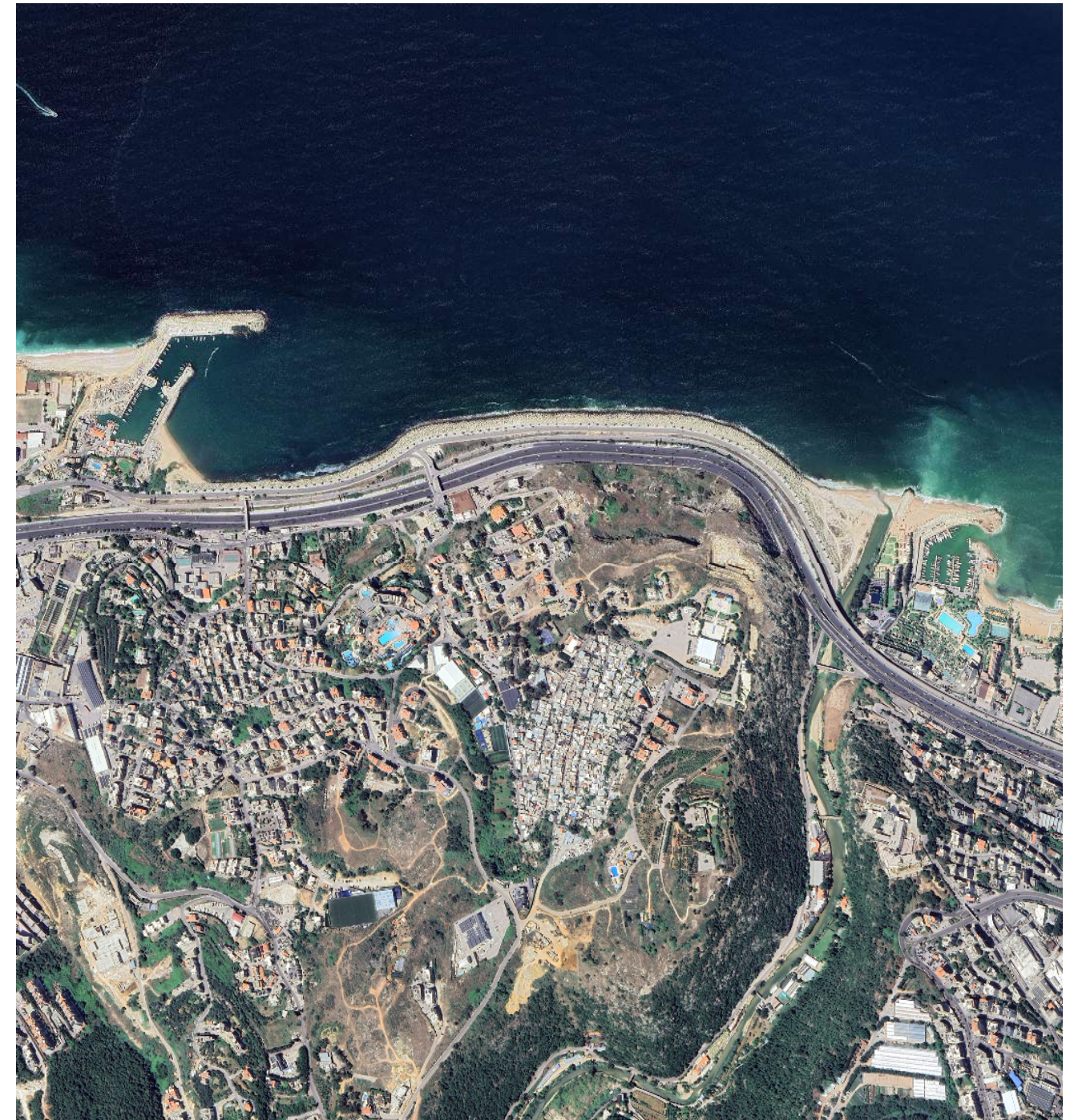
Consultant SEATEC sarl

Dbayeh waterfront – Phase 2

Year 2019
Design / Surveying

- New walkway along the existing waterfront / inner side (L~1,360m)
- Bicycle lanes
- Bicycle park
- Cars and bus parking
- Public spaces / gardens
- RC bleachers with sea view
- RC wall (delimitation of the highway)
- Infrastructure (Electrical supply, pipes, manholes, lighting poles, CCTV)
- Infrastructure (Water supply, manholes)
- Landscaping (Plantation, benches, waste containers...)

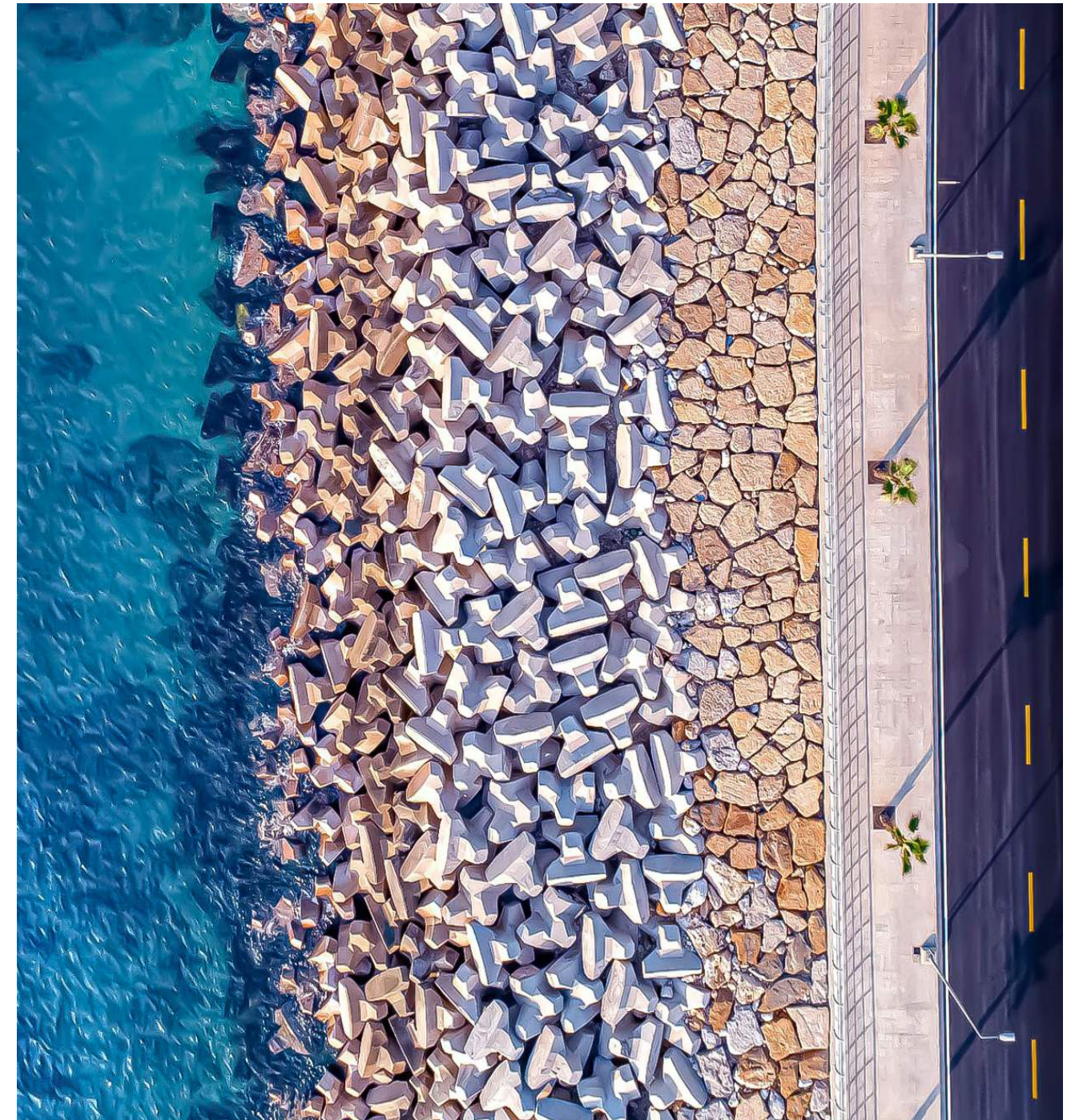
Waterfronts / **Coastal Protections** / **Revelments** / Beaches / Surveying



Dbayeh waterfront – Phase 2

Year 2019

- Kiosks, WC, electrical, control and ticketing rooms
- Bituminous coating / marking of coastal road (L~1,650m)
- Excavation works
- Rehabilitation works of the existing sandy beach (50,000m²) / leveling, sand nourishment
- Coastal rocky protection of the inner river bank (Nahr el Kalb)
- Dredging of the river bed sediments
- Topographic survey (70,000m²)
- Tender Documents / Specifications / Drawings / BoQ



Waterfronts / **Coastal Protections** / **Revelments** / Beaches / Surveying

BEL AZUR RESORT

33

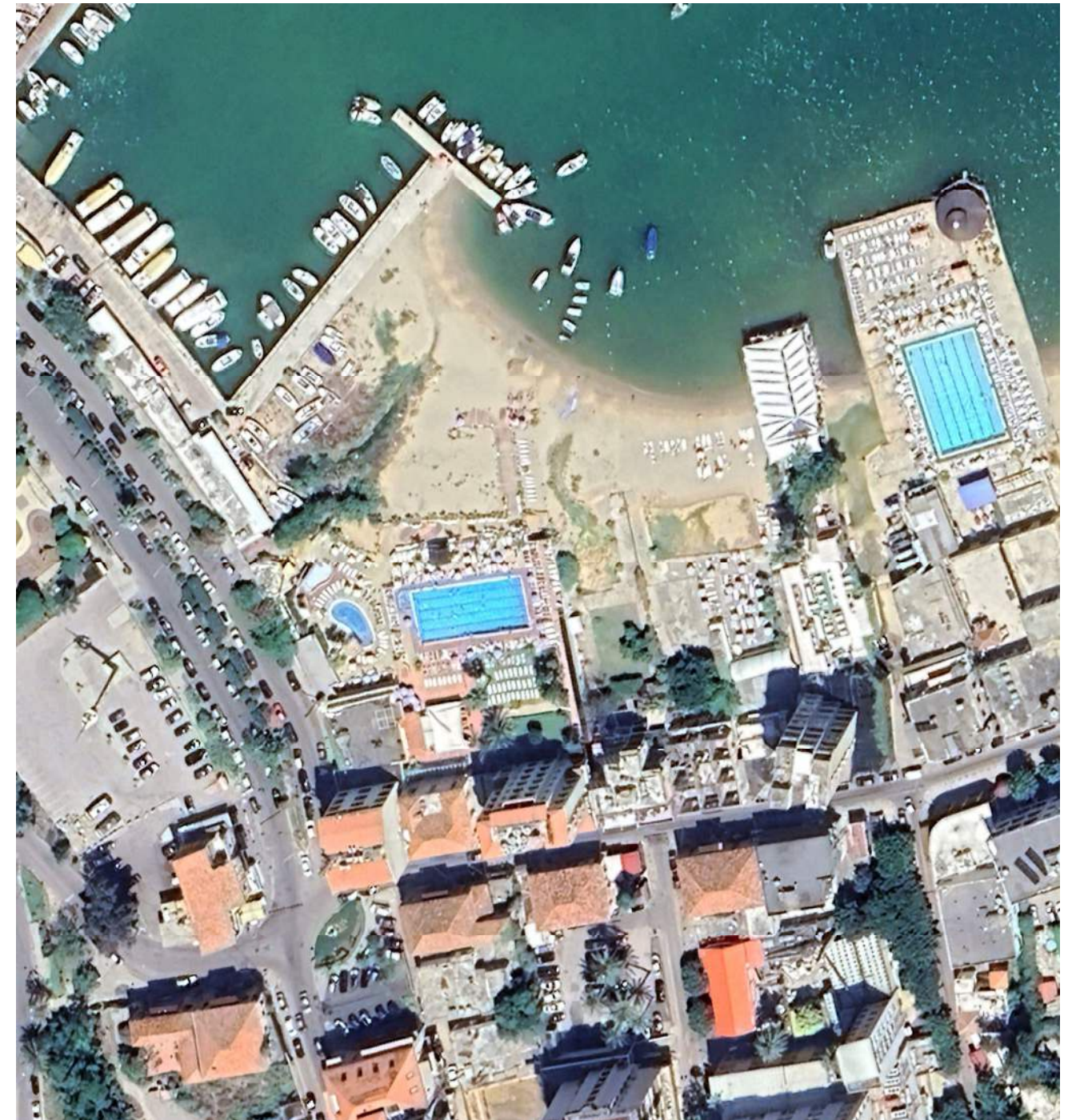
Client Bel Azur Resort
Location LEBANON - Jounieh
33°58'59" N
35°37'36" E
Consultant SEATEC sarl

Bel Azur Resort

Year 2019
Surveying / Permitting

- Settlement of Public Maritime Domain Occupancy: Drawings and settlement file submitted to the MPWT / DGLMT according to Law N64 dated 25/10/2017 (Permitting)
- Permit (Decree) for reclaimed land occupancy
- Topographic survey (2,300m²)
- Drawings / Permitting

Coastal Protections / Revetments / Surveying / Permitting



BERBARA FISHING PORT - 3

34

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Berbara
34°11'33" N
35°37'58" E

Consultant SEATEC sarl

Berbara Fishing Port - 3

Year 2019
Conceptual Design

- Demolition and removal of existing fishermen rooms
- RC platforms (860m²)
- Rehabilitation of existing RC seawall
- Rehabilitation of existing fishermen rooms and building of new ones (78m²)
- Fish market (54m²)
- Marine accessories (Mooring bollards, fenders, concrete weights, ladders)
- Infrastructure (Electrical and water supply)
- Waste water treatment plant
- AToN for port
- Drawings / Technical Specifications / BoQ

Ports / Fishing Ports / **Coastal Protections** / **Seawalls**



Client Lebanon West Coast sal

Location LEBANON - Wata salam
34°01'44" N
35°37'24" E

Consultant SEATEC sarl

Kye Marina

Year 2019 – 2020 – 2021
Design / Surveying / Permitting

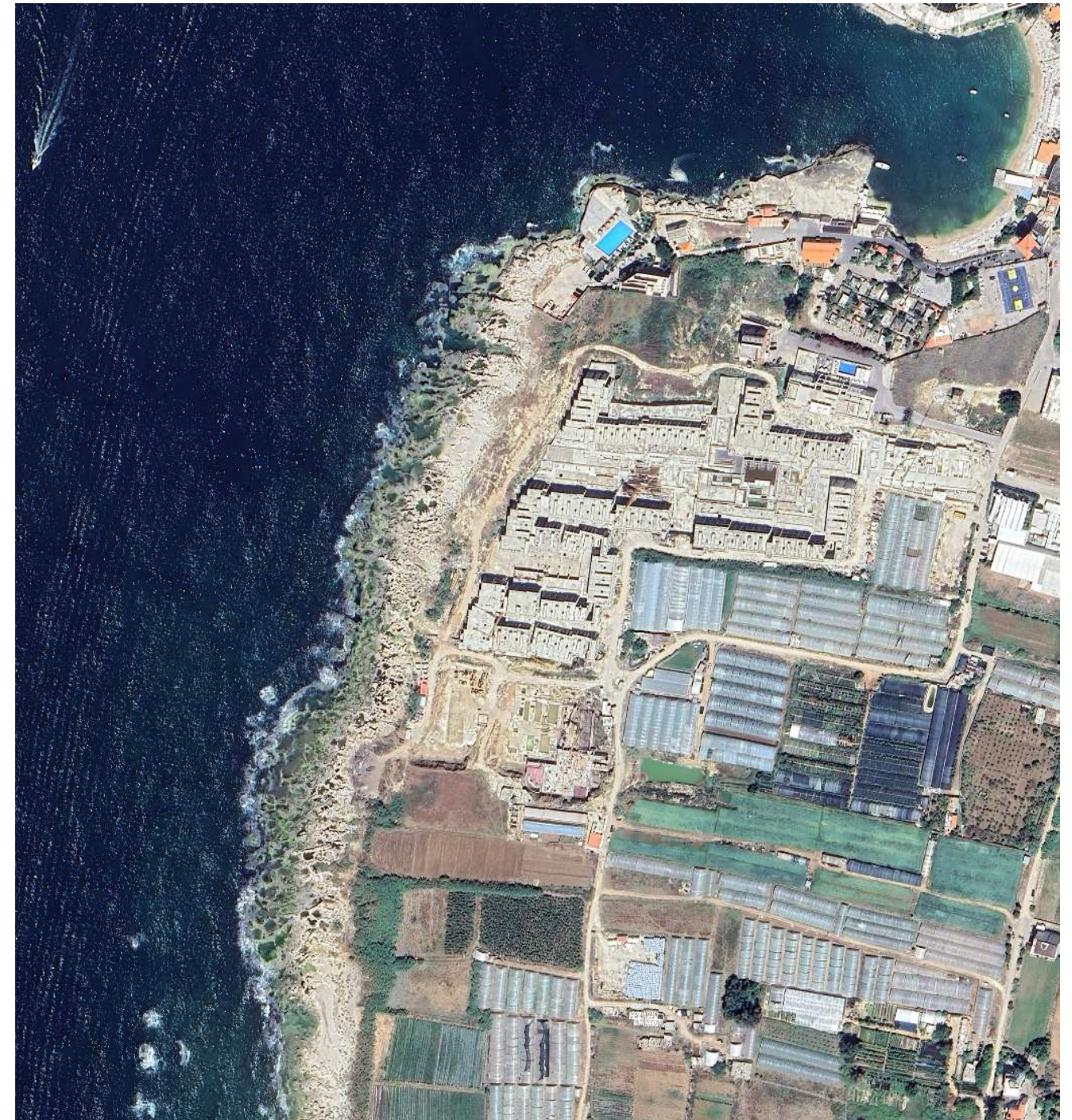
- Marina Master Plan
- Berthing capacity (200 yachts)
- Main Breakwater (L=207m @max -5.00m, vertical underwater concrete and curved seawall / Rubble mound type, L=140m @max -15.00m, core material, rocky filter and precast concrete Accropodes blocks Type II)
- Secondary Breakwater (L=78m @max -8.00m, vertical underwater concrete and curved seawall / Rubble mound type, L=172m, core material, rocky filter and precast concrete Accropodes blocks Type II)
- Dredging for breakwater toe
- RC crown walls

Ports / Surveying / Marinas / **Coastal Protections** / **Seawalls** / Beaches / Lift Structures / Slipways / Permitting



Kye Marina

- Quaywalls (L=566m) / Precast concrete blocks (Gravity QW)
- Finger Piers (L=270m, Nbr 4) / Precast concrete elements
- Asphalted and concrete platforms
- Slipway
- Accessories (Bollards, fenders, lighting, water supply, fuel station...)
- Artificial sandy beach nourishment (swimming area 7,000m²)
- Topographic survey
- Bathymetric survey (95,000m²)
- Drawings / BoQ
- Permitting / Decree drawing



Ports / Surveying / Marinas / **Coastal Protections** / **Seawalls** / Beaches / Lift Structures / Slipways / Permitting

MARSATI COASTAL PROTECTION (1/2)

37

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Batroun
34°15'35" N
35°39'24" E

Consultant SEATEC sarl

**Maritime Sciences and technology Institute (MARSATI)
coastal protection**

Year 2019
Design / Surveying

- Coastal protection for the Institute against waves attack and heavy overtopping discharges
- Sloped protection (Rubble mound type, L=248m @max - 11.00m MSL, core materials, rocky filter and 16m3 concrete Accropodes blocks Type 1)
- RC crown wall with curved face seaside
- RC seawall (L=92m)
- Underwater concrete blocks for RC crown wall foundation
- Dredging works for coastal protection rocky toe



Coastal Protections / Revetments / Seawalls

Maritime Sciences and technology Institute (MARSATI) coastal protection

- RC and metallic fence for the institute (L=175m) / electric main gate
- Topographic survey (22,200m²)
- Bathymetric survey (62,000m²)
- Tender Documents / Specifications / Drawings / BoQ



Coastal Protections / Revetments / Seawalls

EMERGENCY MARINE OUTFALL AT DAR MREISSE

39

Client LEBANESE REPUBLIC
Ministry of Interior and Municipalities
Municipality of Beirut

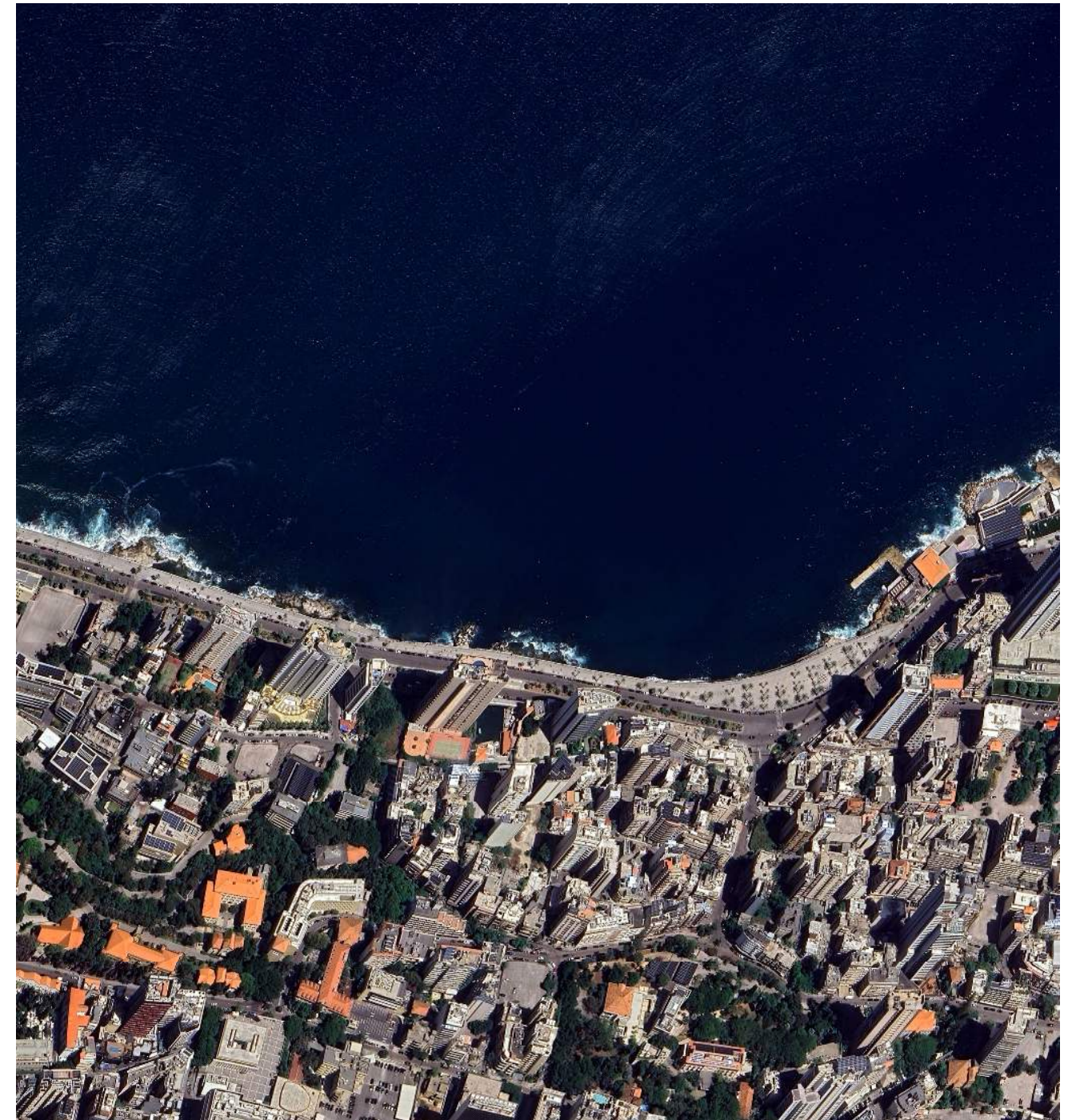
Location LEBANON – Dar Mreisse
33°54'06"N
35°29'10"E

Consultant SEATEC sarl

Emergency marine outfall at Dar Mreisse

Year 2019 - 2020
Design / Surveying

- Marine outfall (GRE 600mm, L=155m) @Max-17.00m
- Diffuser (GRE 1100mm, L=104m) @Max-33.00m
- Onshore RC connexion chamber / pumping station
- Marine protection of the outfall (dredging, underwater concrete, sloped rocky protection, precast concrete collars...)
- Hydraulic design / Piping details
- Effluent diffusion modeling
- Topographic survey along the shore
- Bathymetric survey (124,000m²)
- Tender Documents / Drawings / BoQ



Sealines / Marine Outfalls / **Coastal Protections** / Seawalls

HRAYCHE WATERFRONT

40

Client PALMA BEACH RESORT

Location LEBANON - Hrayche
34°22'51" N
35°45'52" E

Consultant SEATEC sarl

Hrayche Waterfront

Year 2019 – 2020 – 2021 – 2022
Design / Surveying / Permitting

- Waterfront and beach development
- Main vertical concrete breakwater (L=64m) @max -3.00m MSL
- Mix of sloped rocky and vertical concrete sea wall protection of the reclaimed area (L=250m)
- Reclaimed area (11,250m²)
- Swimming pools, beach bar, restaurants
- Sandy beach (L=120m of shoreline)
- Berthing capacity (4 small motor boats)
- Topographic survey (54,000m²)
- Bathymetric survey (136,000m²)
- Drawings / BoQ
- Permitting



Ports / Surveying / Marinas / **Coastal Protections** / **Revetments** / **Seawalls** /
Beaches / Permitting

MARINA 576 (1/2)

41

Client HIBA REAL ESTATE
Location LEBANON - Hrayche
33°45'16" N
35°27'14" E
Consultant SEATEC sarl

Marina 576

Year 2011 – 2012
Conceptual Design

Year 2018
Design / Surveying / Permitting

- Marina Master Plan
- Berthing capacity (210 yachts)
- Main Breakwater (Rubble mound type, L=377m @max - 7.00m, core material, rocky filter and 16m³ concrete Accropodes blocks Type I)
- RC Crown walls
- Quaywalls (L=278m @-3.00m MSL) / Underwater concrete (Gravity QW)
- Quaywalls (L=152m @-4.50m MSL) / Underwater concrete (Gravity QW)

Ports / Surveying / Marinas / **Coastal Protections** / **Seawalls** / Lift Structures / Hoist / Beaches / Permitting



Marina 576

- Quaywalls (L=163m @-6.00m MSL) / Underwater concrete (Gravity QW)
- Finger Piers (L=206m @-3.00m MSL, Nbr 2) / Precast concrete elements
- Finger Pier (L=108m @-4.50m MSL, Nbr 1) / Precast concrete elements
- Marine accessories (Mooring bollards, fenders)
- Hoist (Boats lift - 150T capacity)
- Access bridge
- Natural beach conservation / swimming area
- Land reclamation and bituminous / RC Platforms
- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, Pumps, pipes, manholes, tanks)
- Marina master, restaurants, offices, shops (2,900m²)
- Petrol station
- Reclaimed area (38,958m²)
- Water body (32,276m²)
- Topographic survey (36,400m²)
- Bathymetric survey (279,000m²)
- Specifications / Drawings / BoQ / Permitting

Ports / Surveying / Marinas / **Coastal Protections** / **Seawalls** / Lift Structures / Hoist / Beaches / Permitting



