



**CLASS MINING
CONSULTING LIMITED**

SOLUTIONS FROM ONE SOURCE





Company

DI Ekkehard Class

MANAGING DIRECTOR

After completing his studies in mine surveying at the University of Leoben, DI Ekkehard Class was responsible for mining supervision at the Vienna Mining Authority from 1993. From 1998 he was managing director of Wopfinger Bergbau- und Aufschließungs GmbH. Furthermore, DI Class is also an engineering consultant for mine surveying.

In 2012, he founded DI Class GmbH, a technical office for mine surveying and mapping,

The company deals mainly with the project planning and management of raw material extraction (including gravel pits, quarries, dredging), landfills, etc., and also offers comprehensive services in the fields of surveying, cultural engineering and water management, as well as geology, geodesy, geotechnics, drilling and environment. Due to the constant development of the market in recent years, the range of our services has been extended to include the expert reports in the area of dust-, noise-, blasting- and stability surveys as well as nature conservation surveys.

In 2023 Class Mining Consulting Limited has been established as the subsidiary company of DI Class GmbH with the headquarter in Nairobi, Kenya, to manage the projects in East Africa - especially in the neighbourhood countries of Kenya (Tansania, Sambia, South Sudan, Uganda, Ethiopia, and others).

Class Mining Consulting Limited offers project management and consulting in the fields of mine surveying, mining, landfill technology, surveying work, cultural engineering and water management, geology, geodesy, geotechnics, drilling, environment and visibility studies. Our team of experts implements projects with overall responsibility and process optimisation. By taking an overall view of the entire task, we address your individual needs and offer customised solutions. This partnership forms the basis of our successful business relationships.



Company

Description of DI Class GmbH

DI Class GmbH places particular emphasis on personal and professional support throughout the entire process.

Our company is not an average technical office, we offer a very wide range of services, professional project management and extensive consulting for various specialist areas:

- Mine surveying, mining, resource extraction
- Landfill engineering
- Surveying
- Cultural engineering and water management
- Geology / geotechnics
- Drilling
- Environmental protection and nature conservation
- Visibility studies
- Environmental impact assessments

Whether you require complete project management or just parts of our range of services - we guarantee precise, professional and rapid implementation of your projects.

From the placing of the order to its completion, we offer all services and thus comprehensive overall solutions from a single source. A single point of contact for all your needs means simplified communication channels, the best support and quality management at the highest level.

In addition to efficiency and cost-effectiveness, the focus is above all on clients. By taking a holistic view of the task at hand, we respond to your individual needs and offer customised solutions.

This partnership forms the basis of our successful business relationships.



Competences

Service

DI Class GmbH offers a wide range of services in the course of planning and implementing projects in Austria, Europe, East-Africa and abroad.

We also support you in all specialist areas with professional project management and comprehensive consulting. As an additional service, we produce aerial photos by using of drone flights and create realistic project models using 3D printers.

Intensive cooperation with our customers is important to us in order to achieve the best possible result as a solution-oriented company.

Project management

We accompany you through the entire course of the project. From planning through individual consultation to completion, we are your competent contact partner in every phase of implementation.

Our practiced philosophy of "everything under one roof" enables us to coordinate procedures precisely and optimise processes of project planning.



Competences

Project processing

Even before the start, we check the feasibility of the project for our customers in order to protect them from unprofitable investments as much as possible.

We use innovative instructions to handle our clients' projects. Before submitting the documents to the authorities, everything is already agreed with the official experts and lawyers. Intensive contact with the representatives of the authorities enables rapid processing and positive decision.

By maintaining this close cooperation after submission, we are able to provide our clients with the best advice, not only in technical matters, but also after the official approval.

Consulting

With us, you will be well advised right from the beginning, as we are pleased to pass on our expertise. Our clients benefit from years of know-how in economic, technical, material law and environmental matters.

Every phase of project handling is in professional hands with us, because our employees constantly take part in internal and external training courses and seminars in order to be able to offer you the best possible solutions.





