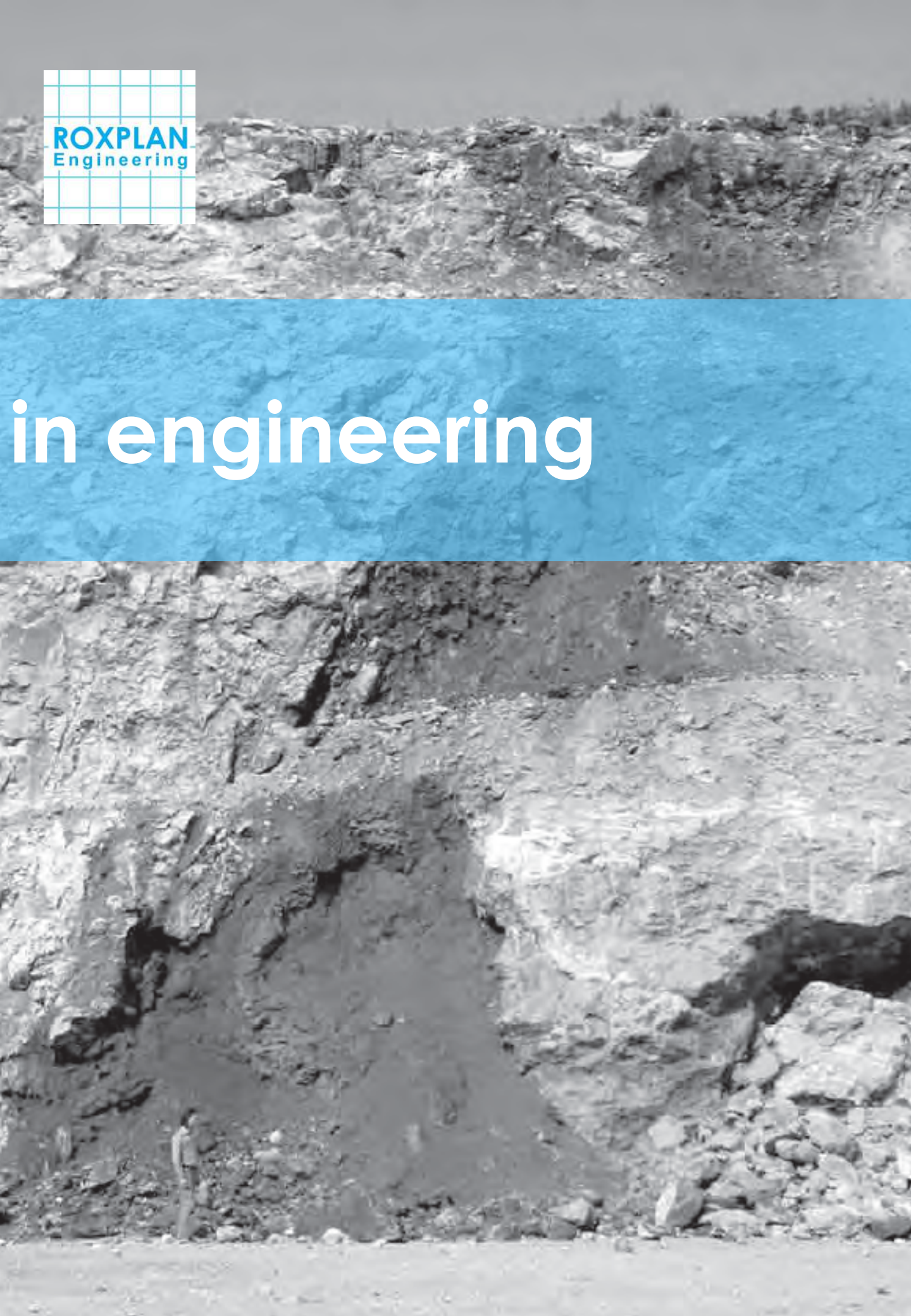
ROXPLAN
Engineering

# in engineering



# about us

who is ROXPLAN

ROXPLAN is a Consulting Engineering Company managed and operated by experienced engineers / geologists committed to the art and science of engineering, always aiming in giving high quality, simple and cost-effective solutions to the projects undertaken.

ROXPLAN is staffed with experienced Engineers, Architects and Engineering Geologists, having extensive experience respectively in all aspects of Engineering (Railway Projects, Hydraulic works, Road and Bridge design, Building designs, Tunnels, Cut & Covers, Slope design etc).

ROXPLAN, operating under ISO9001:2015, using EUROCODES or other Internationally accepted codes for design, with specialized software can produce reliable, fast and economical design solutions for a vast range of engineering projects.

clients & collaborations

ROXPLAN has been cooperating in various projects with international consultants like W.S. Atkins, AEKOM, SSF and ISP of Germany etc.

Our clients include the main organizations which manage the major infrastructure and building projects in a number of European countries, Middle East etc, as well as major contractors like Hochtief, Vinci, Enercon, etc.

ROXPLAN Engineering

# what we do

**Engineering Design**

- Buildings
- Roads
- Bridges
- Hydraulics
- Railways
- Airports
- Ports
- Underground structures
- Retaining Structures / underpinning
- Renewable energy projects
- Landfills
- Mining

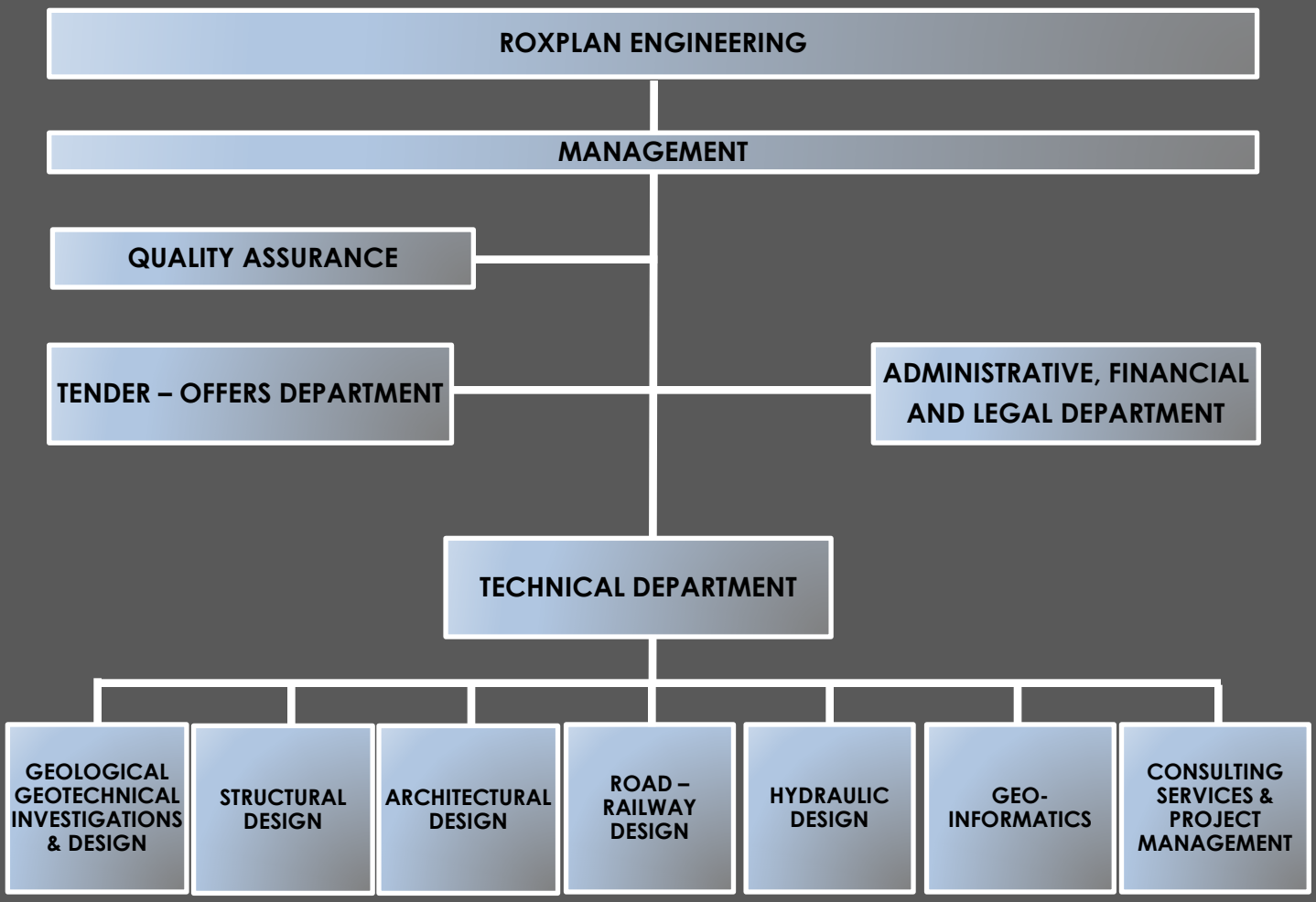
**countries of our projects**

**Geotechnical & Geological Investigations and Design**

**Consulting Services**

- Checking of Designs
- Expert Evaluations
- Observation / Interpretation of Instruments
- Value Engineering
- Preparation of Tender Documents
- Evaluation of Contractors' Offers
- Project Management
- Verifications
- Independent Engineer Services
- Risk Assessment

# our structure



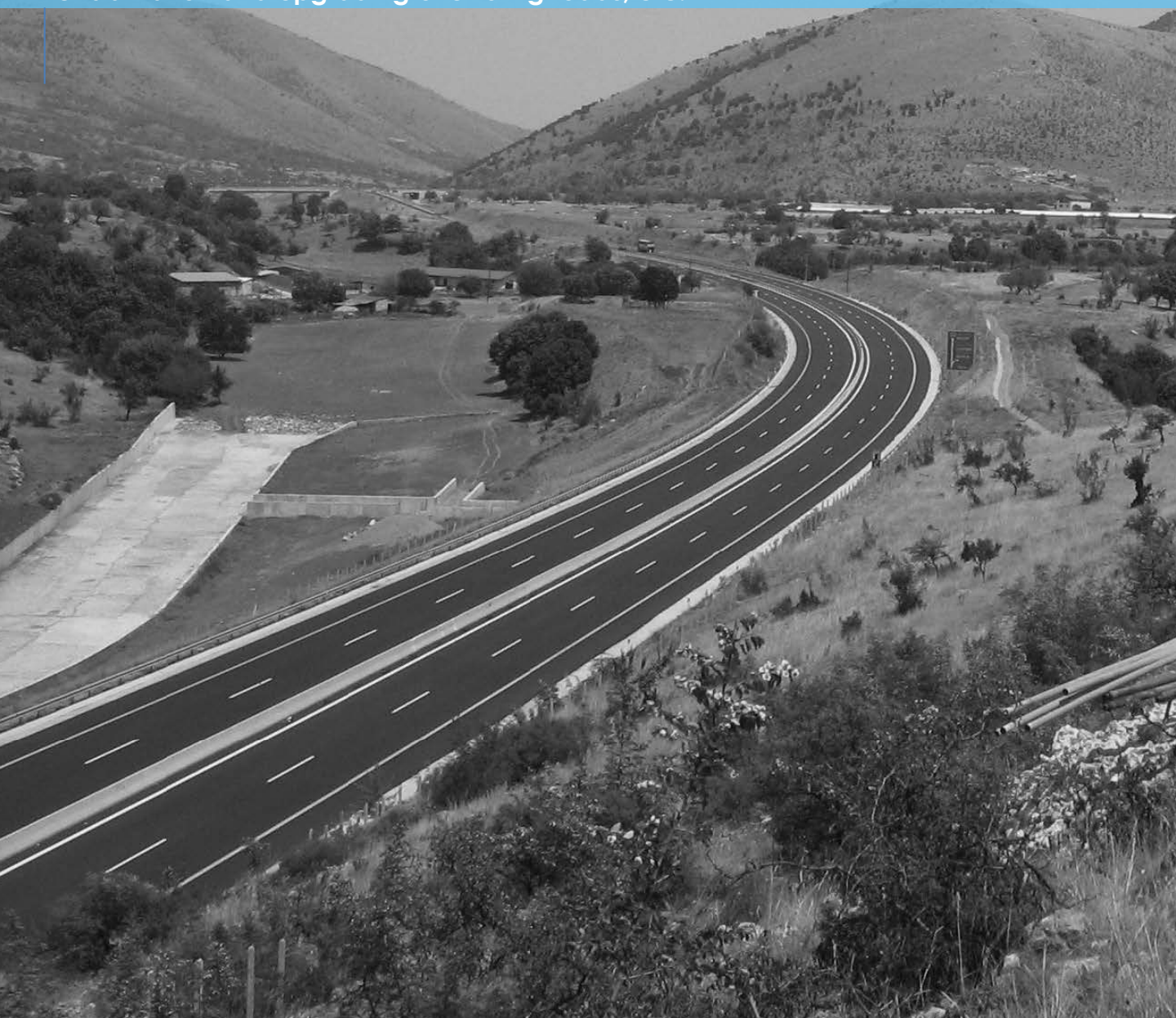
ROXPLAN Engineering

# our expertise–selected projects

ROXPLAN Engineering

# road design

**Highways and provincial roads of approximately 2,500 km in length,
with 180 high open-cuts, 160 embankments (including Reinforced Embankments),
Pavement Design
Rehabilitation and upgrading of existing roads, etc.**



# road design – new

## "TIRIA" JUNCTION AND SECONDARY ROADS, SECTION 1.2.2. EGNATIA ODOS, N. GREECE

**Client**:
EGNATIA ODOS S.A.

**Technical Info:**
Inspection and Interpretation of Geotechnical Investigations, Final Geotechnical Design of 10Km of Highway with Open Cuts ($H_{max}$=22 - 35m) and Embankments ($H_{max}$=10-15m).

## KORINTHOS-PATRAS-PYRGOS MOTORWAY, SECTION: KIATO-DERVENI, PELOPONNESE, GREECE

**Client**:
OLYMPIA JV (HOCTHIEF-AKTOR J/V)

**Technical Info:**
Geotechnical Investigation with 4000m of Boreholes for the needs of the Geotechnical Design of
21 Main Line Bridges and Overbridges (L=25-120m), Cut & Cover (L=160m), Lane Cover (L=110m),
40 Large Box Culverts,
30 High Embankments, 17 Open Cuts and 62 Retaining Walls.

# road design – new

## "VERIA CITY" JUNCTION SECTION 5.3. EGNATIA ODOS, GREECE

**Client**:
EGNATIA ODOS S.A.

**Technical Info:**
Inspection and Interpretation of Geotechnical Investigations,
Final Geotechnical Design of the Junction, including 2 Single Span Bridges,
4 Embankments (L=250-550m) and
2.5Km of Road Design.