NAJI BEACH - 2

43

Client NAJI BEACH Resort

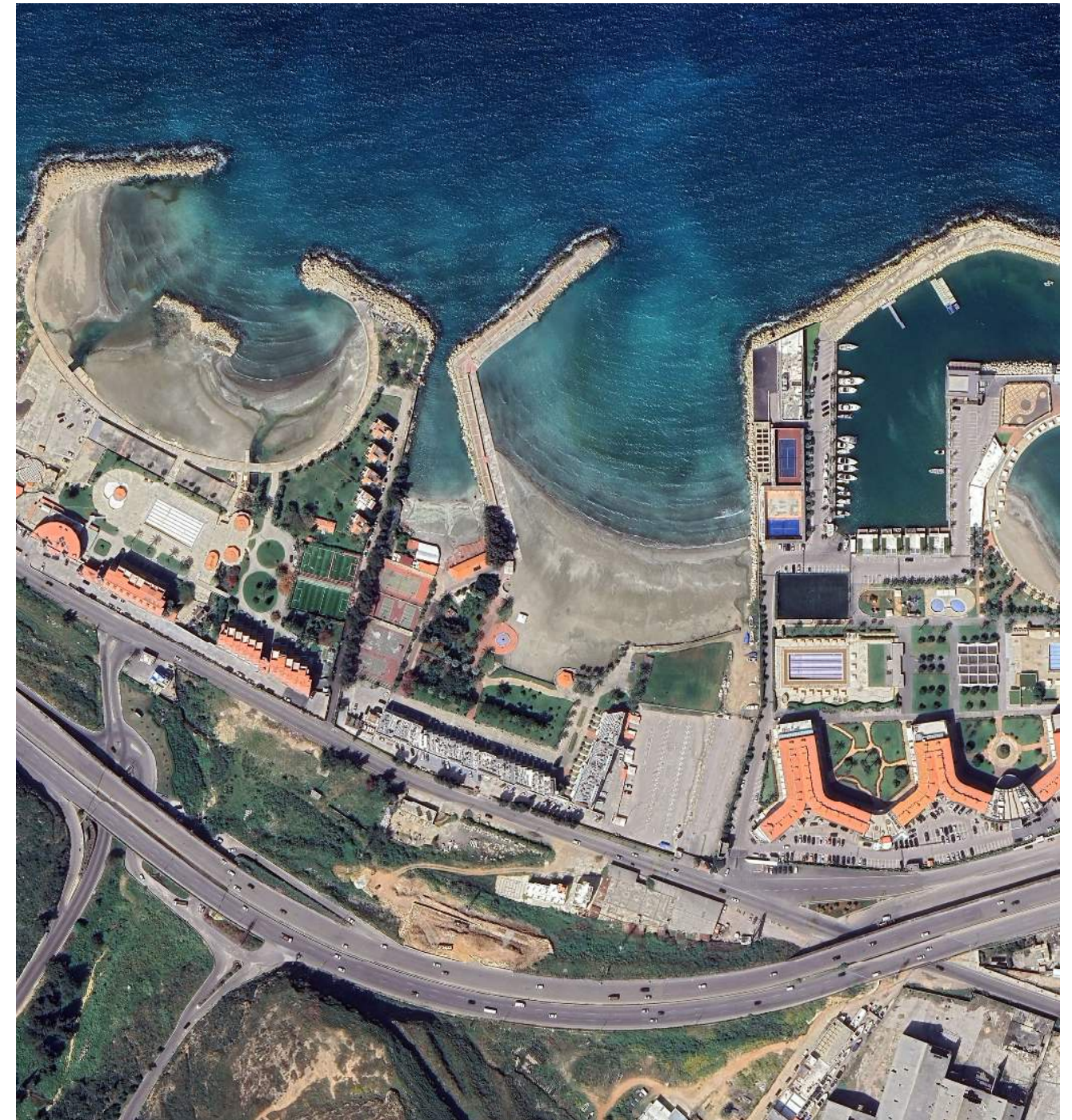
Location LEBANON - Tripoli
34°24'35" N
35°49'04" E

Consultant SEATEC sarl

Naji Beach Resort - 2

Year 2025
Surveying / Permitting

- Topographic survey
- Decree Drawing for Maritime Domain Occupancy / Permitting



Coastal Protections / Revetments / Surveying / Permitting

Client CCIAT (Chamber of Commerce Industry and Agriculture at Tripoli and North Lebanon)

Location LEBANON - North Lebanon -
Tripoli city to Klayaat airport
34°30'30"N
35°56'50"E

Consultant SEATEC sarl

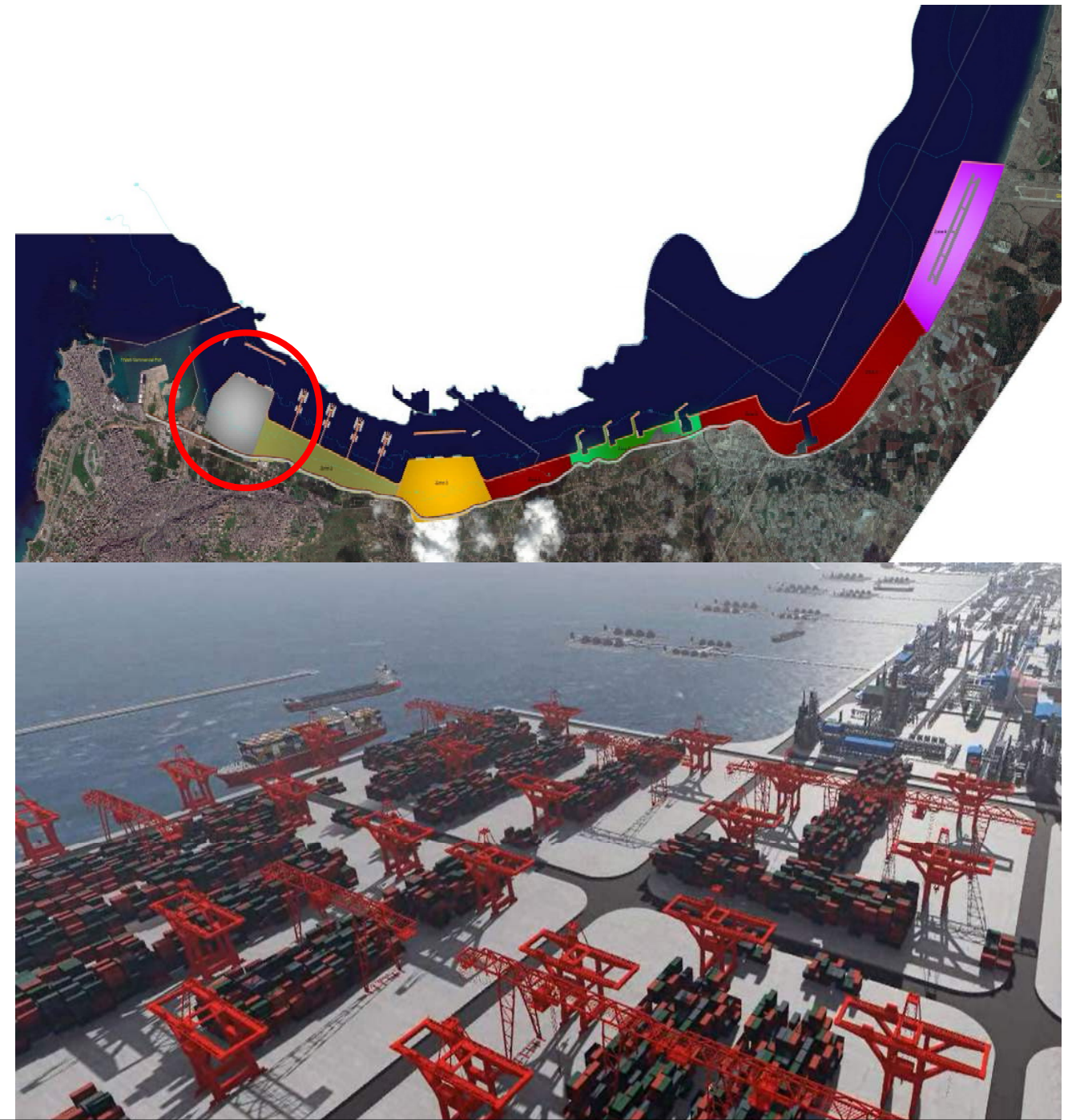
RECNOR (Reclamation at North Lebanon)
Industrial zone from the Port of Tripoli to Klayaat Airport (23km of shoreline)

Year 2018 – 2019 – 2020 – 2021
Conceptual Design / Permitting

Zone 1 (1,750,000m²)

- Zone 1A (707,000m²) New container terminal
- Detached main breakwater (Rubble mound type, L=1,000m @max -15.00m MSL, core material, rocky filter and concrete Accropodes blocks)
- Extension of the Port main breakwater (Rubble mound type, L=1,000m @max -20.00m MSL, core material, rocky filter and concrete Accropodes blocks)

Ports / Waterfronts / Permitting / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Fishing Ports / Container Terminals / Service Ports / **Coastal Protections** / **Revetments** / Mooring Structures / Dolphins



RECNO^R

- Main quaywall (L=1000m @-15.00m MSL) / sheetpiles QW

Zone 1B (326,000m²)

- Reclaimed area / extension of Tripoli Port existing container terminal

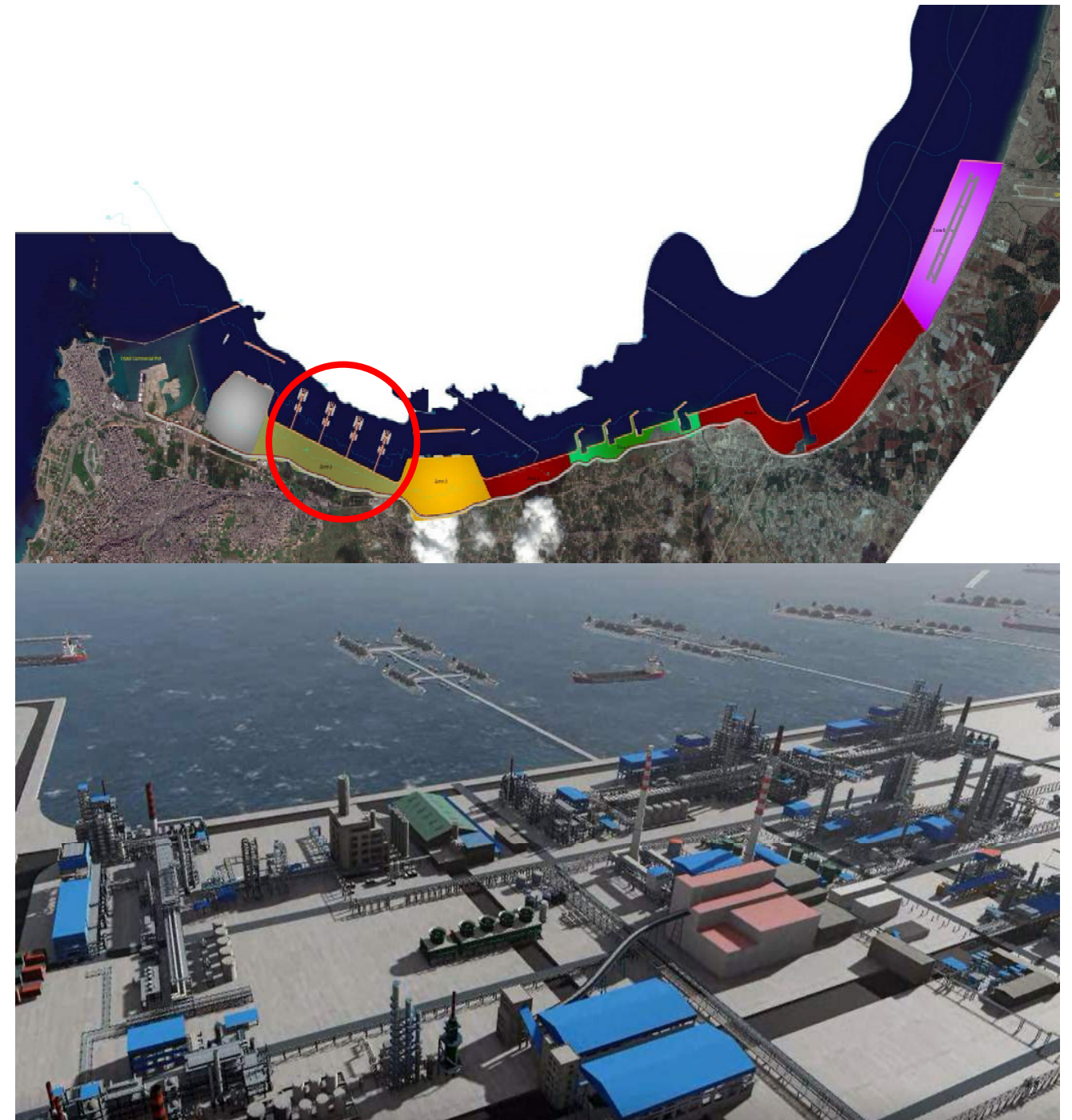
Zone 1C (716,000m²)

- Reclaimed area / new special economic zone (SEZ)

Zone 2 (1,857,000m²) Oil and gas terminal

- 4 Jetties for tankers berthing (Metallic structure on piles, L=870m)
- Berths (L=140m @-12.00m MSL, Nbr 8) / Breasting and Mooring dolphins
- Berths (L=225m @-18.00m MSL, Nbr 8) / Breasting and Mooring dolphins
- Reclaimed platforms for oil, gas and petrochemical industry, refineries, fuel storage tanks...
- Berthing capacity (16 tankers)

Ports / Waterfronts / Permitting / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Fishing Ports / Container Terminals / Service Ports / **Coastal Protections** / **Revetments** / Mooring Structures / Dolphins



RECNR

Zone 3 (2,147,000m²) General cargo terminal and industrial zone

- Detached main breakwater (Rubble mound type, L=1,200m @max -15.00m MSL, core material, rocky filter and concrete Accropodes blocks)
- Main quaywall (L=1500m @-10.00m MSL) / Precast concrete blocks (Gravity QW)
- Terminal platforms for import of raw materials necessary for industries
- Industrial zone for miscellaneous industrial plants and storage

Zone 4 (936,000m²) Miscellaneous industries / platforms

- Reclaimed platforms
- Coastal protection
- Industrial zone for miscellaneous industrial plants and storage

Zone 5 (990,000m²) Special industries with berths

- Reclaimed platforms
- Special industries (clinker, coal...) with related berths

Ports / Waterfronts / Permitting / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Fishing Ports / Container Terminals / Service Ports / **Coastal Protections / Revetments** / Mooring Structures / Dolphins



RECNO^R

Zone 6 (938,000m²) Oil and gas offshore platforms services

- Reclaimed platforms for service of offshore oil and gas platforms
- Storage of equipments, related maintenance and industry facilities
- Port for tug and service boats

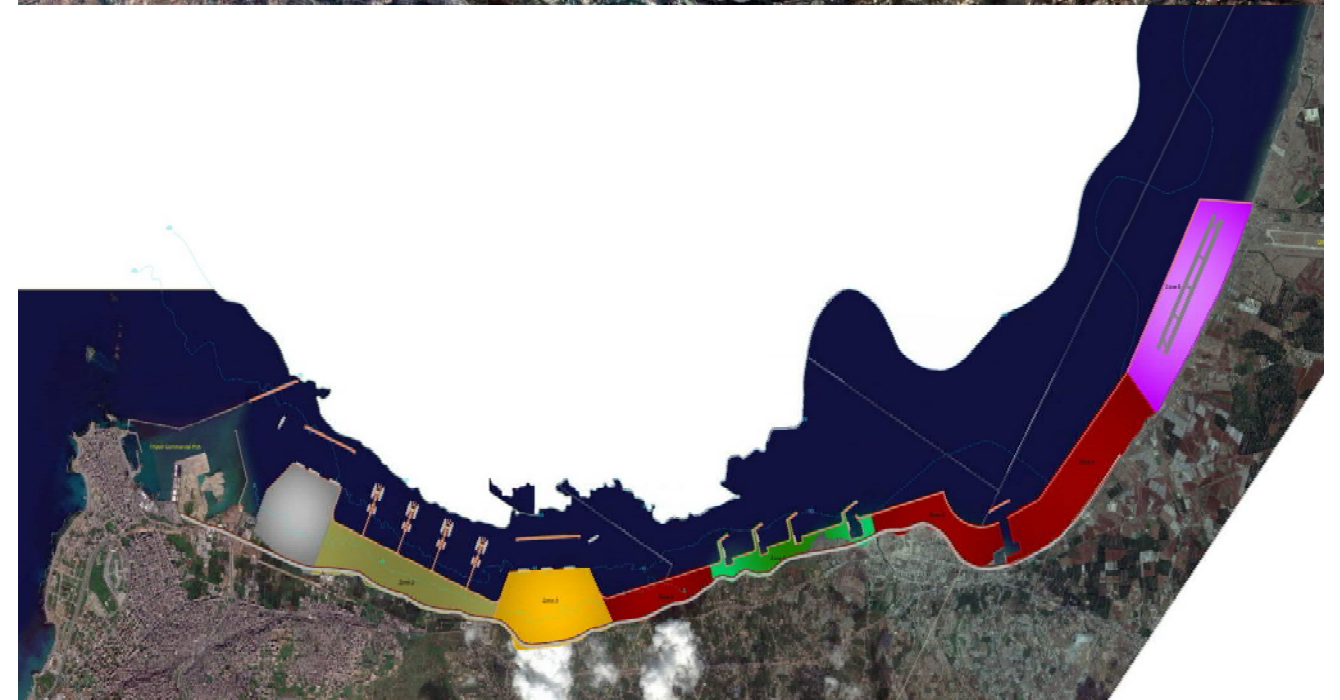
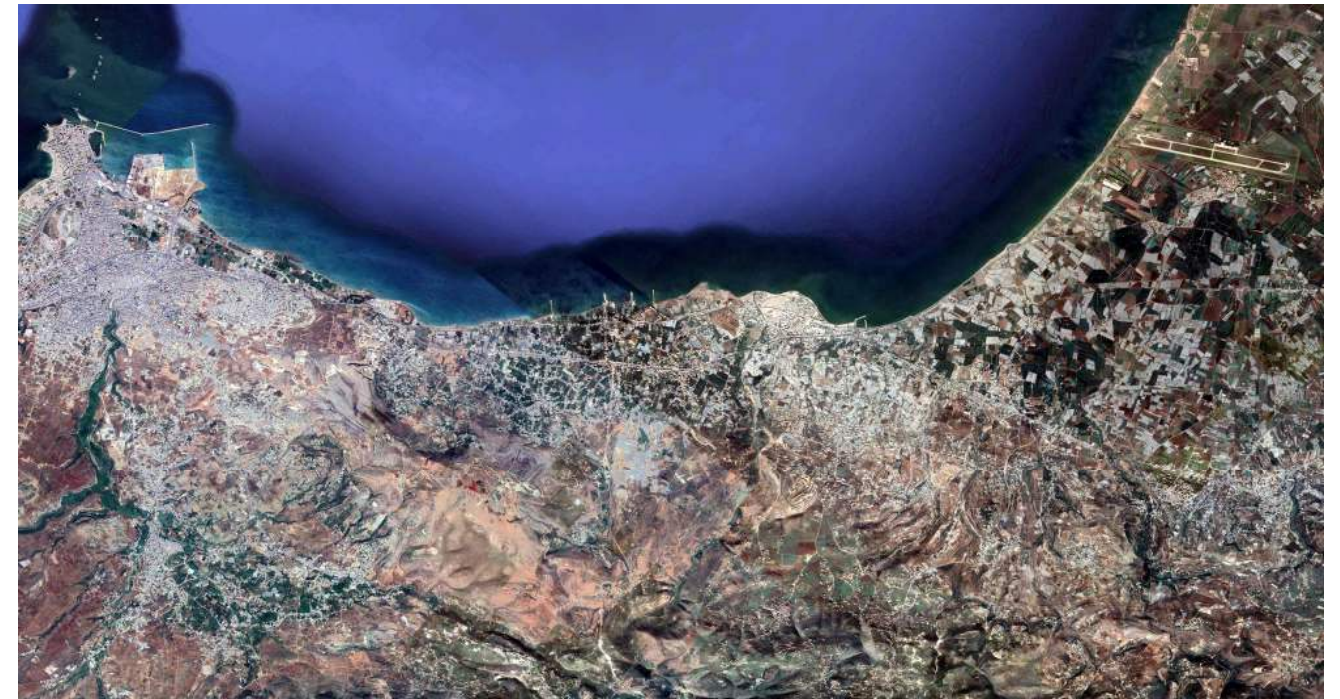
Zone 7 (3,054,000m²) Miscellaneous industries and fishing

- Reclaimed platforms
- Miscellaneous industries
- Fishing industries
- Extension of Abdeh Fishing Port

Zone 8 (4,178,000m²) Airport extension / services

- Extension of existing Klayaat Airport
- New runway
- Auxiliary services in neighboring platforms (hospitals, hotels...)
- Total reclaimed areas (16,096,000m²)
- Drawings / Presentation / Permitting

Ports / Waterfronts / Permitting / General Cargo Terminals / Industrial Ports / Oil & Gas Terminals / Fishing Ports / Container Terminals / Service Ports / **Coastal Protections** / **Revetments** / Mooring Structures / Dolphins



SAIDA WATERFRONT (1/2)

48

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Saida
33°34'32" N
35°22'50" E

Consultant SEATEC sarl

Saida waterfront

Year 2018 – 2019
Design / Surveying

- Waterfront length (2,355m) / erosion problems, flooding, dangerous currents for swimmers
- Master Plan (new waterfront)
- Artificial Beach nourishment and creation of 6 safe swimming areas
- Protection of the new sandy beach against erosion
- 2 T shapes groynes (L=304m @max -4.00m MSL / L=274m @max -4.00m MSL)
- 3 L shapes groynes (L=291m @max -3.00m MSL / L=260m @max -4.00m MSL / L=155m @max -2.50m MSL)
- 2 groynes (L=130m @max -3.50m MSL / L=60m @max -3.50m MSL)

Waterfronts / **Coastal Protections** / **Revelments** / Beaches / Surveying



Saida waterfront

Year 2018 – 2019

- One detached breakwater (L=130m @max -2.50m MSL)
- All groynes include core QR, rocky filter and armour layers and RC crown walls for pedestrian access
- Underwater concrete protection (L=97.00m @max -4.00m in the outfall location)
- RC bleacher (L=1,250m) with sitting / direct access from the walkway to the beach
- Dredging works to supply necessary sand for the artificial nourishment of the beach
- 2 Public spaces (5,400m² / 5,200m²)
- New walkway
- Bicycle lane
- Landscaping and furniture (Benches, bins...)
- Water and electrical network
- Lighting
- Lifeguards and electrical room (42m²)
- Topographic survey (189,700m²)
- Bathymetric survey (3,440,000m²)
- Tender Documents / Specifications / Drawings / BoQ



Waterfronts / **Coastal Protections** / **Revetments** / Beaches / Surveying

JOUNIEH WATERFRONT

50

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Jounieh
33°59'43" N
35°38'23" E

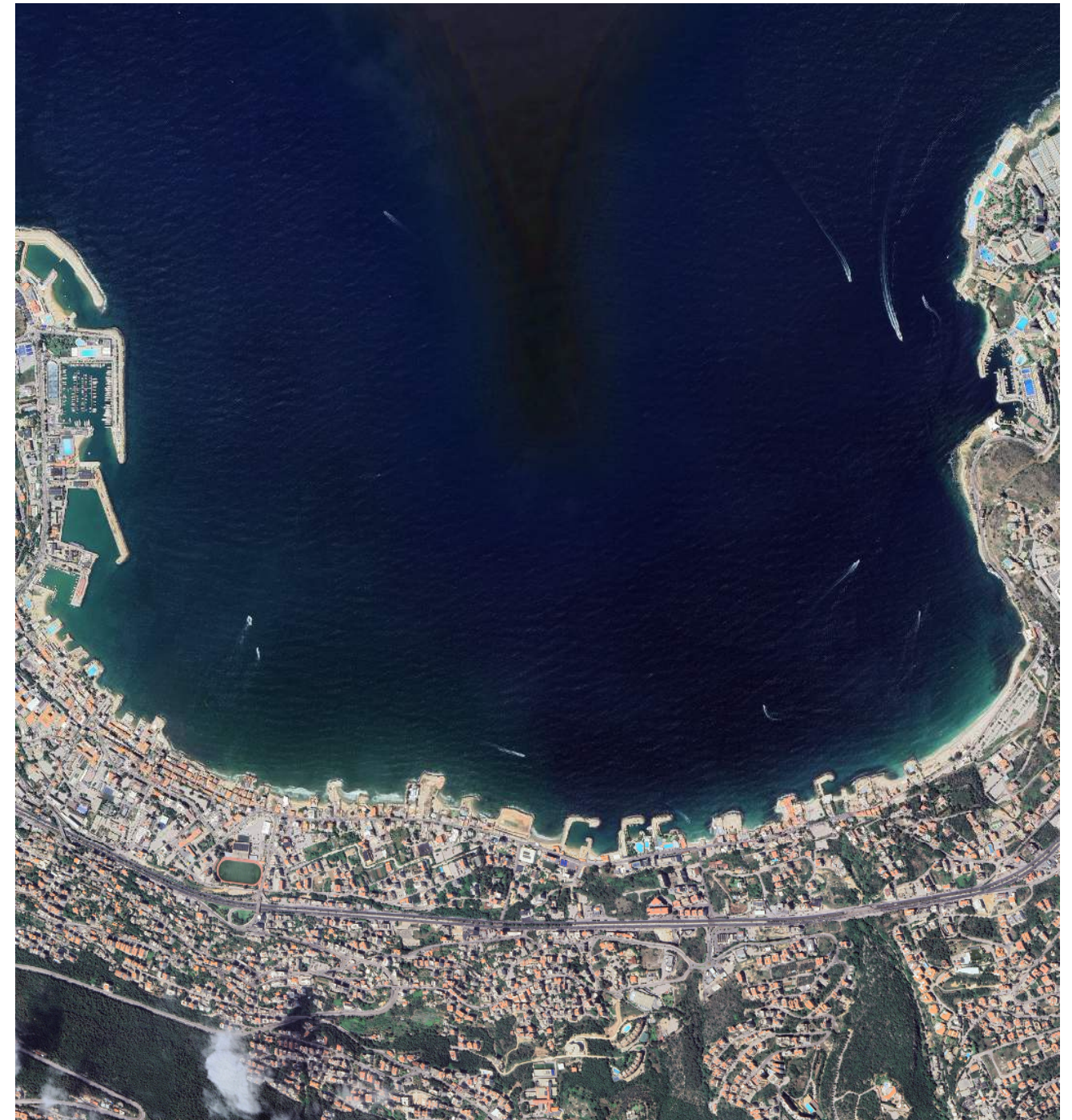
Consultant SEATEC sarl

Jounieh Waterfront

Year 2018 – 2019 – 2020
Conceptual Design / Surveying / Permitting

- Master Plan for Jounieh waterfront
- Southern fishing port (200 berths)
- Coastal walkway (L~4,000m)
- Nourished sandy beach (L~2,300m)
- Review of public maritime domain infringements
- Marina (360 berths)
- Public places and green areas
- Landscaping and recreational places
- Topographic survey (shoreline along 4,000m)
- Bathymetric survey (8,235,000m²)
- Drawings / Decree / Permitting

Ports / Surveying / Waterfronts / Marinas / Fishing Ports / **Coastal Protections** / **Revetments** / **Seawalls** / Beaches / Permitting



JIEH FISHING PORT – PHASE 1 (1/2)

51

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Jieh
33°39'06" N
35°24'44" E

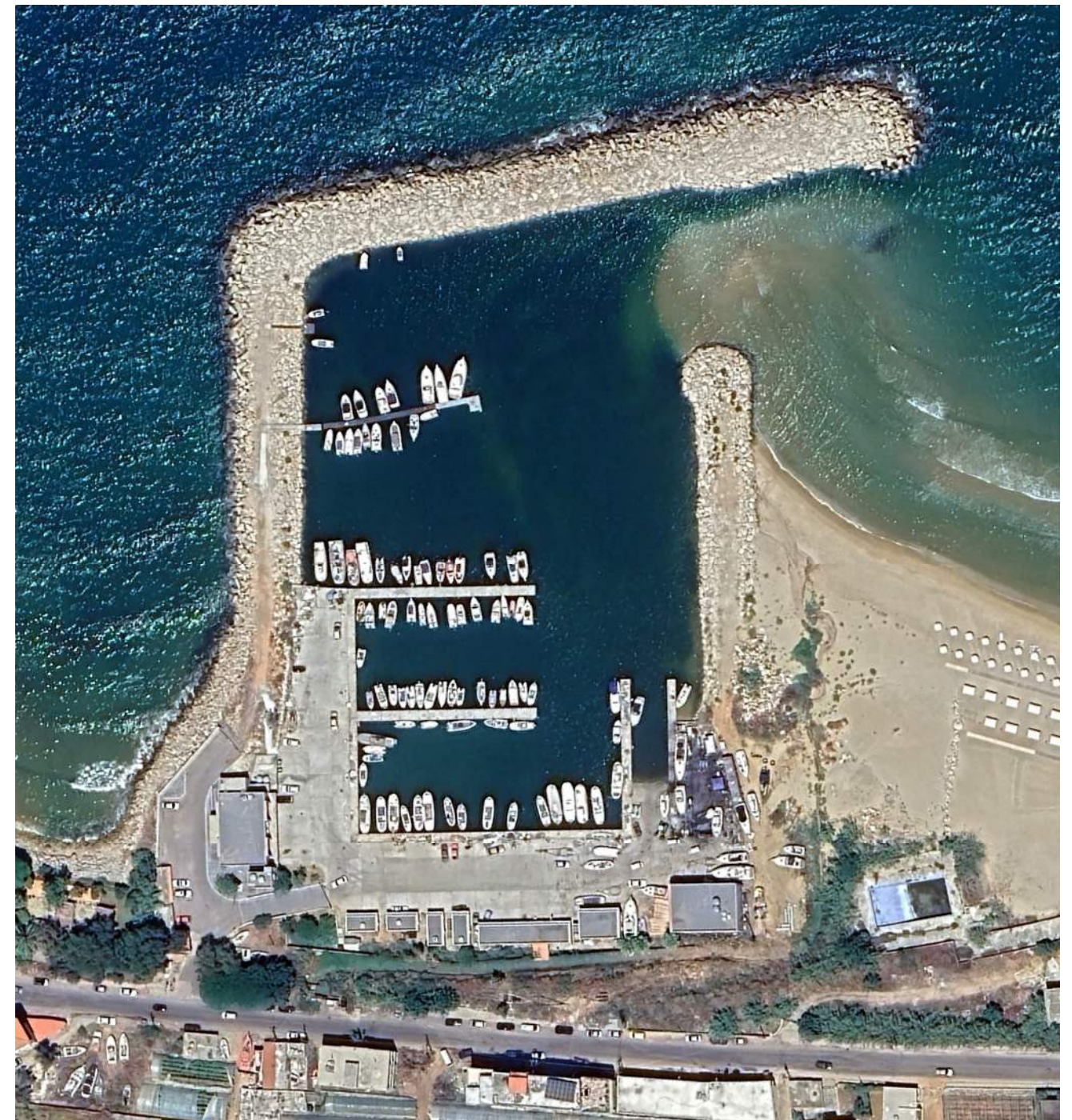
Consultant SEATEC sarl

Jieh Fishing Port – Phase 1

Year 2018
Design / Surveying

- Complementary works for the existing fishing port
- Berthing capacity (110 boats)
- Quaywalls (L=172m @-3.00m MSL) / Precast concrete blocks (Gravity QW)
- Finger Piers (L=98m @-3.00m MSL, Nbr 2) / Precast concrete blocks (Gravity QW)
- RC seawall
- Slipway (Boats ramp)
- Basin dredging @-3.00m MSL
- Asphalted and concrete platforms