Areas of competence

Areas of competence

Raw material extraction (loose rock and hard rock, surface and underground)

Our services in the raw materials sector include all activities such as the search for raw materials and raw material evaluation. Furthermore, in particular all project planning to obtain all necessary permits, including the preparation of the required sub-assessments (e.g. noise assessment, air quality assessment and dust survey assessment, structural stability assessment, environmental expert studies).

The strength of our company lies in its uniqueness as a full-service provider. We not only prepare your project, but also carry out all official procedures for you.



Areas of competence

Landfill technology & water management

In this area our services include landfill planning, supervision of landfills as a landfill supervisory body and consulting on ongoing landfill operations.

In the field of water management our services include among others project planning of dredging, preparation of groundwater models, construction supervision, supervision of probes and well sinking, eutrophication forecasts, precipitation water transfer and water law supervision activities.



Areas of competence

Surveying with drones

Drone surveying is a special service offered by our company.

By using various drones it is possible to carry out exact measurements very fast even in impassable terrain (quarries, gravel pits, construction sites, landfills, etc.). Areas that cannot be reached with a normal survey, or only inadequately, present no problem in this case.

The speed and accuracy of the use of drones make this instrument a technologically efficient option without increasing costs compared to terrestrial surveys. Using of orthophotos means an excellent tool for internal operational control.

The accuracy of the images in position and height is up to 3 cm. Based on these results, orthophotos can be incorporated into catastral maps and other plans. Furthermore you obtain an exact 3D model where each pixel point corresponds to a survey point.

This makes it possible to calculate all cubatures in the most accurate form possible; the increase in accuracy compared to a normal survey is at least 10%.



Areas of competence

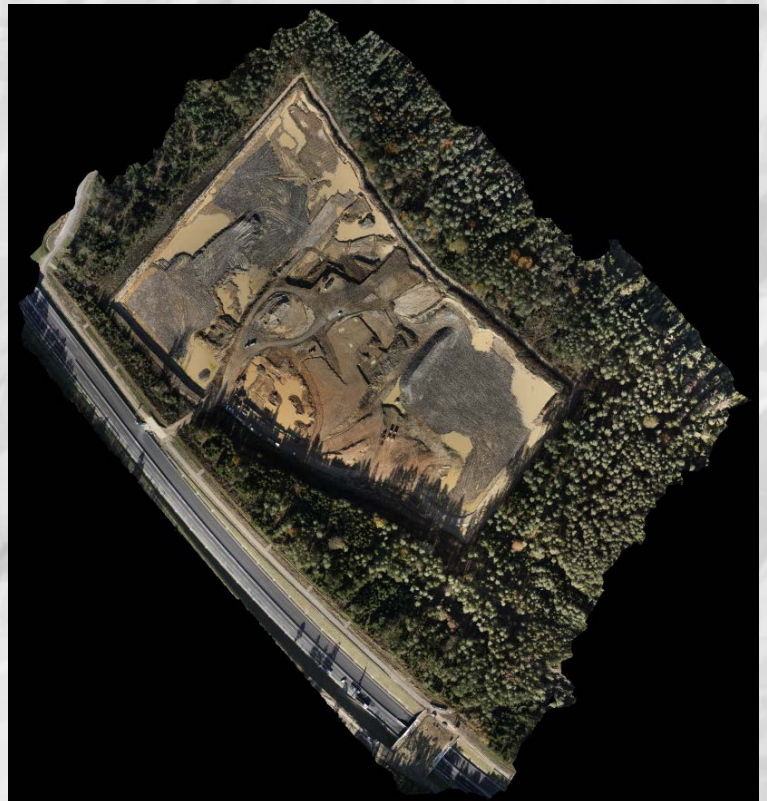
Digital surface model - stockpile cubature



Orthophoto



Orthophoto



Areas of competence

Classical surveying

In the area of classical surveying, we offer a wide range of different position and height surveys of quarries and landfills, as well as property surveys and precision measurements (settlement measurements, landslide observations, etc.).

Due to the wide range of equipment, from GPS surveys to precision levelling equipment, we can optimally respond to our customers' wishes.