## OLD NATIONAL HIGHWAY ATHENS-THIVES, SECTION: MANDRA-ERITHRES GREECE

**Client**:
ATTIKI PREFECTURE

**Technical Info:**
Geotechnical Investigation with Coring Boreholes and Trial pits for the Geotechnical Design of
4 Embankments ($H_{max}$=11-22m, L=60-200m),
5 Open Cuts ($H_{max}$=10-30m, L=140-540m),
2 Single Span Bridges (L=15-20m),
1 Cut & Cover (L=120m),
5 Large Box Culverts and
17.5Km of Road Design.

# road design – new

## RURAL ROAD 'KANAVARI - THESPIES INTERSECTION - DOMVRAINA - THISVI - PRODROMOS', GREECE

**Client**:
VIOTIA PREFECTURE

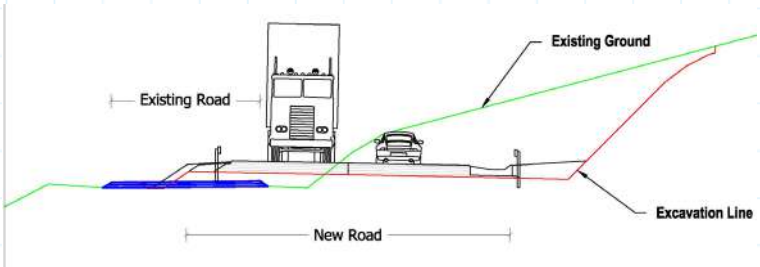
**Technical Info:**
Design of rural road 37.2Km in length, with a single carriageway and a design speed of 80Km/h, including 12 at-grade intersections (3-legged and 4-legged).

## TRIPOLI – KALAMATA HIGHWAY, SECTION: TSAKONA – KALAMATA, GREECE

**Client**:
MINISTRY OF PUBLIC WORKS

**Technical Info:**
Design of a set of two interchanges serving the connection of Tripoli - Kalamata Highway and Pirgos- Tsakona Highway (trumpet interchange) and the connection of Pirgos-Tsakona Highway and Tripoli - Megalopoli National Road (partial cloverleaf interchange).

# road design – improvement




## IMPROVEMENT OF AGRINIO - KARPENISI NATIONAL ROAD, (SECTION: AGRINIO - VLASSIS),. CENTRAL GREECE

**Client**:
MINISTRY OF PUBLIC WORKS

**Technical Info:**
Improvement Design of Agrinio - Karpenisi National Road to a modern single carriageway rural road with design speed of 80-90Km/h, construction of six at-grade intersections and of local road network to provide access to properties and farms.

## DESIGN FOR THE CONSTRUCTION OF COMPLEMENTARY WORKS AT THE ATHENS - SALONICA HIGHWAY, (SECTION: RACHES - AG. THEODORI), GREECE

**Client**:
MINISTRY OF PUBLIC WORKS

**Technical Info:**
Full Geotechnical Design including Pavement Design, Open-Cuts, Embankments, Bridges, etc.

## CONSTRUCTION OF "SMALL“ PATRAS RING ROAD, CH.0+000 - 0+900, GREECE

**Client**:
WESTERN GREECE PREFECTURE .

**Technical Info:**
Design of dual carriageway road with two lanes per direction and paved shoulder/ emergency lane, in cut cross sections of significant height.

# road design – rehabilitation of asphalt / pavements

**REHABILITATION OF ASPHALT / PAVEMENTS**

ROXPLAN Engineering

# bridges

**110 Road and Railway Overpasses / Underpasses and 30 Long Bridges (River Crossings, Valley Bridges), etc.**

# bridges

## DESIGN OF BRIDGES, IN SECTION 6 OF EGNATIA ODOS, MACEDONIA PREFECTURE, GREECE

**Client**:
EGNATIA ODOS S.A.

**Technical Info:**
Supervision and evaluation of geotechnical investigations, Final Geotechnical Design of three Main Line Bridges.

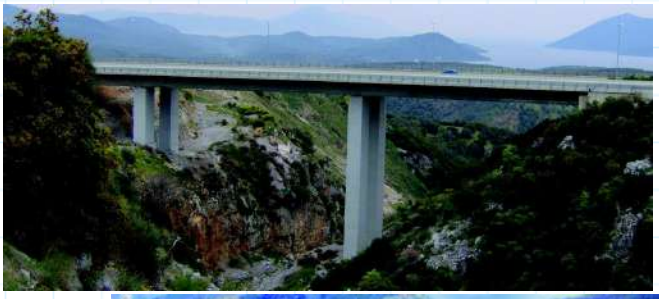
Design of special retaining structures for reducing settlements on existing structures due to embankment construction.

## BRIDGE CROSSING STRIMONAS RIVER, SECTION 60.2.2, EGNATIA ODOS, MACEDONIA PREFECTURE, GREECE

**Client**:
EGNATIA ODOS S.A.

**Technical Info:**
Final-Stage Geotechnical Design of the Bridge crossing Strimonas River ($L_{total}$=475m) with 13 Spans (L=42-43m).

Ground improvement of the loose foundation soil with vibro-replacement method.



## ATHENS - SALONICA NEW HIGHWAY, SECTION A. THEODOROI – ALMIROS (CH. 261+000 - CH. 286+000), THESSALY, GREECE

**Client**:
MINISTRY OF PUBLIC WORKS / METON-ETEP JV

**Technical Info:**
Inspection and Evaluation of Geotechnical Investigations, Geotechnical Design of two Valley Bridges (L=180-250m in length) and 20 Road Bridges (L=25-150m in length) along a 25km long section of the motorway. Foundation of Bridges was mainly on piles 20 - 40m in length.

ROXPLAN Engineering

# bridges

## VALLEY-BRIDGE CROSSING VENETICOS RIVER, SECTION 4.1.3s, EGNATIA ODOS, MACEDONIA PREFECTURE, GREECE

**Client**:
EGNATIA ODOS S.A. / /FABERMAUNSEL S.A.

**Technical Info:**
Inspection and Interpretation of Geotechnical Investigations, Final Stage Geotechnical Design of the Bridge Branches 1A ($L_{1A}$=531m) and 1D ($L_{1D}$=636m). Branch 1A was designed with 5 Spans (85.6m - 120m) while, branch 1D was designed with 6 Spans (75 – 120m). Foundation of the piers (70m high) was made by shafts and bored piles.

## KOSKARAGA RIVER BRIDGE PELOPONNESE, GREECE

**Client**:
PELOPONNISOS REGION / KYROMITIS S.A.

**Technical Info:**
Geotechnical Investigation, Geotechnical Design of a Valley bridge.

Special design for filling Karstic Voids by Grouting Techniques.

ROXPLAN Engineering

# railways

**More than 10 Railway Stations and several hundred kilometers of railway line.**

ROXPLAN Engineering

# railways

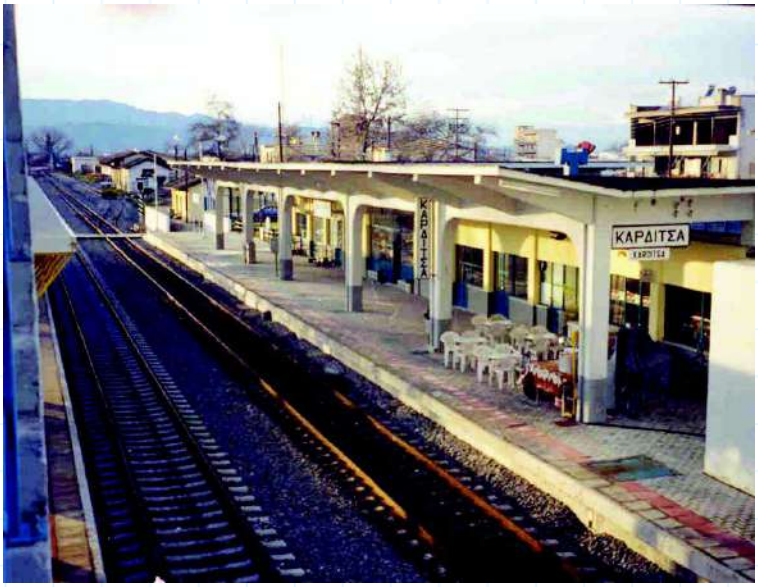
## RECONSTRUCTION OF AT GRADE METRO RAILWAY LINE, ATHENS

**Client**:
ISAP S.A.

**Technical Info:**
Geotechnical Investigations with 600m of Coring Boreholes along a 25.5km of existing railway line and geotechnical design of the railway track foundation.

ROXPLAN Engineering

# railways




## RECONSTRUCTION OF SOFADES KARDITSA - TRIKALA - KALABAKA RAILWAY LINE, THESSALY, GREECE

**Client**:
ERGOSE S.A.

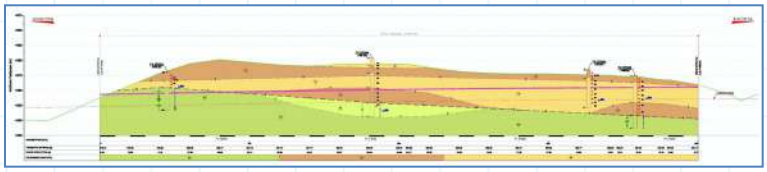
**Technical Info:**
Geotechnical investigations, design and material quality control for the railway track foundation of 60 km of Railway Line.

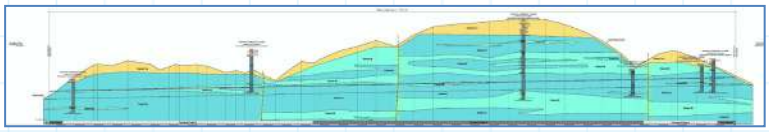
## DESIGN AND CONSTRUCTION OF SGR NEW RAILWAY LINE (230km), BETWEEN KAMPALA AND MALABA, UGANDA

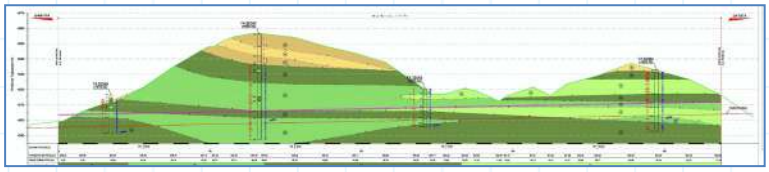
**Client**:
MINISTRY OF PUBLIC WORKS AND TRANSPORT OF UGANDA (SGR)

**Technical Info:**
Design, Review, Supervision and Consulting Services for the complete SGR Railway Line in cooperation with SSF Ingenieure AG, SSF International GmbH and PEC.

# railways







## NEW RAILWAY LINE "KALAMBAKA – KOZANI", SECTION "DIMITRA – SIATISTA", KM 69+000 – 83+500 (PHASE B) A.D. 1106, GREECE

**Client**:
GREEK RAILWAYS S.A.

**Technical Info:**
Design for a 14,5km New Railway Line with Design of 14 Railway Bridges, 7 Tunnels, Embankments and Open-Cuts, including Geotechnical Investigations and Geotechnical Interpretation Reports

## DESIGN OF IMPROVEMENT OF EXISTING RAILWAY LINE THESSALONIKI – PROMACHONAS, GREECE

**Client**:
ERGA OSE S.A.

**Technical Info:**
Design of 100km of Railway Line including Geotechnical Investigations, Geotechnical Interpretative Reports and Design of:

- 17 Railway Bridges,
- 5 Road Bridges,
- Open-Cuts and
- Embankments

.

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# underground structures

Metros, Railway and Road Tunnels, Cut and Covers, Large Conduits.

# underground structures

## ATHENS METRO

**Client**:
ATTIKO METRO S.A.

**Technical Info:**
Geotechnical Consulting Services, consisting of the management of the Athens Metro owner Geotechnical Department for Lines 2 and 3 of the Metro (25km underground lines, 21 stations, depot and other auxiliary structures.

## NEW HIGH SPEED RAILWAY LINE ATHENS – KORINTHOS PATRAS, "AIGIO" AREA TUNNEL PELOPONNESE, GREECE

**Client**:
ERGOSE S.A. / WS ATKINS S.A.

**Technical Info:**
Geotechnical Investigation with Coring Boreholes and
Pre-Final Geotechnical Design
of the main Tunnel (L=3,5Km),
2 Cut & Covers and
3 Escape Tunnels (L=250-350m).

ROXPLAN Engineering

# underground structures


## DOHA METRO, QATAR

**Client**:
DEUTSCHE BAHN INTERNATIONAL / QATAR RAIL

**Technical Info:**
Geotechnical & Tunneling Services for Tender Preparation for the Doha Metro,
50Km of Double Tube Tunnel,
25 Stations and other auxiliary Structures.

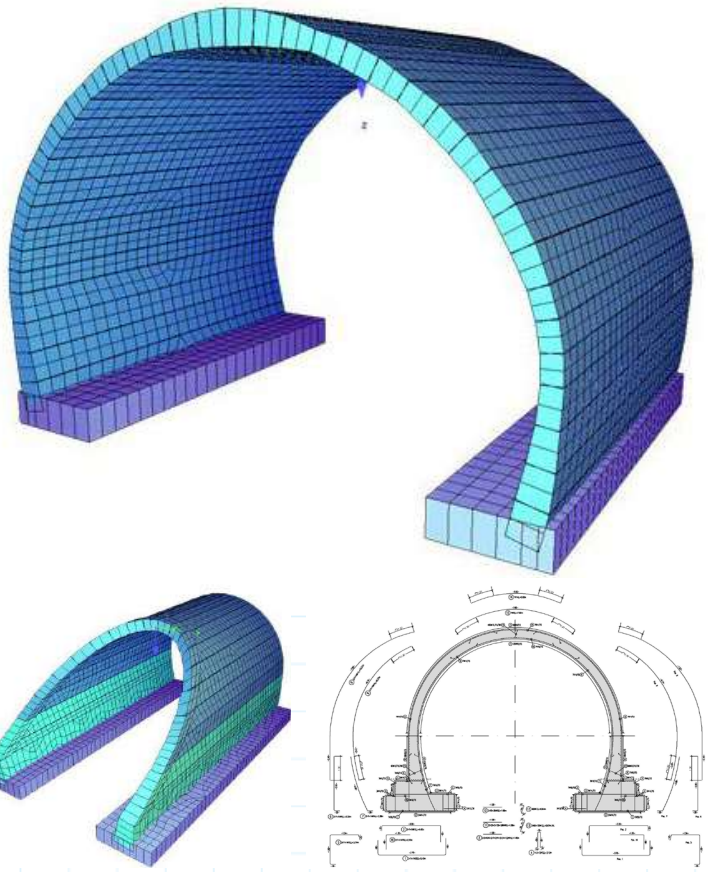


## DOHA METRO, QATAR

**Client**:
SSF INGENIEURE AG / PORR - SBG - HBK / QATAR RAIL

**Technical Info:**
Geotechnical Investigation and Evaluation - Dewatering Design - Stations Temporary Structures Design - Risk Assessment for the Green Line of the Doha Metro.
17 km of Twin-Tube Tunnel,
10 Stations - Switch Boxes etc.