Ports / Fishing Ports / **Coastal Protections** / **Seawalls** / Lift Structures / Slipways / Dredging / Surveying



Jieh Fishing Port – Phase 1

- Accessories (Mooring bollards, lighting and water supply)
- Topographic survey (10,100m²)
- Bathymetric survey (4,300m²)
- Tender Documents / Drawings / BoQ



Ports / Fishing Ports / **Coastal Protections** / **Seawalls** / Lift Structures / Slipways / Dredging / Surveying

EL-DJAZAIR MARINA (1/2)

53

Client Consolidated Contractor Company (CCC)

Location ALGERIA – Sidi Fredj
36°45'36" N
2°51'19" E

Consultant SEATEC sarl

El-Djazair Marina

Year 2019
Preliminary Design

- Marina Master Plan
- Berthing capacity (87 yachts)
- Main Breakwater (Rubble mound type, L=600m @max -7.00m, core material, rocky filter and precast concrete Accropodes blocks)
- Secondary Breakwater (Rubble mound type, L=200m @max -4.00m, core material, rocky filter and armor layer)
- RC Crown walls
- Marina Master Plan
- Quaywalls (L=390m @-3.50m MSL) / Precast concrete blocks (Gravity QW)
- Quaywalls (L=295m @-5.00m MSL) / Precast concrete blocks (Gravity QW)

Ports / Marinas / **Coastal Protections** / **Revetments** / Beaches / Lift Structures / Hoist



El-Djazair Marina

- Finger Pier (L=54m @-3.50m MSL, Nbr 1) / Precast concrete elements
- Finger Pier (L=54m @-5.00m MSL, Nbr 1) / Precast concrete elements
- Drying, maintenance and storage area with hoist structure
- Asphalted and RC Platforms (22,100m²)
- Heliport
- Underground passage
- Landscape
- Beach bar
- Natural swimming area (sandy beach)
- Marina master, restaurants, offices, shops, recreational facilities...(6,600m²)
- Fueling station
- Water body (37,600m²)
- Drawings / BoQ / 3D animation



Ports / Marinas / **Coastal Protections** / **Revetments** / Beaches / Lift Structures / Hoist

Client IPT (Issa Petroleum trade)

Location LEBANON – Amchit
34°08'27" N
35°37'44" E

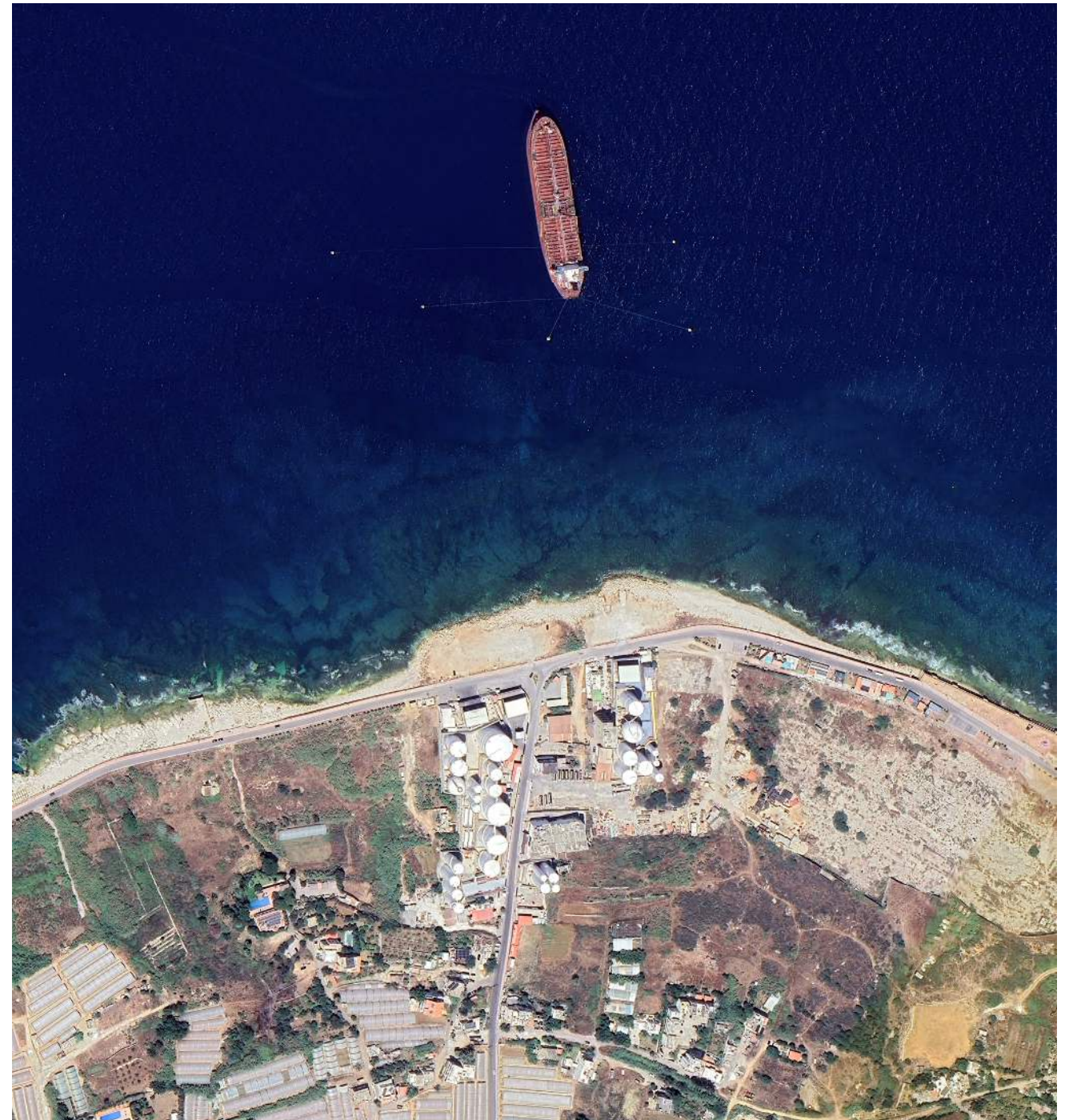
Consultant SEATEC sarl

IPT Terminal - 2

Year 2017 – 2018
Design / Surveying / Permitting

- Settlement of Public Maritime Domain Occupancy: Drawings and settlement file submitted to the MPWT / DGLMT according to Law N64 dated 25/10/2017 (Permitting)
- Permit (Decree) for offshore pipelines, tankers berth CBM and reclaimed land occupancy
- Coastal protection (seawalls)
- Topographic survey (3,250m²)
- Bathymetric survey (109,000m²)
- Drawings / Permitting

Ports / Oil & Gas Terminals / Seelines / Offshore Pipelines / Mooring Structures / CBM / **Coastal Protections** / **Seawalls** / Surveying / Permitting



BYBLOS SEASIDE RESIDENCES COASTAL PROTECTION

56

Client Byblos Seaside Residences srl

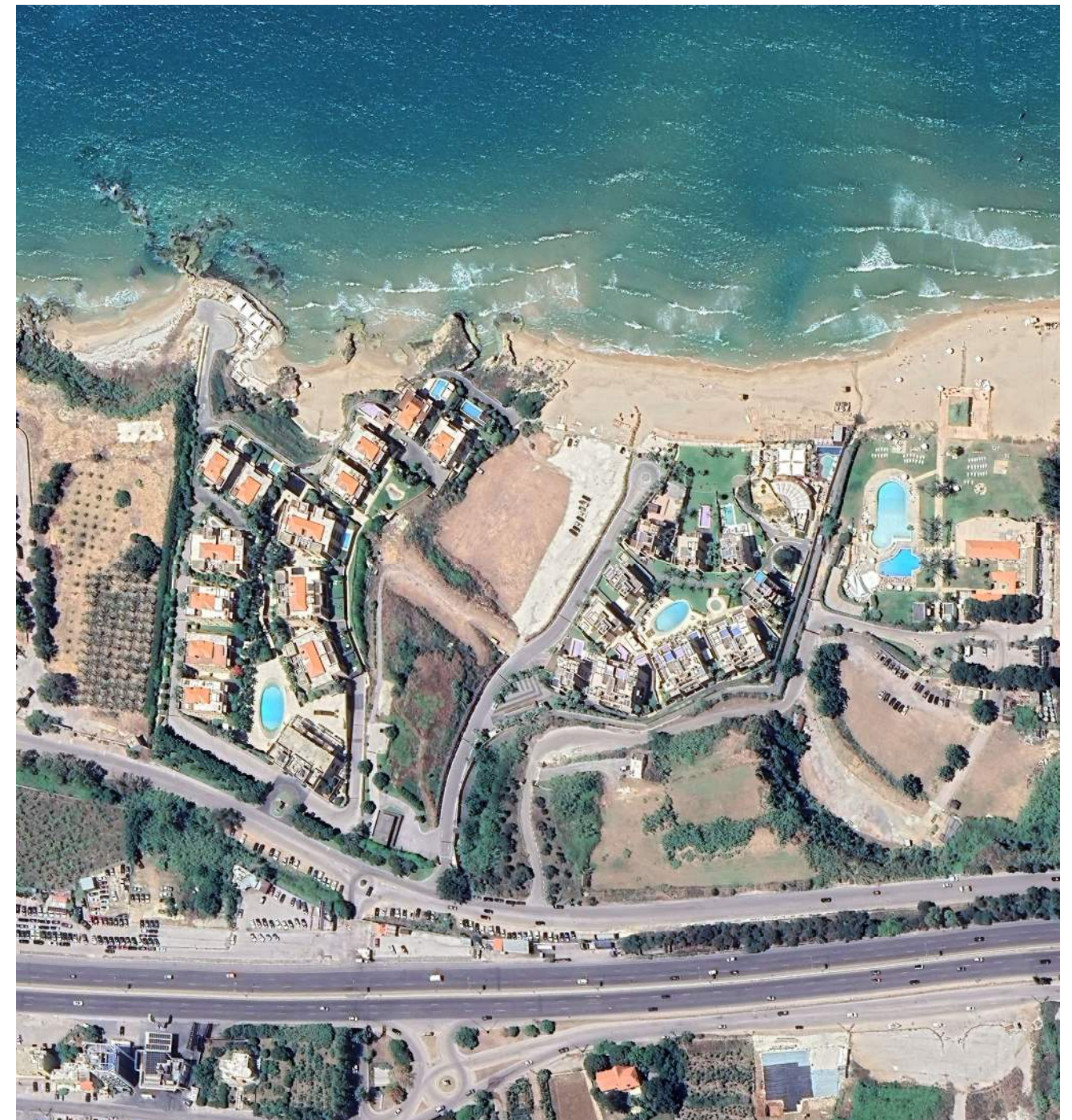
Location LEBANON - Byblos
34°06'39"N
35°39'00"E

Consultant SEATEC srl

Byblos seaside residences coastal protection

Year 2017
Design / Surveying

- RC seawall (L=130m)
- Topographic survey (3,800m²)
- Bathymetric survey (6,900m²)
- Specifications / Drawings / BoQ



Coastal Protections / Seawalls / Surveying

ISF DBAYEH BASE COASTAL PROTECTION - 2

57

Client LEBANESE REPUBLIC
Ministry of Interior and Municipalities
Directorate General of Internal Security Forces (ISF)

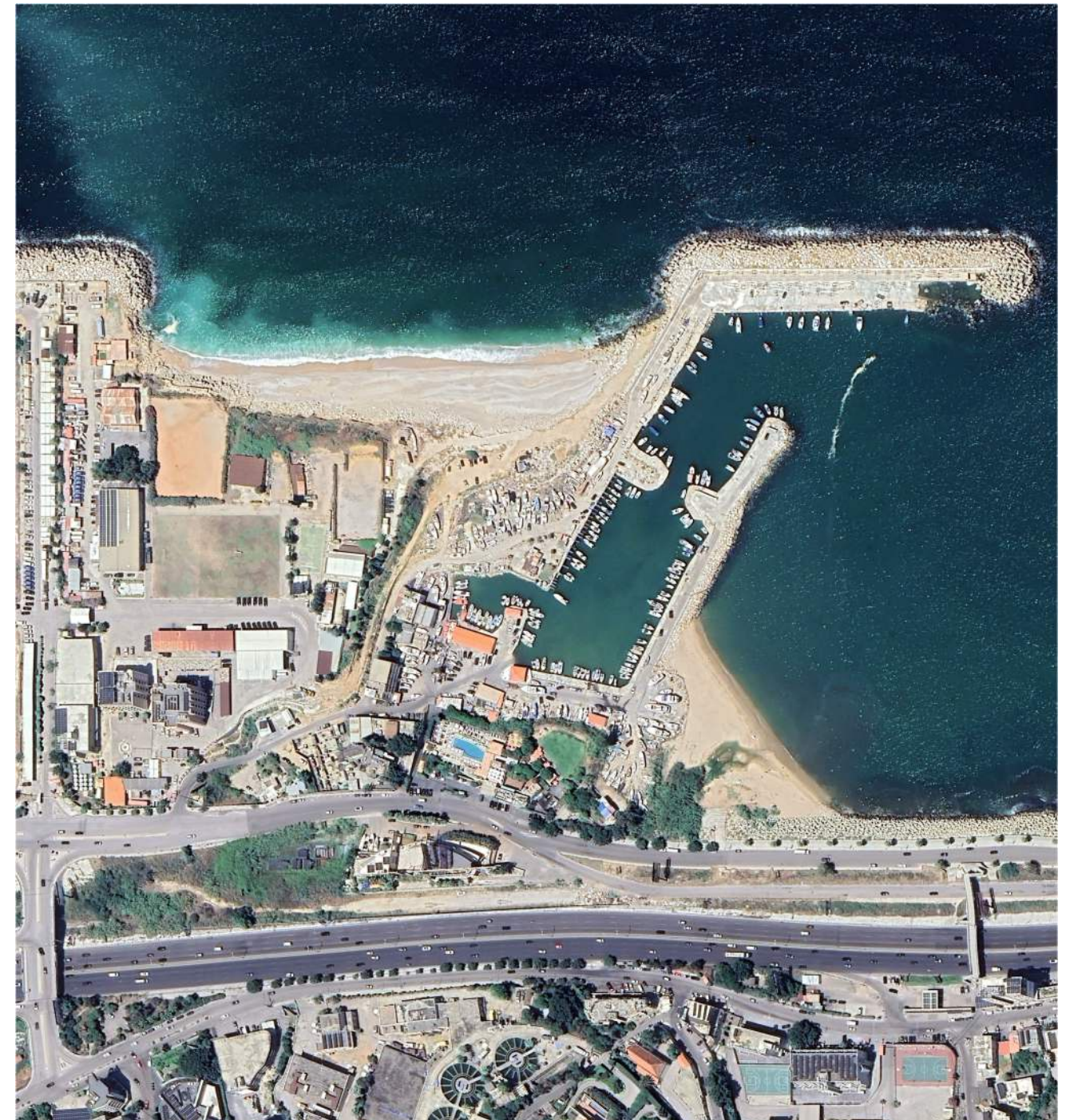
Location LEBANON – Dbayeh
33°56'35" N
35°35'16" E

Consultant SEATEC sarl

ISF Dbayeh Base Coastal Protection - 2

Year 2017 - 2018
Design / Surveying

- Rocky protection (L=270m)
- RC retaining walls and access ramp
- Topographic survey
- Bathymetric survey (12,000m²)
- Tender Documents / Drawings / BoQ



Ports / Naval Bases / **Coastal Protections** / **Revetments** / Surveying

RIVA VERDE COASTAL PROTECTION

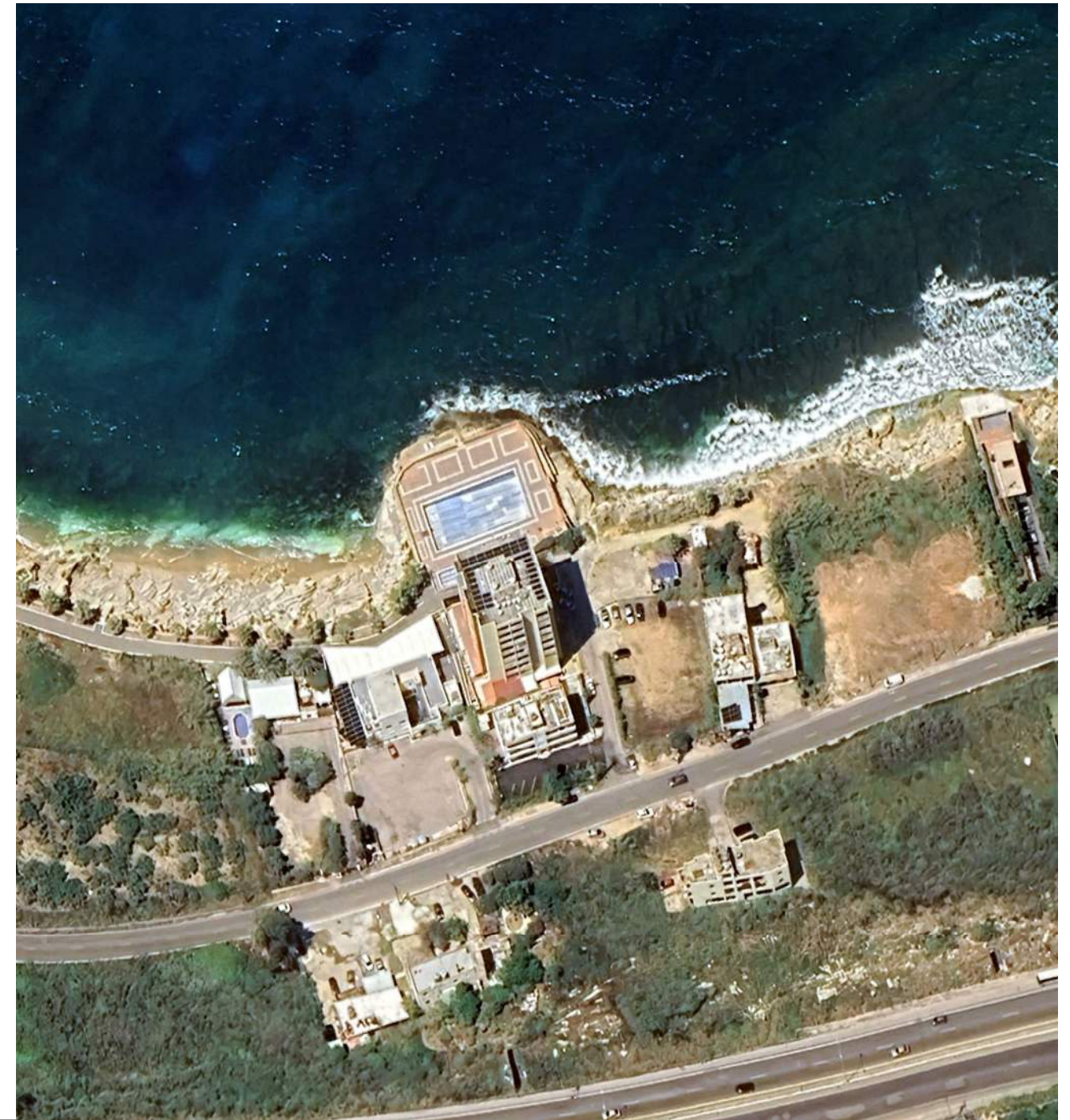
58

Client Riva Verde
Location LEBANON - Amchit
34°09'44"N
35°37'58"E
Consultant SEATEC sarl

Riva Verde coastal protection

Year 2017
Design / Surveying

- Vertical underwater concrete protection
- Topographic survey of the shoreline
- Bathymetric survey (350m2)
- Drawings



Coastal Protections / Seawalls / Surveying

COGICO TERMINAL - 1

59

Client COGICO sal

Location LEBANON – Jieh
33°39'00" N
35°24'35" E

Consultant SEATEC sarl

Year 2017 – 2018
Design / Surveying / Permitting

COGICO Terminal - 1

- Design of a new tanker berth @ -14.00m
- Breakwater with Accropodes blocks protection
- Quaywall @ -14.00m (Precast concrete blocks / gravity QW)
- Dredging for access channel and maneuvering area
- Topographic survey for existing structures
- Bathymetric survey (540,000m²)
- Drawings / BoQ

Ports / Oil & Gas Terminals / Seelines / Offshore Pipelines / Mooring Structures /
CBM / **Coastal Protections** / **Revetments** / Surveying / Permitting



COASTAL PROTECTION PLOTS 226 - 227

60

Client Owners Plots 226 - 227

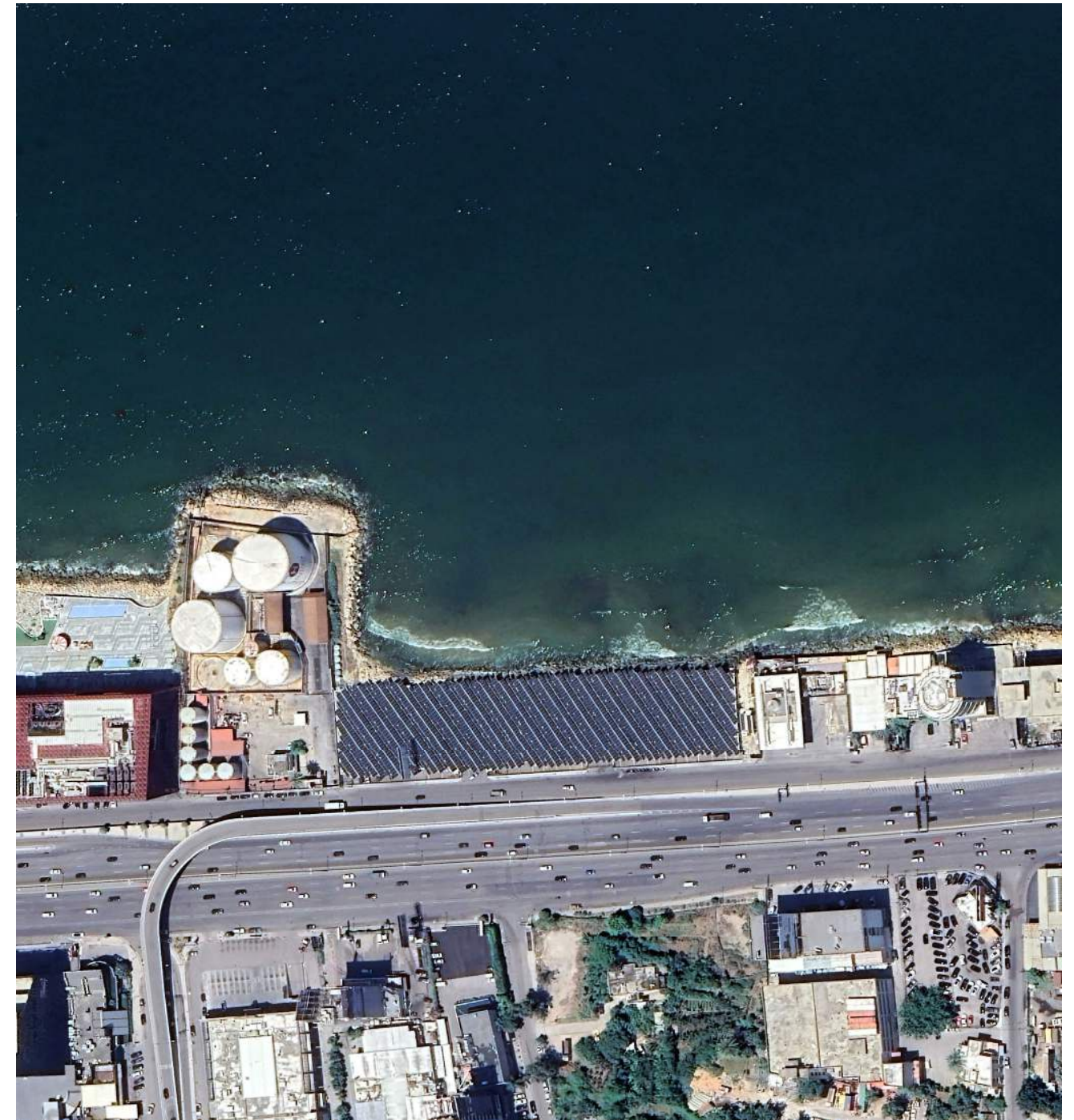
Location LEBANON - Antelias
33°54'48"N
35°34'51"E

Consultant SEATEC sarl

Coastal protection plots 226 - 227

Year 2016
Design / Surveying / Permitting

- Rocky coastal protection for plots 226 - 227
- Topographic survey
- Bathymetric survey (10,000m2)
- Specifications / Drawings / BoQ
- Permitting / Decree drawing



Coastal Protections / Revetments / Surveying / Permitting

NATOUR DEVELOPMENT

61

Client Natour Development sal

Location LEBANON – Beirut
34°22'28" N
35°44'10" E

Consultant SEATEC sarl

Natour Development

Year 2016 – 2017 – 2018 – 2019
Design / Surveying / Permitting

- Fishing / Marina Master Plan
- Vertical Concrete Main Breakwater
- Quaywalls / underwater concrete blocks (Gravity QW)
- Concrete platforms
- Dredging and excavation works for access channel and basin
- Accessories (Jib Crane, mooring bollards, fenders, lighting, water supply...)
- Beach Club design (Waves run-up / overtopping assessment)
- Waterfront protection
- Topographic survey
- Bathymetric survey (5,920,000m²)
- Underwater inspection
- Specifications / Drawings / BOQ / Permitting

Ports / Marinas / Fishing Ports / Waterfronts / **Coastal Protections** / **Seawalls** / Lift Structures / Hoists / Surveying



LINOR WATERFRONT (1/2)

Client N/A
Location LEBANON – Antelias
33°54'30" N
35°34'34" E
Consultant SEATEC sarl

Linor Waterfront

Year 2016 – 2017 – 2018 – 2019 – 2020
Design / Surveying / Permitting

- Master Plan
- Reclaimed area (1,225,000m2)
- High rise, residential, offices (172,400m2)
- Retail (65,700m2)
- Villas (79,100m2)
- Private beach (36,100m2)
- Green areas and public beach (70,250m2)
- Marina: Reclaimed area (60,000m2)
- Water body Basin (58,000m2)
- Berthing capacity (640 Yachts)
- Recreational attractions (74,900m2)
- Walkways / Water promenade (443,000m2)
- Highways and roads (244,000m2)

Ports / Marinas / Fishing Ports / Waterfronts / Service Ports / **Coastal Protections /**
Revetments / Seawalls / Lift Structures / Hoists / Surveying



Linor Waterfront

- Main breakwater (Rubble mound type, L=1,850m, core material, rocky filter and precast concrete Accropodes blocks Type II)
- Waterways and channels
- Fishing port: Reclaimed area (37,000m2)
Water body Basin (35,000m2)
Berthing capacity (450 Fishing boats)
- Service port (Water taxi):
Reclaimed area (37,000m2)
Water body Basin (7,500m2)
Berthing capacity (50 water taxi)
- Service port (Hoist and maintenance area):
Reclaimed area (8,000m2)
Water body Basin (2,000m2)
Berthing capacity (10 boats)
- Bathymetric survey (1,740,000m2)
- Drawings / BoQ / Permitting



Ports / Marinas / Fishing Ports / Waterfronts / Service Ports / **Coastal Protections** / **Revetments** / **Seawalls** / Lift Structures / Hoists / Surveying