Areas of competence

Depth sounding by echosounder

An outstanding unique selling point of our company is a modern echosounder with which depth soundings and measurements of water bodies can be carried out quickly and precisely. The simultaneous GPS measurement and sounding immediately provides the X, Y, Z coordinates of the pond bottom in the coordinate system, so that immediate further processing is possible without further post-processing in the CAD systems. This means that the customer can be provided with accurate site and elevation plans even below the water level (e.g.: surveying of a dredging operation). Due to the elimination of man costs compared to the methods practised so far and the flexibility of the system, there means also an economic advantage for the customer.



Areas of competence

Geology

Our company offers a wide range of services in the field of geology.

Our activities cover the entire spectrum, from the search for raw materials to geological descriptions of deposits, stability reports, CE certifications, geological support for the planning of quarries and landfills, planning of boreholes and drilling support.

Furthermore, we also offer activities in connection with hydrogeological issues.





Areas of competence

Noise assessments

In the course of the preparation of submission projects our company experts draw up also noise assessments. Furthermore, we also offer these as sub-assessments for external project planners and companies.

The preparation of the noise assessment in our office results in the following advantages for the client, among others:

- no loss of time due to communication with external sub-consultants
- complete conformity of the expert opinion with the project
- prompt preparation with the project (no waiting for sub-consultants)
- coordination of expert opinion with the official expert (conformity with the with the submitted project)

When preparing the noise expert opinion, either on-site measurements are carried out in accordance with the applicable standards or, if possible, pure emission measurements are prepared. This depends on the individual case and is clarified in advance with the client and the experts involved.

As a result, the client receives an expert opinion that is fully coordinated with the submission project and complies with the respective standards, which serves him not only for the submission project but also for the subsequent operational management.



Areas of competence

Air quality assessment & dust survey

In the course of developing submission projects, our company also prepares air surveys itself. Furthermore, we also offer these as sub-assessments for external project planners and companies.

The preparation of the air expertise in our office results in the following advantages for the client, among others:

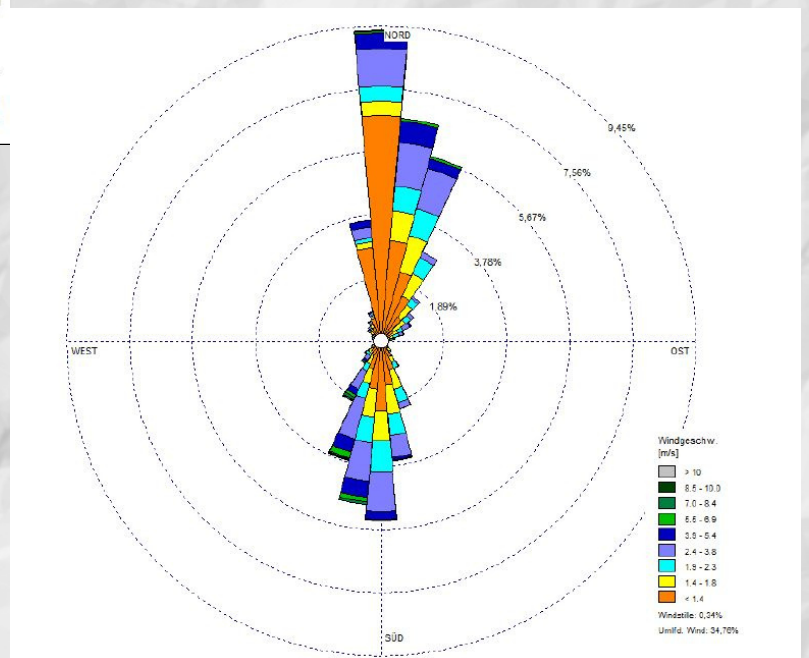
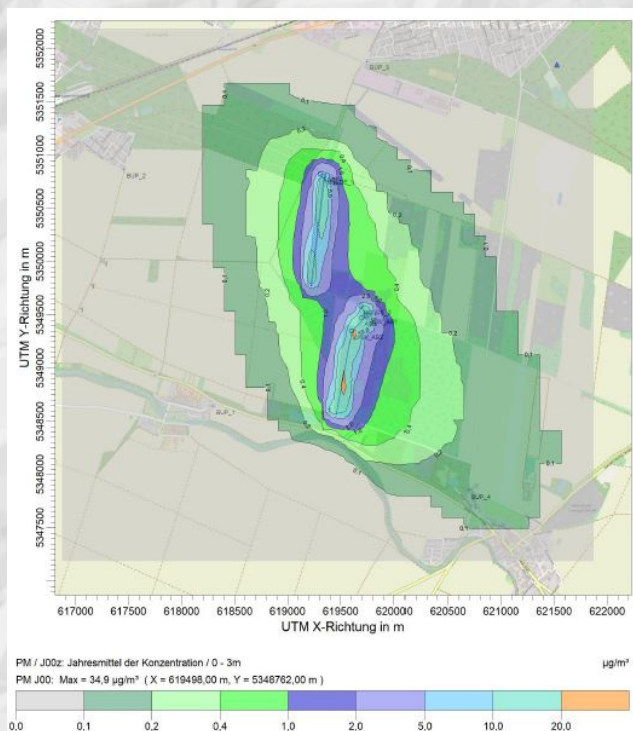
- no loss of time due to communication with external sub-consultants
- complete conformity of the expert opinion with the project
- prompt preparation with the project (no waiting for sub-consultants)
- coordination of the expert opinion with the official expert (conformity with the submission project)

