

Tender Designs of Infrastructure Highway Projects Tunnels & Technical Works of the PATHE Highway at Platamonas to Katerini section Central Greece

Project

Tunnels, gallery and audit of existing technical works of the PATHE Highway at the section from Platamonas to Katerini

Construction Cost

Total Cost: approx. € 1,2 b.

Project Schedule

Tender Design: 2004-2005

Project Description

S1 Tembi & Platamonas Twin Bore Highway Tunnels

Total length: 10.330m
Excavation cross section: 106m² - 195m²
Effective cross section: 66m² - 84m²

Pedestrian & vehicle cross passages total length: 420m
Excavation cross section: 12,5m² - 33,7m²
Effective cross section: 7,5m² - 24m²

Platamonas tunnel ventilation shaft

Shaft depth: 35m. Cross section: circular with effective diameter 5,3m

Excavation Method

NATM – Mechanical excavation, drilling and blasting

Permanent Investment

Reinforced concrete

Gallery

Length 400m, cross section: open rectangular with inner dimensions

0,5m(width) x 6,78m(height)

Openings of 2,95m width & 3,95m height from piles Ø F120 in axial distances 4,15m

Audit on the structural adequacy of 52 existing bridges & overpasses

Geology

Alluvial deposits scree, limestones, schists, marbles, phyllites, serpentinites, amphibolites

Groundwater

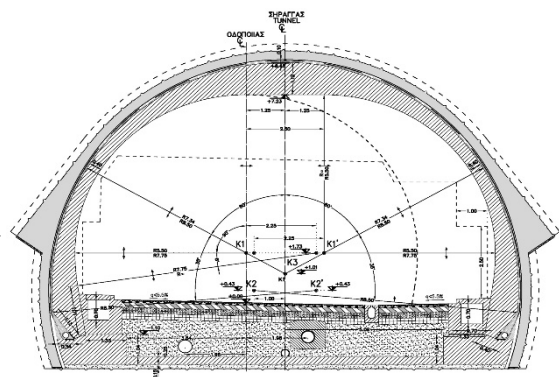
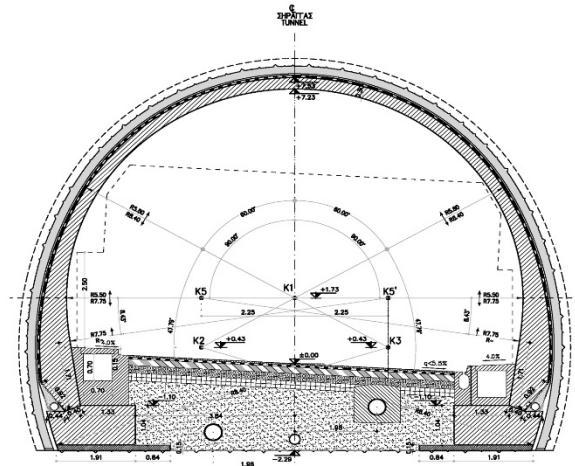
Max. overburden at the tunnels: 100m – 280m

Our Services

Tender design and preparation of the technical offer on behalf of OLIMPIA ODOS Group

Client

OLIMPIA ODOS Group
(ELLINIKI TECHNODOMIKI S.A. – TEV S.A. - AKTOR S.A. – J&P AVAX S.A. – ETETH S.A. – VINCI S.A. – VINCI CONSTRUCTION GRANDS PROJECTS)



Typical Tunnels cross section



Typical Gallery cross section

Tender Designs of Infrastructure Highway Projects

Highway Tunnels of the Ionia Odos Highway

Western Greece

Project

Ionia Odos Highway Tunnels

Construction Cost

Total cost: approx. € 40 m.