SPORTING CLUB

64

Client Sporting Club sal

Location LEBANON – Beirut
35°53'36"N
35°28'01"E

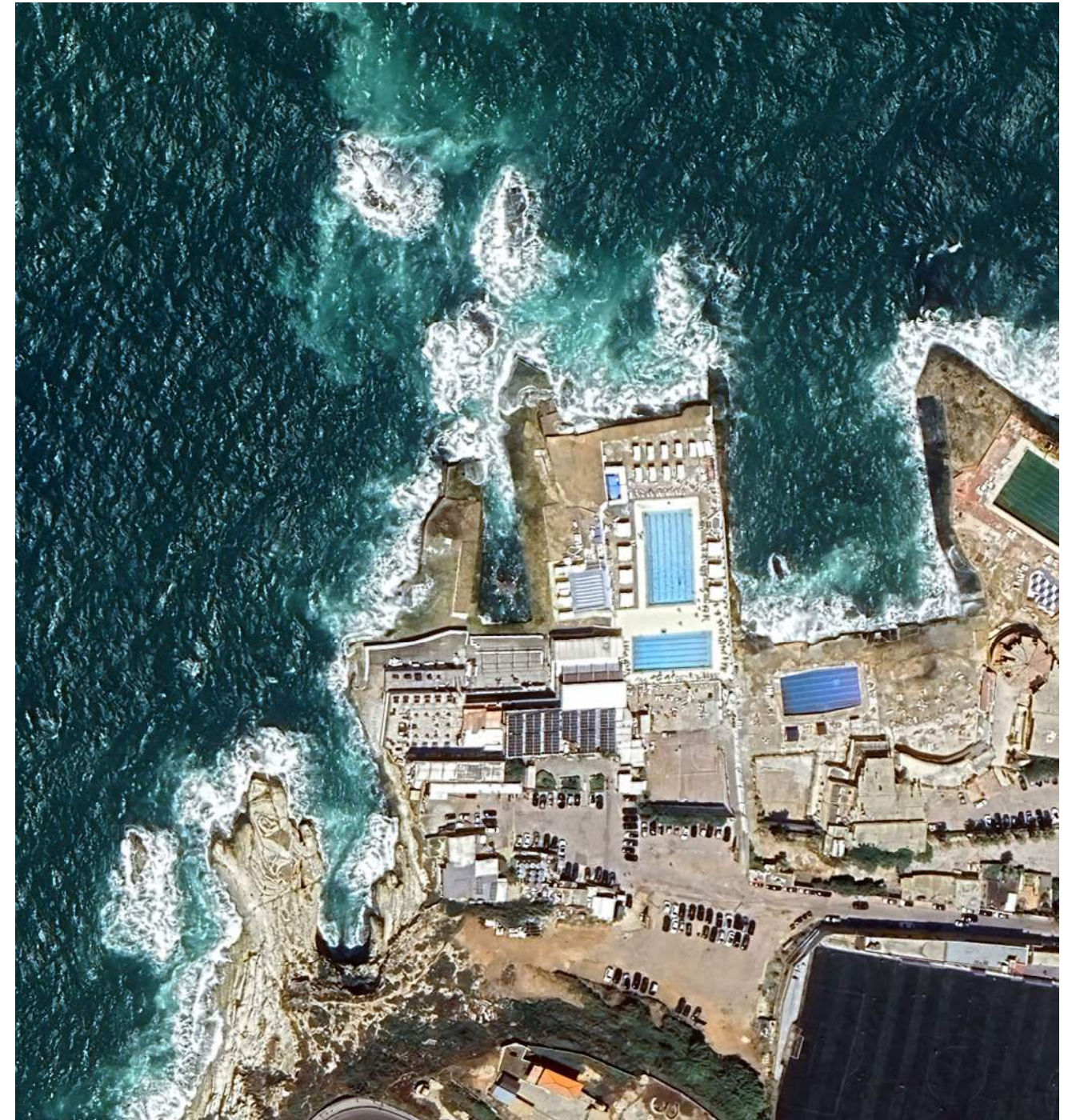
Consultant SEATEC sarl

Sporting Club

Year 2016 – 2019
Design / Surveying / Permitting

- Coastal protection of platforms
- Artificial reef of 16m3 precast concrete Accropodes blocks Type I
- Underwater concrete for voids filling within existing structures
- RC seawall
- Topographic survey
- Bathymetric survey (40,000m2)
- Underwater inspection
- Drawings / BoQ / Permitting

Coastal Protections / Revetments / Seawalls / Surveying / Permitting



AKKAR BEACH PROTECTION

65

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Akkar
34°32'00"N
35°59'16"E

Consultant SEATEC sarl

Akkar beach coastal protection

Year 2016
Conceptual Design

- Sandy beach evolution study / nourishment / stabilization along 3,700m of shoreline
- Coastal protection
- 30 detached low crested rocky breakwaters
- 6 fishtailed groynes
- Sand nourishment
- Specifications / Drawings / BoQ



Coastal Protections / Revetments / Beaches

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Tal Hayat
34°34'03"N
35°59'31"E

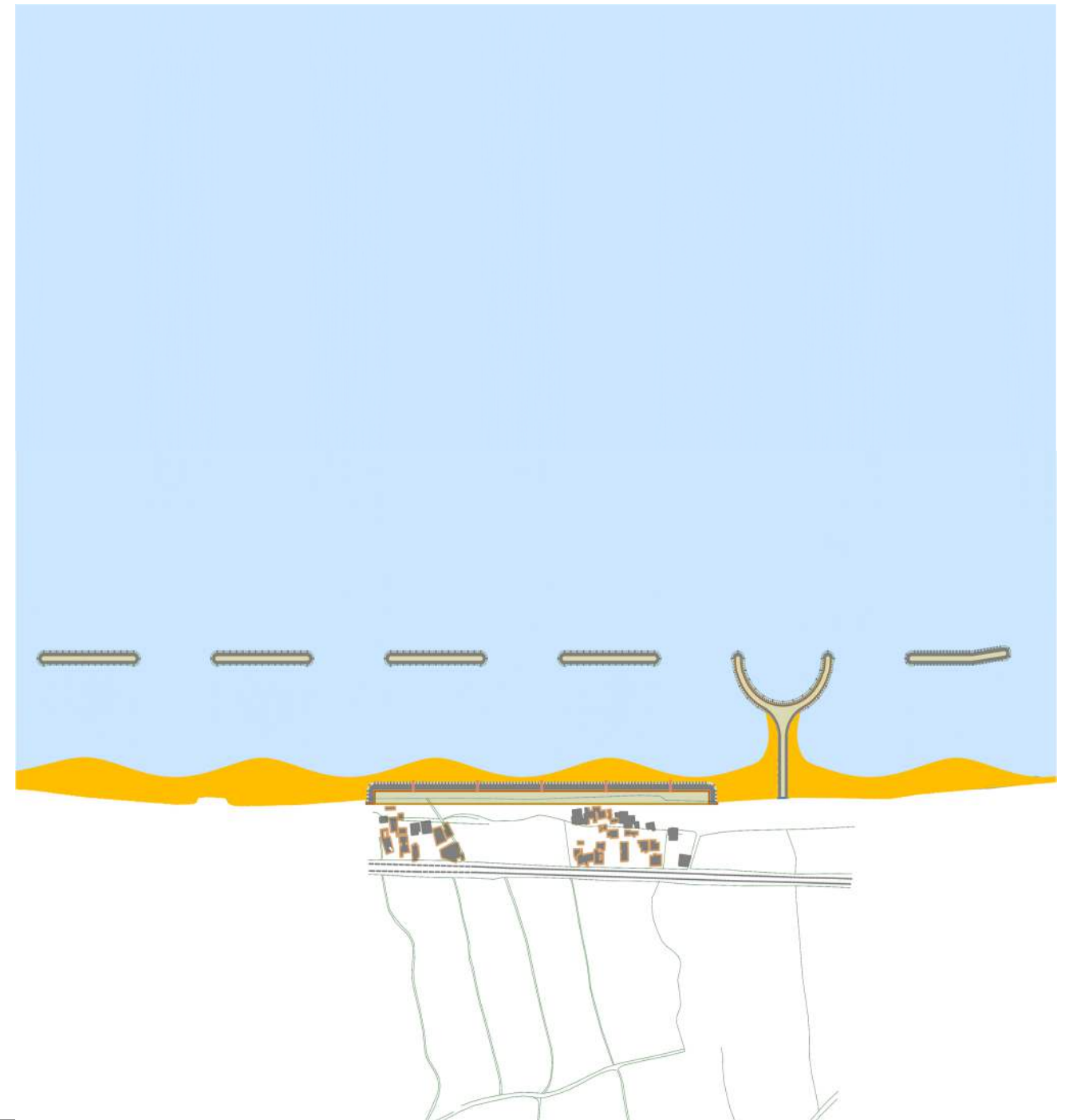
Consultant SEATEC sarl

Tal Hayat coastal protection

Year 2016
Design / Surveying

- Coastal protection of Tal Hayat village Waterfront against waves attack and flooding
- Existing sandy beach evolution study and stabilization / L~1500m of shoreline
- 3 Low crested detached breakwaters (Rubble mound type, L=140m @max -3.00m, core material, rocky filter and armor layer)
- 1 fish tail type groyne (Rubble mound type, L=216m @max -3.00m, core material, rocky filter and armor layer)
- Sloped rocky protection along shoreline (Rubble mound type, L=520m @max -1.50m, core material, rocky filter and armor layer)

Coastal Protections / Revetments / Beaches / Surveying



Tal Hayat coastal protection

- Reclaimed platform (15,000m²)
- RC stairs
- Breakwater toe dredging @max -6.65m MSL
- Topographic survey (66,300m²)
- Bathymetric survey (1,186,000m²)
- Tender Documents / Specifications / Drawings / BoQ



Coastal Protections / Revetments / Beaches / Surveying

LIQUIGAS TERMINAL

68

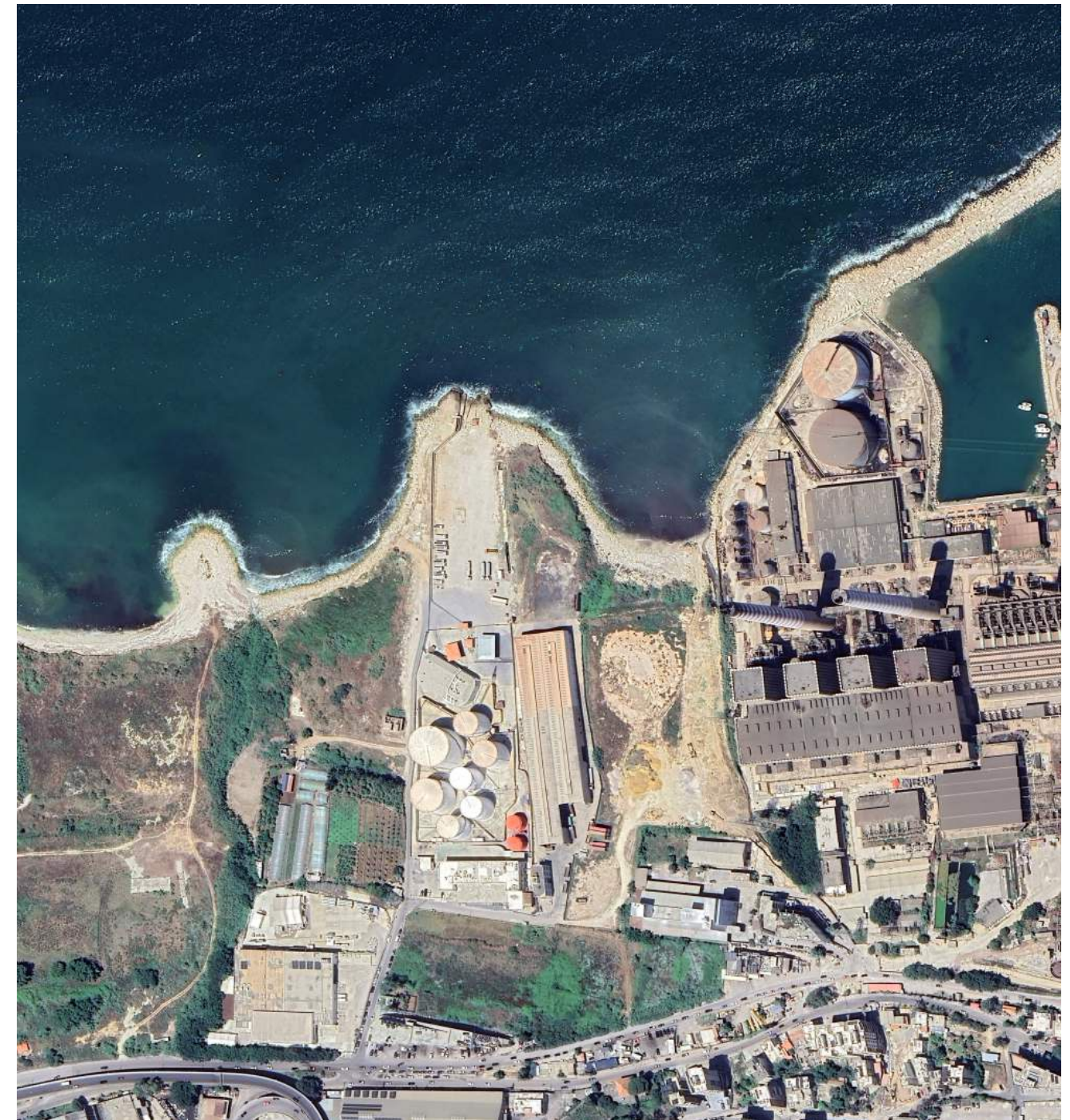
Client LIQUIGAS srl
Location LEBANON – Zouk
33°58'03" N
35°36'01" E
Consultant SEATEC srl

Year 2016
Design / Surveying / Permitting

LIQUIGAS Terminal

- Sloped protection (Rubble mound type, L=442m @max - 5.00m, precast concrete 6.3m³ Accropodes blocks Type I)
- Reclaimed area layout (14,464m²)
- Offshore pipelines (L=535m) with CBM berth for oil products import
- Decree modification for offshore pipelines, tankers berth CBM and reclaimed land occupancy
- Topographic survey (14,000m²)
- Bathymetric survey (216,000m²)
- Drawings / BoQ / Permitting

Ports / Oil & Gas Terminals / Seelines / Offshore Pipelines / **Coastal Protections** / **Revetements** / Mooring Structures / CBM / Surveying / Permitting



IRIS BEACH CLUB

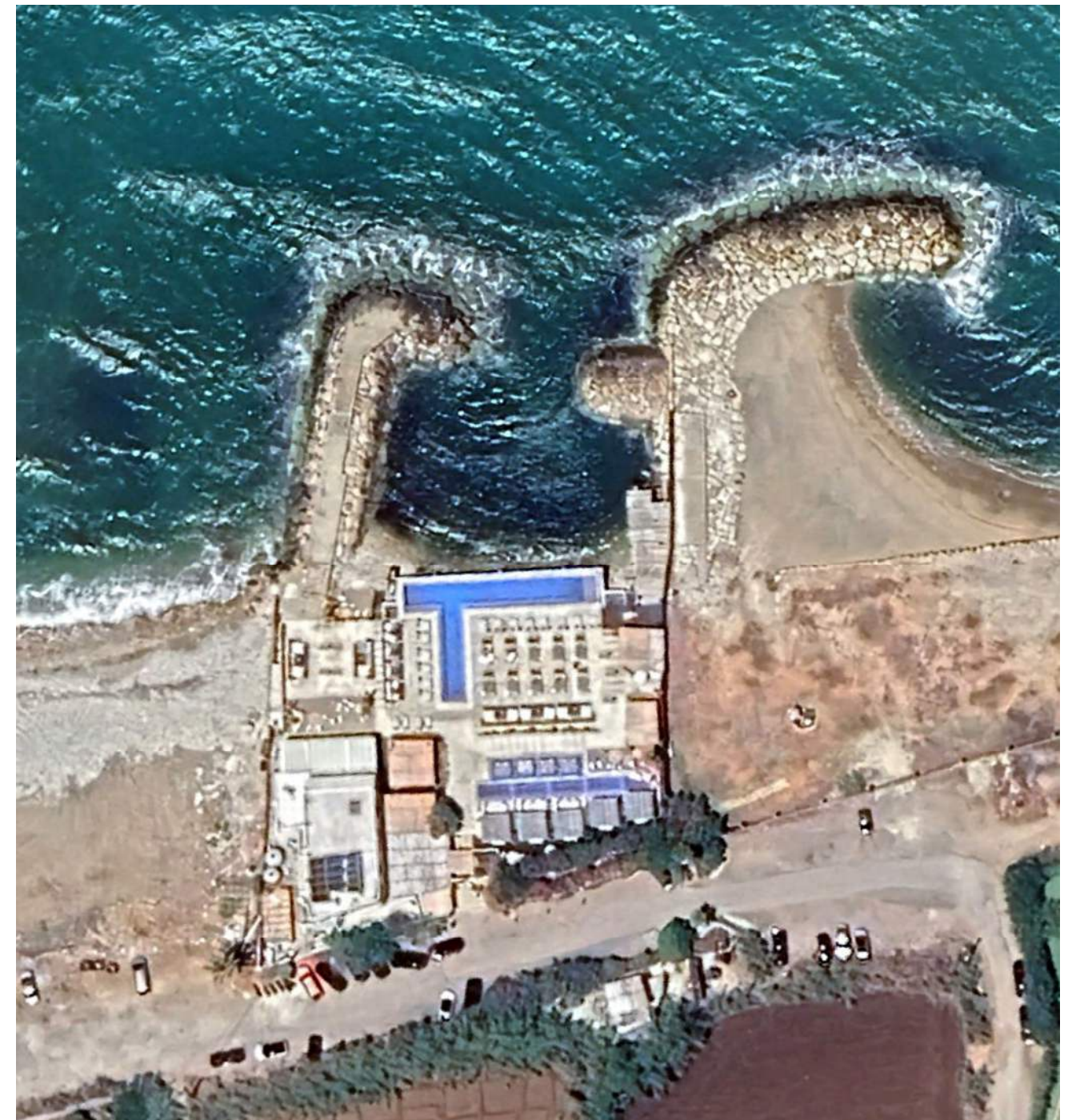
69

Client IRIS Beach Club
Location LEBANON – Damour
33°42'46"N
35°26'37"E
Consultant SEATEC sarl

Year 2015
Design / Surveying

IRIS beach club coastal protection

- Sloped protection (Rubble mound type, L=75m, rocky armor layer) for IRIS Beach Club
- Topographic survey (2,000m²)
- Bathymetric survey (50,000m²)
- Specifications / Drawings / BoQ



Coastal Protections / Revetements / Surveying

DALFA MARINA (1/2)

70

Client Ain Mreisse 733 sal

Location LEBANON – Beirut
33°54'02" N
35°28'17" E

Consultant SEATEC sarl

Dalfa Marina

Year 2016
Design / Surveying / Permitting

- Marina Master Plan
- Berthing capacity (5 yachts and jet skis)
- Main Breakwater (Vertical Concrete type, L=152m @max -4.00m)
- RC seawalls
- Quaywalls (L=47m @-3.00m MSL) / Underwater concrete blocks (Gravity QW)
- Marine accessories (Mooring bollards, fenders)
- RC platforms
- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, Pumps, pipes, manholes,)

Ports / Marinas / **Coastal Protections** / **Revetments** / **Seawalls** / Surveying / Permitting



Dalfa Marina

- Restaurants, offices (399m²)
- 3 open air basket ball courts
- Reclaimed area (7,629m²)
- Water body (395m²)
- Topographic survey (6,700m²)
- Bathymetric survey (175,300m²)
- Specifications / Drawings / BoQ / Permitting



Ports / Marinas / Coastal **Protections** / **Revetments** / **Seawalls** / Surveying / Permitting

BRANDARIS BAY MARINA (1/2)

72

Client MICADA sal
Location LEBANON – Hamat
34°18'16" N
35°40'18" E
Consultant SEATEC sarl

Brandaris Bay Marina

Year 2015 – 2016 – 2017
Design / Surveying / Permitting

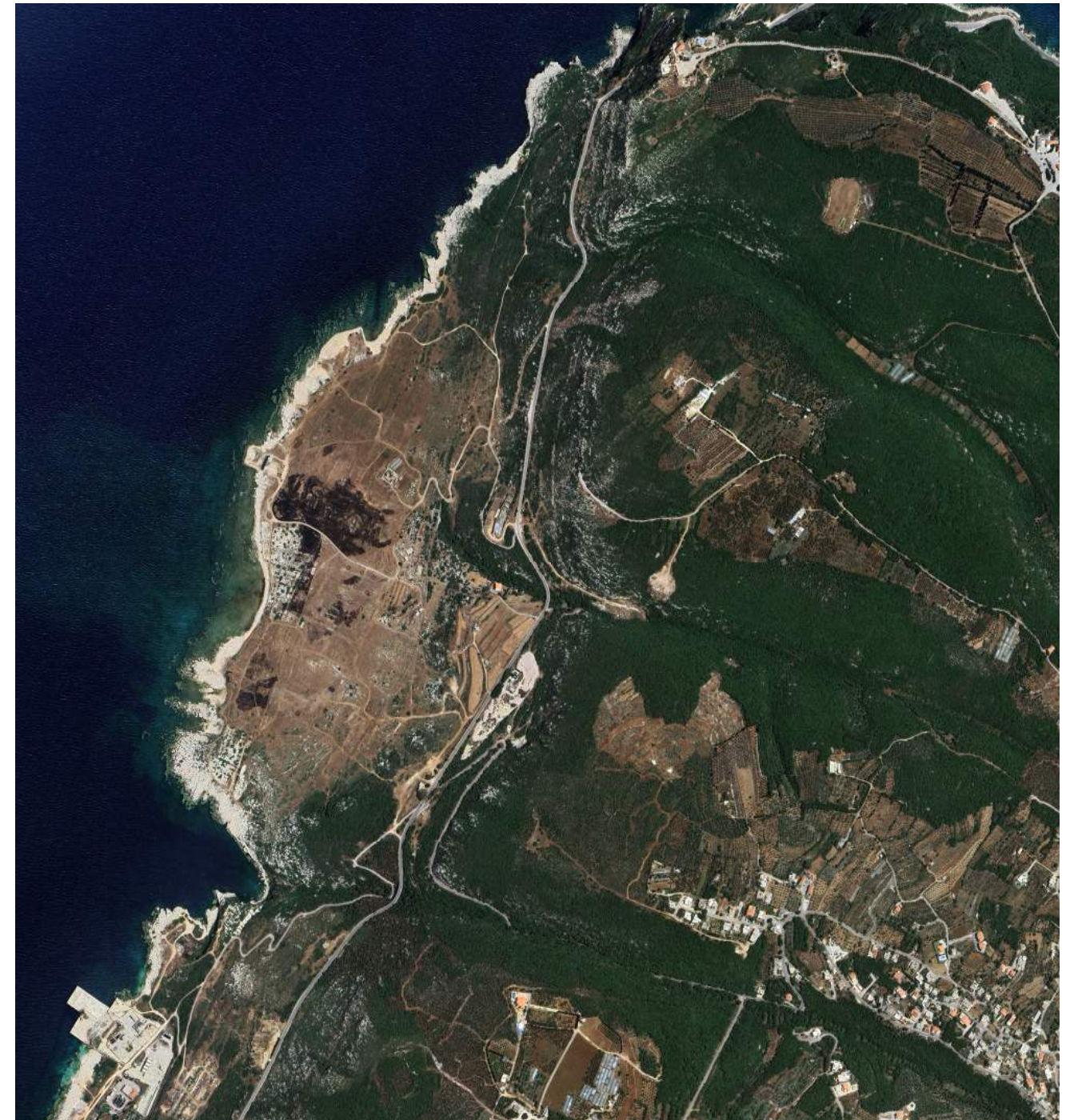
- Marina Master Plan
- Berthing capacity (200 yachts)
- Main Breakwater (Vertical RC perforated Caisson type, L=510m @max -23.00m)
- Secondary Breakwater (Vertical RC perforated Caisson type, L=307m @max -21.00m)
- Quaywalls (L=422m @-3.00m MSL) / Precast concrete blocks (Gravity QW)
- Quaywalls (L=220m @-6.50m MSL) / Precast concrete blocks (Gravity QW)
- Finger Piers (L=342m @-3.00m MSL, Nbr 4) / Precast concrete elements
- Land reclamation and bituminous / RC Platforms
- RC and bituminous platforms



Ports / Marinas / **Coastal Protections** / **Seawalls** / Surveying / Permitting

Brandaris Bay Marina

- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, Pumps, pipes, manholes, tanks)
- Marina master, restaurants, offices, shops (4,889m²)
- Fueling station
- Reclaimed area (42,587m²)
- Water body (66,253m²)
- Specifications / Drawings / BoQ / Permitting



Ports / Marinas / **Coastal Protections** / **Seawalls** / Surveying / Permitting

WATER OUTLET AT BYBLOS BEACH

74

Client The Diplomatic Club

Location LEBANON – Byblos
34°06'58"N
35°38'48"E

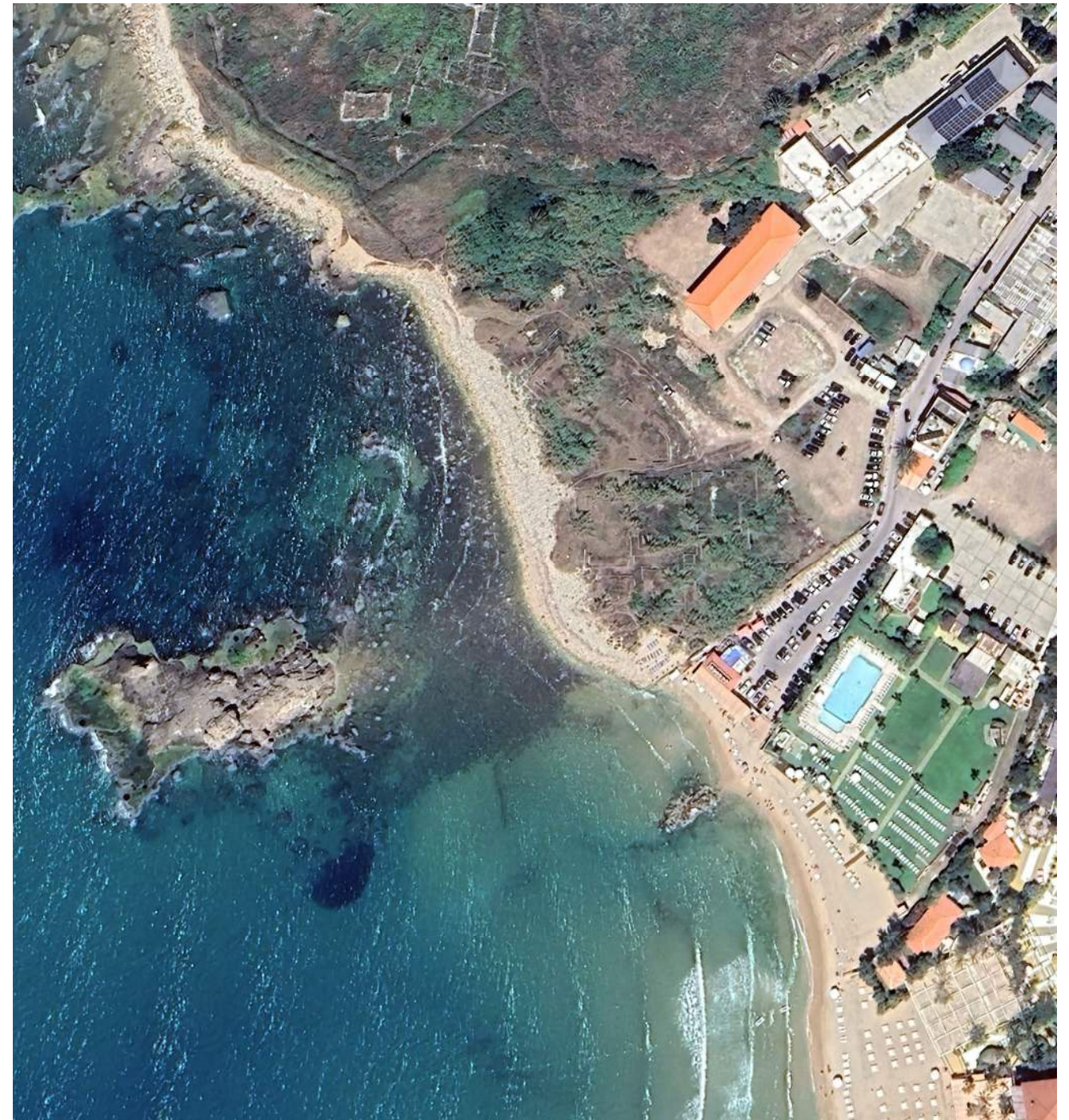
Consultant SEATEC sarl

Year 2015
Design / Surveying / Permitting

Water outlet at Byblos beach

- Existing concrete storm water outlet extension and protection (L=24.00m)
- Coastal protection (RC curved seawall) of facilities to be built in the adjacent private plot
- Topographic survey (7,400m²)
- Bathymetric survey (254,000m²)
- Specifications / Drawings / Permitting