As a result, the client receives an expert opinion that is fully coordinated with the submission project and complies with the relevant standards, which serves him not only for the submission project, but also for subsequent operational management.

Areas of competence

Air quality assessment & dust survey

Additional load of fine dust fraction PM10 (JMW)



Wind rose measurement point - representation of the frequency distribution of the wind speed

Areas of competence

Blasting expertise

DI Class GmbH also has the competence to prepare blasting expertises thanks to specifically qualified team members.

When carrying out blasting procedures, various safety-related factors must be taken into account, as undesirable side effects such as high noise and dust emissions, flying rocks or blasting vibrations must be avoided. To ensure that the blasting work can be carried out properly, we draw up blasting reports for our clients (surface mining blasting and deep borehole blasting).

These expert reports are not only used to obtain the permits for mining, but also serve in practice for the blasting work in the opencast mines.





Areas of competence

Structural stability assessment report

Due to legal requirements the topic of stability of slopes in project planning, especially for hard rock quarries, has a high significance.

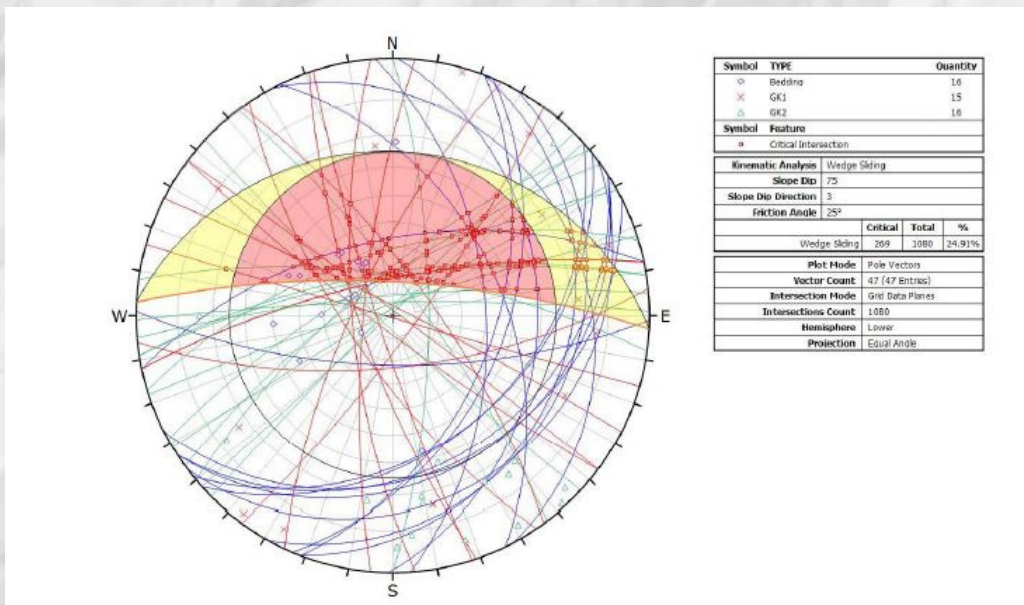
We have been dealing with this topic for many years. Our company designs structural stability reports for the planning of quarries, gravel pits and landfills.