# underground structures

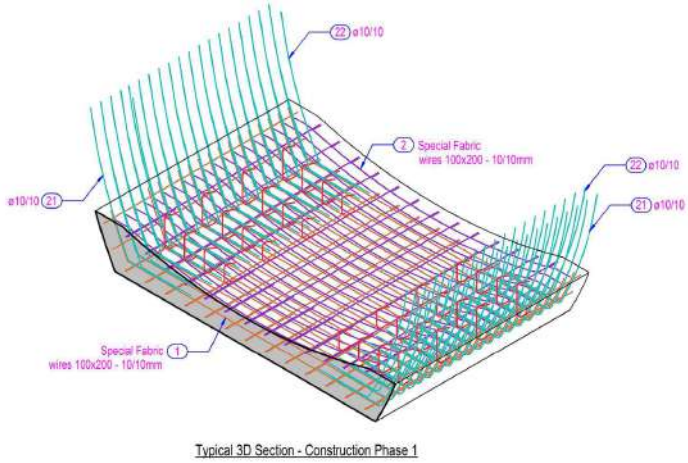


## ITEA AREA HIGHWAY TUNNELS-GREECE

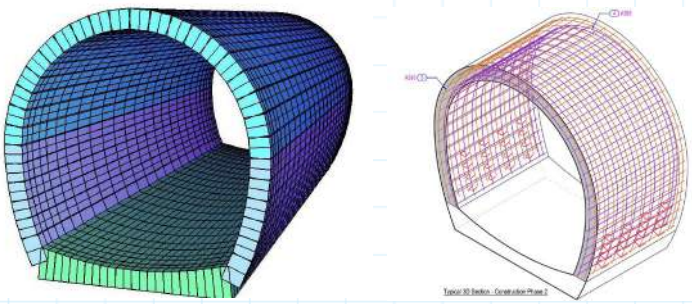
**Client**:
GREEK MOTORWAY E65

**Technical Info:**
Itea tunnels are part of the national Greek motorway Lamia- Itea-Antirrion, which carries the European route E65.
The first tunnel has a length of about 400m and the second one has a length of about 1,960m.

Offered Services: Structural Calculations, Detail Design Drawings.



Typical 3D Section - Construction Phase 1



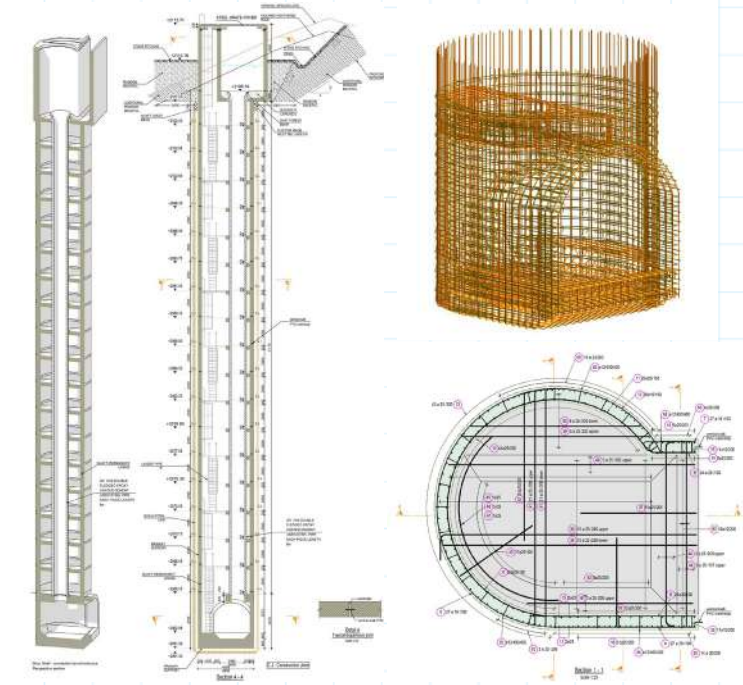
## WATER TUNNEL-KENYA

**Client**:
SMEC INTERNATIONAL PTY LTD

**Technical Info:**
Design of the tunnel final lining reinforcement of the "Northern Collector Tunnel (NCT) Phase 1" The Northern Collector Tunnel (NCT) Phase 1 is a water transfer tunnel, transferring raw water from intakes at the Maragua, Gikigie and Irati Rivers to an outlet at the Githika River near Makomboki, upstream of the existing Thika Reservoir.
The project comprises an 11,775m long tunnel main collector tunnel with a nominal tunnel diameter of 3.2 m.

Offered Services: Structural Calculations, Detail Design Drawings

# underground structures

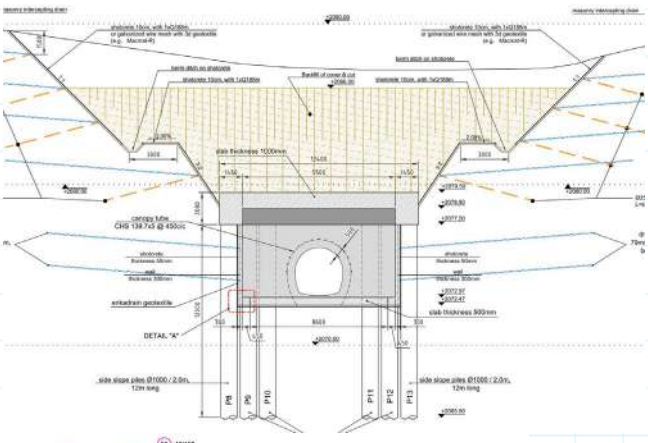


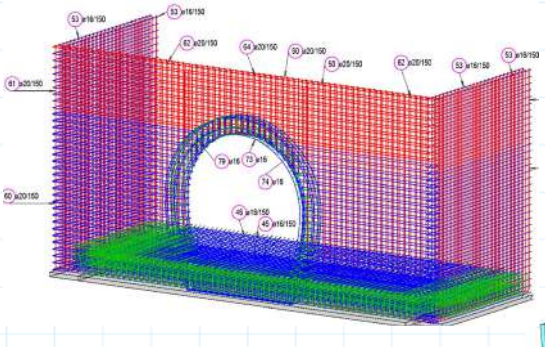
## MAIN WATER TUNNEL-KENYA

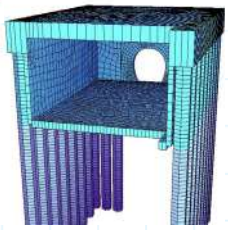
**Client**:
SMEC INTERNATIONAL PTY LTD

**Technical Info:**
Irati river area, an approximately 53m deep drop shaft, of 4m diameter is conveying water for Irati river to the main tunnel through a 1,1m steel pipe.
An approximately 18m long adit (having the same nominal tunnel diameter with the main tunnel) connects the Irati shaft connection with the main tunnel.

Offered Services: Structural Calculations, Detail Design Drawings







## MARAGUA PORTAL ZONE-KENYA

**Client**:
SMEC INTERNATIONAL PTY LTD

**Technical Info:**
The portal area is located at the foot of the highest and steepest cliff across the project, at the right bank of Maragua river. Cover & Cut methodology with construction of two pile rows on the left and right hand side of the excavation connected by a continuous slab at level +2078.5m followed by underground excavation.

Offered Services: Structural Calculations, Detail Design Drawings

# underground structures


## MONASTIRAKI STATION - ATHENS METRO, GREECE

**Client**:
ATTIKO METRO S.A.

**Technical Info:**
Detail Design of Temporary Retaining Structures for Monastiraki Station for the Athens Metro Project.
Detail Design of Permanent Structures for the Tunnel connecting the existing station to the new one, for the Athens Metro Project.

Offered Services: Structural Calculations, Detail Design Drawings

## OMONIA STATION - ATHENS METRO, GREECE

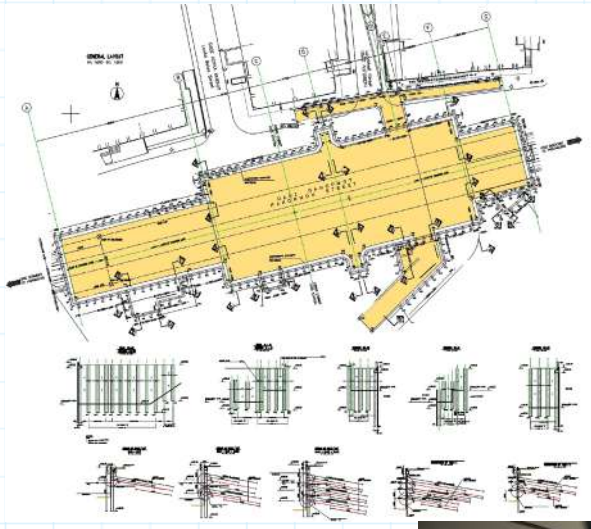
**Client**:
ATTIKO METRO S.A.

**Technical Info:**
Detail Design of Temporary Retaining Structures for Omonia Central Station for the Athens Metro project.
Detail Design of Permanent Structures for Omonia Central Station for the Athens Metro Project.

Offered Services: Structural Calculations, Detail Design Drawings

ROXPLAN Engineering

# underground structures

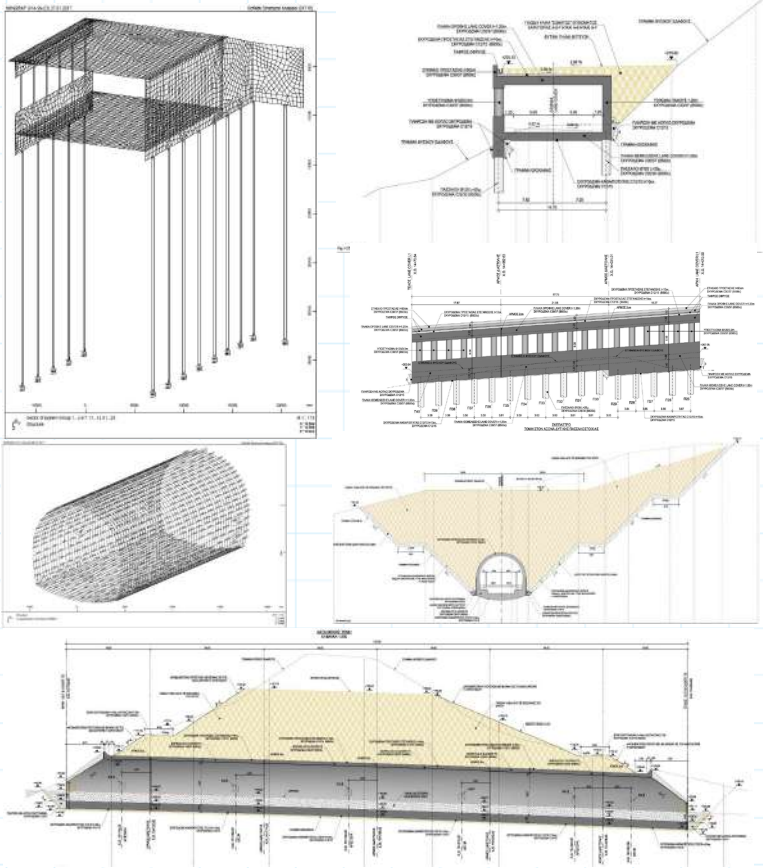


## PANORMOU STATION - ATHENS METRO, GREECE

**Client**:
ATTIKO METRO S.A.

**Technical Info:**
Detail Design of Temporary Retaining Structures for Panormou Station for the Athens Metro Project.
Detail Design of Permanent Structures for Panormou Station for the Athens Metro Project.

Offered Services: Structural Calculations, Detail Design Drawings



## LANE- COVERS AND CUT & COVERS AT MEGARA - ALEPOXORI ROAD, GREATER ATHENS AREA, GREECE

**Client**:
PREFECTURE OF ATTIKA

**Technical Info:**
The Lane Cover structure has a total length of 60m with pile foundation connected with a slab. The west side of the structure starts with a concrete wall, columns are following and end with a beam, while the eastern side consists of a concrete wall. The roof slab is 1.2m thick and in the west side as well as on the facades of the lane cover, a parapet 0.5m thick and 1.5m in height is constructed.
Three CUT & COVER structures T1, T2 and T0 having lengths of 137m, 208m and 132m respectively. The cross sections are closed domes with a reverse dome and the typical cross section includes 2 traffic lanes 8.0m wide with sidewalk of 1.25m width in both sides. The maximum overburden reaches the 20m.

Offered Services: Full Design

ROXPLAN Engineering

# hydraulic works

**17 Dams, 20 Reservoirs, 14 Irrigation/Sewage Networks and Pump-houses.**

# hydraulic works

## "EGARES" RESERVOIR, NAXOS ISLAND, GREECE

**Client**:
MINISTRY OF AGRICULTURE

**Technical Info:**
Geotechnical Consulting Services and Quality Control during the construction of the reservoir, 20m in height and 150m long and 600.000m$^3$ in volume.

## "PANAGIOTIKO" DAM IN MAGNISIA MUNICIPALITY, THESSALY, GREECE

**Client**:
MINISTRY OF AGRICULTURE

**Technical Info:**
Final Geotechnical Design of a rock-fill Dam, 40m in height, 150m long and 2.500.000m$^3$ in volume with an up-stream concrete slab.

## "DESKATI" DAM OF GREVENA CITY AREA, MACEDONIA PREFECTURE, GREECE

**Client**:
MUNICIPALITY OF DESKATI

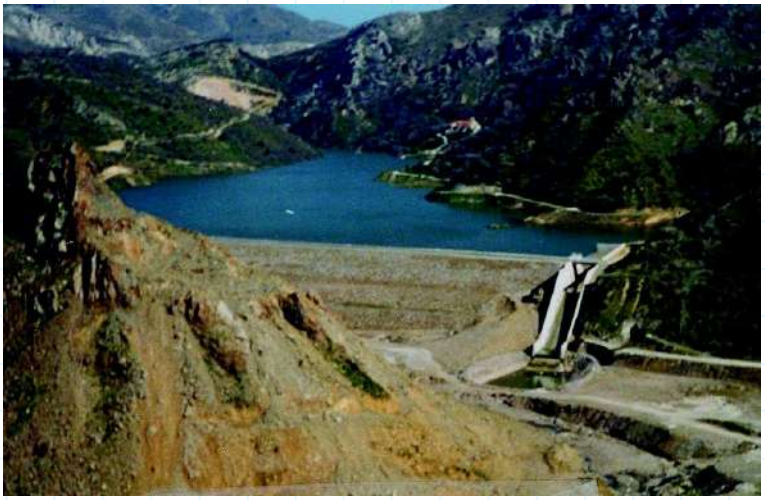
**Technical Info:**
Geotechnical Design of an earth Fill Dam, 26m in height, 280m long and 1.000.000m$^3$ in volume.