Coastal Protections / Seawalls / Surveying / Permitting



EDDEH RESIDENCES

75

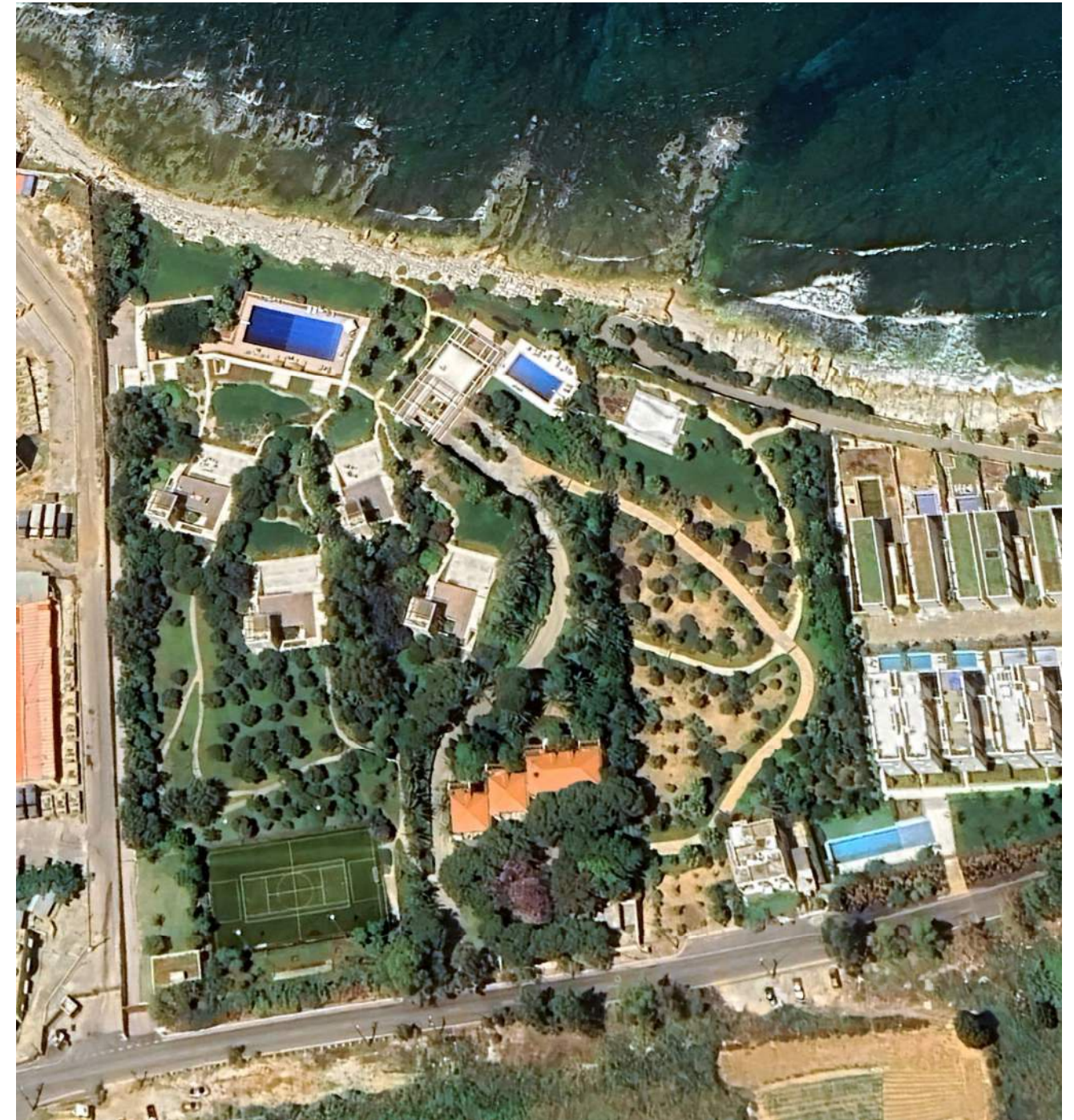
Client Eddeh
Location LEBANON – Amchit
34°9'32"N
35°37'54"E
Consultant SEATEC sarl

Year 2014 – 2015
Design / Surveying / Permitting

Eddeh residences coastal protection

- Sloped protection (Rubble mound type, L=91m, rocky armor layer)
- Topographic survey (2,000m²)
- Drawings / BoQ / Permitting

Year 2015
Works Supervision



Coastal Protections / Revetments / Surveying / Permitting

BYBLOS BEACH VILLAGE

76

Client Byblos Beach Village - BBV

Location LEBANON – Byblos
34°6'42"N
35°38'59"E

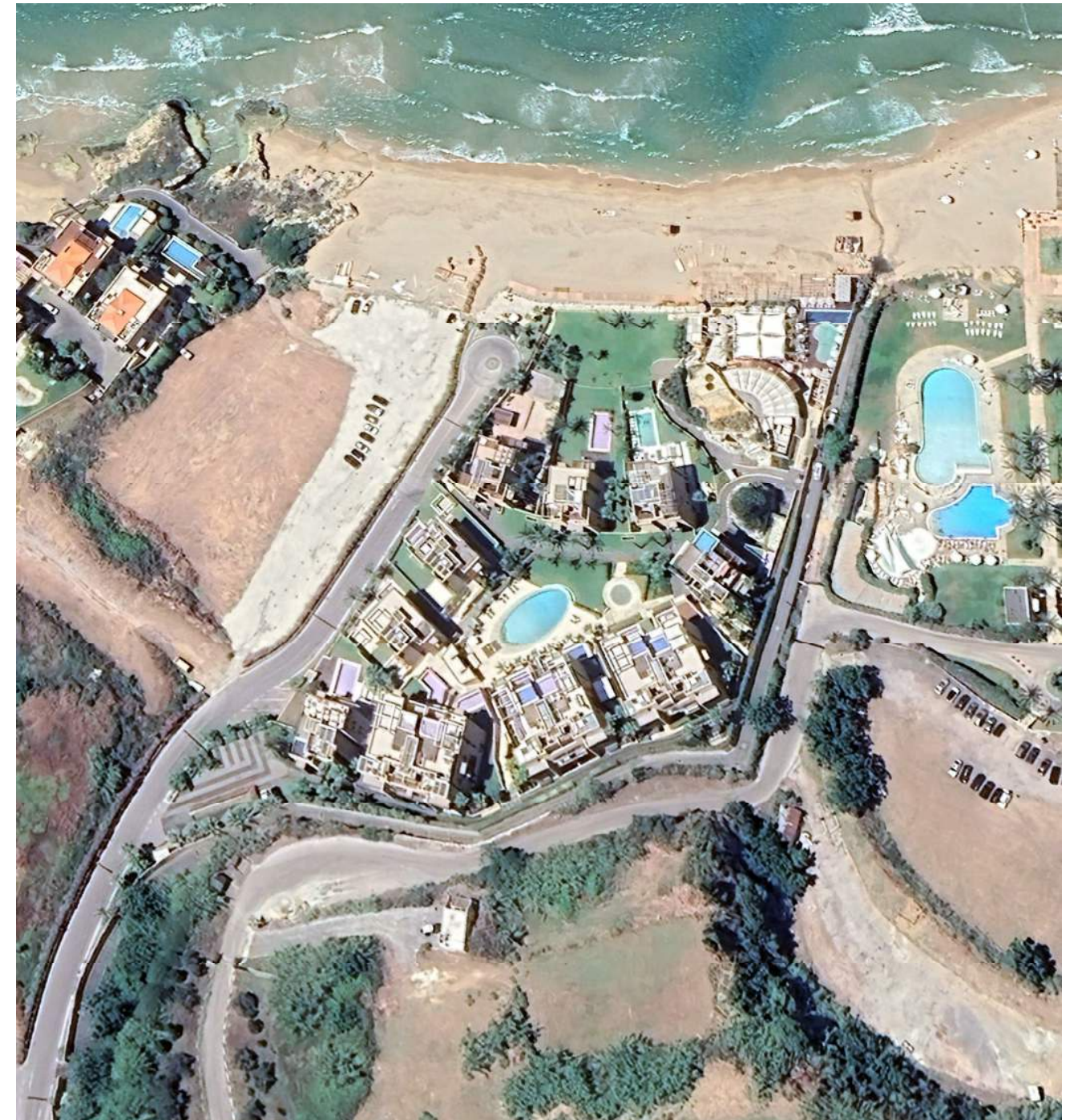
Consultant SEATEC sarl

Year 2014 – 2015
Design / Surveying / Permitting

Byblos beach village coastal protection

- Sloped protection (Rubble mound type, L=97m, rocky armor layer)
- Topographic survey (2,000m²)
- Drawings / BOQ / Permitting

Year 2015
Works Supervision



Coastal Protections / Revetments / Surveying / Permitting

BYBLOS FISHING PORT CAUSEWAY

77

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

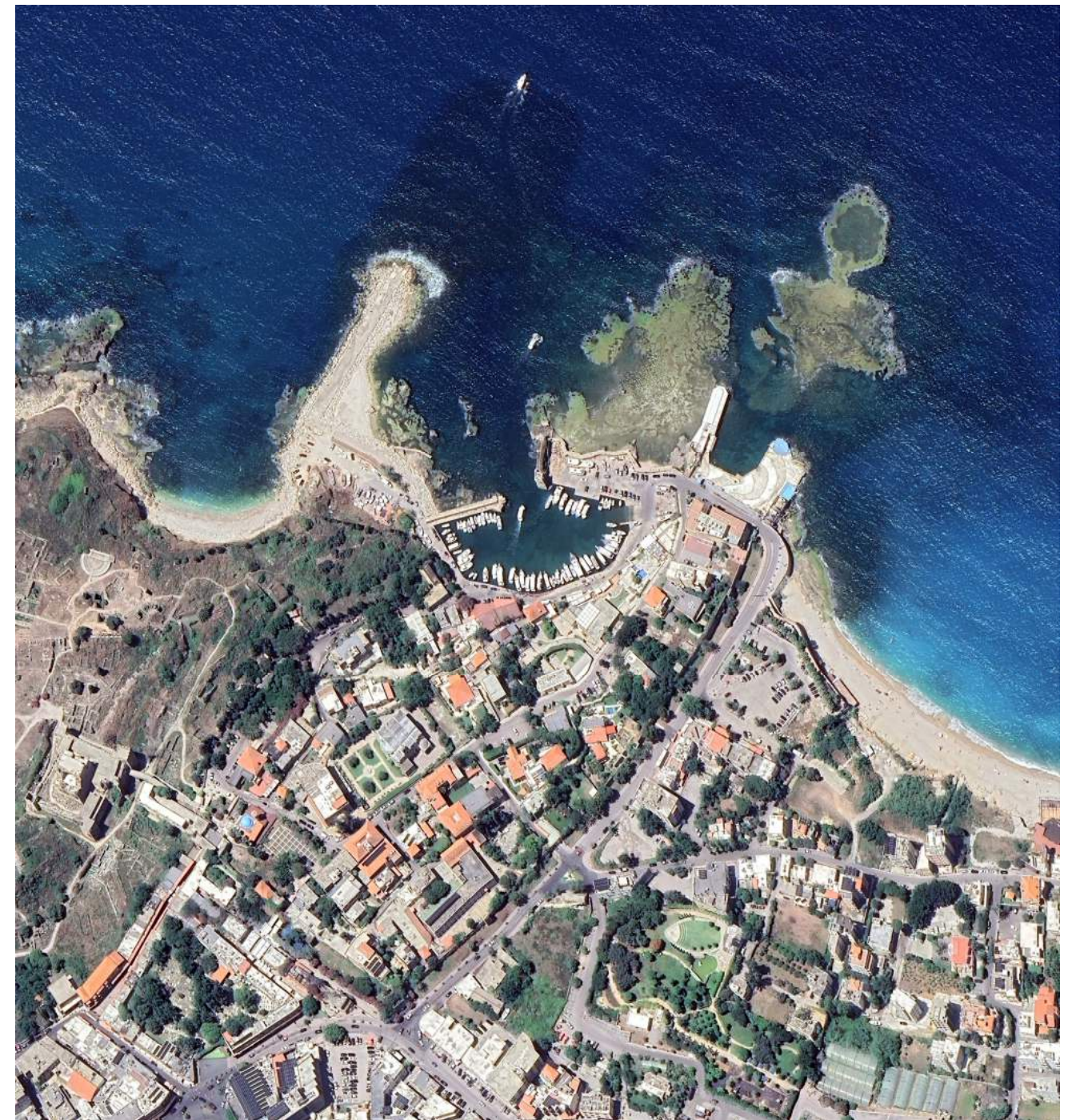
Location LEBANON – Byblos
34°7'17" N
35°38'36" E

Consultant SEATEC sarl

Byblos Fishing Port Causeway

Year 2014
Conceptual Design

- Removal of the existing Main Breakwater and substitution with a submerged reef (L=376m @max -11.00m / Concrete Accropodes blocks) with a walkway on piles linked to shore
- Drawings / BoQ



Ports / Fishing Ports / Waterfronts / **Coastal Protections** / **Revetments**

KALANI RESORT

78

Client KALANI

Location LEBANON – Halat
34°4'35"N
35°38'45"E

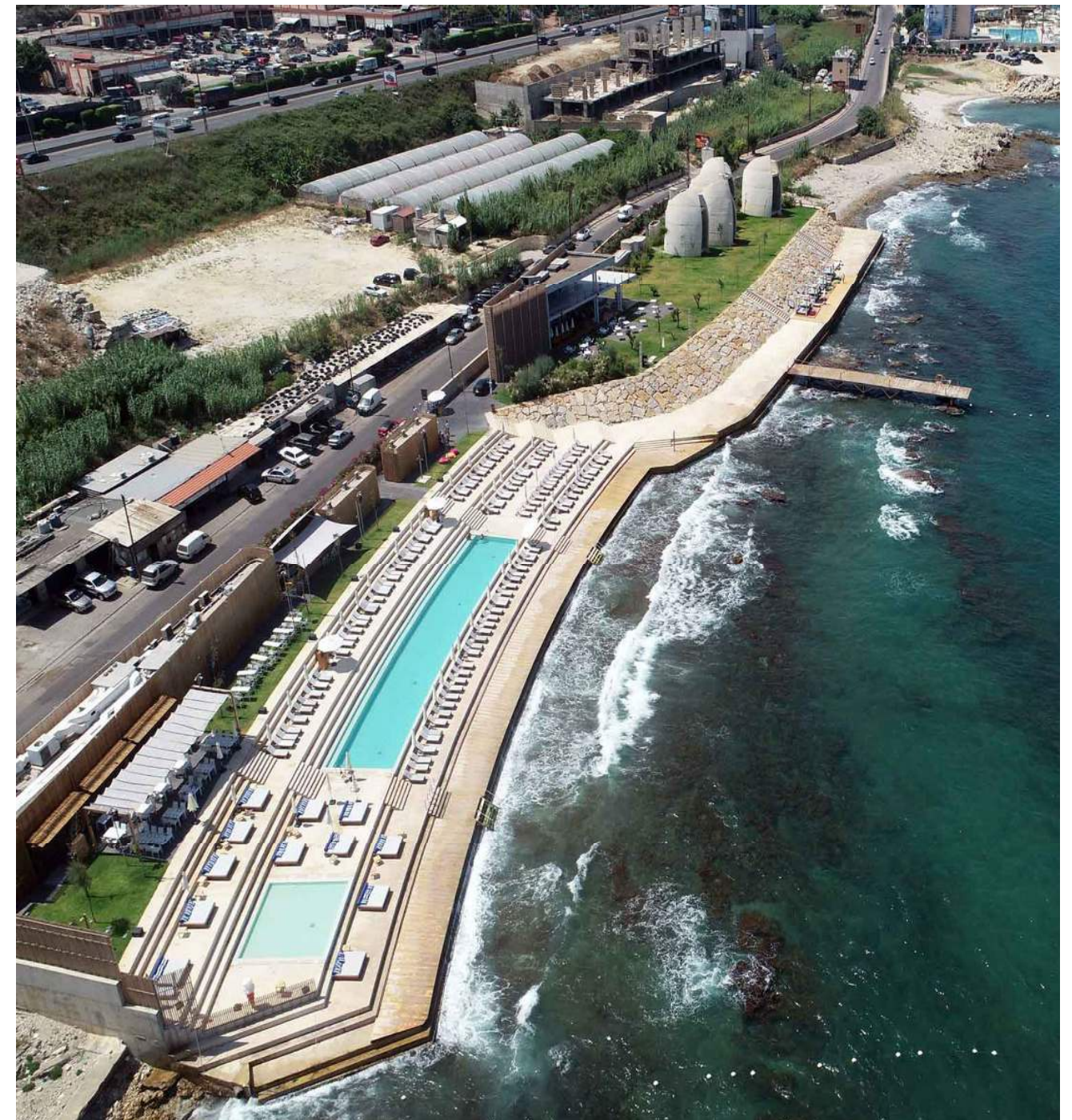
Consultant Architect : YTAA
MEP : WTA
Marine : SEATEC

Kalani Resort

Year 2014 – 2015 – 2016 – 2017 – 2018
Design / Surveying / Permitting

- Waterfront layout
- Coastal protection: Mix of rubble mound type riprap (L=130m with rocky armor layer) and RC protection (L=90m stairs type)
- Land reclamation / RC Platforms
- Swimming pool
- Natural Swimming area
- Topographic survey (4,000m²)
- Bathymetric survey (48,000m²)
- Specifications / Drawings / BoQ / Permitting

Coastal Protections / Revetments / Seawalls / Surveying / Permitting



TRIPOLI MARINA (1/2)

79

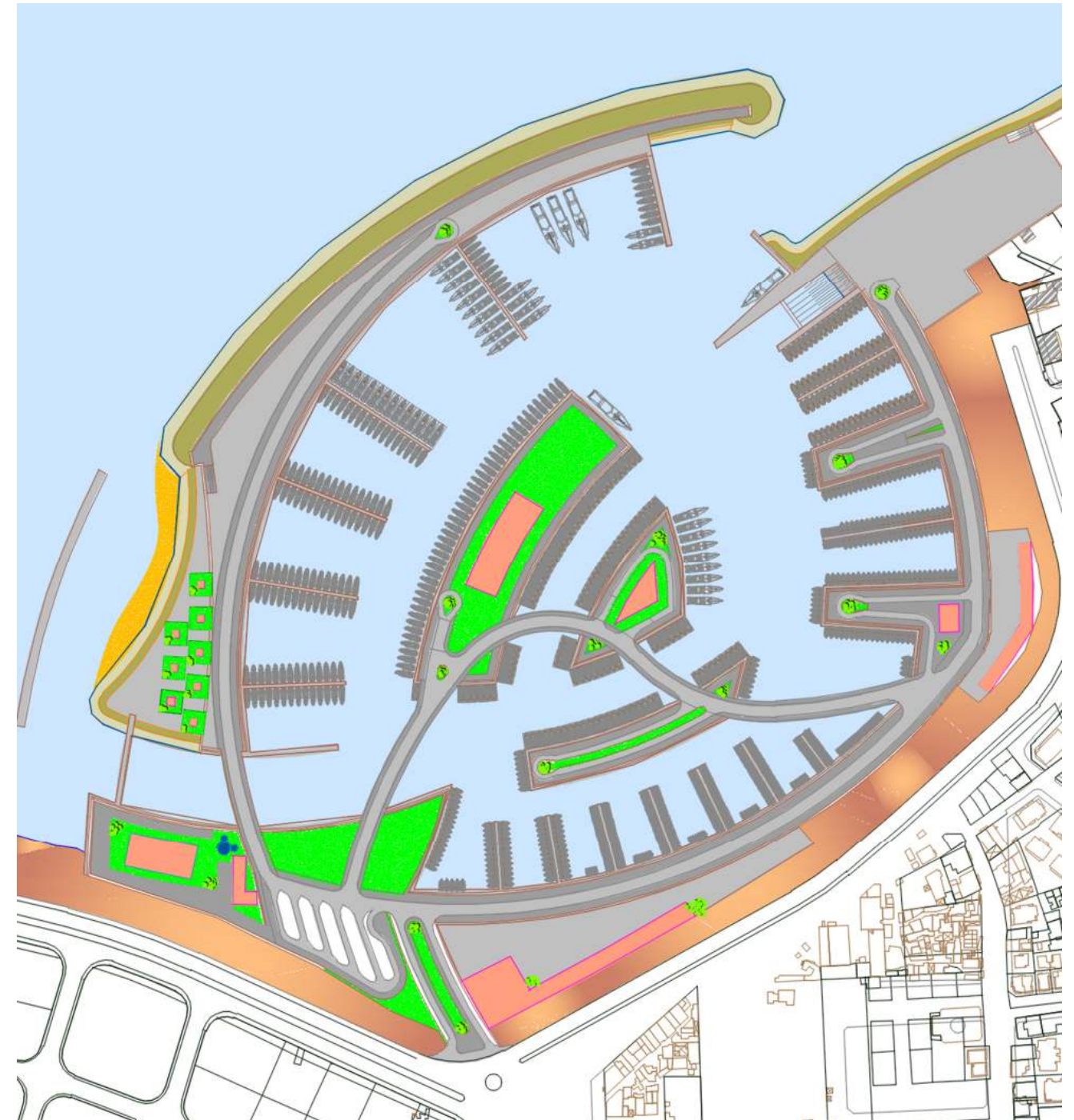
Client SOTEG
Location LEBANON – Tripoli
34°27'9" N
35°48'22" E
Consultant SEATEC sarl

Tripoli Marina

Year 2014 – 2016
Conceptual Design / Surveying

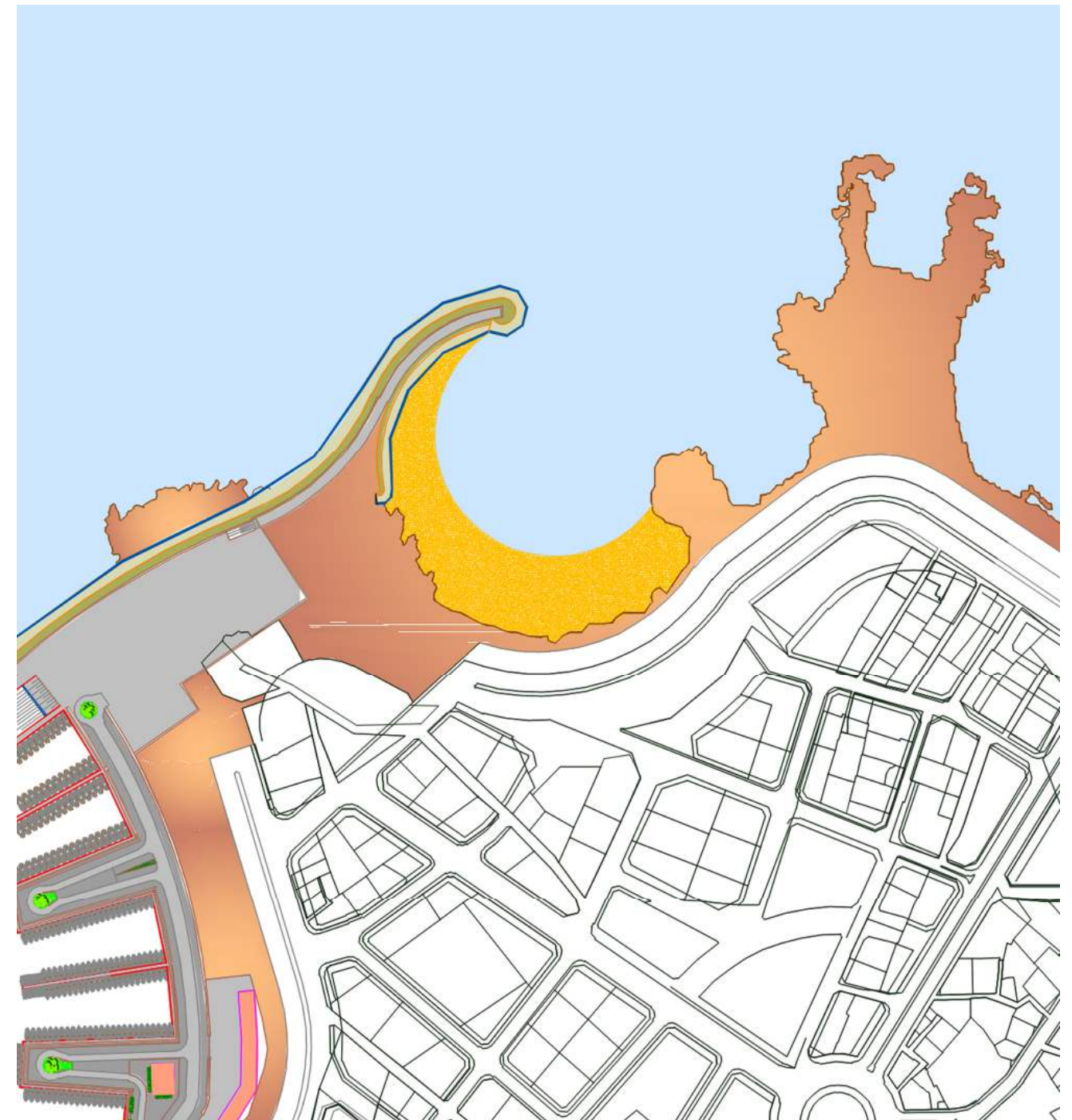
- Marina Master Plan
- Berthing capacity (975 yachts)
- Main Breakwater (Rubble mound type, L=880m @max -8.00m, core material, rocky filter and concrete Accropodes blocks Type I)
- Detached vertical breakwater (Underwater concrete, L=197m @max -3.00m)
- RC Crown walls
- Quaywalls (L=3,315m @-3.00m MSL) / Precast concrete blocks (Gravity QW)
- Finger Piers (L=950m @-3.00m MSL, Nbr 14) / Precast concrete elements
- Slipway (Boat ramp)
- Marine accessories (Mooring bollards, fenders)

Ports / Marinas / **Coastal Protections** / **Revetments** / **Seawalls** / Lift Structures / Slipways / Beaches / Surveying



Tripoli Marina

- Land reclamation and bituminous / RC Platforms
- Green spaces
- Access bridges
- Marina master headquarter, restaurants, offices, shops (11,700m²)
- Parking (25,200m²)
- Fueling station
- Sandy beach nourishment and stabilization (L=330m)
- Reclaimed area (176,500m²)
- Water body (197,500m²)
- Topographic survey (20,000m²)
- Bathymetric survey (377,400m²)
- Drawings / BoQ



Ports / Marinas / **Coastal Protections** / **Revetments** / **Seawalls** / Lift Structures / Slipways / Beaches / Surveying

MINA TRIPOLI WATERFRONT

81

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Mina / Tripoli
34°26'45" N
35°48'43" E

Consultant SEATEC sarl

Mina Tripoli waterfront

Year 2014
Design / Surveying

- Waterfront coastal protection
- Sloped rocky protection (L=274m) @max -2.00m MSL
- Bituminous platform
- Infrastructure (Manholes and storm drainage pipes)
- Dredging for protection toe @max -2.00m MSL
- Topographic survey (17,800m²)
- Bathymetric survey (6,400m²)
- Tender Documents / Drawings / BoQ



Ports / Waterfronts / **Coastal Protections** / **Revetments** / Surveying

GALATEA MARINA (1/2)

82

Client SAYFCO

Location LEBANON – Zouk Mosbeh
33°57'40" N
35°36'1" E

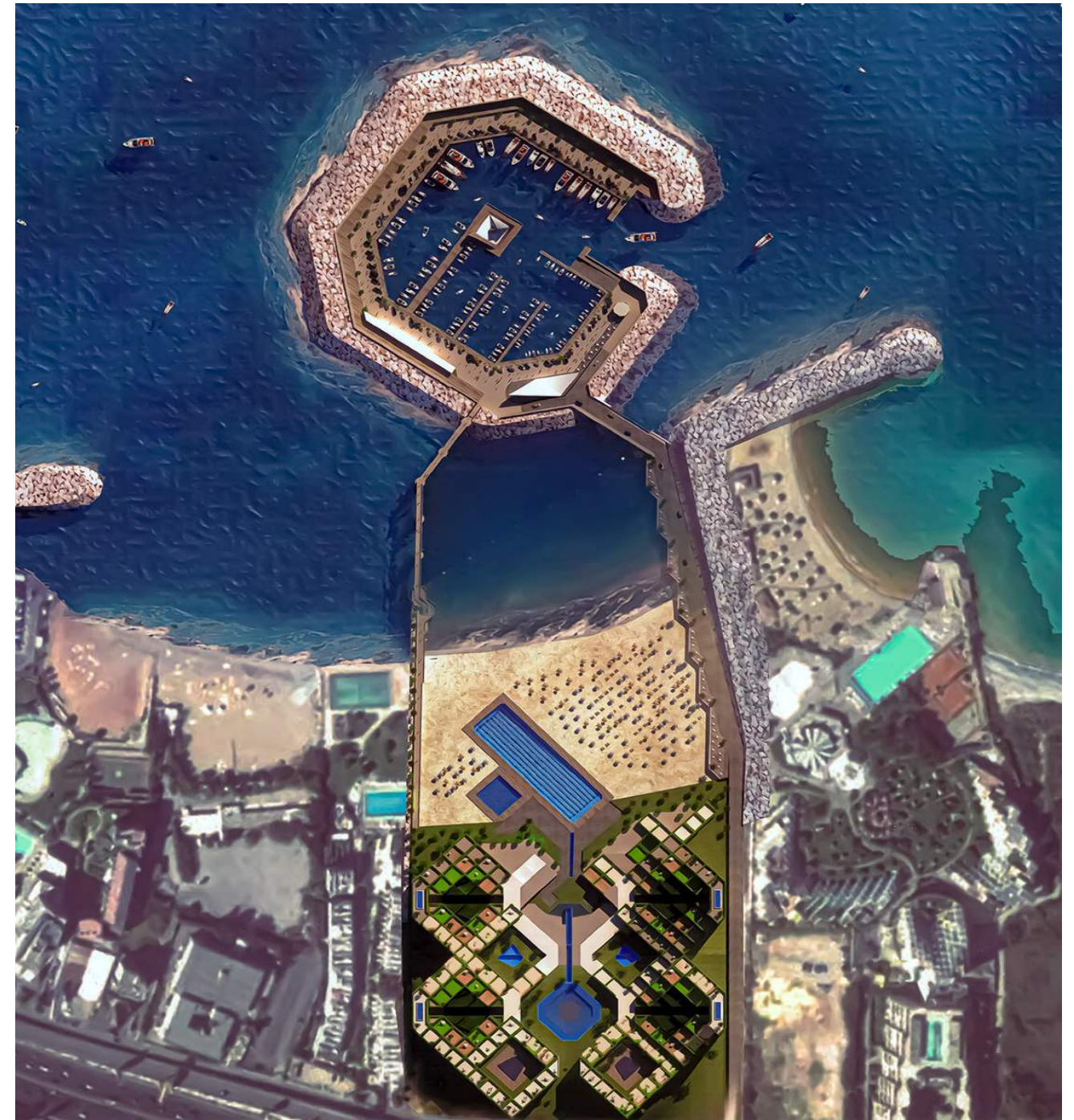
Consultant SEATEC sarl

Galatea Marina

Year 2013 – 2014
Design / Surveying / Permitting

- Marina Master Plan
- Berthing capacity (125 yachts)
- Main Breakwater (Rubble mound type, L=568m @max - 9.00m, core material, rocky filter and 16m³ concrete Accropodes blocks Type I)
- RC Crown walls
- Quaywalls (L=256m @-3.00m MSL) / Precast concrete blocks (Gravity QW)
- Quaywalls (L=200m @-4.50m MSL) / Precast concrete blocks (Gravity QW)
- Finger Pier (L=182m @-3.00m MSL, Nbr 3) / Precast concrete elements
- Slipway (Boat ramp) Marina Master Plan