Depending on the purpose of the project (e.g. quarry, landfill, road embankments, etc.) there are various legal requirements that define different specifications for the required proof of stability. For the verification of stability, different failure mechanisms have to be verified individually.

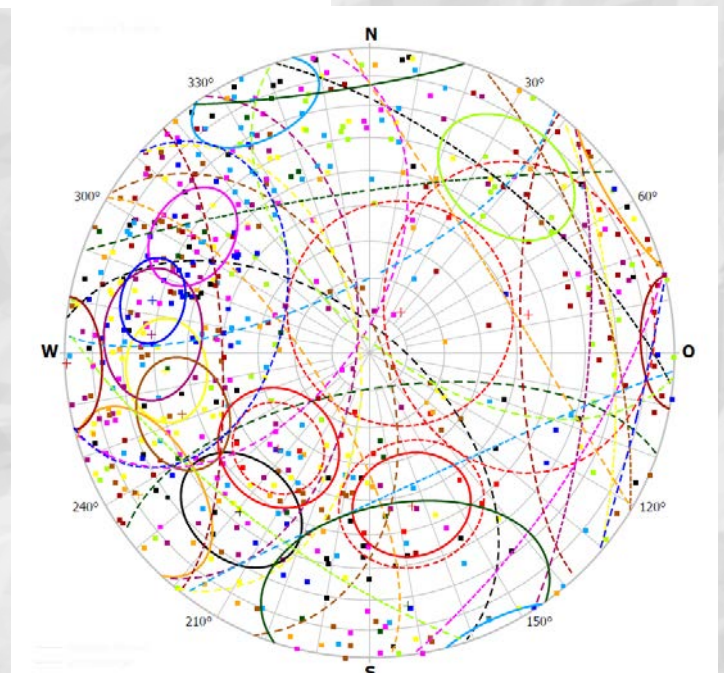
The geotechnical reports for hard rock quarries are prepared in accordance with the Surface Mining Ordinance (legal requirement). After the on-site inspection (which includes determination of the rock quality, photogrammetric measurement of the fracture walls for a structural analysis, recording and mapping of the rock characteristic parameters), a geotechnical assessment as well as description and assessment of possible failure mechanisms is prepared.

Areas of competence

Structural stability assessment report



Kinematic analysis



Lambert projection



Areas of competence

Nature conservation and FFH expert studies

Based on our principle as a full-service provider and overall planner, DI Class GmbH prepares nature conservation and FFH expertises by appropriately qualified experts within the framework of project planning for quarries, gravel pits and other extraction sites as well as landfills and the like.

These expertises are becoming more and more important, as the nature conservation authorities are increasingly demanding statements regarding existing fauna and flora on site, accompanying compensatory measures and subsequent recultivation during the approval process. These are directly incorporated into the project planning and are increasingly becoming an important factor in the operation of the plant. Depending on the location, the requirements and specifications can vary greatly.

The activities mainly include studies of the landscape structure, fauna and flora, as well as biotope mapping. Based on this, corresponding reports or expert opinions are prepared.

We also perform ecological supervisions.

Areas of competence

Nature conservation and FFH expert studies



Areas of competence

Plate load tests

For the assessment of subsoil conditions in various construction projects, we offer dynamic and static plate load tests. The plate load tests can be used to determine the elasticity modulus relevant for the structural engineer or the company carrying out the work. By using the static plate load, the value that allows conclusions to be drawn about the state of compaction can also be determined.