# hydraulic works

## "KATO PITSA" RESERVOIR, PELOPONESSE PREFECTURE, GREECE

**Client**:
MUNICIPALITY OF KORINTHIA

**Technical Info:**
Consulting Services - Quality Control during construction of the Reservoir, 15m in height, 120m long and 315.000m$^3$ in volume.



## "ERESSOS" DAM, LESVOS ISLAND, GREECE

**Client**:
MINISTRY OF AGRICULTURE

**Technical Info:**
Consulting Services during construction of a Dam, 30m in height, 350m long and 2.750.000m$^3$ in volume.

## "KORIS GEFIRI" DAM, CHIOS ISLAND, GREECE

**Client**:
MINISTRY OF AGRICULTURE

**Technical Info:**
Consulting Services – Quality Control during construction of an R.C.C. Dam, 37m in height, 120m long and 3.000.000 m$^3$ in volume.

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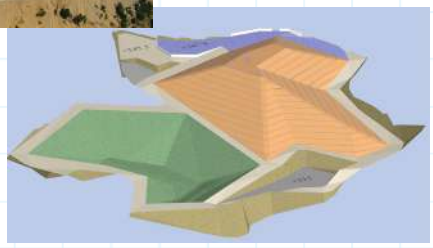
# landfills

**Design of more than 15 landfills.**

# landfills



## DESIGN OF 2nd REGIONAL UNIT OF IPIROS LANFILL, GREECE

**Client**:
IPIROS PREFECTURE

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 12,500,000 Euros Number of Cells: 2
Cell Volume: 486,552m$^3$ (A) and 306,901m$^3$ (B)
Offered Services: Geotechnical Tender Design

## DESIGN OF KERKYRA ISLAND LANDFILL, GREECE

**Client**:
MUNICIPALITY OF KERKYRA

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 4,200,000 Euros Number of Cells: 2
Cell Volume: 280,000m$^3$
Cell Area Coverage: 31,467m$^2$ (A) and 11,809m$^2$ (B)
Offered Services: Geotechnical Tender Design

## DESIGN OF TRIKALA LANDFILL, GREECE

**Client**:
TRIKALA PREFECTURE

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 9,500,000 Euros
Number of Cells:1
Cell Volume: 630,000m$^3$
Cell Area Coverage: 76,000m$^2$
Offered Services: Geotechnical Tender Design

# landfills

## DESIGN OF NAXOS ISLAND LANDFILL, GREECE

**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 6,000,000 Euros
Number of Cells:1
Cell Volume: 463,400 $m^3$
Cell Area Coverage: 44,000$m^2$
Offered Services: Geotechnical Prefinal Design

## DESIGN OF XYLOKASTRO (3rd PELOPONNESE REGIONAL UNIT) LANDFILL, GREECE

**Client**:
PELOPONNESE REGION

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 4,650,000 Euros Cell Volume: 312,500$m^3$
Offered Services: Geotechnical Tender Design

## DESIGN OF KARPATHOS ISLAND LANDFILL, GREECE

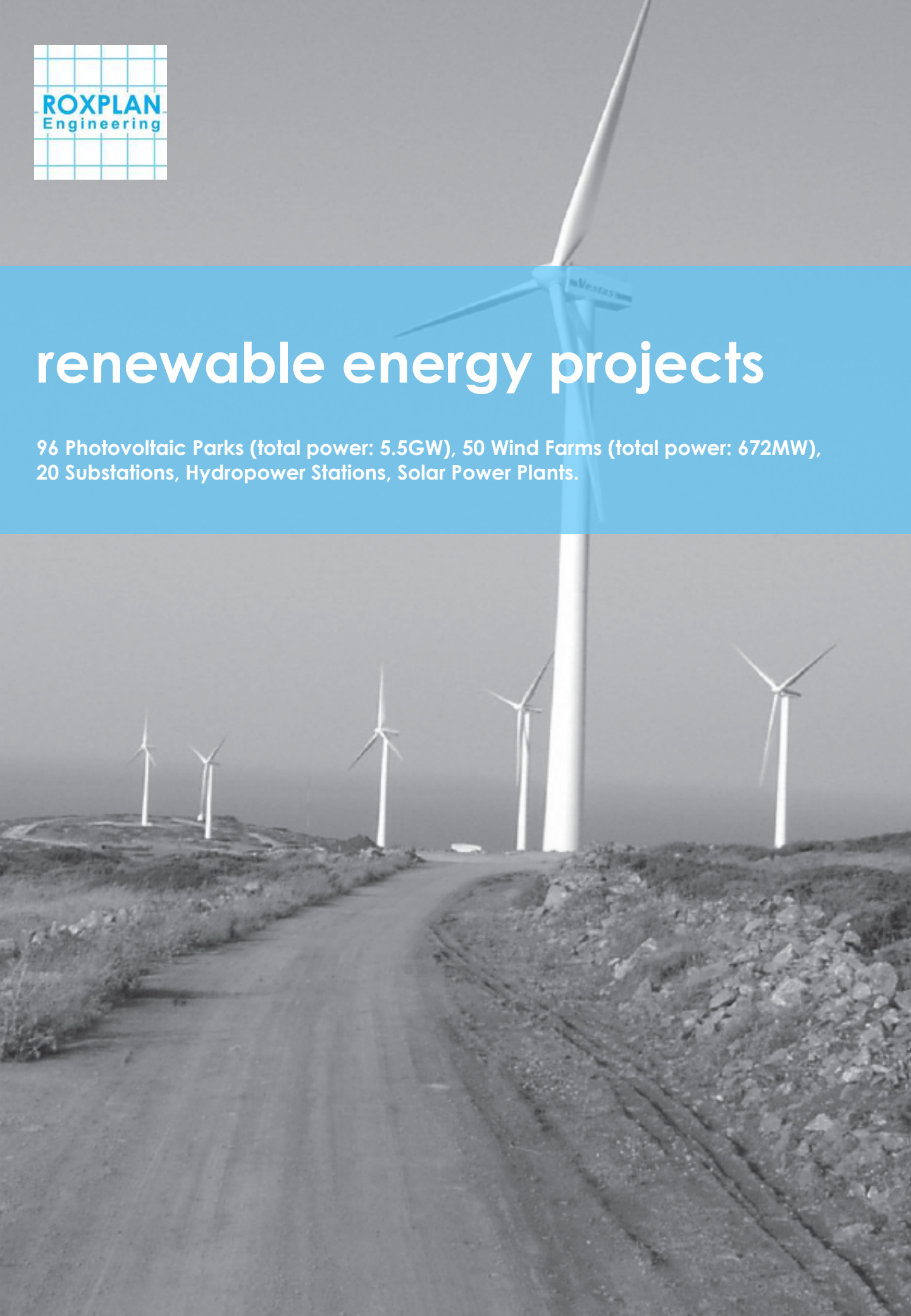
**Client**:
MUNICIPALITY OF KARPATHOS

**Technical Info:**
Design of landfill with the following characteristics:
Construction Budget: 3,000,000 Euros Number of Cells:2
Cell Volume: 159,000$m^3$
Cell Area Coverage: 16,405$m^2$ (A) and 7,278$m^2$ (B)
Offered Services: Geotechnical Services

ROXPLAN Engineering

# renewable energy projects

**96 Photovoltaic Parks (total power: 5.5GW), 50 Wind Farms (total power: 672MW), 20 Substations, Hydropower Stations, Solar Power Plants.**



# renewable energy projects – windfarms

## WIND FARM AT "VOSKERO" AREA, HERAKLIO PREFECTURE, CRETE ISLAND, SOUTHERN GREECE

**Client**:
DOMIKI KRITIS S.A.

**Technical Info:**
Geotechnical Investigations with continuously monitored wagon drilling and Geotechnical Foundation Design with special ground improvement for subsoil cavities, for a wind farm consisting of 7 Wind Turbines, (50m high).

Park Power: 6MW

## "AGIOS IOANNIS" WIND FARM, LASITHI AREA, CRETE ISLAND, GREECE

**Client**:
PLASTIKA KRITIS S.A.

**Technical Info:**
Geotechnical Investigations with continuously monitored wagon drilling and Geotechnical Foundation Design for a wind farm consisting of 9 Wind Turbines, (47m high).

Park Power: 11.9MW

# renewable energy projects – P/V projects

## P/V PARK of 550MW IN PTOLEMAIDA, OWNED BY THE GREEK PUBLIC POWER CORPORATION RENEWABLES (PPCR), NORTHERN GREECE

**Client**:
PPCR S.A

**Technical Info:**
Geotechnical investigations with Coring Boreholes, Trial Pits, CPT's, Pull-out tests, Geophysical Investigations, Laboratory Tests of Soil and Rock Samples, Geotechnical Interpretation Reports, Geotechnical Foundation Designs, Geotechnical Slope Stability Designs, Geotechnical Settlement Designs.

Park Area: 14km$^2$

Park Power: 550MW

## ATHENS INTERNATIONAL AIRPORT P/V PARK, ATHENS GREATER AREA, GREECE

**Client**:
AKTOR S.A.

**Technical Info:**
Geotechnical investigations with Coring boreholes, Standard Penetration Tests (SPT) and Permeability Tests, Trial Pits, Laboratory Tests, Thermal resistivity tests, Dynamic Cone Penetration (DCP) Tests, Geotechnical Interpretation Report and Geotechnical Foundation Reports.

Park Area: 209,000m$^2$

Park Power: 16MW

# renewable energy projects – consulting services during construction

## "GAVROVO" AND "CHIONAKI" WINDFARMS, WESTERN GREECE

**Client**:
RESTEC RENEWABLE TECHNOLOGIES S.A.

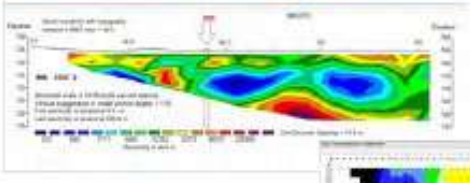
Geotechnical Consulting Services during the construction phase of the "Gavrovo" and "Chionaki" Wind Farms at the Pindos mountain range.
Specific issues / difficulties encountered included the existence of karstic voids, dolines and sinkholes in the limestone substrata, the quality control of the square embankments, slope stability issues, etc.
Works included Quality control of the contractor's geotechnical works during construction, check of the Geotechnical Interpretation and Design Reports.

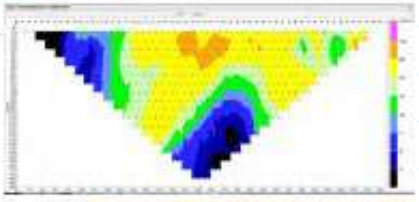
## "GERAMPI" WIND-FARM, ARTA PREFECTURE, GREECE

**Client**:
AKTOR S.A.

Geotechnical Consultant during the construction phase of the "Gerambi" Wind Farm. Specific issues / difficulties encountered included the existence of karstic voids, dolines and sinkholes in the limestone substrata.
Works included Quality Control with DCP, DPL and PLT of the backfill layers of the squares, the roads and slope stability of the embankments

# renewable energy projects – grounding



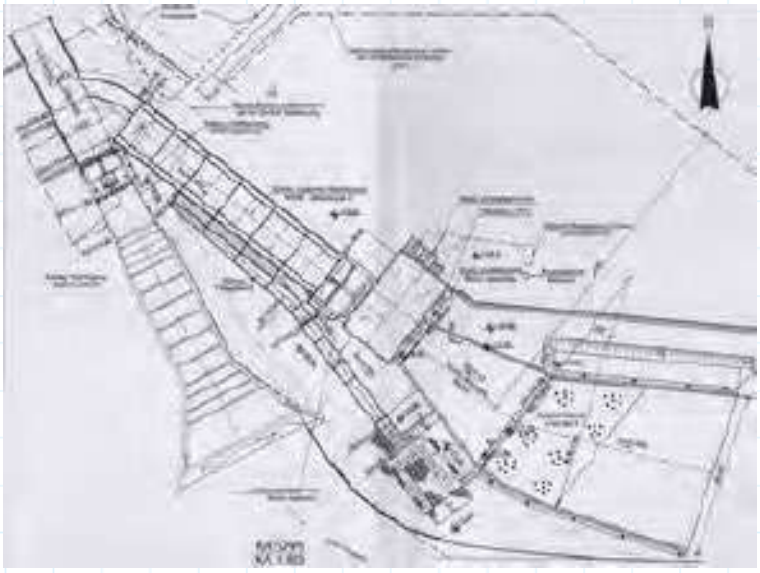


## EARTHING BOREHOLES FOR NEW SUBSTATION NEAR STANOS, AMFILOCHIA MUNICIPALITY, WESTERN GREECE

**Client**:
KIEFER TEK LtD

Geophysical investigation and construction of two grounding boreholes for a medium voltage substation, located approximately 800m south of village Stanos of Amfilochia Municipality. Determination of the subsoil electrical resistivity distribution to a depth of 270m and selection of the most suitable in terms of subsoil conductivity locations for grounding boreholes.

# renewable energy projects – various



## MAKROCHORI II SMALL HYDROELECTRIC POWER PLANT, VERIA, NORTHERN GREECE

**Client**:
PUBLIC POWER CORPORATION RENEWABLES S.A.(PPCR)

Geotechnical Investigations and Design of parts of the Hydroelectric Plant. Programming of Geotechnical Field and Laboratory Investigations (Coring Boreholes, Trial Pits), Supervision of Investigations, Geotechnical Interpretation Report, Foundation Design Report.

## SOLAR THERMAL POWER PLANT OF 25MW MUNICIPALITY OF LEFKI, CRETE ISLAND, SOUTHERN GREECE

**Client**:
ABENGOA SOLAR

Geotechnical, Geological and Geophysical Investigation. Preliminary Foundation Design of a 200m high Power Tower, 5 Industrial Building Complexes and 1.7km$^2$ of Panels area.
Geotechnical Investigations included a combination of ERT Geophysical survey, Coring boreholes, Laboratory Testing, geological mapping, discontinuities measurements, Geotechnical Interpretation Report, Geotechnical Foundation Design.

ROXPLAN Engineering

# buildings

**Schools and University Complexes, Conference Complexes, Health Care Structures (Hospitals, etc), Administration, Residential, Industrial, Shopping Centers, etc.**

ROXPLAN Engineering

# buildings

## INDUSTRIAL COMPLEX OF LARKO S.A.,

**Client**:
LARKO S.A. / E' TECHNIKI S.A.

**Technical Info:**
Geotechnical Investigation and Geotechnical Design for retaining structures supporting industrial facilities.

## PRINTING INDUSTRIAL COMPLEX OF D.O.L., VIOTIA MUNICIPALITY, GREECE

**Client**:
DOL S.A.

**Technical Info:**
Geotechnical Investigation with Coring Boreholes and Trial Pits and Geotechnical Design for an Industrial Complex of Buildings, with ground coverage of 25.000m$^2$, including special foundation design of large and heavy machine complexes.

Quality control services during construction of backfilling and excavations.


