

The logo consists of the letters 'BG' in a bold, white, sans-serif font, centered within a solid green square. The background of the entire page is a grayscale photograph of a complex industrial or construction structure, featuring various beams, bolts, and pipes, with a green gradient overlay at the bottom.

**BG**

# CIVIL ENGINEERING STRUCTURES



# WORLD-CLASS EXPERTISE IN CIVIL ENGINEERING STRUCTURES

## BG AND CIVIL ENGINEERING STRUCTURES

BG Consulting Engineers has proven expertise in civil engineering structures.

New structures require coordinated engineering solutions that factor in all technical and local issues.

To meet these challenges, we have developed the know-how required to work at all levels: **concept design, engineering design, design verification, costing, expert assessments, technical client's advisor and site supervision.**

At BG Consulting Engineers, we know how to put our talent and skills to work to achieve high quality results, both in terms of engineering and aesthetics.

### DIFFERENT MISSIONS FOR DIFFERENT CLIENTS

BG Consulting Engineers has been active in the field of structural engineering since its inception. Today, it plays a lead role in a number of projects around the world (including Switzerland, France, Morocco, Senegal, Luxembourg, Spain and Côte d'Ivoire).

Our missions comprise expert assessments, technical project management, design, engineering design, design verification and site supervision.

Based on our extensive experience, we have developed a highly effective working method, calling when required on qualified experts and developing partnerships with architects and research centres whose know-how complements our own. This allows us to work with a wide variety of clients such as local and national authorities, motorway operators, key accounts, industrial firms and public works agencies.

### PROJECTS THROUGHOUT THE WORLD

BG has delivered successfully on many large-scale projects, including the Blegiwäldi overpass, the bridge over the Menthue, the curved suspension footbridge in Décines, the Champ du Comte viaduct, the Grande Platte rockfall protection gallery, the cable-stayed bridge over the Arve in Bonneville, the downstream viaduct over the Isère in Centron, a wind farm in Morocco and the Gilly bridge in Albertville.



**BRIDGES, VIADUCTS  
AND OVERPASSES  
DESIGNED BY  
BG CONSULTING  
ENGINEERS**



**BLEGIWÄLDI OVERPASS  
(SWITZERLAND)**

Prestressed concrete overpass, with a length of 28m and a width of 6m. Design and construction management.



**DOWNSTREAM VIADUCT OVER  
THE ISÈRE IN CENTRON (FRANCE)**

Design of a composite twin multi-girder bridge with five spans (66-110-125-110-66) with a total length of 477m and a working width of 13.50m, plus causeway.



**BRIDGE OVER THE GUIERS IN  
PONT DE BEAUVOISIN (FRANCE)**

Reinforced concrete bridge with three progressive arches (73.80, 49.20 and 32.80m). Design, verification and construction supervision.



**CHAMP DU COMTE VIADUCT  
(FRANCE)**

Prestressed concrete cantilever bridge, length: 1,040m. Two box girders each supporting "mountain highway" type decking. 11 piers, 100m span length. Deep foundations. Falling rocks against the piers. Design, verification and client's technical advisor.



**HASPELBAEHEL VIADUCT  
(FRANCE)**

Double-girder bridge with five spans, length: 270m (48 + 3x58 + 48). Integrated project management including design verification of construction design, verification of dynamic calculations: (seismic and rail load cases), site supervision and involvement in acceptance operations.



**BRIDGE OVER THE MENTHUE  
(SWITZERLAND)**

Highest bridge in Canton Vaud, with a length of 600m and a central span of 150m. It crosses a valley 110m deep. Maximum pier height: approx. 100m. The bridge is founded on the molasse formation. The piers on the slopes are founded on large diameter caissons (depth 6-17m) and those on the valley floor on piles. Construction design and management.



**RAILWAY UNDERPASS IN  
HÖRNDLI (SWITZERLAND)**

Construction of an underpass using the top-down method (bored piles 1m in circumference) in an existing embankment, with no rail traffic interruption. Excavation with temporary anchors and struts. Design and construction management.



**PS 38 BIS ON A40 IN BONNEVILLE  
(FRANCE)**

Steel beam bridge with a span of 36.50m and a centre-to-centre distance of 8m. Bridge constructed entirely on one abutment, and then lifted into place in a single night. Design and construction management.



**FOUR OVERPASSES N 4.1.6  
UETLIBERG WEST – KNONAU  
(SWITZERLAND)**

Construction of four prestressed concrete solid slab overpasses. Lengths ranging from 35 to 56m, with two or three spans. Design and technical construction management.

## CABLE STRUCTURES



### FORT HATRY OVERPASS IN BELFORT (FRANCE)

Cable-stayed steel overpass. Span: 35m. Working width: 2.50m. Civil engineering construction design, steel frame and construction methods.



### BRIDGE OVER THE ARVE IN BONNEVILLE (FRANCE)

Cable-stayed bridge with a single 74.80m span supported by seven forestay and three backstay cables. Reinforced concrete deck with side beams and a thin ribbed slab prestressed longitudinally and transversely. Civil engineering execution plans and construction methods.



### CABLE-STAYED BRIDGE OVER THE ISÈRE IN GILLY (FRANCE)

Cable-stayed bridge with a reinforced concrete deck and two spans: 101.90m over the Isère and 51.78m over the roadway. Design, verification and construction assistance.



### JONAGES CANAL FOOTBRIDGE IN DÉCINES (FRANCE)

142-meter steel-wire curved suspension footbridge with a single inclined pylon in the canal. Integrated project management including design and construction management.

## OTHER SIGNIFICANT STRUCTURES



### GRANDE PLATTE ROCKFALL PROTECTION GALLERY (FRANCE)

Gallery designed with reinforced concrete dissipation slab on metal frame. Length: 300m. Spacing of fuse supports: 3m. Energy damping capacity: 6,000 kJ. Design and construction management.



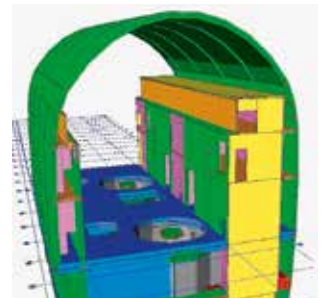
### ROLEX LEARNING CENTER (SWITZERLAND)

Structure composed of a double reinforced concrete shell (spans of up to 80m long, maximum camber under 5m), an underground car park, a metal frame on the shells and a fully glazed façade. Structural design and fire safety, 3D modelling, value engineering, construction methods, overall project design and construction supervision.



### AL KOUDIA WIND TOWERS (MOROCCO)

84 wind turbines measuring 35, 40 and 50m. Development of construction designs for the foundations and steel towers.



### NANT DE DRANCE (SWITZERLAND)

Site development of the pumped storage facility in Nant de Drance. Static and dynamic structural design of the two underground plants. Construction designs. Machine cavern: reinforced concrete structure; surface area of 200 x 30m; height 50m.