Areas of competence

Water law construction supervision

Due to the official activity of DI Class at the Berghauptmannschaft Vienna, as well as the decades of experience, DI Class is recognised as a water law construction supervisor in several federal states of Austria.

As a client, you benefit from our decades of experience in this field. As a supervisory body, we support you in the implementation of your project, as well as compliance with the relevant specifications and requirements.



Areas of competence

Landfill construction supervision

Due to the official activity of DI Class at the Berghauptmannschaft Vienna, as well as decades of experience, DI Class is also recognised as a landfill construction supervisor in several federal states of Austria.

As a client, you benefit from our decades of experience in this field as well. As a supervisory body, we support you in the implementation of your project and compliance with the relevant specifications and requirements.



Areas of competence

Ecological construction supervision

In recent years, ecological construction supervision has been increasingly prescribed by the authorities as part of the approval procedure for a quarry, landfill or similar.

Thanks to our experts, we are also able to offer you this service.

Ecological site inspections are carried out regularly in accordance with official requirements. Our experts make inventories of animal species and plants, also with regard to protected species or invasive neophytes.

In the course of the ongoing monitoring of the development of the study area in connection with the quarrying progress, the relevant animal species are examined. The same applies to the plants, their occurrence, distribution and impact on the remaining part of the affected area. We will advise and inform you in this regard and, if necessary, define measures together with you.

During the recultivation phase, the respective recultivation measures are also monitored and documented. Furthermore, our specialist is dedicated to monitoring the implementation of prescribed maintenance measures.

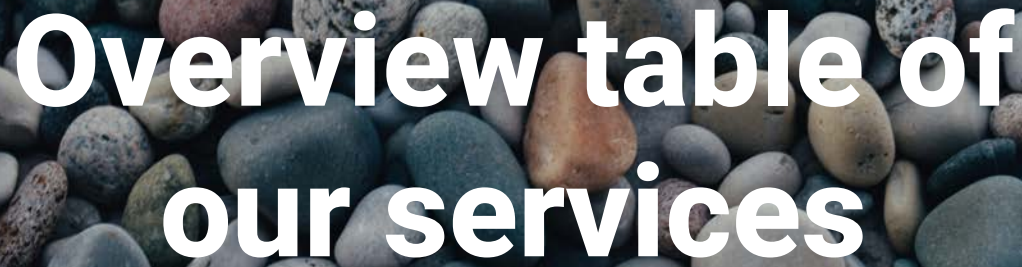
Due to the close cooperation between us, our clients and the authority, measures that are actually required (e.g.: establishment of protection zones, exclusion of excavation areas for certain periods, neophyte management, etc.) can be determined and implemented as practically as possible. This is advantageous for all parties involved, because a sustainably implemented project ensures more positive approach in new projects.

As a client, you benefit from our expertise, which we naturally bring to bear on a project-specific basis. As a supervisory body, we support you in the implementation of your project, as well as compliance with the corresponding specifications and requirements.