## NATIONAL LIBRARY, PRAGUE, CHECH REPUBLIC

**Client**:
J & P DEVELOPMENT

**Technical Info:**
Geotechnical Design for a Building with ground coverage of 6200m$^2$,
total Height of 27m and
total floor area of 63.000m$^2$.

ROXPLAN Engineering

# buildings

## BIOCLIMATIC HIGHSCHOOL BUILDING IN KREMASTI, RHODES ISLAND,GREECE

**Client**:
RHODES MUNICIPALITY

**Technical Info:**
Design of a building housing 15 classrooms, 4 laboratories, multipurpose room, gym, library, surgery, administrative and personnel offices. According to the bioclimatic design of the building the appropriate specialized heating and cooling systems were designed in order to achieve power conservation and at the same time thermal and visual comfort therefore making use of the climate conditions of the area.

Total building coverage: 3,436m$^2$.

## HEALTH CARE CENTER FOR SENIORS, ATHENS, GREECE

**Client**:
MUNICIPALITY OF ATHENS

**Technical Info:**
The design includes a building consisting of two basements, ground floor and three upper floors. It will house the Seniors Public Care Center , the doctors' offices and examination rooms, administrative services, insurance services and auxiliary spaces.

Total building coverage: 2,568m$^2$

## KOSMOPOLIS PARK SHOPPING MALL, KOMOTINI CITY, THRACE PREFECTURE, GREECE

**Client**:
REAL ESTATE DEVELOPMENT KOMOTINI S.A.

**Technical Info:**
Geotechnical Design with Coring Boreholes and Trial Pits and Geotechnical Design of Buildings of a Shopping Mall at Komotini City.

It is a Complex of Buildings of 10.000m$^2$ ground coverage with two basements and five floors at an environment of high ground water level.

# buildings

## RESIDENTIAL COMPLEX OF BUILDINGS, CRAKOW, POLAND

**Client**:
W.S. ATKINS

**Technical Info:**
Geotechnical Design for a Complex of Residential Building
with ground coverage of 8.500m$^2$,
total Height of 24m and
total floor area of 31.500m$^2$,
with three basements close to a river with loose sand-gravel deposits.

## ELEMENTARY SCHOOL IN KEA ISLAND, GREECE

**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Geotechnical Investigation and Design of 3 buildings:

- Building A, consisting of basement and ground floor, with total coverage 865m$^2$ and
- Buildings B and C, consisting of ground floor and second floor, with total coverage of 391m$^2$ and 347m$^2$ respectively.

Additionally design of surrounding area including basketball, volleyball and football courts.

ROXPLAN Engineering

# landslides

**Treatment of Landslide Phenomena and Failures,
Design of Rehabilitation Measures, etc**

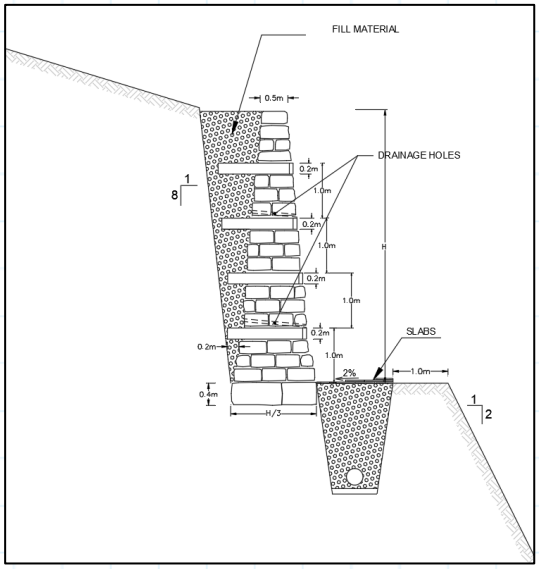
# landslides

## REMEDIAL MEASURES FOR THE PROTECTION OF NORTHERN SLOPES OF THE KARIES STADIUM IN CHIOS, CHIOS ISLAND, GREECE

**Client**:
MUNICIPALITY OF CHIOS

**Technical Info:**
The under design slope presented with risks of larger failures, thus rendering an adjacent stadium unusable. It is 210m in length and 35m in height slope.

Works included: Geological – Geotechnical mapping of the slope area, Design for the protection and formation of the slopes, including formation of the open-cut in combination with installation of nails and the placement of anchored metal mesh including the works required for the smoothing / reinforcement of the slope.



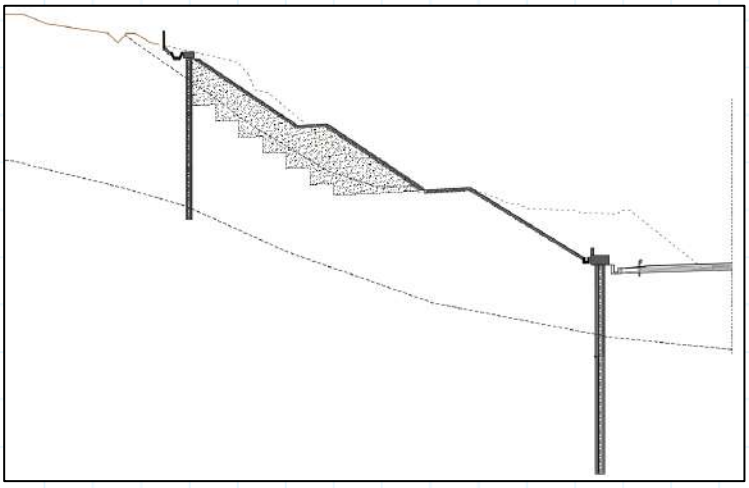

## TREATMENT OF LANDSLIDE PHENOMENA AND FAILURES AT PRIVATE RESIDENCE, PERISTA SETTLEMENT, MUNICIPALITY OF NAFPAKTIA, GREECE

**Client**:
GEORGIOS CHATZINIKOLAOU

**Technical Info:**
Extensive failure phenomena observed at the under design area following periods of intense rainfall.

Works included: Geological – Geotechnical survey of the area of the failures, Rehabilitation Design including the proposal of construction of retaining wall in combination with deep drainage system.

# landslides



## REHABILITATION OF FAILURE AND CREEPING PHENOMENA AT THE OPEN SLOPE O530, BETWEEN CH. 52+952 AND CH. 53+259 (DERVENI) OF THE EKPPT HIGHWAY, SECTION KORINTHOS – PATRA, GREECE

**Client**:
APION KLEOS JV / OLYMPIA JV

**Technical Info:**
During construction of the Korinthos - Patra (EKPPT) Highway, failure phenomena appeared at the area of the Open-Cut O530 located between Ch. 52+952 and Ch. 53+259 (Derveni Area).

Works included: Geotechnical Investigations with Coring Boreholes, Design of Rehabilitation Measures opted for the implementation of a retention system that consisted of construction of a double Pile wall, connected with beams.

## REMEDIAL MEASURES OF SLOPES UNDER FAILURE AT A COASTAL LAND, "PALAIOVARKA" AREA OF VONITSA, AETOLOAKARNANIA PREFECTURE, GREECE

**Client**:
MARIA FRAGKOU

**Technical Info:**
The area included slopes 5 - 6m in height, approximately 100m in length at a 60 acre coastal land.

Works included: Geological – Geotechnical Mapping of the area, Execution of Geotechnical Investigation with Coring Boreholes – Data Evaluation, Proposals for the Protection and Rehabilitation including the smoothing of the slopes and their protection by construction of gabions.

# landslides

## TREATMENT OF LANDSLIDE PHENOMENA AT THE TALA SETTLEMENT AREA, IN PAFOS PROVIDENCE, CYPRUS

**Client**:
GEOINVEST Ltd

**Technical Info:**
A constructed Building Complex at the east of the city of Pafos in Cyprus, presented failures in the form of cracks, cavings or ground elevations as a result of landslide phenomena.

Works included: Geotechnical survey of the area with Investigations and Geotechnical Design of treatment proposals with underpinning of the buildings with piles, demolition and reconstruction where advanced damages had occurred and reinforcement of existing retaining walls with micro-piles.

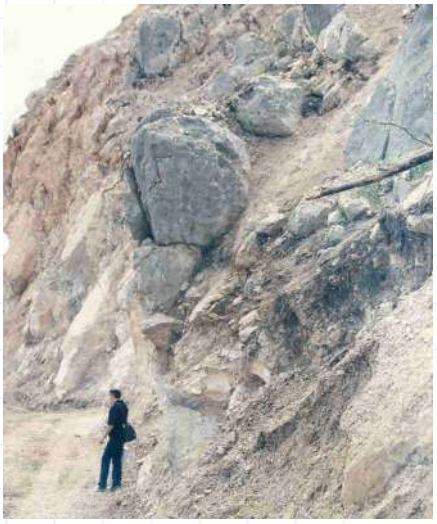
## LANDSLIDE TREATMENT AT THE GAVROVO WINDFARM ACCESS ROADS, CH. 8+100, AETOLOAKARNANIA PREFECTURE, GREECE

**Client**:
RESTEC S.A.

**Technical Info:**
During the Construction of Access Roads (Ch. 8+100) at the Gavrovo Windfarm, landslide and rockfall phenomena appeared at a high slope.

Works included: Execution of Coring Boreholes, Installation of inclinometers and subsequent measurements and Design of mitigation protection measures.

# landslides



## SLOPES REHABILITATION ALONG THE ROAD EPIDAVROS – DRIOPI, ARGOLIDA PREFECTURE, GREECE

**Client**:
AN.ANASTILOTIKI ATE / PIRAEUS PREFECTURE

**Technical Info:**
During the construction of the road connecting Palia Epidavros with Driopi and Galata, rock failures of slopes occurred, at various locations.

Works included: Geological / Geotechnical Investigations and Geotechnical Design with proposal of various rehabilitation measures, depending on the area, such as excavation of open slopes with steps, rock traps with protective wall, drainage measures and rock retention fences at the edge of slopes.

## REHABILITATION OF DAMAGES CAUSED BY EARTHQUAKES, AT THE NATIONAL ROAD NETWORK OF KEFALONIA ISLAND, GREECE

**Client**:
GREEK MINISTRY OF PUBLIC WORKS

**Technical Info:**
Geotechnical Investigations and Design for the rehabilitation of Damages caused by earthquakes, at seven locations along the National Road Network of Kefalonia Island

ROXPLAN Engineering

# retaining structures - underpinning

**Significant projects including design, construction and supervision of retaining structures in cut & cover tunnels and stations of the Athens and Doha Metros.**

# retaining structures – underpinning

## NEW SHOPPING MALL CENTER AT LARISSA RAILWAY STATION AREA, ATHENS, GREECE

**Client**:
KAROYZOS CONSTRUCTION S.A.

**Technical Info:**
Geotechnical Design for the Temporary Retaining Structure consisting of a 21.5m Deep Anchored Piled Retaining Wall, designed for the construction of a 5 floor underground parking – garage.

## "TIMAGENIS" BUILDING AT PIRAEUS PREFECTURE, GREECE

**Client**:
TIMAGENIS S.A.

**Technical Info:**
Geotechnical Investigation and Geotechnical Design for a 10m Deep Anchored Piled Retaining Wall, designed to Retain 2 Basements, excavated Under Existing Old Masonry Building.

# retaining structures – underpinning

## "KARELIAS INDUSTRY", KALAMATA CITY AREA, PELOPONNESE, GREECE

**Client**:
KARELIAS S.A.

**Technical Info:**
Geotechnical Investigation with Coring Boreholes inside Buildings and Geotechnical Design of micro-pile support system for underpinning nine Buildings of the "Karelias" industry.

## TECHNICAL COLLEGE, KARPENHSI, EVRITANIA MUNICIPALITY, GREECE

**Client**:
EVRITANIA MUNICIPALITY

**Technical Info:**
Geotechnical Investigation with Coring Boreholes and Geotechnical Design of pile support system for underpinning Buildings of the Technical College.

ROXPLAN Engineering

# airports

10 Airport Investigation and Designs.

ROXPLAN Engineering

# airports

## IKARIA ISLAND AIRPORT, GREECE

**Client:**
MINISTRY OF TRANSPORTATION

**Technical Info:**
Geotechnical Investigations and Design of new airfield pavement, extension of the existing and design of the new open cuts of the airport area, design of buildings foundation and access roads.

ROXPLAN Engineering

# airports

## "DIMITRIOS VIKELAS" AIRPORT IN SIROS ISLAND , GREECE

**Client**:
MINISTRY OF TRANSPORTATION - CIVIL AVIATION AUTHORITY

**Technical Info:**
Syros Airport "Dimitrios Vikelas"
(1 Passenger terminal, 1 fire fighting station, Airport fire protection category 3, 2 aircraft parking positions 160x65meters, 6 general aviation aircraft parking positions, Elevation 72m above mean sea level, runway ID 18/36 1,080 x 30 meters).

Offered Services: Design of the main building of the airport (approx. 780m$^2$ , composite structure) and several auxiliary structures (with total area 1,150m$^2$).

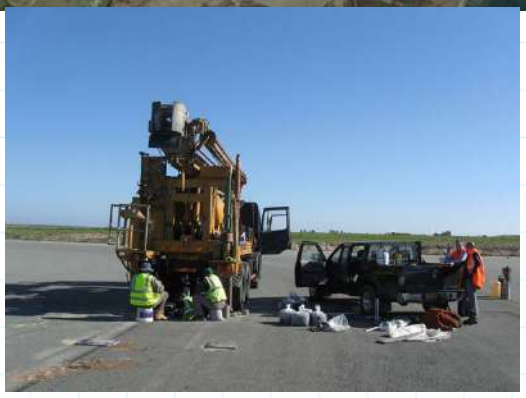

## "ARISTOTELIS" AIPORT IN KASTORIA, GREECE - LANDSCAPING AND EXPANSION OF THE RUNWAY

**Client**:
MINISTRY OF TRANSPORTATION - CIVIL AVIATION AUTHORITY

**Technical Info:**
Kastoria Airport, 1 passenger terminal, 2 Aircraft parking positions B737 sized aircrafts, 2,000m$^2$ parking space for light aircrafts, runways 2,698 x 45 meters.

Offered Services: Geotechnical Investigations and design for the connection of the new with the old runway, borrow pits investigation for the materials needed for the construction, design of embankments and trenches, settlement checks, temporary design of the new runway needed for aircrafts with International Standards.

# airports

## LARNACA INTERNATIONAL AIRPORT "GLAFCOS CLERIDES" , CYPRUS

**Client**:
CUNNINGHAM LINDSEY, CYPRUS

**Technical Info:**
Larnaca International Airport (with 4.5 million passengers, 1 passenger terminal, 1 cargo terminal, 21 aircraft stands, 48 check-in desks, 9 gates, 3 baggage claim belts, runways ID 04/22, 2,980 x 45 meters).

Offered Services: Consulting Services for the rehabilitation of damaged taxiways.