Ports / Marinas / **Coastal Protections** / **Seawalls** / Beaches / Lift Structures / Slipways / Surveying / Permitting



Galatea Marina

- Marine accessories (Mooring bollards, fenders)
- Land reclamation and bituminous / RC Platforms
- RC and bituminous platforms
- Pedestrian access bridge (L=138m)
- Car access bridge (L=30m)
- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, Pumps, pipes, manholes, tanks)
- Marina master headquarter, restaurants, offices, shops (2,204m²)
- Fueling station
- Sandy beach stabilization (L=200m)
- Reclaimed area (60,281m²)
- Water body (27,289m²)
- Topographic survey (28,900m²)
- Bathymetric survey (377,400m²)
- Specifications / Drawings / BoQ / Permitting



Ports / Marinas / **Coastal Protections** / **Seawalls** / Beaches / Lift Structures / Slipways / Surveying / Permitting

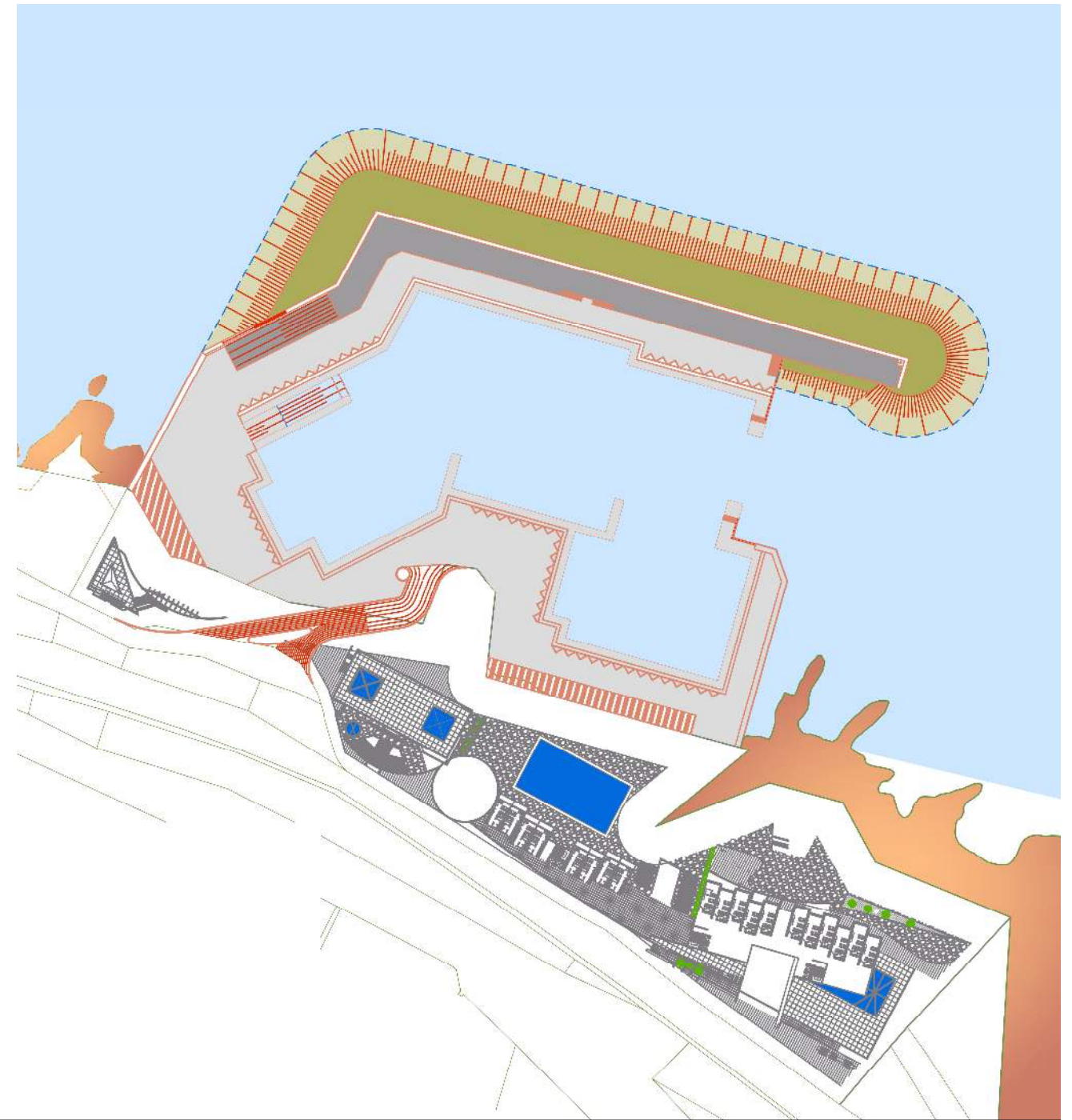
Client Owner Plot 236
Location LEBANON – Halat
34°5'7"N
35°38'57"E
Consultant SEATEC sarl

Marina 236

Year 2013 – 2014
Design / Surveying / Permitting

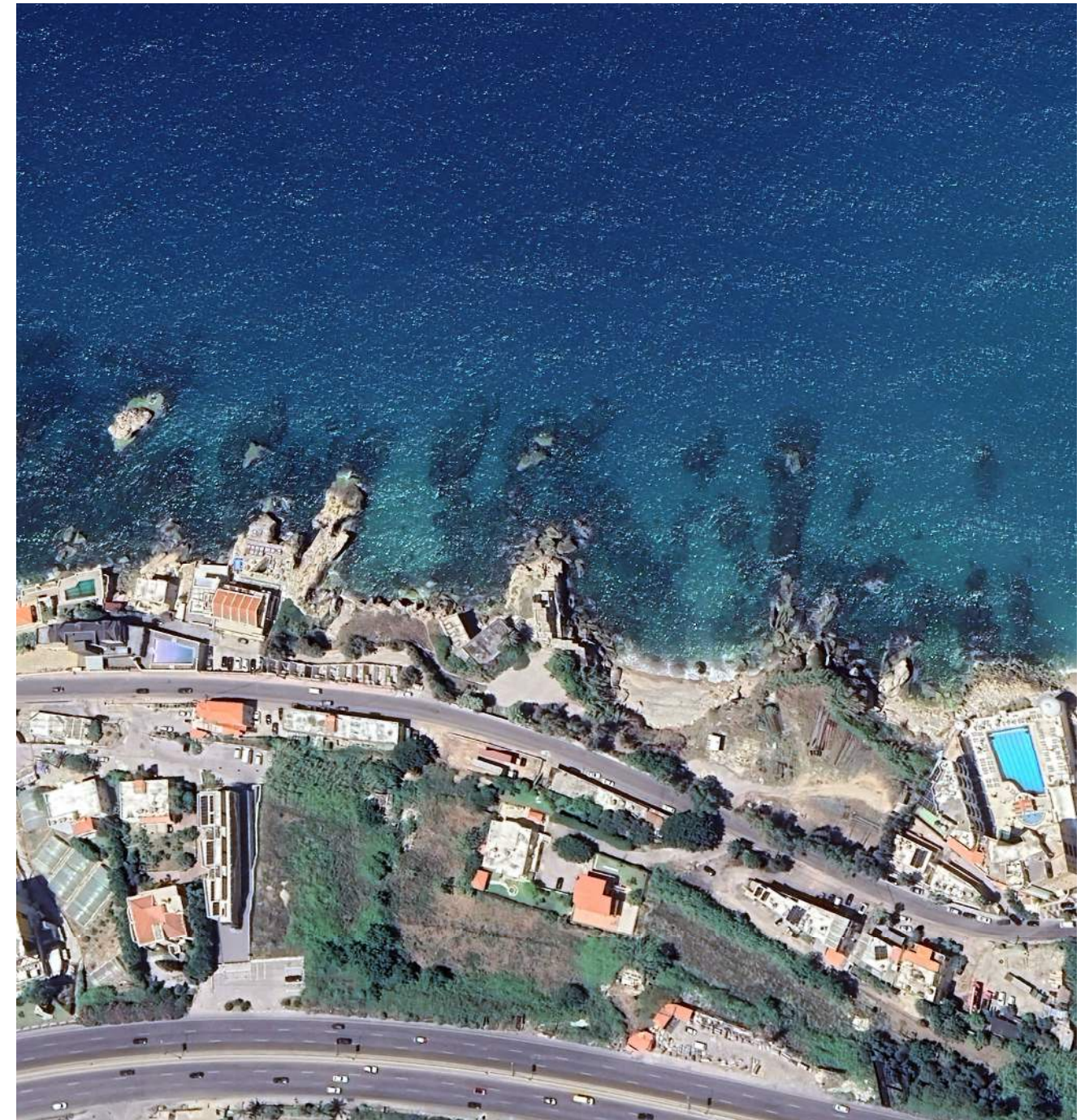
- Marina layout
- Berthing capacity (99 yachts)
- Main Breakwater (Rubble mound type, L=198m @max - 7.00m, core material, rocky filter and 16m3 concrete Accropodes blocks Type I)
- RC Crown walls
- RC Seawall
- Quaywalls (L=355m @-3.00m MSL) / Underwater concrete (Gravity QW)
- Quaywalls (L=105m @-4.00m MSL) / Underwater concrete (Gravity QW)
- Marine accessories (Mooring bollards, fenders...)
- Land reclamation and bituminous / RC Platforms

Ports / Marinas / **Coastal Protections** / **Seawalls** / Lift Structures / Slipways / Surveying / Permitting



Marina 236

- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, Pumps, pipes, manholes, tanks)
- Marina master, restaurants, offices, shops (960m²)
- Fueling station
- Reclaimed area (13,370m²)
- Water body (8,157m²)
- Topographic survey (10,700m²)
- Bathymetric survey (315,000m²)
- Specifications / Drawings / BoQ / Permitting



Ports / Marinas / **Coastal Protections** / **Seawalls** / Lift Structures / Slipways / Surveying / Permitting

COASTAL PROTECTION PLOT 45

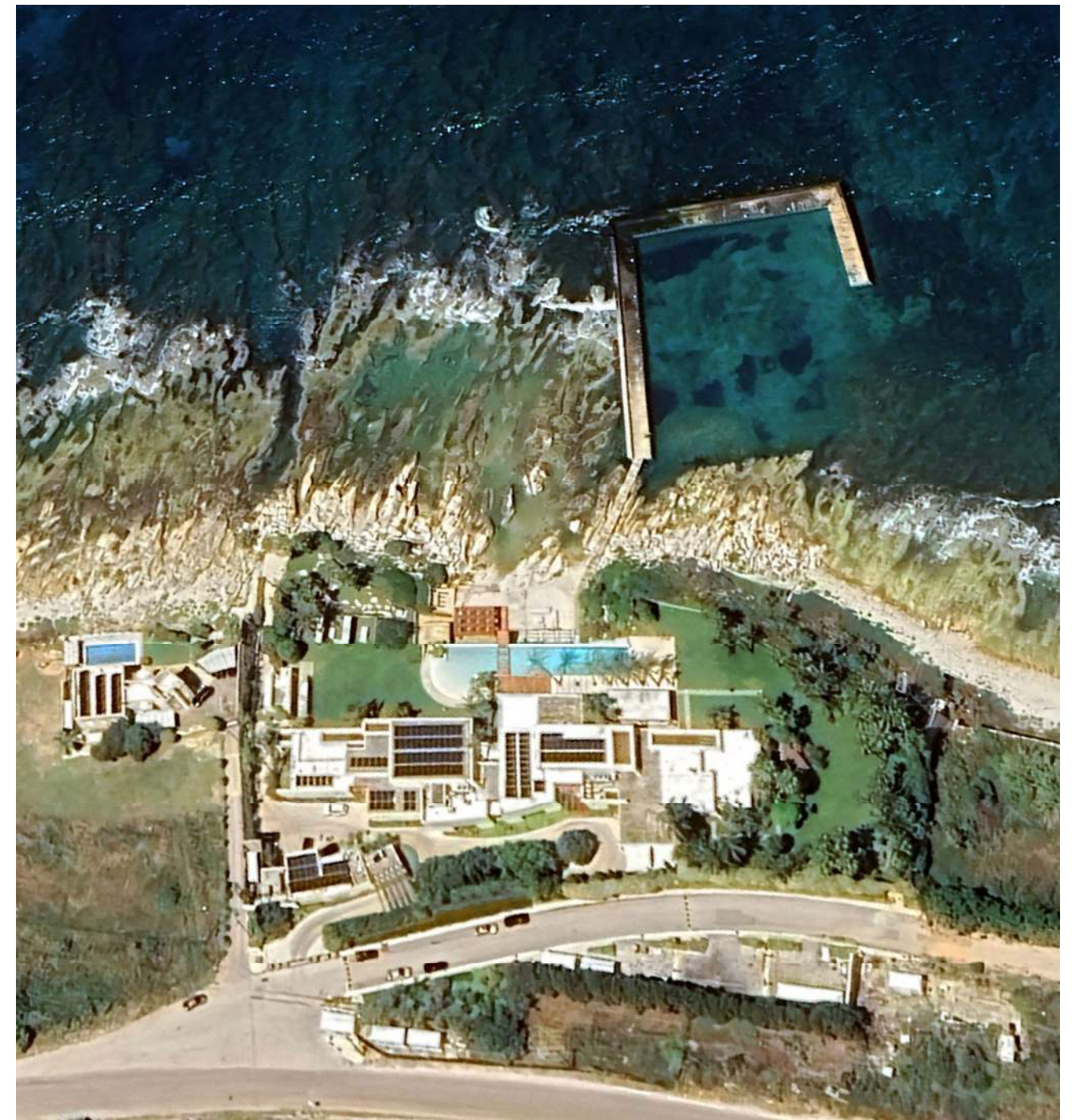
86

Client Owner Plot 45
Location LEBANON – Berbara
34°12'11"N
35°38'14"E
Consultant SEATEC sarl

Year 2014 – 2015
Design / Surveying / Permitting

Coastal protection Plot 45

- Assessment of the existing concrete seawall condition (Vertical concrete wall type, L=73m @max -3.00m) / Review of extreme waves overtopping and discharge rates in addition to cracks, underwater concrete condition...
- Additional protection measures against overtopping and structure fatigue using 6.3m3 concrete Accropodes blocks type I
- Topographic survey
- Bathymetric survey (12,000m2)
- Drawings / BoQ



Coastal Protections / Revetments / Seawalls / Surveying

IAPCO TERMINAL

87

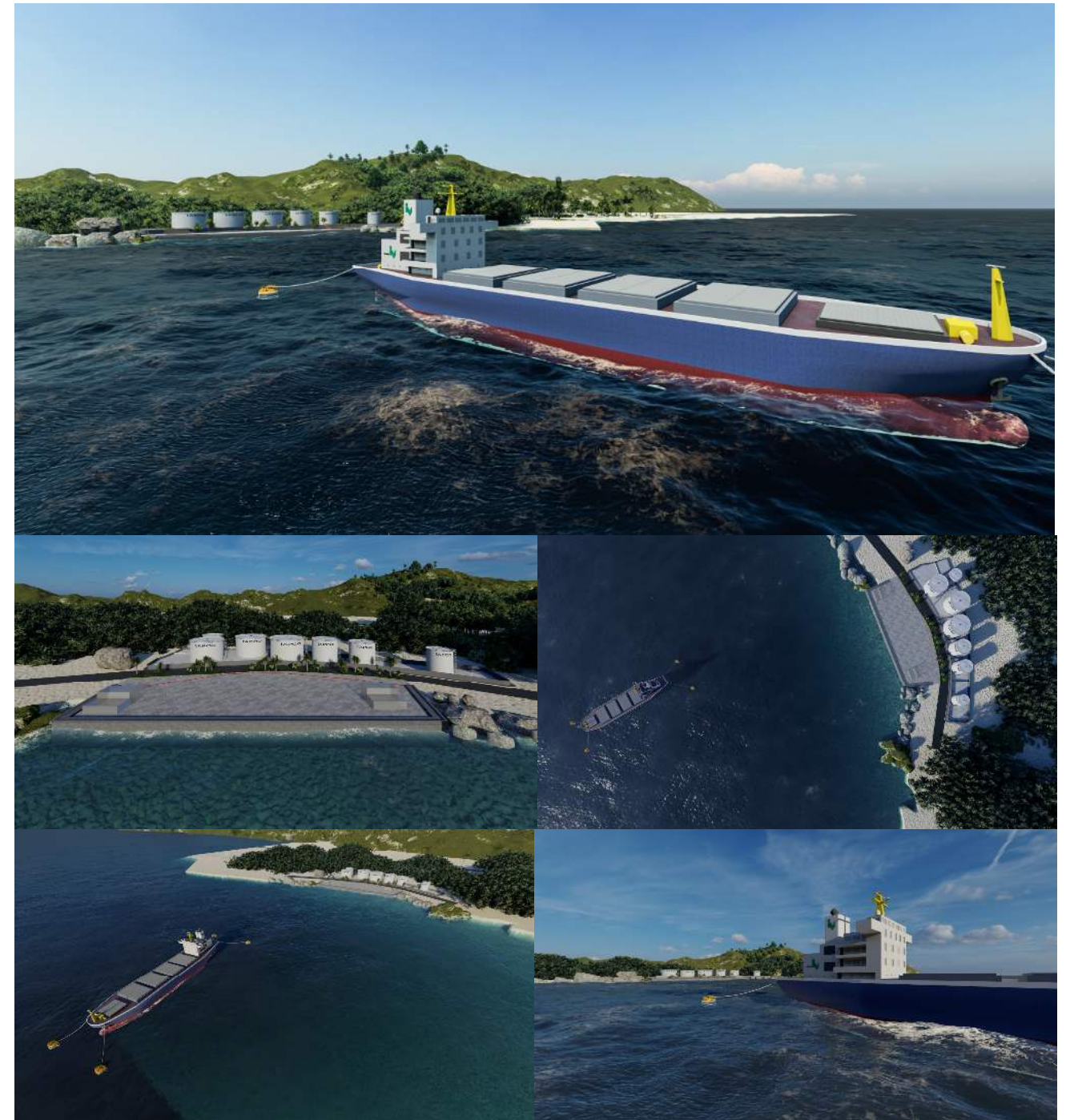
Client IAPCO sal
Location LEBANON – Selaata
34°17'10" N
35°39'53" E
Consultant SEATEC sarl

IAPCO Terminal

Year 2013 – 2017 – 2019
Design / Surveying / Permitting

- Design of an offshore pipeline (L=311m) for fuel/oil products
- Land reclamation with RC seawall protection
- Conceptual design of tanks and related buildings / facilities in the private plot
- Topographic survey (64,000m²)
- Bathymetric survey (154,000m²)
- Specifications / Drawings / BoQ / Permitting

Ports / Oil & Gas Terminals / Seelines / Offshore Pipelines / **Coastal Protections** / **Seawalls** / Mooring Structures / CBM / Surveying / Permitting



COASTAL PROTECTION PLOTS 126 - 127

88

Client Owner Plots 126 - 127

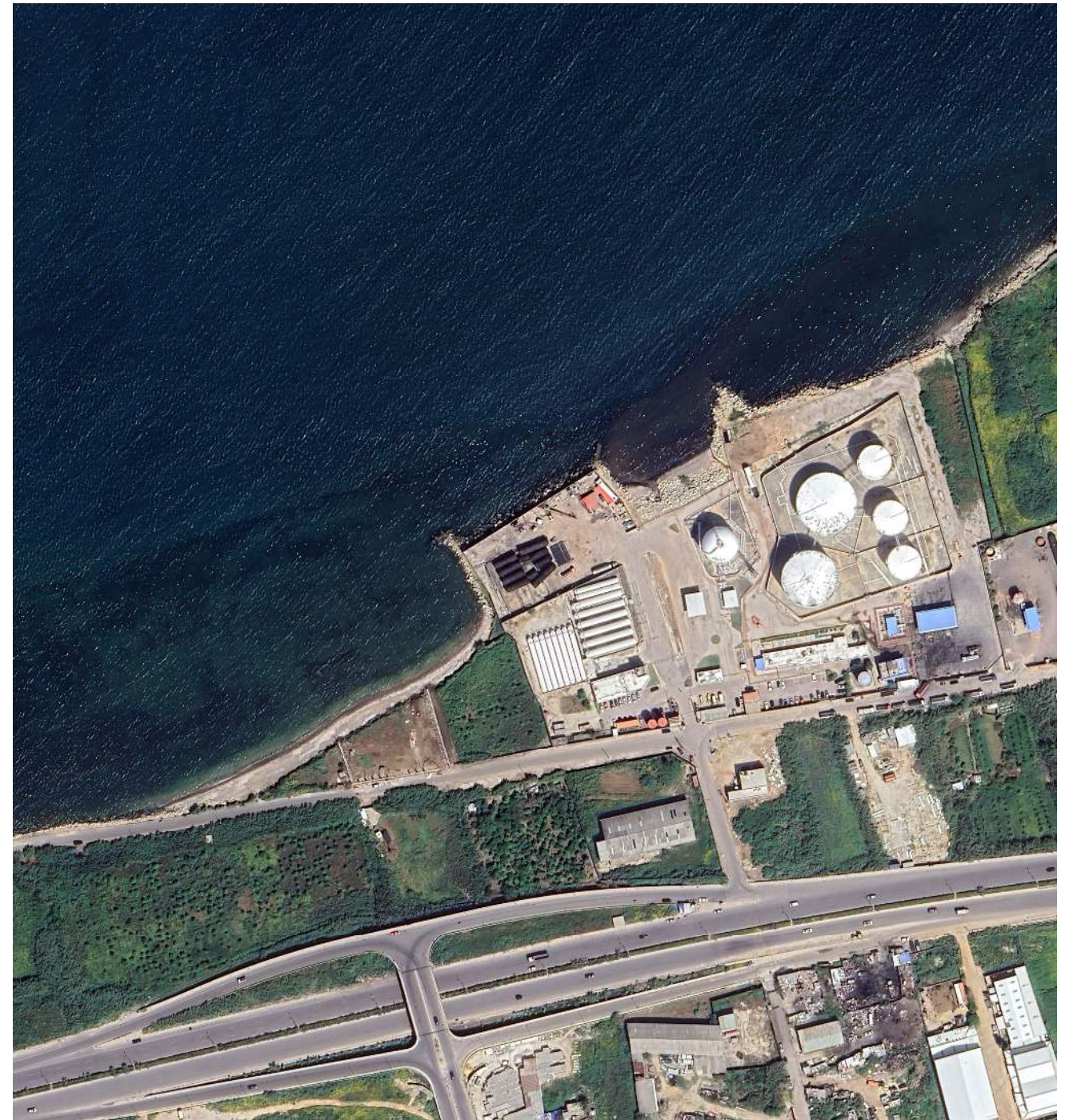
Location LEBANON – Beddawi
34°27'22"N
35°51'32"E

Consultant SEATEC sarl

Year 2013
Conceptual Design / Surveying / Permitting

Coastal protection Plots 126 - 127

- Sloped protection (Rubble mound type, L=183m @max - 4.00m, rocky armor layer)
- Land reclamation within private plots limits (5,530m²)
- Topographic survey (5,230m²)
- Bathymetric survey (73,000m²)
- Drawings / BoQ / Permitting



Coastal Protections / Revetments / Surveying / Permitting

JOUNIEH CRUISE PORT – PHASE 1

89

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Jounieh
33°59'02" N
35°36'49" E

Consultant SEATEC sarl

Jounieh Cruise Port - Phase 1

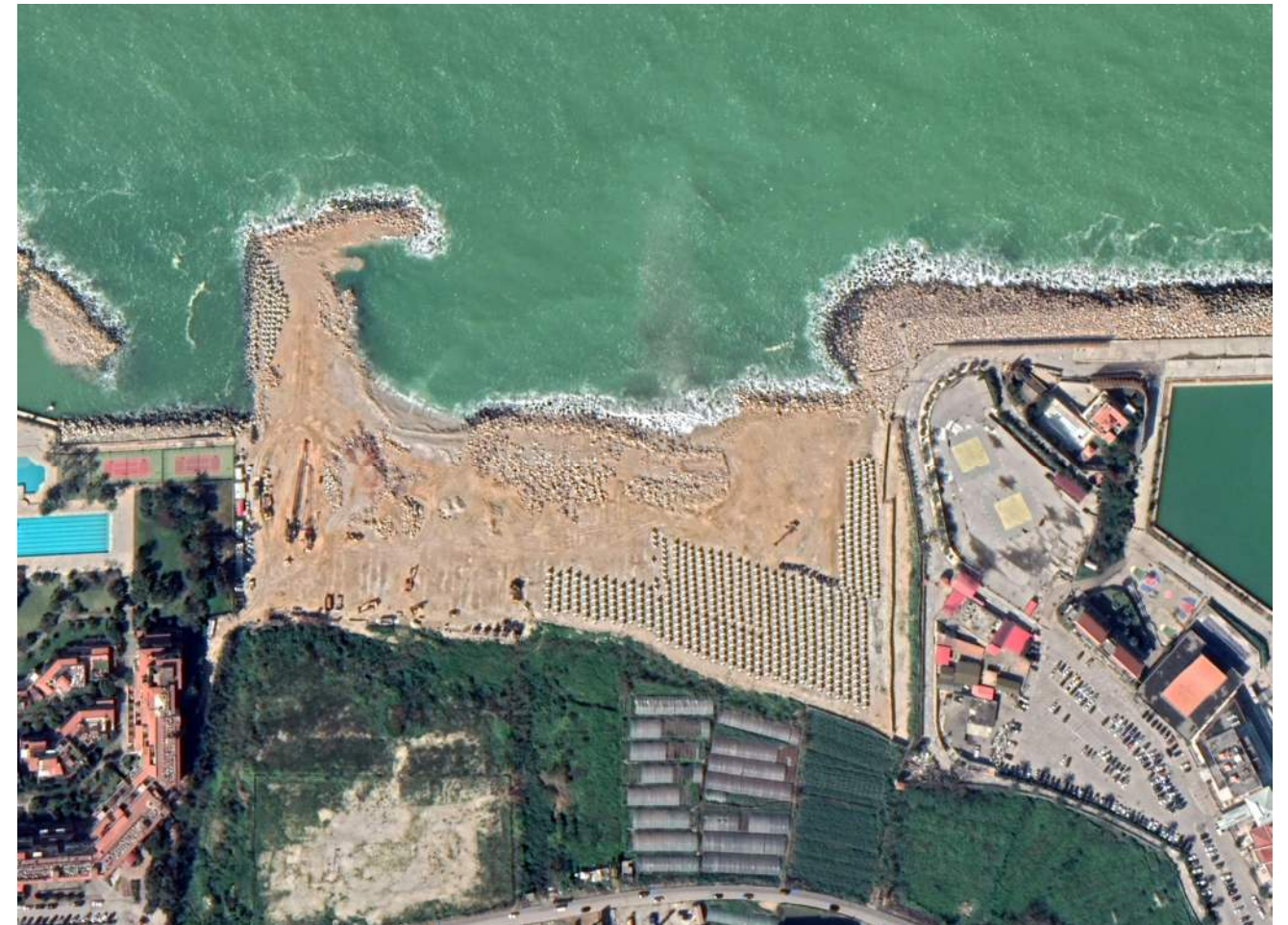
Year 2016
Design / Surveying

- Reclaimed area of ~40,000m² / Temporary protection with concrete Accropodes Blocks Type II (L~270m)
- Casting and storage of Accropodes Blocks Type II
- Tender Documents / Drawings / BoQ

Year 2017 - 2019
Works Supervision

- Contractor : MAR contracting)
- Duration : 24 months

Ports / Cruise Terminals / Coastal Protections / Revetments



DBAYEH WATERFRONT (1/2)