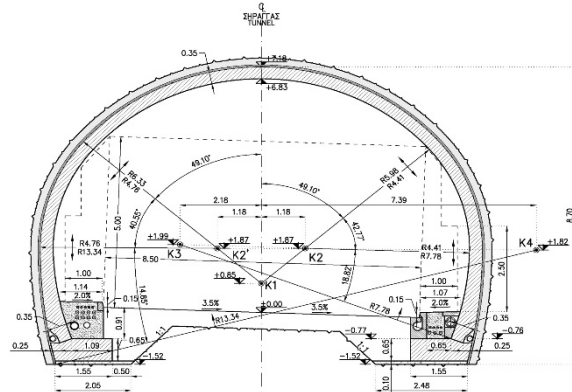
Project Schedule

Tender Design: 2005

Project Description

4 Twin Bore Highway Tunnels

- Total length: 7.210m
- Excavation cross section: 84m² -133m²
- Effective cross section: 64m² -81m²



Typical tunnel cross section

Pedestrian & Vehicle Cross Passages

- Total Length: 720m
- Excavation cross section: 12,5m² -33,7m²
- Effective cross section: 7,5m² -24m²

Excavation Method

NATM – Mechanical excavation, drilling and blasting

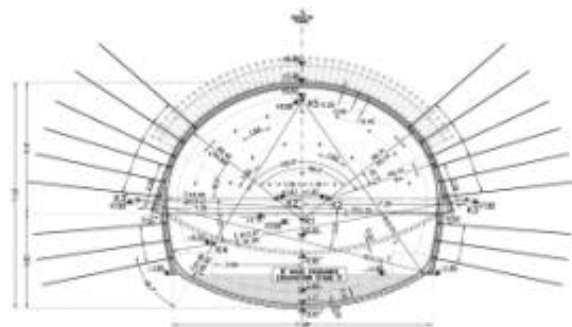
Permanent Investment

Reinforced concrete B35

Geology

Flysch (alternations of sandstones, siltstones), thin-bedded limestones

Max. overburden height: 60m – 110m



Excavation & temporary support typical cross section

Our services

Tender design and preparation of the technical offer on behalf of AIAS Group

Client

AIAS Group
 (J&P AVAX S.A. – ETETH S.A. – VINCI CONSTRUCTION HELLAS S.A. – VINCI CONSTRUCTION GRANDS PROJECTS)



Temporary support & tunnel portals rehabilitation typical cross section

Tender Designs of Infrastructure Highway Projects

Highway Tunnels of the E65 Highway

Central Greece

Project

E65 Highway Tunnels

Construction Cost

Total cost: approx. € 1. b.

Project Schedule

Tender Design: 2006

Project Description

12 Twin Bore Highway Tunnels

- Total length: 20.100m
- Excavation cross section: 86m² -167m²
- Effective cross section: 61m² -78m²

Pedestrian & Vehicle cross passages

- Total length: 720m
- Excavation cross section: 12,5m² -33,7m²
- Effective cross section: 7,5m² -24m²

Excavation Method

NATM – Mechanical excavation, drilling and blasting

Permanent Investment

Reinforced concrete B35

Geology

Dolerites, peridotites, cherts, gabbro, molasse formations (conglomerates, sandstones, siltstones)

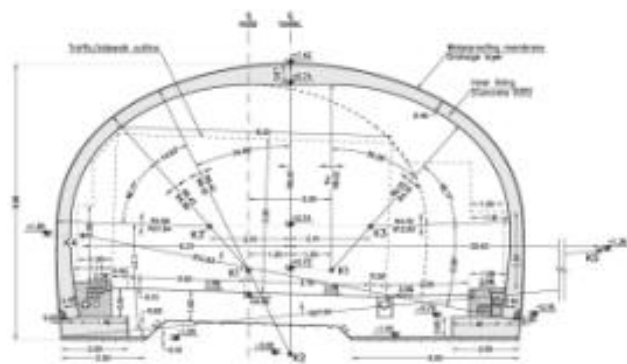
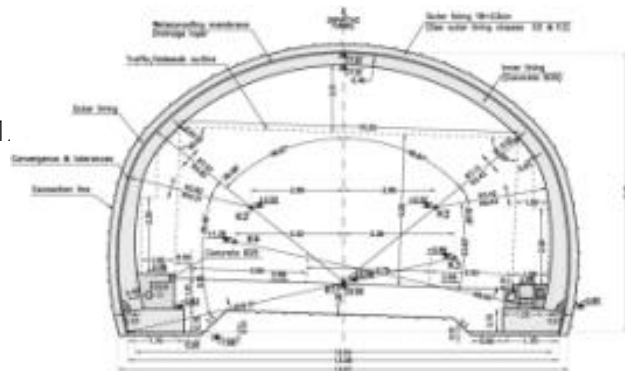
Max. overburden height: 30m – 310m