## NEW KALAMATA AIRPORT, GREECE

**Client**:
MINISTRY OF TRANSPORTATION - CIVIL AVIATION AUTHORITY

**Technical Info:**
Structural Design of building that includes arrival and departure lounges, waiting areas, canteen and other auxiliary areas. Total building coverage: 2,400m$^2$

ROXPLAN Engineering

# ports, off-shore structures

**15 Port Structures and participation in the design of 2 Oil Platforms.**

ROXPLAN Engineering

# ports

## IMPROVEMENT AND EXTENSION OF EXISTING HARBOR FACILITIES SIFNOS ISLAND, GREECE

**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Geotechnical Investigation with off-shore Boreholes and Geotechnical Design of the Foundation Conditions of the new Port Facilities.


## IMPROVEMENT AND EXTENSION OF EXISTING HARBOR FACILITIES SYROS ISLAND, GREECE

**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Geotechnical Investigation with off-shore Boreholes and Geotechnical Design of the Foundation Conditions of the new Port Facilities.

ROXPLAN Engineering

# ports

## NEW PORT IN “PSATHI”, AND NEW FISHING SHELTER IN "AGIOS MINAS", KIMOLOS ISLAND, GREECE

**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Geotechnical Investigation with off-shore Boreholes and Geotechnical Design of the Foundation Conditions of the new Port and Fishing Shelter Facilities.

## NEW FISHING SHELTER IN “KARAVOSTASI” AND EXPANSION OF “KARAVOSTASI” PORT, FOLEGANDROS ISLAND, GREECE

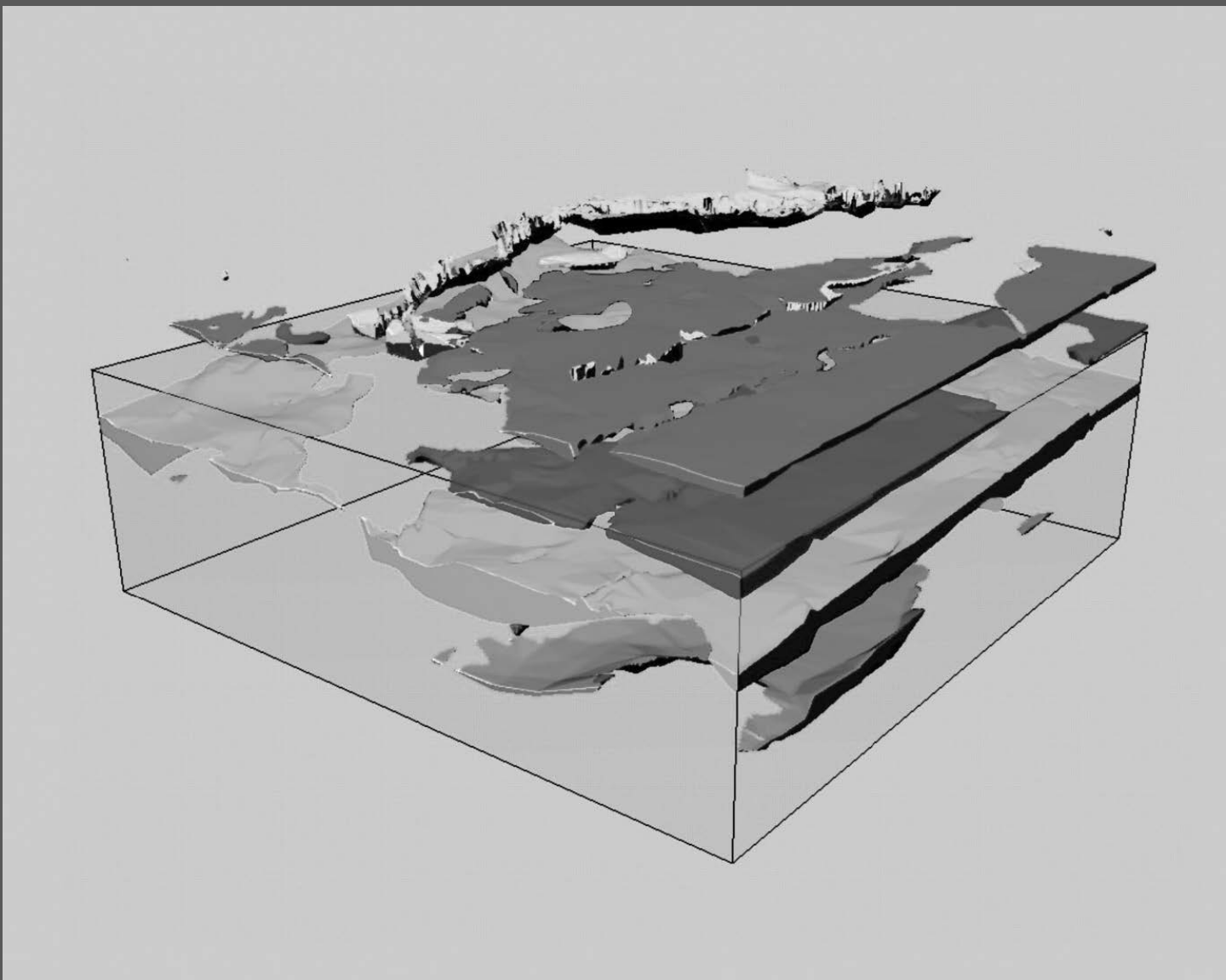
**Client**:
KYKLADES PREFECTURE

**Technical Info:**
Geotechnical Investigation with off-shore Boreholes and Geotechnical Design of the Foundation Conditions of the expansion of the existing Port and new Fishing Shelter Facilities.

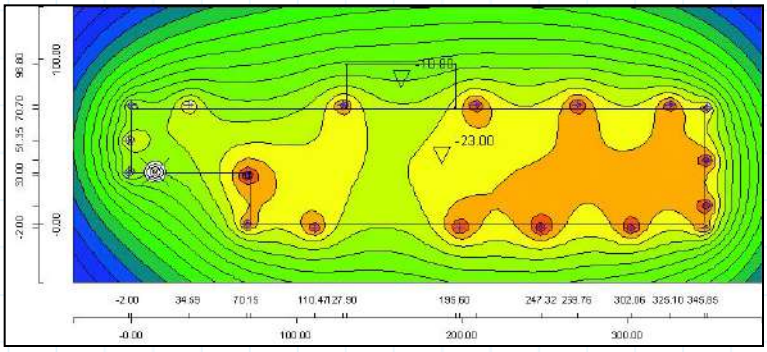
ROXPLAN Engineering

# ground water management

**Geological - Hydrogeological Studies, 3-D Modeling,
Well Testing and Development, Dewatering Design,
Desalination Systems, Geochemical Analyses, GIS Applications.**



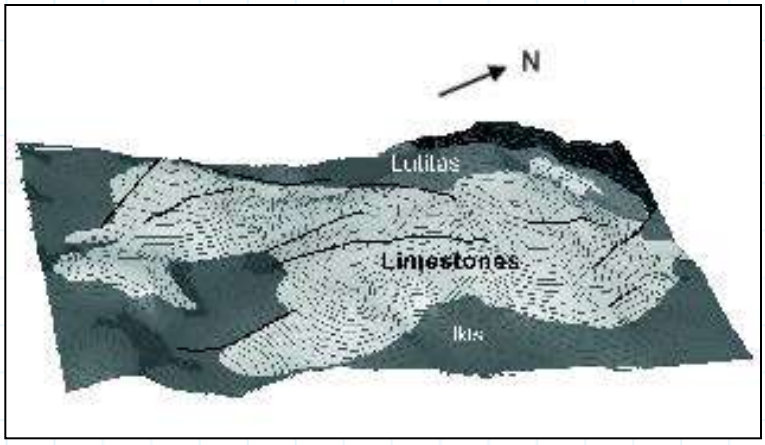
# ground water management




## DEWATERING DESIGN OF EDUCATION CITY STATION, DOHA METRO (Pre-Tendering stage)

**Client**:
SSF Ingenieure S.A.

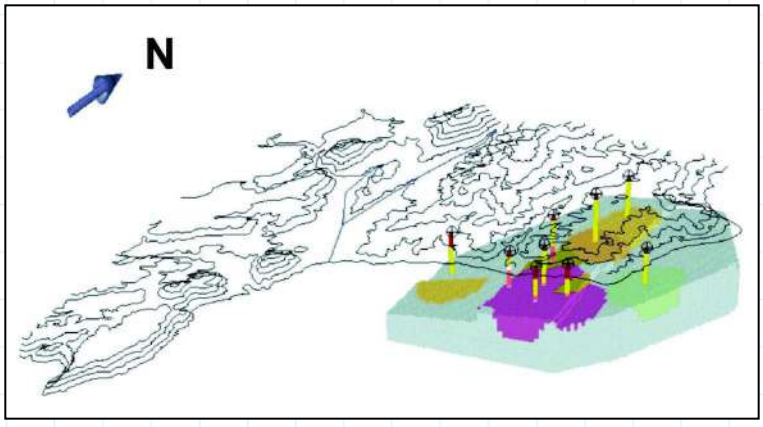
**Technical Info:**
Assessment of the Geological & Hydrogeological data, Calculations, Modelling & Design of the Dewatering System of the Station.




## HYDROGEOLOGICAL STUDY FOR THE PROTECTION OF THE GROUND WATER AQUIFER SYSTEM EL COLORADO AREA, EL SALVADOR

**Client**:
EL SALVADOR CEMENT INTUSTRY

**Technical Info:**
Geological & Hydrogeological Study, Geochemical Analyses of the Ground Water System, 3-D Modelling.



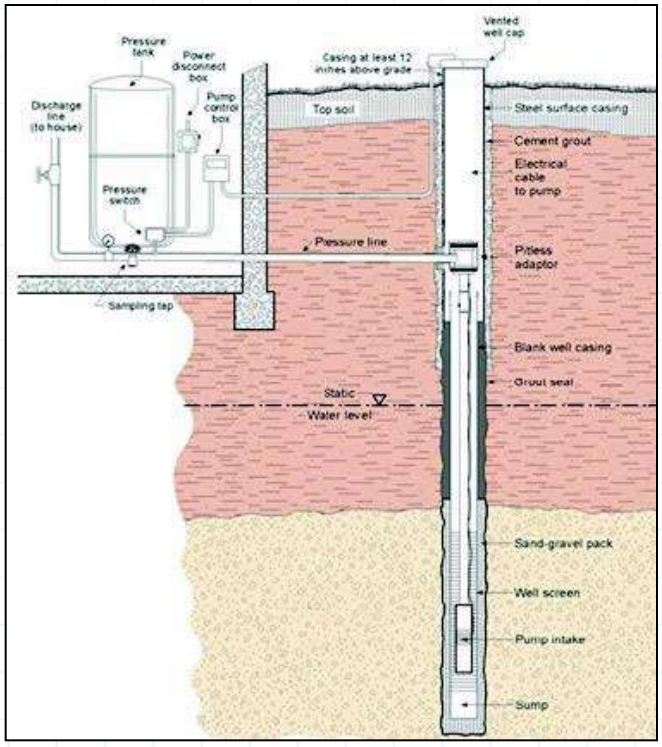

## ARTIFICIAL RECHARGE OF KARSTIC GROUND WATER USING 3-D MODELLING, ENIPEAS RIVER BASIN, THESSALY, GREECE

**Client**:
THESSALY PREFECTURE

**Technical Info:**
Geological and Hydrogeological Model, Ground Water Model using 3-D CAD techniques for the delineation of the aquifer geometry.

ROXPLAN Engineering

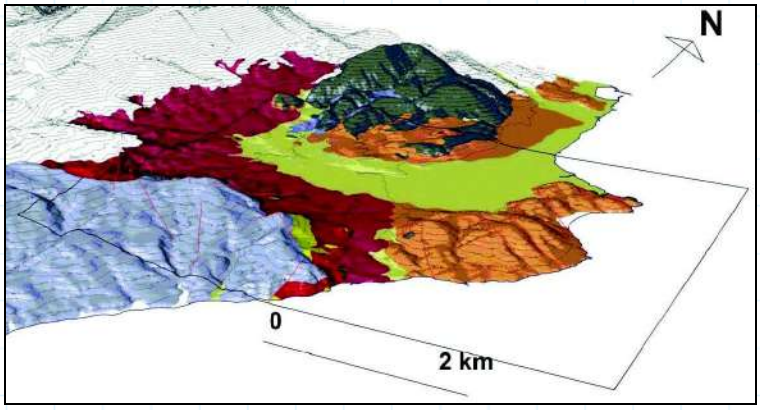
# ground water management




## WELL REHABILITATION AND DEVELOPMENT AT 10 WELL FIELDS, NORTH THESSALY BASIN, GREECE

**Client**:
THESSALY PREFECTURE

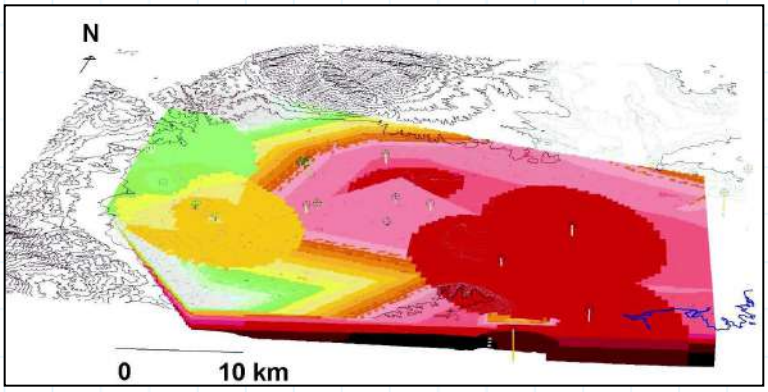
**Technical Info:**
Data Collection, Field Observation, Pumping Tests, 3-D Ground Water Model for each Well Field, Well Development Studies.