90

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Roads and Buildings

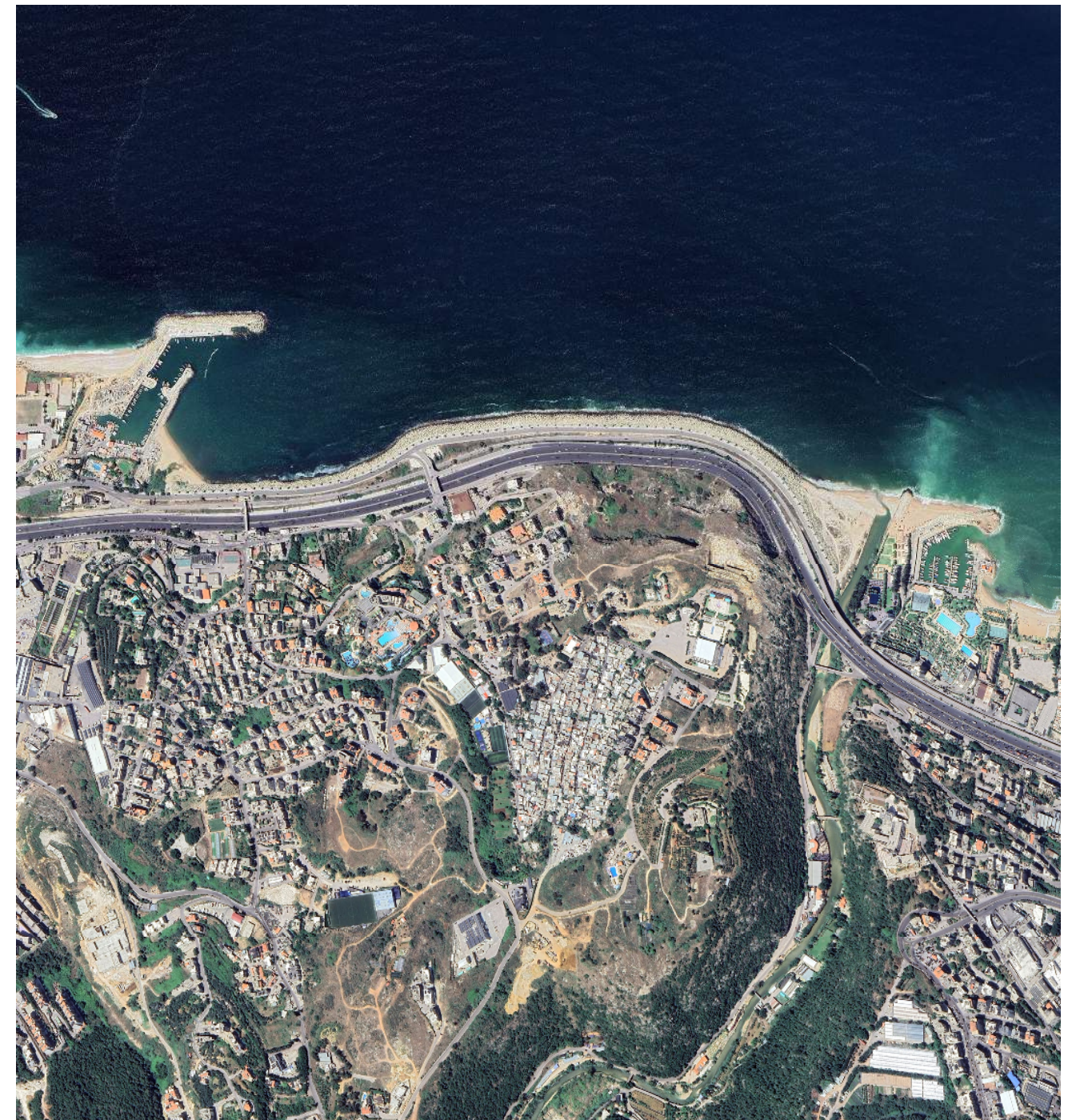
Location LEBANON – Dbayeh
33°57'10" N
35°35'32" E

Consultant SEATEC sarl

Dbayeh waterfront – Phase 2

Year 2015
Design / Surveying

- Highway protection and rehabilitation works
- Rehabilitation of the heavily damaged rocky riprap along existing Dbayeh highway (L=1,359m @max -5.15m MSL) / Sloped protection (Rubble mound type, QR core, rocky filter and 6.3-9-12 and 16m³ concrete Accropodes Blocks Type I armor layer)
- 18m³ concrete Accropodes Blocks Type I (Submerged reef)
- Additional protection along Nahr el Kalb river bank (Rubble mound type, rocky armor layer, RC flood wall)
- Dredging for protection toe
- Excavation of existing protection and walkway



Waterfronts / **Coastal Protections** / **Revetments** / Beaches / Surveying

DBAYEH WATERFRONT (2/2)

91

Dbayeh waterfront

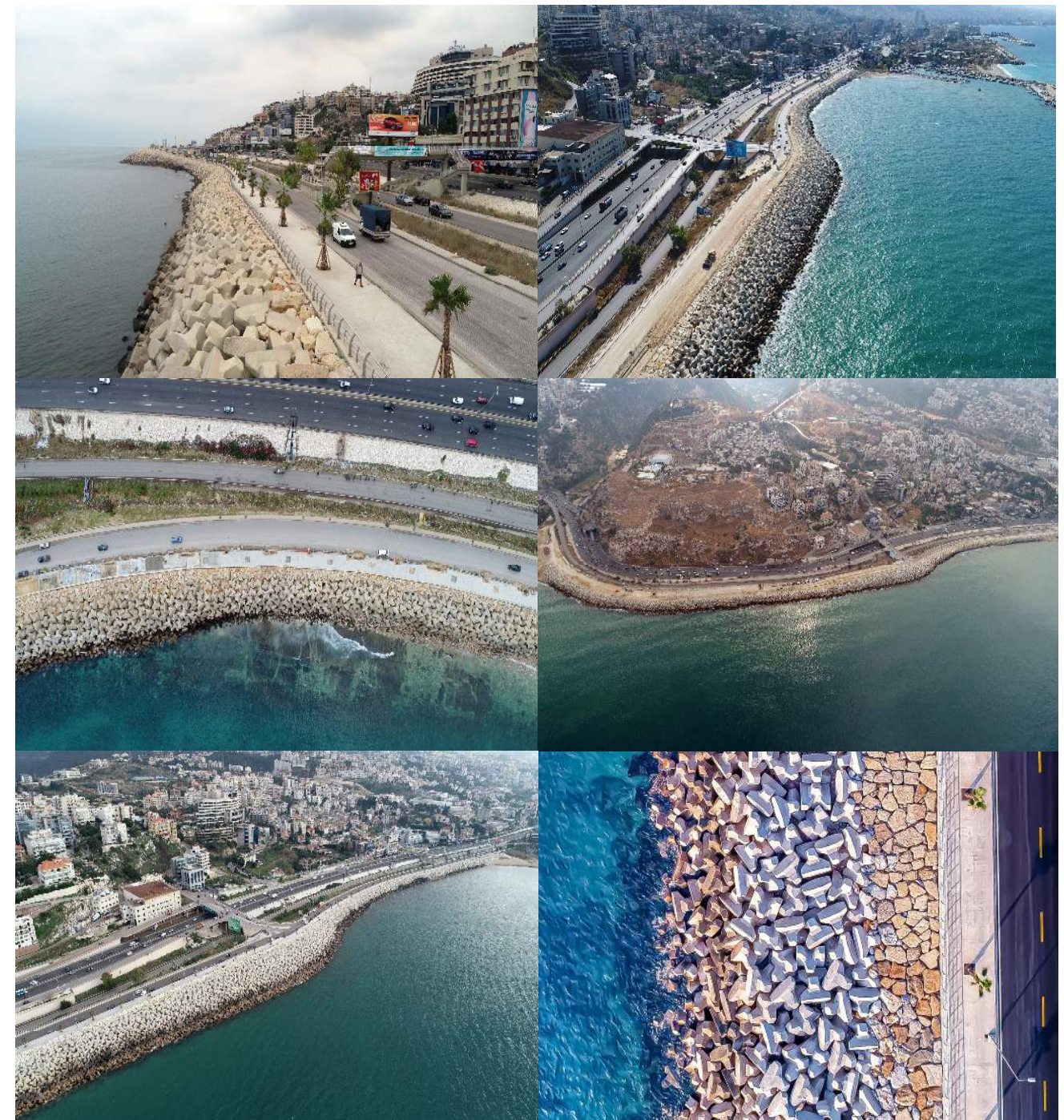
Year 2015

- New walkway (Additional width) for pedestrians
- Infrastructure (Electrical supply, pipes, manholes, lighting poles)
- Infrastructure (Water supply, manholes)
- Extension of RC Box culverts (Nbr=7)
- Storm water system for the area under the bridge
- Landscaping (Washingtonia robusta trees, waste containers)
- Bituminous coating / marking of coastal road (1,650m)
- Excavation works
- Topographic survey (55,100m²)
- Bathymetric survey (1,114,000m²)
- Geotechnical investigation
- Tender Documents / Drawings / BoQ

Year 2016 – 2018

Works Supervision

- Contractor : ARACO Lebanese for Asphalt
- Duration : 24 months



Waterfronts / **Coastal Protections** / **Revetments** / Beaches / Surveying

TYRE LIGHTHOUSE PROTECTION AND REHABILITATION (1/2)

92

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Tyre
33°16'34"N
35°11'35"E

Consultant SEATEC sarl

Year 2013 – 2014
Design / Surveying

Tyre lighthouse protection and rehabilitation

- Submerged breakwater for coastal protection of the lighthouse (Rubble mound type, L=103m @max -4.50m MSL, crest level @max -1.00m MSL)
- Dredging works for breakwater toe @max -4.50m MSL
- Removal of existing concrete structure (light) and building a new RC one (H=12.70m)
- Rehabilitation of existing lighthouse with removal of heavily damaged parts and building new ones covering an area of 175m²
- Infrastructure (Electrical supply, pipes, manholes, lighting poles)

Coastal Protections / Revetments / Surveying



Tyre lighthouse protection and rehabilitation

- Infrastructure (Water supply, Pumps, pipes, manholes, tanks)
- Sanitary infrastructure
- Topographic survey (5,600m²)
- Bathymetric survey (17,400m²)
- Tender Documents / Drawings / BoQ



Coastal Protections / Revetments / Surveying

WATERFRONT CITY MARINE OUTFALL

94

Client Waterfront City sarl

Location LEBANON – Dbayeh
33°55'10"N
35°34'52"E

Consultant SEATEC sarl

Year 2012 – 2013 – 2014
Design / Surveying / Permitting

Waterfront city marine outfall

- HDPE marine outfall (D=50cm; L=920m) and diffuser (D=50cm; L=36m) @max -17.00m MSL
- Hydraulic design / Diffusion modeling
- Collars and rocky protection
- Waste water treatment plant
- Land reclamation (3,000m²) with rocky protection / RC sea wall for the WWTP
- Topographic survey
- Bathymetric survey (116,000m²)
- Specifications / Drawings / BoQ / Permitting



Coastal Protections / Revetments / Sealines / Marine Outfalls / Surveying / Permitting

ISF DBAYEH BASE COASTAL PROTECTION - 1

95

Client LEBANESE REPUBLIC
Ministry of Interior and Municipalities
Directorate General of Internal Security Forces (ISF)

Location LEBANON – Dbayeh
33°56'35" N
35°35'16" E

Consultant SEATEC sarl

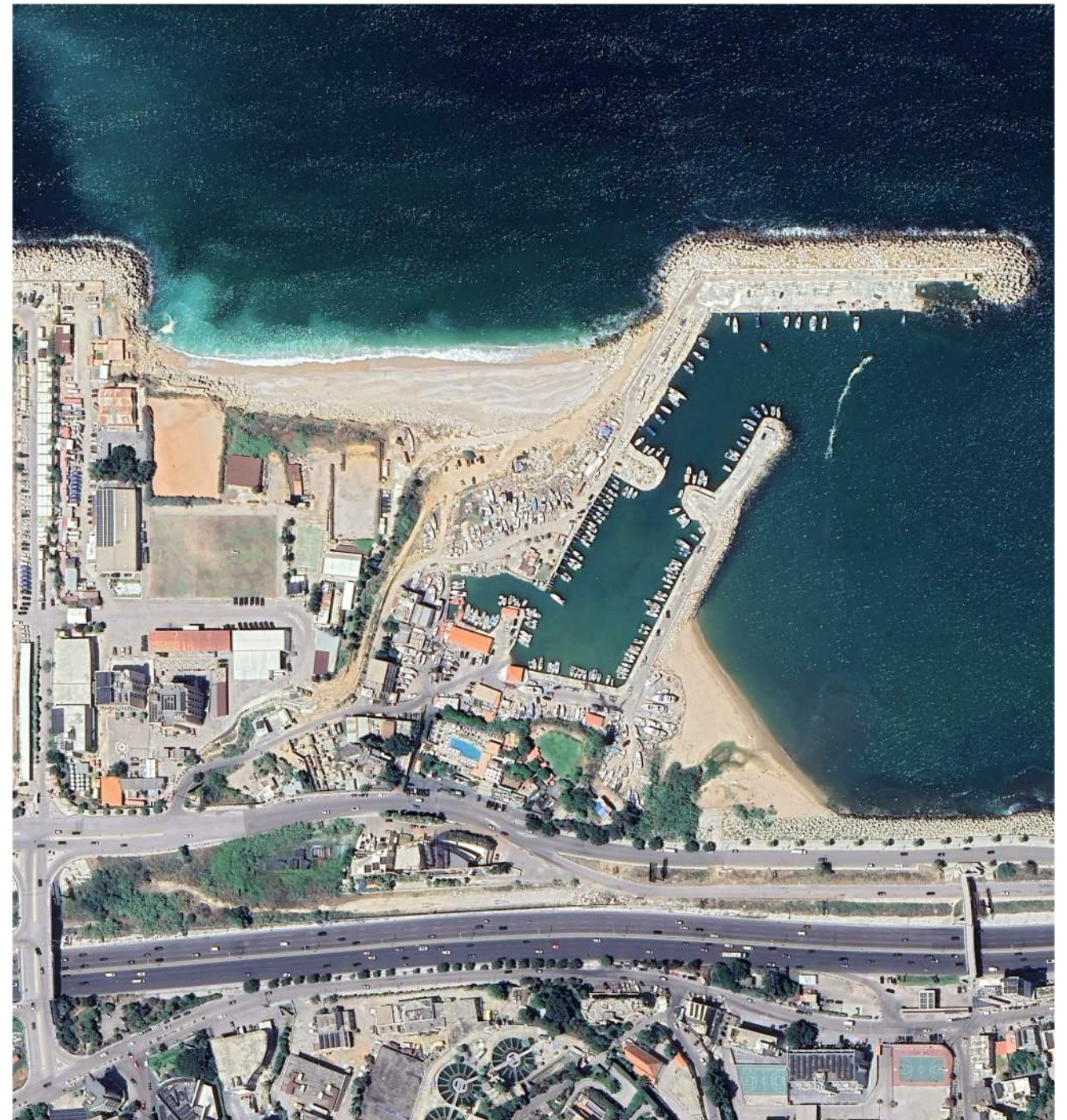
ISF Dbayeh Base Coastal Protection - 1

Year 2012
Design / Surveying

- Protection of existing reclaimed coastal area (L=300m)
- Jetty with 9 and 18m³ precast concrete Accropodes blocks Type I
- Secondary Breakwater
- Topographic survey (11,000m²)
- Bathymetric survey (15,000m²)
- Tender Documents / Drawings / BoQ

Details and dimensions cannot be disclosed

Ports / Naval Bases / **Coastal Protections** / **Revetments** / Surveying



LE PECHE RESTAURANT SEAWALL

96

Client Le Pêche Restaurant

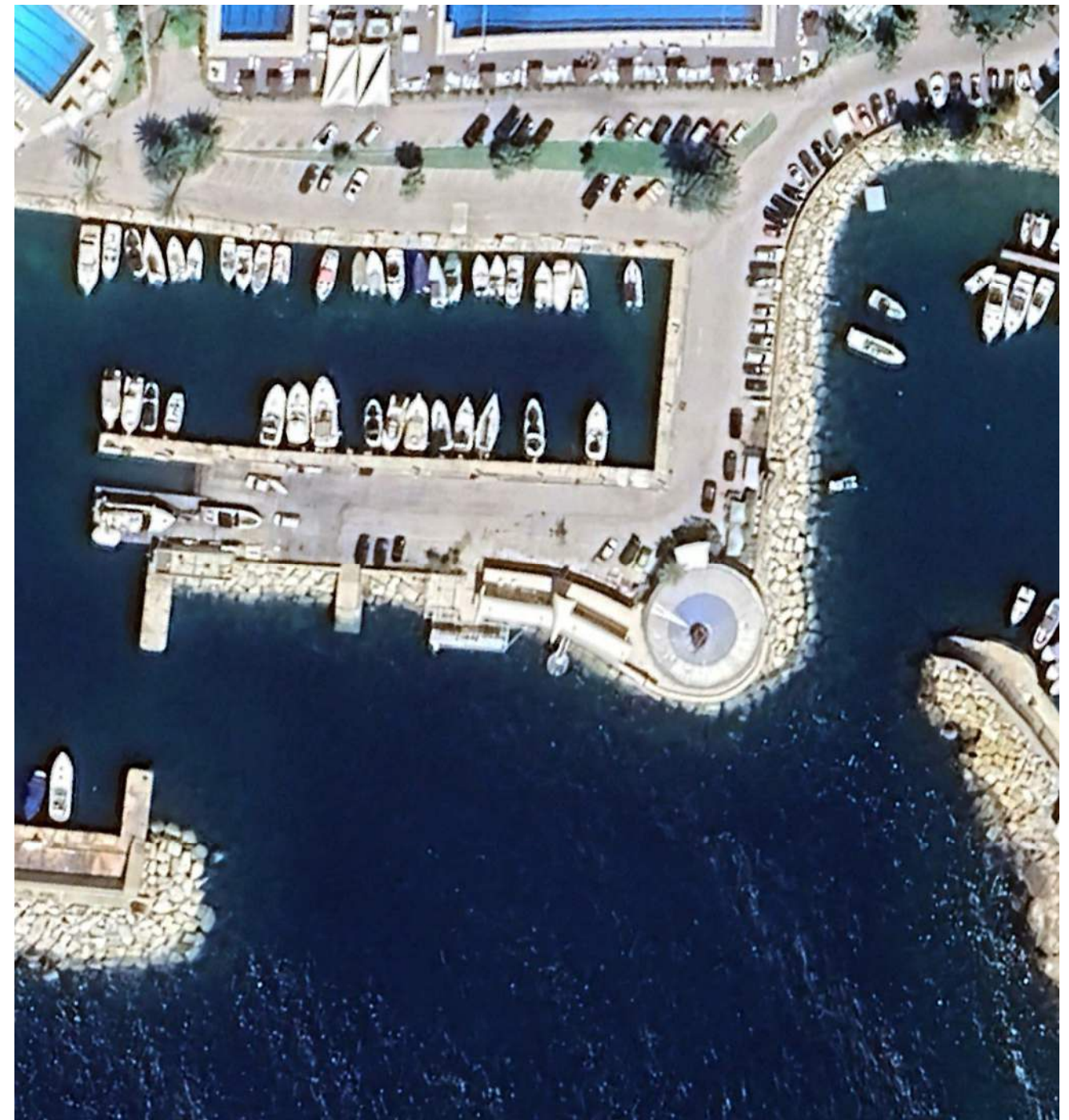
Location LEBANON – Tabarja
34°0'53" N
35°37'57" E

Consultant SEATEC sarl

Le Pêche Restaurant seawall

Year 2012
Design

- RC curved seawall (L=25.00m) to reduce waves overtopping discharges and to protect existing restaurant from potential damages by winter waves
- Specifications / Drawings / BoQ



Ports / Marinas / **Coastal Protections** / Seawalls

CIMENTERIE NATIONALE (CN) PORT EXTENSION

97

Client Cimenterie Nationale sal

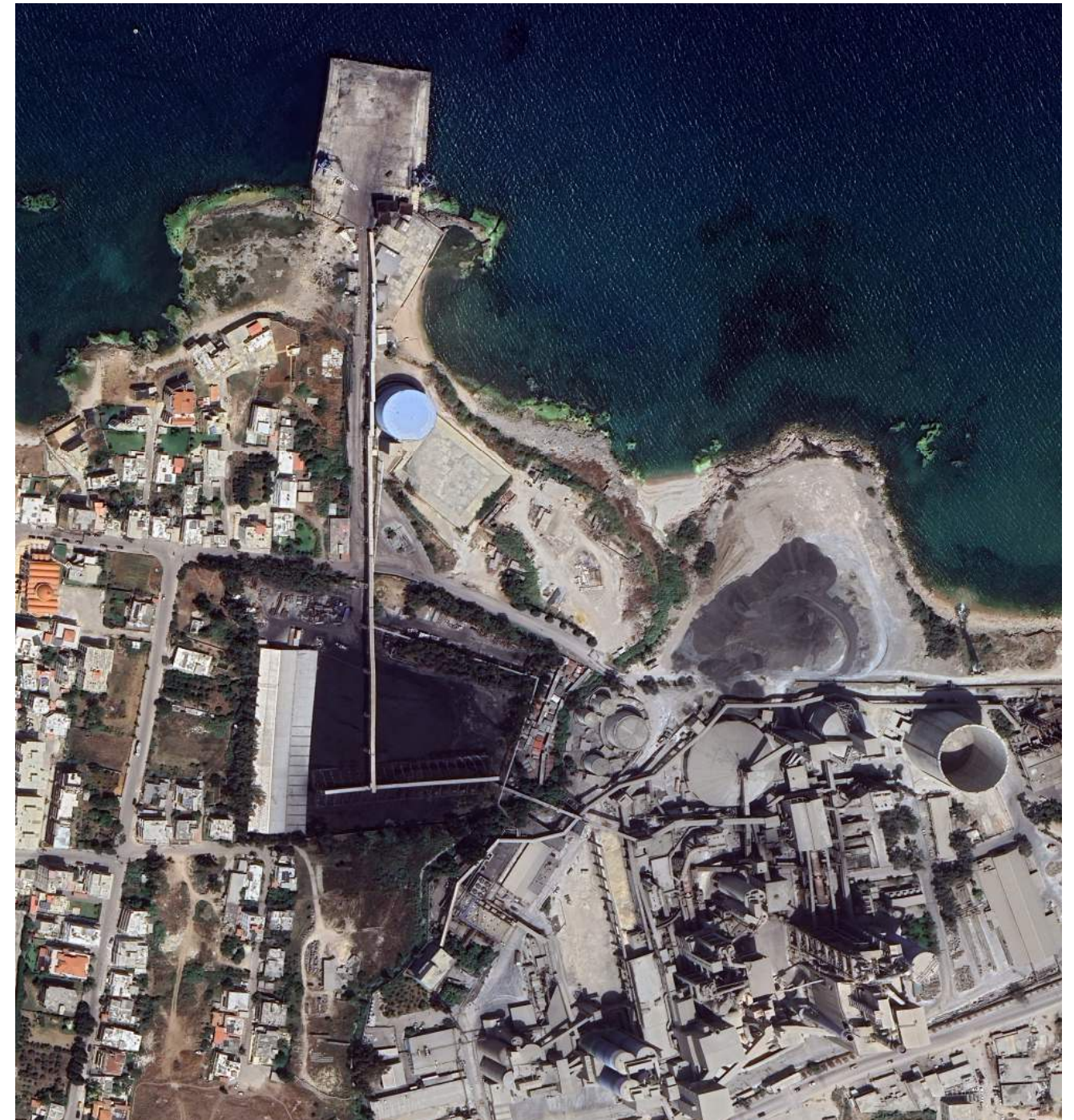
Location LEBANON – Chekka
34°20'3" N
35°43'27" E

Consultant SEATEC sarl

Cimenterie Nationale (CN) Port Extension

Year 2012 – 2013
Conceptual design

- Port Master Plan
- Main breakwater (Rubble mound type, L=1,020m @max - 20.00m, 18m³ precast Accropodes blocks Type I armor layer)
- Main quaywall (L=100.00m @-16.00m MSL) for 60,000DWT ships berthing
- Crown walls / Reflector seawalls
- RC platform (4,500m²)
- Dredging of (43,800m²) @-10.00m for 10,000DWT ships and (58,000m²) @-16.00m for 60,000DWT ships maneuvering
- Works phasing
- Drawings / BoQ



Ports / Industrial Ports / **Coastal Protections** / Seawalls

NAHR EL KEBIR RIVER BANKS PROTECTION (1/2)

98

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Aarida
34°38'3" N
35°58'41" E

Consultant SEATEC sarl

Nahr el Kebir River Banks Protection

Year 2012
Design / Surveying

- Coastal protection for Nahr el Kebir River banks against flooding
- Sloped rocky protection (L=281m @max -2.50m MSL, core material, rocky filter and armour layer)
- Land reclamation and RC slabs on grade (4,190m²)
- Slipway (Boats ramp)
- Infrastructure (Manholes and storm drainage pipes)
- Dredging for protection toe @max -4.00m MSL
- Topographic survey (9,450m²)
- Bathymetric survey (11,400m²)
- Tender Documents / Drawings / BoQ

Ports / Fishing Ports / **Coastal Protections** / **Revetments** / Lift Structures / Slipways
/ Dredging / Surveying



NAHR EL KEBIR RIVER BANKS PROTECTION (2/2)

99

Naher el Kebir River Banks Protection

Year 2012 - 2013
Works Supervision

- Contractor : SOTEG sarl
- Duration : 14 months



Ports / Fishing Ports / **Coastal Protections** / **Revetments** / Lift Structures / Slipways
/ Dredging / Surveying

COASTAL PROTECTION PLOTS 69 – 70 – 157 – 810

100

Client Owner Plots 69 – 70 – 157 – 810

Location LEBANON – Nahr Ibrahim
34°4'5" N
35°38'30" E

Consultant SEATEC sarl

Coastal protection for Plots 69 – 70 – 157 – 810

Year 2010 – 2011 – 2016 – 2017
Design / Permitting

- Coastal protection / beach Master Plan
- Seasonal berth (3 yachts)
- Main Breakwater (Concrete vertical breakwater L=230m @max -2.50m, Underwater concrete / capping beam and seawall)
- Quaywalls (L=93m @-2.00m MSL) / Underwater concrete (Gravity QW)
- Conservation of natural rocky beach
- Wooden pathways on beach
- Water body (11,938m²)
- Drawings / BoQ / Permitting



Ports / Marinas / **Coastal Protections** / **Seawalls** / Permitting

COASTAL PROTECTION PLOTS 92 – 229

101

Client Owner Plots 92 – 229
Location LEBANON – Antelias / Jal el Dib
33°54'41"N
35°34'45"E
Consultant SEATEC sarl

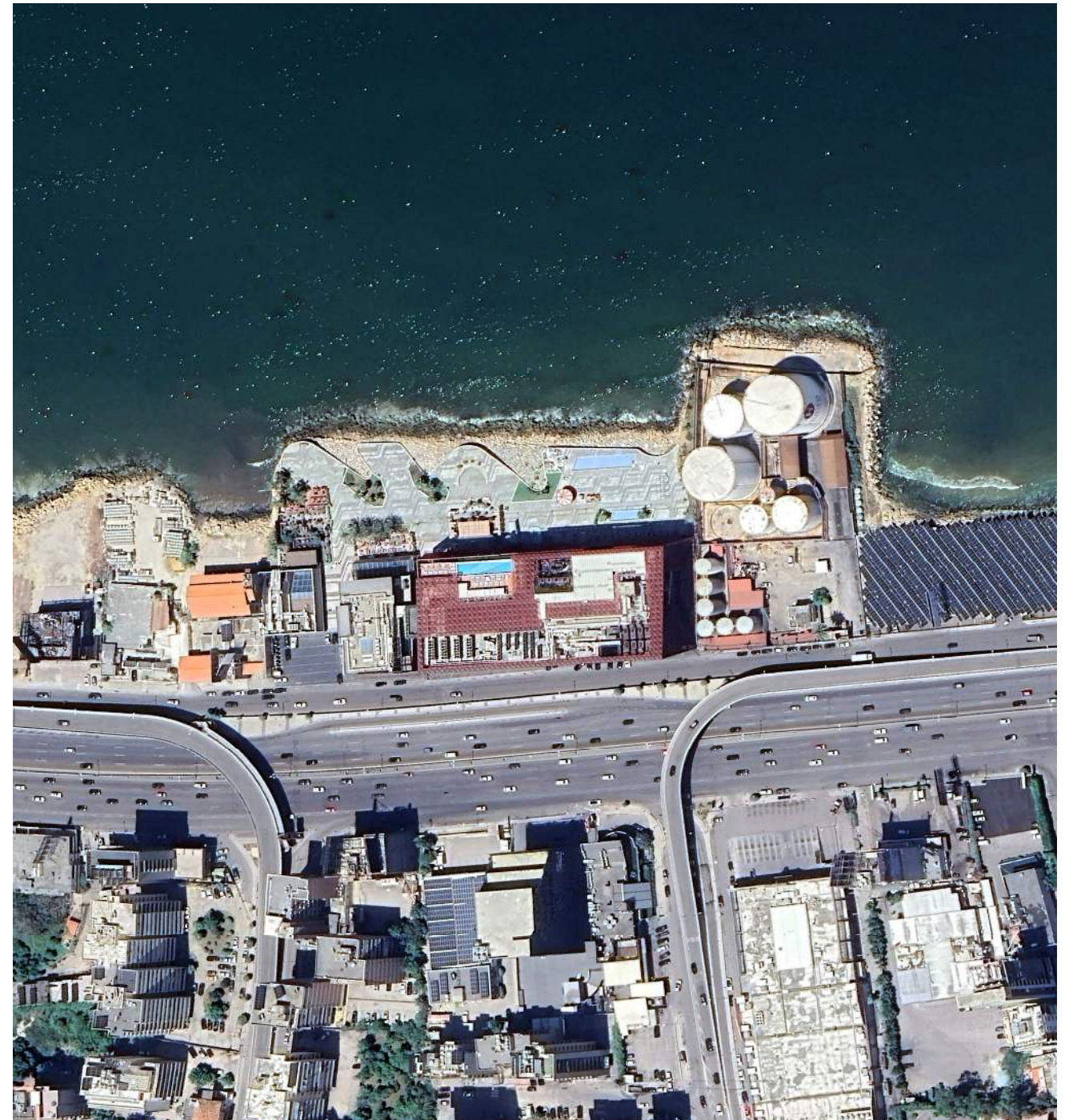
Coastal protection for Plots 92 – 229

Year 2012 – 2013 – 2014 – 2015 – 2018
Design / Surveying / Permitting

- Sloped rocky riprap (L~141m)
- Topographic survey
- Drawings / Permitting

Year 2018 – 2019
• Environmental Audit (EA) for the maritime domain occupancy (SEATEC JV SES)