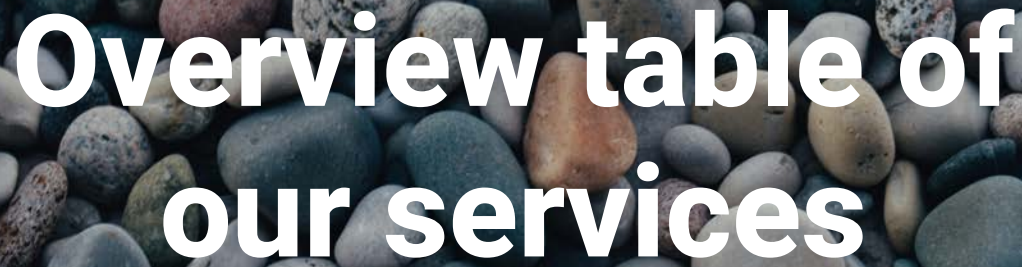
Overview table of our services



Overview table of our services

Raw materials sector

- Raw material search
- Raw material and deposit evaluation
- Market analyses
- Advice on economic issues and feasibility
- Clarification of the realisation of projects with regard to legal regulations
- Contact with authorities
- Surveying of unconsolidated and solid rock mines, surface and underground
- Preparation of the necessary maps, plans, sections
- Project preparation for all necessary legal permits for mining projects, ongoing operations and the completion of mining operations
- Comprehensive coordination and preparation of all expert reports for various projects
- Submission to the relevant authorities and agencies, representation and support during negotiations and consultations
- Accompanying controls and supervisory activities
- Calculation of masses
- Support, planning and supervision of various projects abroad
- Ongoing activities as responsible market surveyor
- Project management and controlling for all mentioned areas
- Photogrammetric fracture wall surveying for blasting, stability and geological surveys
- Creation of 3D models both digitally and by using 3D printing
- Preparation of aerial photographs and digital terrain models, as well as survey plans by using drone flights



Overview table of our services

Landfill, Cultural Engineering and Water Management Division

Landfill technology / contaminated sites

- Site explorations
- Public relations / information events
- Landfill planning
- Site supervision
- Tenders
- Remediation and securing options
- Project management
- Assessments and expert reports
- Landfill supervision
- Surveying

Water engineering

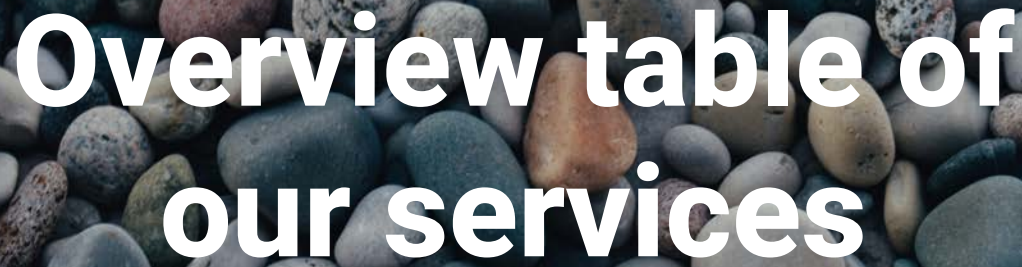
Planning, local construction supervision, projects, studies, tenders and surveying work for:

- Flood retention measures
- Linear protection measures (e.g. flood dams)
- Hazard zone plans
- 1 and 2-dimensional watercourse modelling

Distribution of precipitation water

Planning, local construction supervision, projects, studies, tendering and surveying for:

- Stormwater treatment
- Retention basins
- Seepage troughs



Overview table of our services

Landfill, Cultural Engineering and Water Management Division

Water supply and sanitation

Planning, local construction supervision, projects, studies, tenders and surveying for:

- Transport pipelines
- Local networks
- Water reservoirs
- Pumping stations
- Sewer networks
- Sewage treatment plants
- Collector pipes
- Indirect dischargers
- Sewer rehabilitation concepts
- Creation of digital sewer registers and sewer databases
- Sewer network calculations

Water-law procedures / water-law supervisory activities


- Projects for water-law procedures
- Supervisory activities for water-law projects
- Projects for landfill procedures
- Supervision of landfill projects

Traffic

Planning, local construction supervision, projects, studies.

Tenders and survey work for:

- Traffic counts
- Traffic engineering calculations
- Traffic areas and road construction



Overview table of our services

Geology

Raw material geology

- Prospecting for all mineral raw materials
- Exploration of potential raw material deposits
- Exploration of raw material potential and assessment of the economic extraction possibilities
- Geological and geological deposit research and qualitative/quantitative identification of deposits
- Geological descriptions of deposits according to the Mineral Resources Act (MinroG)
- Geological investigations with regard to expansion possibilities of existing extraction sites
- Ongoing geological supervision of existing mines, e.g. with regard to the management of critical deposit conditions.