## GEOCHEMICAL ANALYSIS MODEL AT THE KAVALA REGION GEOTHERMAL FIELD, MACEDONIA, GREECE

**Client**:
MACEDONIA PREFECTURE

**Technical Info:**
Geological Study, Geochemical Analyses, 3-D Modelling of the chemical elements scattering.




## HYDROGEOLOGICAL STUDY THE WATER SUPPLY OF THE INDUSTRIAL ZONE OF PATRAS, GREECE

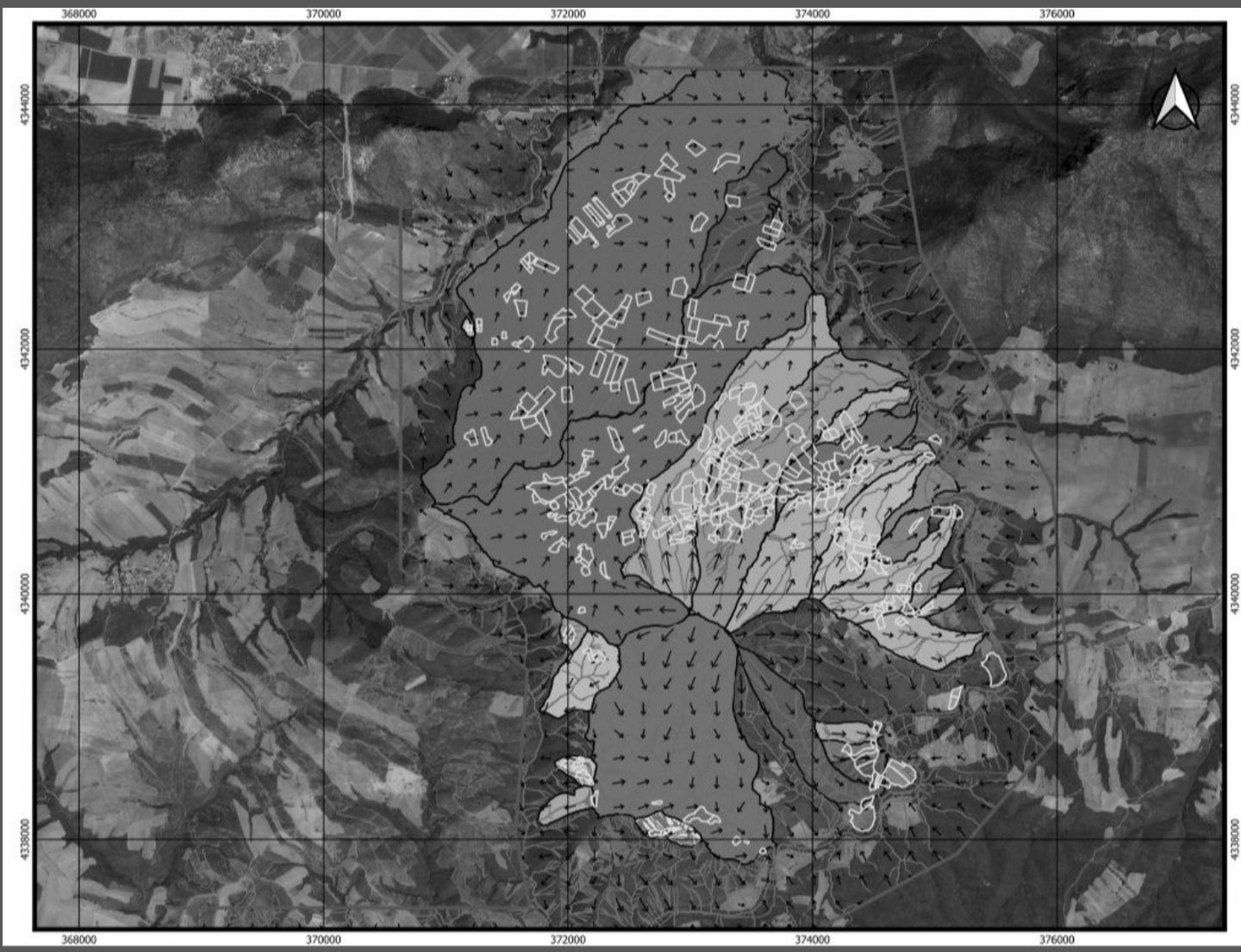
**Client**:
HELLENIC BANK FOR THE INDUSTRIAL DEVELOPMENT (ETVA S.A.)

**Technical Info:**
Geological and Hydrogeological Study, Artificial Recharge Study, Well Exploration, Pumping Tests, 3-D Modelling.

ROXPLAN Engineering

# flood risk assessment

**More than 15 Flood Risk Assessments in the framework of Hydrological and Hydraulic Designs of various structures.**



# flood risk assessment

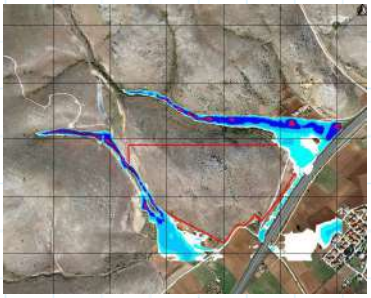
PV Parks Location

Main stream's flow directions Model

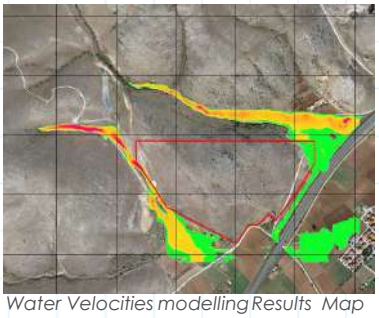
## FLOOD RISK ASSESMENT FOR 13 PV PARKS AT KOZANI PREFECTURE, NOTHERN GREECE

**Client**:
SK PLUS / LIGHTSOURCE BP

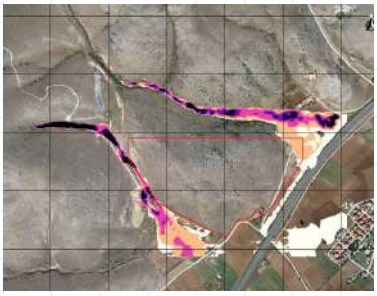
**Technical Info:**
Flood Risk Assessment with Flood Lines Definition, for several Flood Return Periods (10, 20, 50, 100, 200, 500 years), providing Depth, Velocity and Hazard Maps.



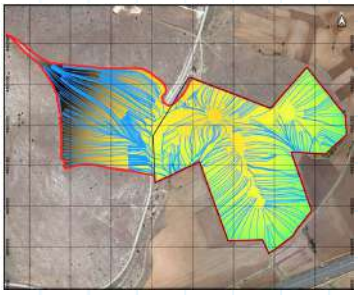
Water Depths modelling Results Map



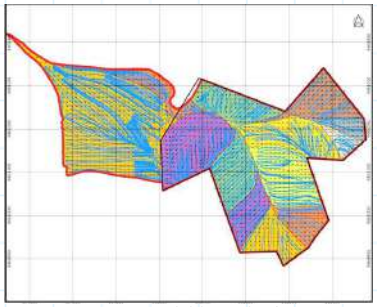
Water Velocities modelling Results Map



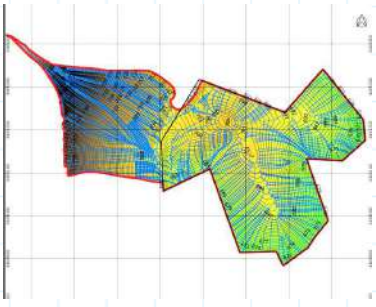
Flood Hazard Map



Catchment Delination



Sub-Catchments division with flow direction arrows Map

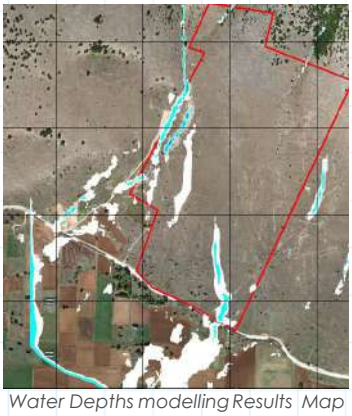


Contour Lines for the greater area Map

# flood risk assessment

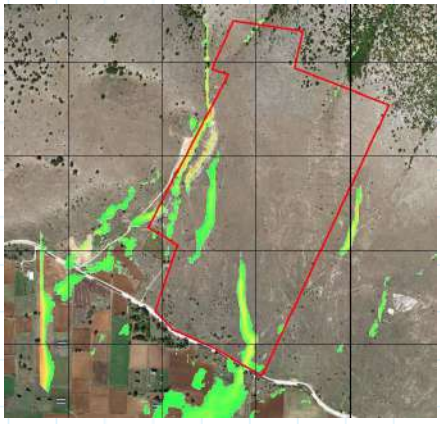
*PV Parks Location*

*Main stream's flow directions Model*

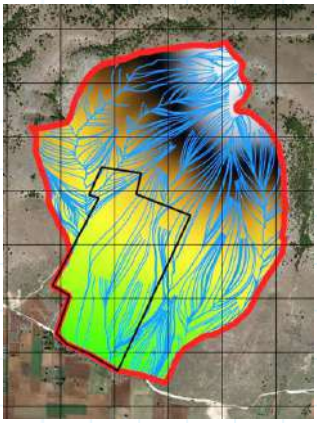


*Water Depths modelling Results Map*

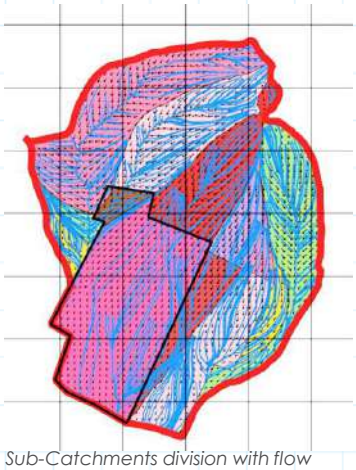
*Water Velocities modelling Results Map*



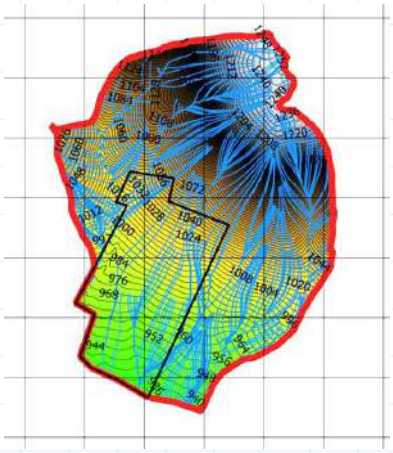
*Flood Hazard Map*



*Catchment Delination*



*Sub-Catchments division with flow direction arrows Map*



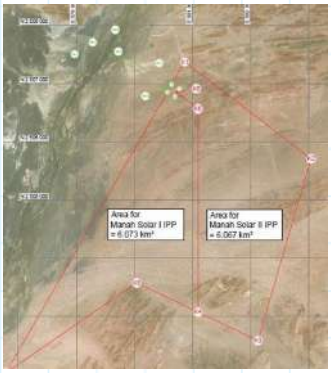
*Contour Lines for the greater area Map*

## FLOOD RISK ASSESMENT FOR 8 PV PARKS AT KOZANI PREFECTURE, NOTHERN GREECE

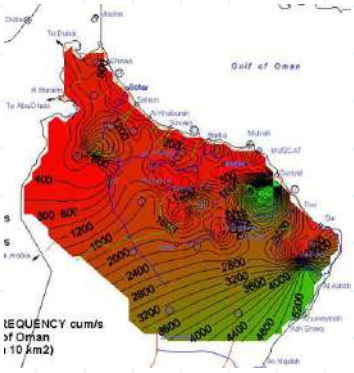
**Client**:
KIEFER/ENEL Green Power

**Technical Info:**
Flood Risk Assessment with Flood Lines Definition, for several Flood Return Periods (10, 20, 50, 100 years), providing Depth, Velocity and Hazard Maps.

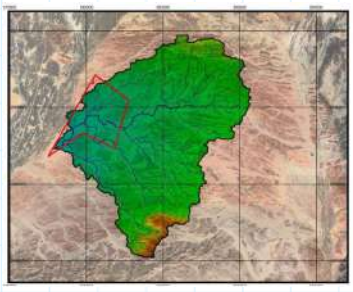
# flood risk assessment



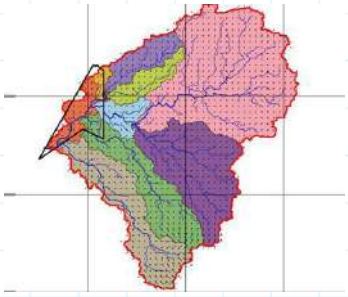

*Location of the Parks*



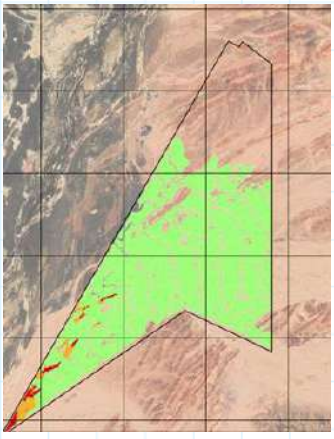

*(50years) Flood Peaks Frequency cum/s, for areas more than 10km2 Northern Oman*



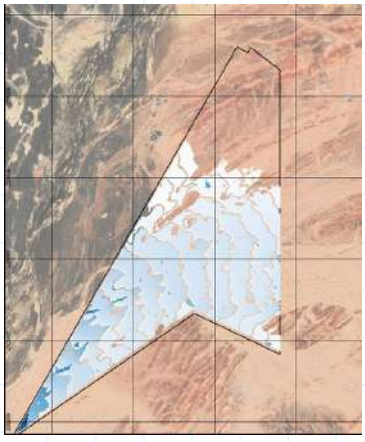
*Catchment of wadis coming through*



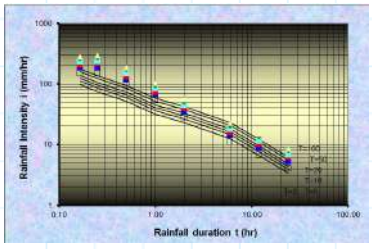
*Flow direction arrows for the site area Catchments*



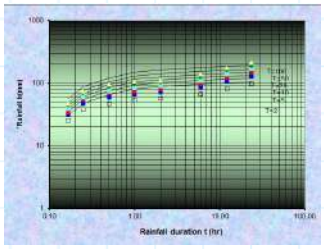
*Water Velocities modelling Results Map*



*Water Depths modelling Results Map*




*Rainfall Intensity-Duration-Frequency (IDF) Curves*




*Rainfall Depth-Duration-Frequency (DDF) Curves)*

**FLOOD RISK ASSESMENT OF PV PARKS Manah Solar I and Manah Solar II, OMAN**

**Client**:
ASD SQUARE/EDF

**Technical Info:**
Flood Risk Assessment with Flood Lines Definition, for several Flood Return Periods (10, 20, 50, 100, 200, 500 years), providing Depth, Velocity and Hazard Maps, for two (2) PV Parks of Area 12km$^2$ and Power of 1.000MW.