Coastal Protections / Revetments / Enviro Studies / Surveying / Permitting



UBAY CLUB COASTAL PROTECTION

102

Client MARCONTRACTING

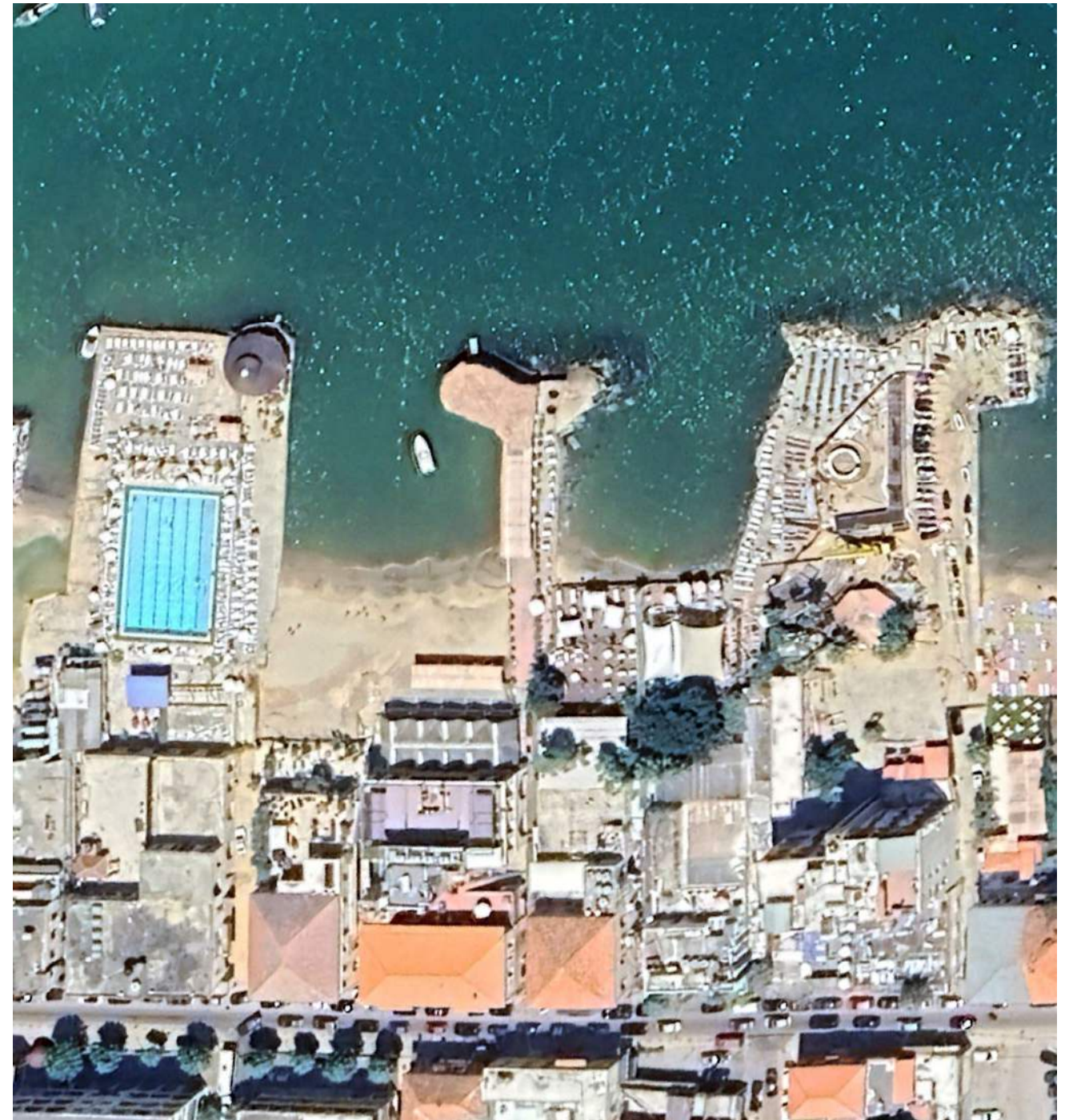
Location LEBANON – Jounieh
33°59'00"N
35°37'43"E

Consultant SEATEC sarl

Ubay Club coastal protection

Year 2009
Conceptual Design

- Waterfront rehabilitation design
- Removal of damaged portions
- Underwater concrete
- RC slabs on Grade
- Filling works and rocks re-installation
- Sand nourishment
- Drawings / BoQ



Coastal Protections / Seawalls

ABOU ABDALLAH COASTAL PROTECTION

103

Client Marine Express International Ltd

Location LEBANON – Qasmiye
33°20'1"N
35°14'39"E

Consultant SEATEC sarl

About Abdallah coastal protection

Year 2008

Design

- Coastal protection and shoreline stabilization
- Two L-shape groynes (Rubble mound type, L=380m) with rocky protection
- Sandy beach rehabilitation (L=350m)
- Drawings / BoQ



Coastal Protections / Revetments / Beaches

KALAMOUN WATERFRONT DEVELOPMENT

104

Client LEBANESE REPUBLIC
Municipality of Kalamoun

Location LEBANON – Kalamoun
34°23'22"N
35°47'11"E

Consultant SEATEC sarl

Kalamoun waterfront development

Year 2007
Conceptual Design

- Overall layout
- Green areas (4,562m²)
- Sport courts (1,400m²)
- Bleachers (348m²)

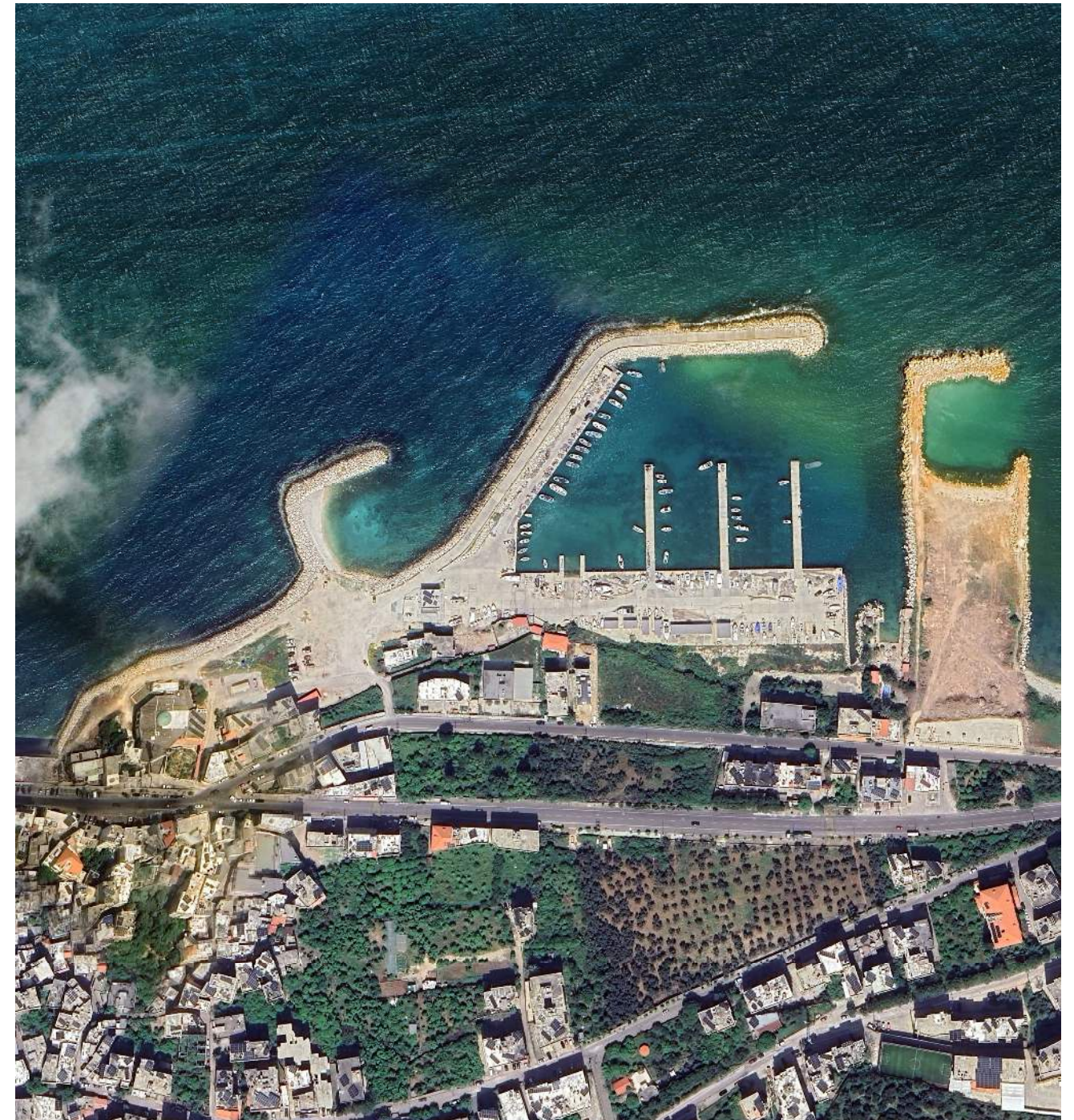
Year 2009
Conceptual Design

- Green areas and car parking (8,474m²)
- Reclaimed area (2,142m²)

Year 2010
Surveying

- Topographic survey of the waterfront area (19,900m²)

Coastal Protections / Revetments / Waterfronts / Surveying



NAJMAT ABU DHABI AL REEM ISLAND

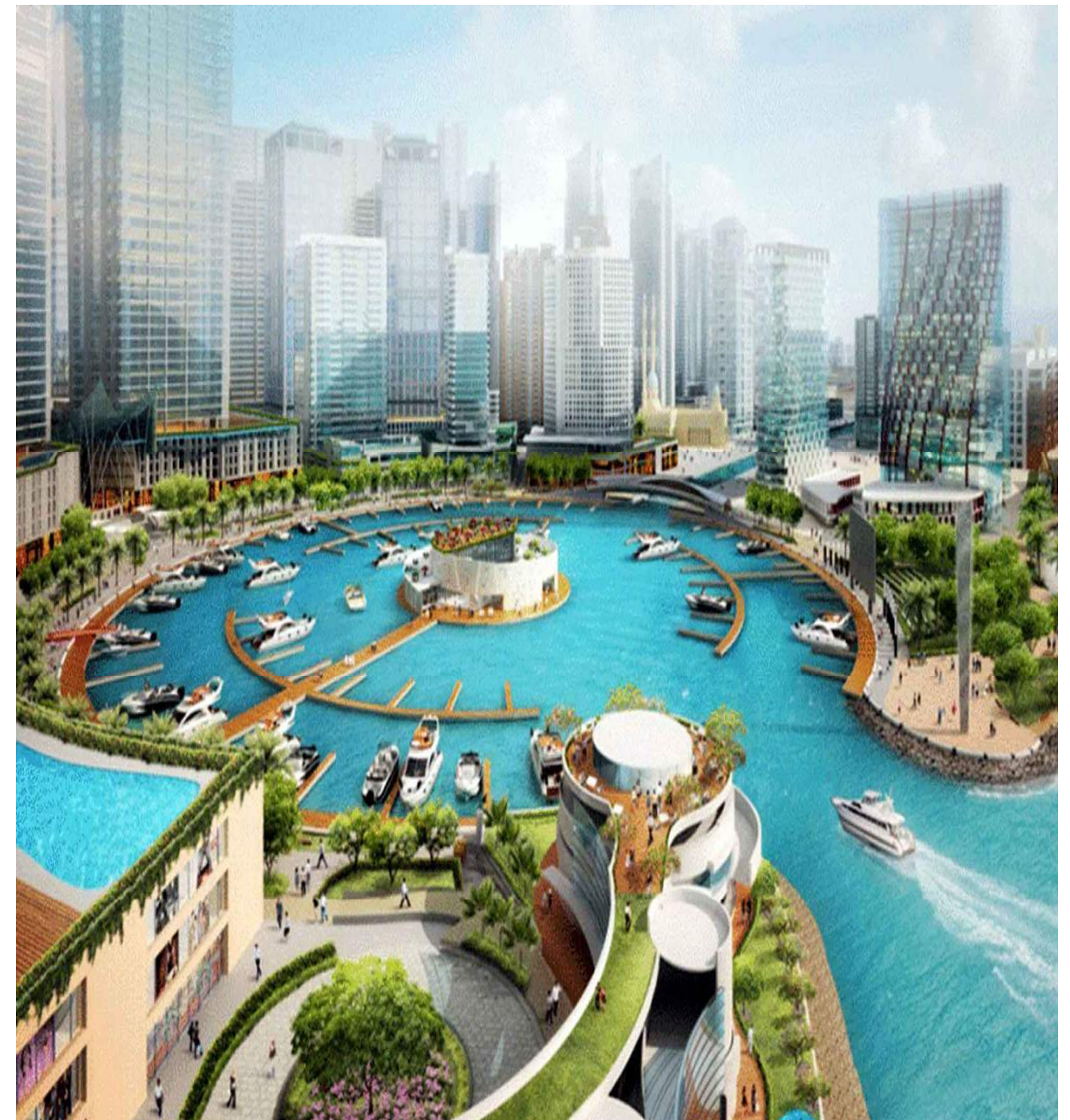
105

Client BATCO sal
Location United Arab Emirates (UAE) – Abu Dhabi
24°28'49" N
54°24'29" E
Consultant SEATEC sarl

Najmat Abu Dhabi Al Reem Islans

Year 2006 – 2007
Bidding assistance

- Method statement for blockworks



Ports / Waterfronts / **Coastal Protections** / Revetments

SARAYA AQABA (1/2)

106

Client Jacques Rrenou Office (2006 – 2011)
MARCONTRACTING (2010 – 2011)

Location JORDAN – Aqaba
29°32'6" N
34°59'26" E

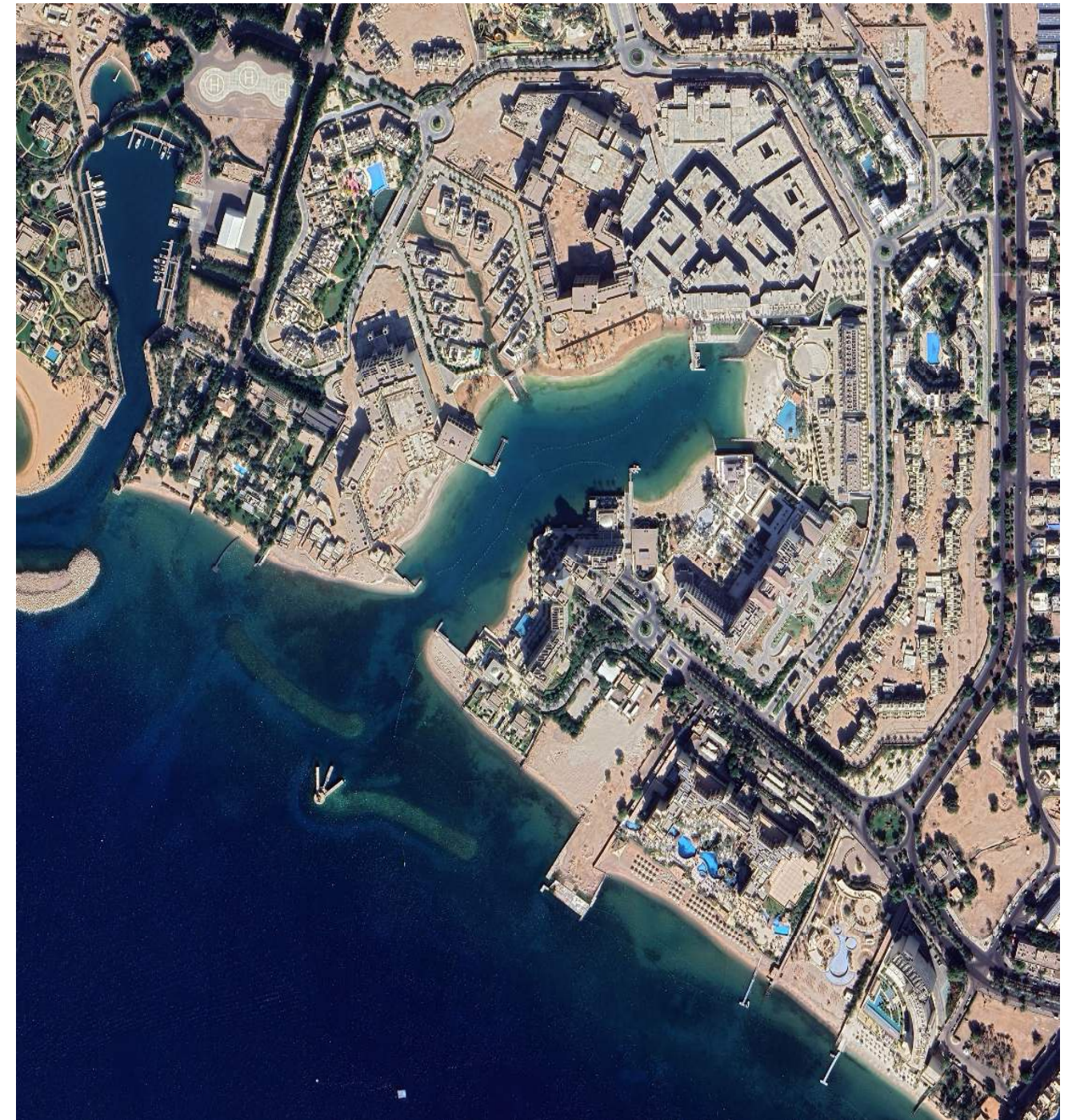
Consultant SEATEC sarl

Saraya Aqaba

Year 2006
Conceptual Design

- Marine infrastructure design
- Sandy beach design
- Retaining structures and shore protection (Diaphragm walls, sloped rocky protection, sheet piles...)
- Slipway
- 2 Submerged Breakwaters for lagoon protection (165m and 170m length)
- Drawings

Ports / Marinas / Waterfronts / **Coastal Protections** / **Revetments** / **Seawalls** /
Beaches / Lift Structures / Slipways / Dredging



Saraya Aqaba

Year 2007
Conceptual Design

- Method statement for Submerged Breakwaters construction
- Navigation aids at lagoon entrance
- Quaywall at entrance
- Lighthouse foundation
- Water taxi berthing configuration and navigation inside lagoon
- Drawings

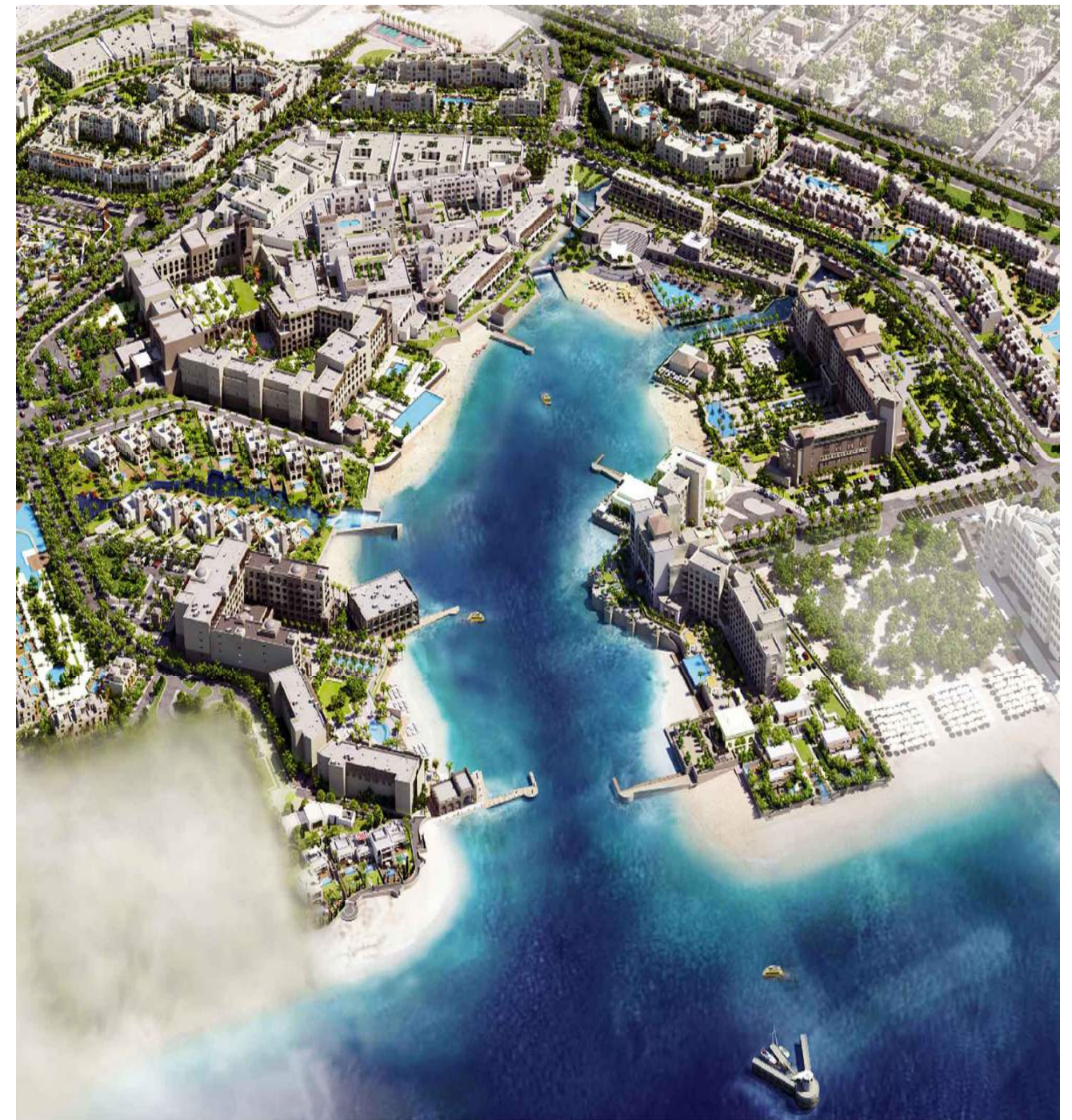
Year 2008
Conceptual Design

- Lighthouse foundation
- Drawings

Year 2010 – 2011
Design

- Piles and sheetpiles design
- Drawings

*Ports / Marinas / Waterfronts / **Coastal Protections** / **Revetments** / **Seawalls** / Beaches / Lift Structures / Slipways / Dredging*



Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Mina / Tripoli
34°26'46" N
35°48'44" E

Consultant SEATEC sarl

Mina waterfront development

Year 2006
Design / Surveying

- Main Breakwater (T Shape, Rubble Mound type, L=250m @max -5.00m MSL) with rocky armor layer
- Top RC slabs (2,000m²)
- Quaywall (L=40m @-3.00m) / Precast concrete blocks (Gravity QW)
- RC platforms (370m²)
- Topographic survey
- Bathymetric survey (60,000m²)
- Tender Documents / Drawings / BoQ



Waterfronts / **Coastal Protections** / **Revetments** / Surveying

TRIPOLI MARINE OUTFALL

109

Client Private Lebanese Consultant (2004)
Port of Tripoli Authority - PoTA (2008-2009)

Location LEBANON – Tripoli
34°27'28"N
35°50'33"E

Consultant SEATEC sarl

Tripoli marine outfall

Year 2004
Design review

- Coastal rocky protection for Tripoli water treatment plant reclaimed area
- Drawings / BoQ

Year 2008 – 2009

- Technical and administrative assistance for OPET (Tripoli Commercial Port Authority), including method statement review, coordination... related to the installation of Tripoli marine outfall by the Contractor BUTEC and the necessity to use internal basins and reclaimed areas within Tripoli Commercial Port.



Coastal Protections / Revetments / Sealines / Marine Outfalls

GHAZIEH COASTAL PROTECTION

110

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Ghazieh
33°32'1"N
35°21'38"E

Consultant SEATEC sarl

Ghazieh coastal protection

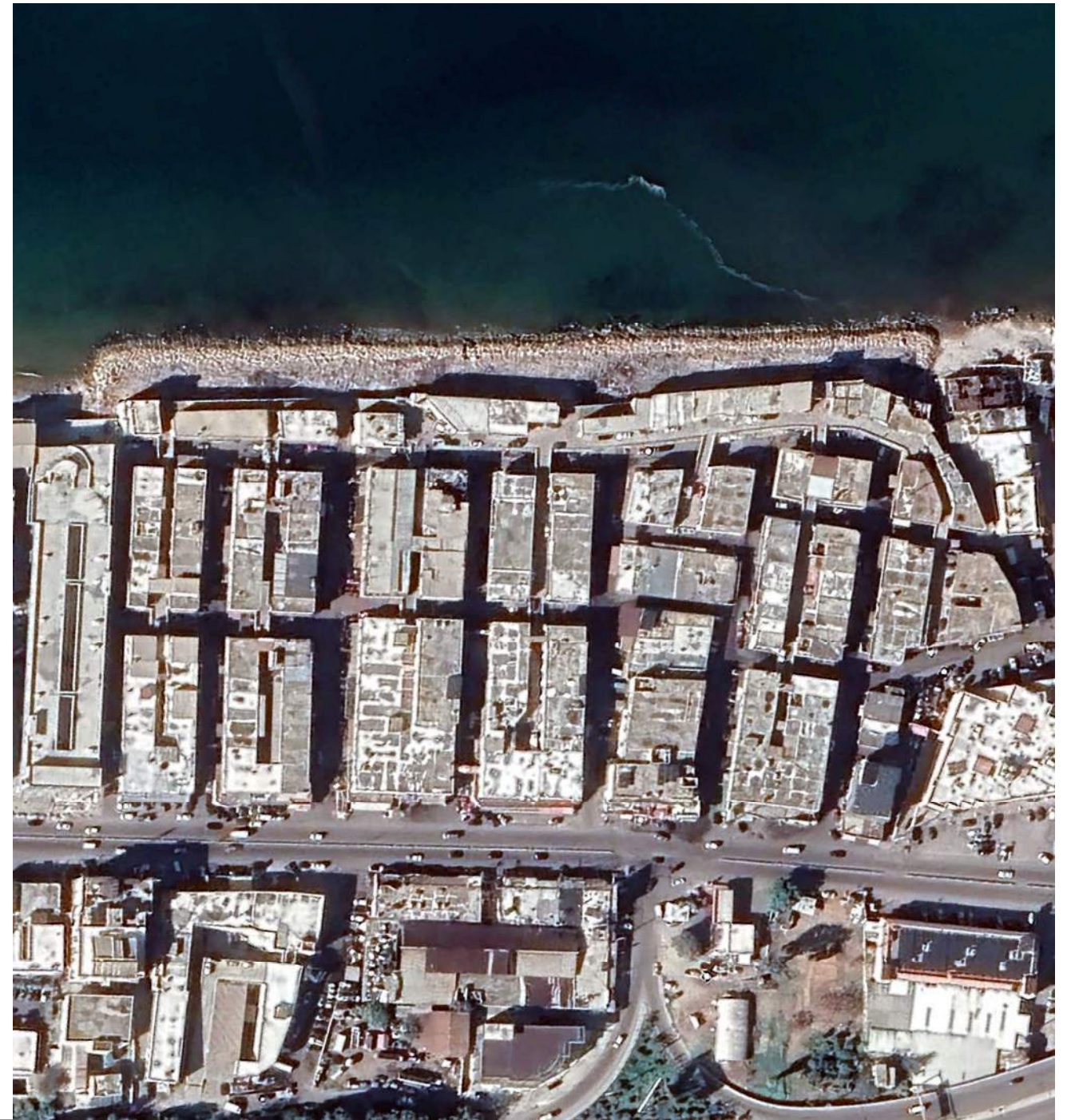
Year 2008
Design / Surveying

- Coastal protection for the industrial zone
- Sloped rocky protection (L=290m)
- Land reclamation (4,350m²)
- Infrastructure (Manholes and drainage pipes)
- Topographic survey (9,000m²)
- Bathymetric survey (225,000m²)
- Tender Documents / Drawings / BoQ

Year 2009 – 2010
Works Supervision

- Contractor : Khoury Contracting Company sarl (KCC)
- Duration : 8 months

Coastal Protections / Revetments / Surveying



MINA WALKWAY COASTAL PROTECTION

111

Client LEBANESE REPUBLIC
Ministry of Public Works and Transport
Directorate General of Land and Maritime Transport

Location LEBANON – Mina / Tripoli
34°26'46" N
35°48'44" E

Consultant SEATEC sarl

Mina walkway coastal protection

Year 2006
Design / Surveying

- Rocky Seawall (L=257m; H=3.65m) for the coastal protection of the walkway against erosion due to waves
- Underwater Concrete Foundation (Average H=2.00m)
- Topographic Survey
- Tender Documents / Drawings / BoQ



Waterfronts / **Coastal Protections** / **Revetments** / Surveying