Technical geology

- General geotechnical investigations
- Assessment of stability
- Securing of excavation pits
- Soil physical and rock mechanical investigations
- Supervision of soil excavations for geotechnical assessments

Hydrogeology

- Site search for water uses
- Preparation of basic water management studies
- Determination of water protection and sanctuary areas
- Determination of local groundwater conditions
- Preparation of groundwater equilibrium plans

Environmental geology

- Identification and definition of existing contaminated sites and suspected contaminated sites, eluate class determinations of contaminated soils
- Site investigation and site suitability reports for the construction of new landfills



Overview table of our services

Drilling

- Drillings for geological and reservoir investigations in unconsolidated rock
- Boreholes for geological and reservoir investigations in solid rock
- Installation of groundwater monitoring probes
- Investigation of contaminated sites
- Remediation of contaminated sites
- Subsoil investigations
- Well drilling
- Pile driving, pile core probing
- Standard penetration test
- Desanding and clear pumping
- Pumping tests

Environment area

Dust

- Emission measurements and emission analyses
- Immission measurements and immission analyses
- Expert analyses in the field of emissions and immission in the context of landfills, raw material extraction, residential buildings, industrial plants, traffic routes, etc.

Noise

- Emission measurements and emission analyses
- Immission measurements and immission analyses
- Expert opinions in the field of emissions and immission in the context of landfills, raw material extraction, residential buildings, industrial plants, traffic routes, etc.

Soil investigations

- Rock analyses, sieve analyses, determination of particle size distribution, identity checks, material analyses



Overview table of our services

Geotechnical engineering

Subsoil investigations

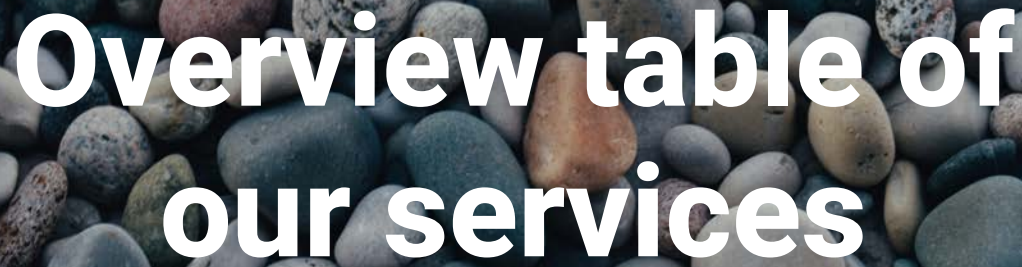
- Planning and supervision of subsoil investigation measures
- Determination of exploratory drillings, level extensions, geotechnical tests
- Taking of samples for geotechnical and chemical investigations
- Foundations

Geotechnical reports

- Foundation proposals including static calculations
- General earth static calculations
- Monitoring (pile sample loading, vibration measurements, settlement measurements)
- Excavation support, foundation underpinning
- Planning of excavation support and underpinnings
- Variant studies and mass determination
- Earth static verifications

Earthworks

- Planning and supervision of dams and earth support structures
- Stability calculations and verifications
- Design of geosynthetics in earthworks
- Suitability testing of fill materials
- Control and acceptance tests (compaction controls, permeability tests, settlement measurements)



Overview table of our services

Geotechnical engineering

Landslides and slope stability protection

- Geological and geotechnical assessment of slope stability
- Earth static calculations of retaining structures
- Stability calculation
- Determination of hydrogeological conditions
- Determination of remediation measures

Landfill construction

- Planning and design of sealing measures
- Stability calculations
- Suitability tests for mineral sealing layer materials
- Control and acceptance tests
- Proof of equivalence of alternative sealing systems

Plate load tests

- Dynamic load plate
- Static load plate

Geodesy

- Surveying and recording of terrain, traffic routes, buildings, etc.
- Creation of various maps, plans, profiles
- Boundary surveys / visualisation in nature
- Property divisions, division plans, boundary cadastre (in this area, in accordance with legal requirements, cooperation or coordination is carried out with authorised persons).





Contact us

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