Our services

Tender design and preparation of the technical offer

Client

ELLINIKES DIADROMES Group



Typical Tunnels cross section

Tender Designs of Infrastructure Highway Projects Tunnels & Technical Works of the Elefsina – Korinthos – Patras – Pyrgos – Tsakona Highway Central & Southern Greece

Project

Tunnels, galleries, Cut & Covers and permanent retaining open cuts Elefsina – Korinthos – Patra - Pyrgos – Tsakona Motorway

Construction Cost

Total Cost: approx. € 2,8 b.

Project Schedule

Tender Design: 2006

Project Description

Works along the existing operating Korinthos – Patra Highway

14 Highway Tunnels (7 single bore & 7 twin bore)

Total length: 18.790m
Excavation cross section: 84m² -167m²
Effective cross section: 59m² -82m²

Pedestrian & Vehicle Cross Passages

Total length: 1.640m.
Excavation cross section: 12,50m² -33,7m²
Effective cross section: 7,5m² -24,00m²

Panagopoula tunnel ventilation shaft

Shaft depth: approx. 200m, cross section: circular with diameter 5m

Excavation Method: NATM – Mechanical excavation, drilling and blasting

Final lining: Reinforced concrete B35

1 Twin Bore Cut & Cover and 3 single bore galleries

Total length: 555m
Cross section: closed box (C&C) and columns with diameter 1,2m at axial distances of 4,2m at the section between the two carriageways

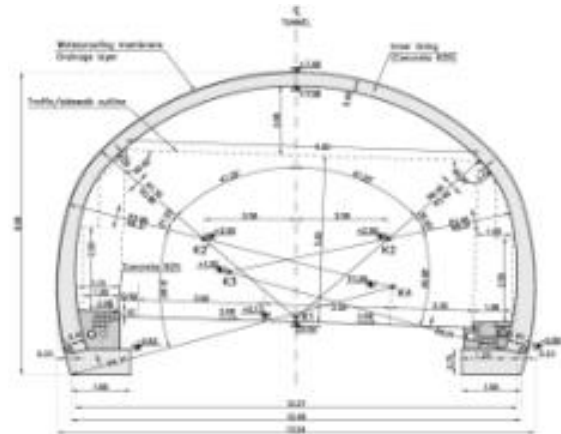
Installation of concrete pile wall and pre-stressed anchors for slope stability purposes

18 permanent retaining open cuts

Total length: 3.420m, max. height: 5m-20m
Anchored pile retaining walls, galvanized anchors, rock fall protection barriers, anchored barriers for slope protection

Geology

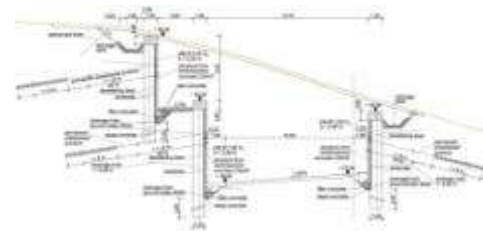
- Neogene & marls, conglomerates, sandstones, limestones, cherts, flysch, scree
- Groundwater, seismically active area
- Extensive landslides at some sections, surface failures, loose soil materials from landslides
- Max. overburden at the tunnels: 35m – 270m



Typical Tunnel cross section



Typical Gallery cross section



Permanent retaining open cuts typical cross section

Our Services

- Tender design and preparation of the Technical offer on behalf of APION KLEOS Group
- Geological & Geotechnical on site evaluation
- Safety Assessment of the existing tunnels on "Kakia Scala" & "Patra Bypass" Tunnels
- The designs were jointly elaborated by "OMIKRON KAPPA CONSULTING" & "EDR GmbH", Munich

Client

APION KLEOS Group
(AKTOR S.A. - J&P AVAX S.A. - ELLINIKI TECHNODOMIKI S.A.- VINCI CONSTRUCTION HELLAS S.A.)