ROXPLAN Engineering

# mining

**designing of mines, survey for possible mines, geological survey, mine mapping, geophysical survey of mines, evaluation and reporting on mines.**

ROXPLAN Engineering

# mining

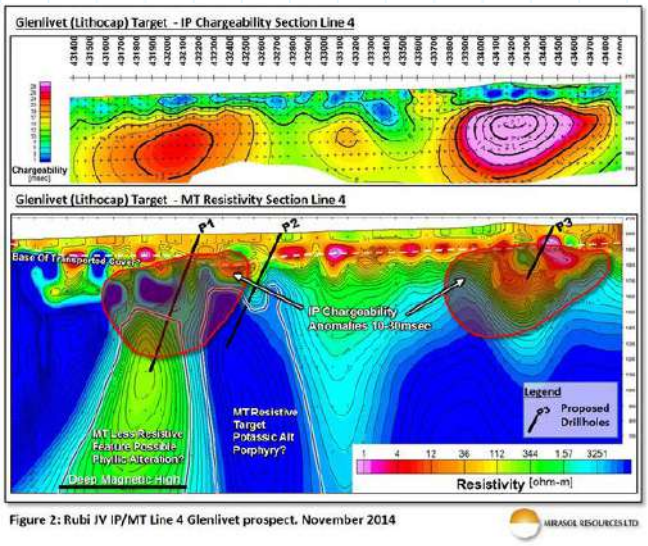
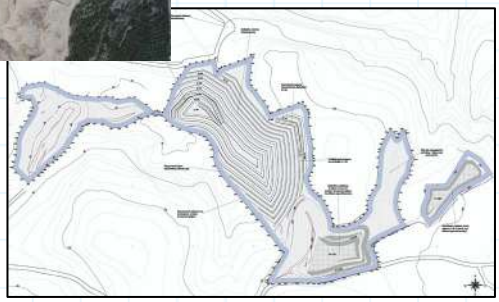


Figure 2: Rubi JV IP/MT Line 4 Glenlivet prospect. November 2014

## SURVEY FOR POSSIBLE MINES -GEOPHYSICAL SURVEY

**magnetotellurics**



## WHITE POZZOLANA MINE, MILOS ISLAND, GREECE

**Client**:
ELLINIKI METALLEYTIKI EPE

**Technical Info:**
Drone flight above a bentonite mine in Milos Island to produce a DTM (digital terrain model) of the relief and investigation of the obligatory according to EU and Greek Legislation, tree development in open mines.

Calculation of the volumes of the materials between green field and today's situation

## "AMYNTEO" MINE, KOZANI, GREECE

**Client**:
PUBLIC POWER CORPORATION SA, HELLAS

**Technical Info:**
Design of protection of slopes against water inflow and design of slope protection.

ROXPLAN Engineering

# geotechnical investigations

**More than 50,000m of coring boreholes, both on-shore and off-shore with laboratory and in-situ testing, for more than 500 different projects.**

# geotechnical investigations

On-Shore Boreholes

Off-Shore Boreholes

Wagon-Drilling

Our company has the capability and experience to execute a wide range of field and laboratory testing / investigations.

Our experience includes execution of more than 50,000m of coring boreholes, both on-shore and off-shore, for more than 500 different projects, with corresponding laboratory testing and evaluation of their results. For these projects programming and inspection of the works were included in our scope.

ROXPLAN Engineering

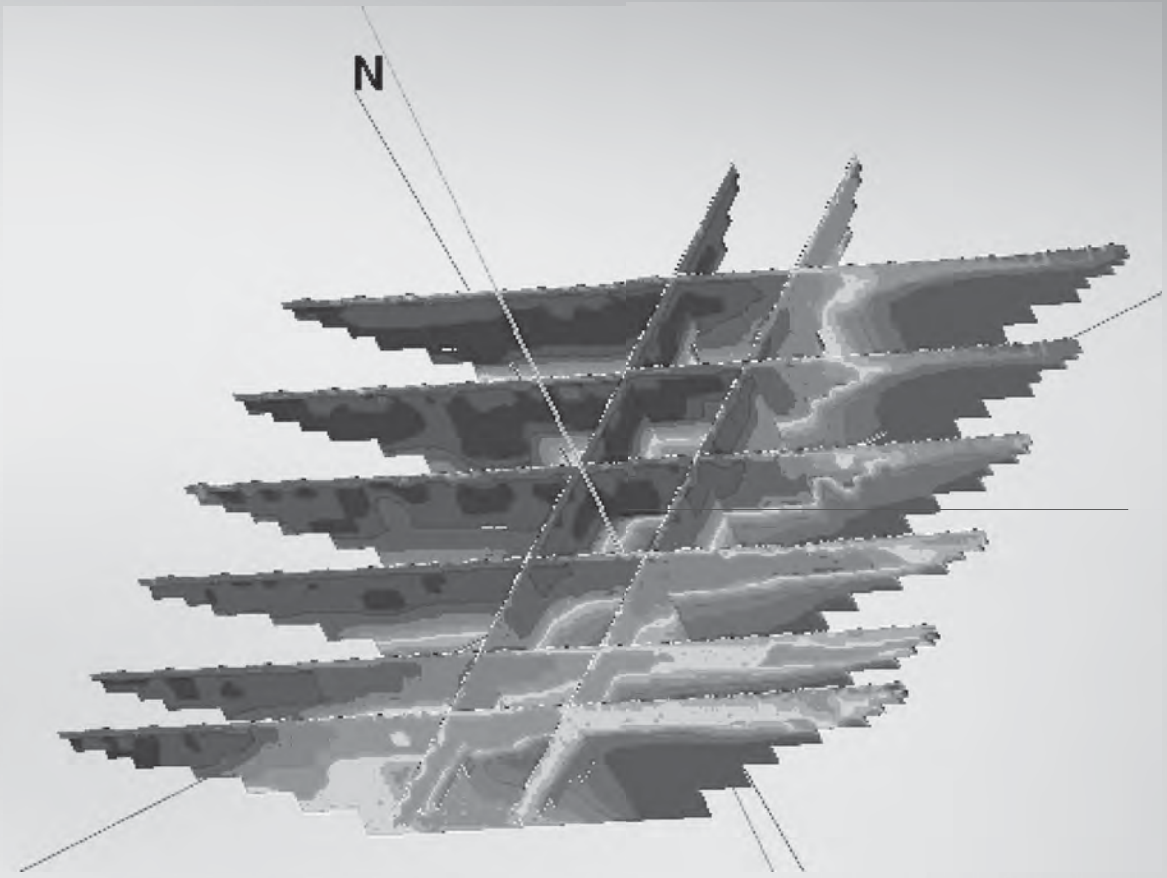
# geotechnical investigations

Laboratory Testing

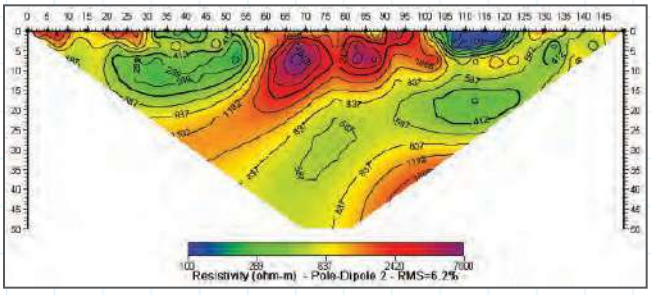
ROXPLAN Engineering

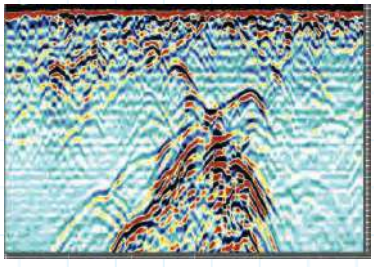
# geophysical investigations

**Karsts - Cavities - Sinkholes - Fracture Zones, Utilities - Buried Structures,
Reinforcement - Voids of Concrete, Seismic/Dynamic Properties of Subgrade Materials,
Unexploded Ordnances (UXO's),
Marine - Hydrographic Services Environmental Applications,
Parameters for Grounding Design**



# geophysical investigations



## KARSTS - CAVITIES - SINKHOLES - GROUND WATER TABLE - FRACTURE ZONES

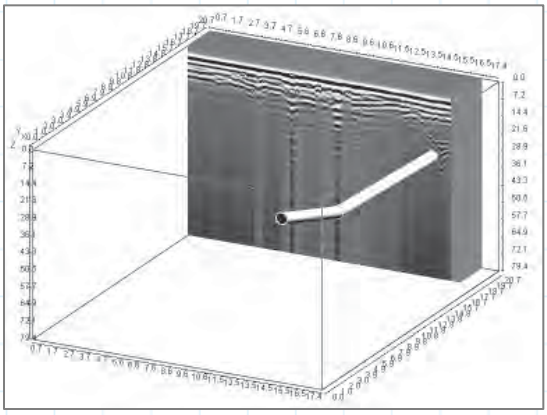
**Project**:
"KTENIAS", TRIPOLIS GREATER AREA, PELOPONESSE, GREECE

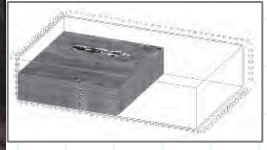
**Offered Services:**
Detection of cavities-karsts, sinkholes and fracture zones with non-destructive geophysical methods

**Geophysical Methods:**
- Ground Penetrating Radar (GPR)
- Electrical Resistivity Tomography (ERT)

**Geophysical Equipment:**
- Mala Geoscience GPR (ProEx Control Unit, shielded antennas of 500, 250 MHz and unshielded
- of 100, 50 & 25 MHz central frequency, XV11 monitor, Trimple RTK GPS)
- Terrameter LS 16 channel resistivity meter, multicore cables, electrodes

**Depth Range:**
- 0 - 15m (GPR Method)
- 0 - 80m (ERT Method)





## THESSALONIKI METRO, GREECE

**Project:**
THESSALONIKI METRO, GREECE

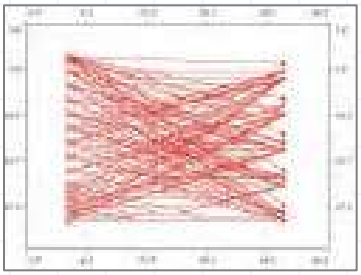
**Offered Services:**
Detection of buried structures (water pipes, cables, sewer pipes, ancient remains, etc.), along the Metro Alignment using non-destructive methods

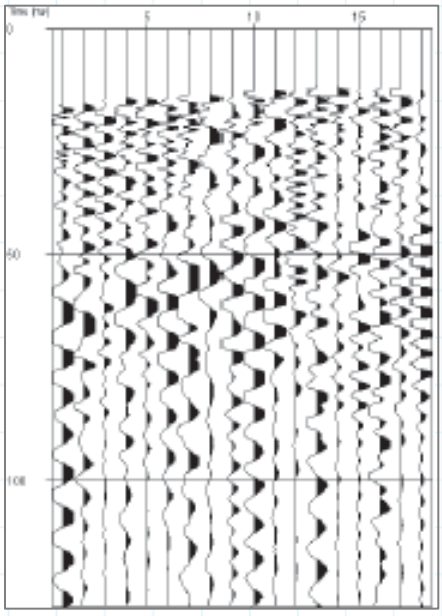
**Geophysical Methods:**
Ground Penetrating Radar (GPR)

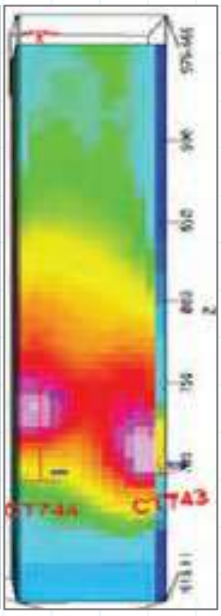
**Geophysical Equipment:**
Mala Geoscience GPR (ProEx Control Unit, shielded antennas of 500, 250 MHz, 1.6 GHz central frequency, XV11 monitor, Trimple RTK GPS)

**Depth Range:**
0 - 6m

# geophysical investigations







## SEISMIC/DYNAMIC PROPERTIES OF SUBGRADE MATERIAL

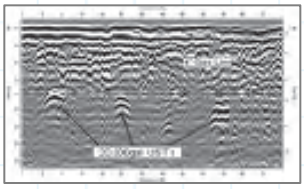
**Project:**
DESIGN OF "ASOPOS" EARTH DAM, GREECE

**Offered Services:**
Detection of the dynamic elastic parameters of the subgrade materials in the foundation area for the a-seismic design of the dam (80m high)

**Geophysical Methods:**
Seismic Tomography (CSL Method)

**Geophysical Equipment:**
- Digital Seismic recorder with 24 channels of GEOMETRICS
- Company, model SMARTSEIS, with sampling ability of 32 ms.
- Mechanical seismic source, automatic, with applicability within the borehole. Type MH 60 of company VIBROMETRIC OY.
- Wooden beam for the production of S-waves in the multi-offset VSP method.
- Chain of eight (8) tri-axial geophones, with 5 meters spacing between geophones and ability to attach them to the walls of the borehole

**Depth Range:**
- 0 – 100m



## ENVIRONMENTAL APPLICATIONS - GROUNDING DESIGN

**Project:**
PETROLINA FACILITIES, CYPRUS

**Offered Services:**
Hazardous waste mapping, underground storage tanks (UST), Resistivity definition for Grounding Design

**Geophysical Methods:**
- GPR
- ERT

**Geophysical Equipment:**
- Mala Geoscience GPR
- Terrameter LS 16 channel resistivity meter, multicore cables, electrodes

ROXPLAN

# consulting services

**Checking of Design, Expert Evaluation, Value Engineering, Tender Documents, Risk Assessment, Independent Engineer Services.**

ROXPLAN Engineering

# consulting services

## ATHENS - SALONICA HIGHWAY SOUTH KATERINI BRIDGE / INTERCHANGE, GREECE

**Client**:
MINISTRY OF PUBLIC WORKS

**Technical Info:**
Consulting Services and Design for High Embankments on soft ground, Monitoring, etc.

## ATHENS METRO

**Client**:
ATTIKO METRO S.A.

**Technical Info:**
Design review of the Detail Design of Lines 1 and 2 of the Athens Metro (25km lines, 21 stations, depot, etc.)

## DOHA METRO, QATAR

**Client**:
DEUTSCHE BAHN INTERNATIONAL / QATAR RAIL

**Technical Info:**
Preparation of Tender Design and Documents for the 4 lines Doha Metro, (76km long).

ROXPLAN Engineering

# consulting services

## ATTIKI ODOS, ATHENS, GREECE

**Client**:
ATTIKI ODOS S.A.

**Technical Info:**
Design Review of Detail Design of the 70km Long highway.

**RESERVOIRS:**
- **Agios Kirikos, Ikaria Island, Greece**
- **Eggares - Naxos Island, Greece**
- **Greenhouse Reservoir, Drama, Greece**
- **Kato Pitsa, Korinthia, Greece**
- **Paravola, Trichonida, Aetoloakarnania, Greece**
- **Xerias, Almyros, Greece**
- **Mithimna, Lesvos Island, Greece**

**DAMS:**
- **Eressos, Lesvos Island, Greece**
- **Koris Gefyri, Chios Island, Greece**
- **Kritinia, Rhodes Island, Greece**
- **Ferekampos, Skyros Island, Greece**
- **Asopos, Korinthia, Greece**
- **Chalavrianos Xeimaros, Crete Island, Greece**

**Client**:
MINISTRY OF AGRICULTURE

**Technical Info:**
Design Review, Supervision and Technical Consulting during construction of Dams / Reservoirs.

**ROXPLAN ENGINEERING LTD**
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e-mail: info@roxplan.com, www.roxplan.com