

INNOVATIVE IDEAS FOR AN INNOVATIVE FUTURE



Construck provides
Next generation technologies for
new civil engineering challenges

Slope Stabilization Systems | Value Engineering | Geotechnical Consultancy | Supply Chain

CONSTRUCK
SYSTEMS &
TECHNOLOGY

www.construck.me

ABOUT

Construck provides next generation technologies for new civil engineering challenges

Construck Systems & Technology is a multidisciplinary engineering solutions development company based in Czech Republic serving the construction industry in the Middle East, North Africa, South Asia, Asia Pacific and Australia/Oceania. We design and create new systems based on client requirements for the given technical challenge with alternative value engineered designs. We go beyond the limitations exhibited by manufacturers to design any systems beyond the scope of own products. With product experts whose knowledge spanning various manufacturers, we bring them all together to become part of the solution. Our expertise includes concept, design, testing of such solutions and providing consultancy for the same. We also support the sourcing of the included/recommended products through our supply chain services. We can also undertake the execution of such solutions based on clients' interest. Hence Construck Technology & Systems brings together the latest products from across the world and design it to work together to solve modern engineering challenges.

Why us

Economical

More Economical and cost effective compared to Traditional Systems

Longevity

Provides longer life in most cases if not the same as existing methodology.

Quick

Saves time for completion by eliminating various preparatory works and faster execution methods.

Wide Range

Larger Span of Solutions as we are not limited by a single manufacturer and we provide warranties for third party products when used as part of our system.

Environment

Environmental Friendly solutions as our solutions contribute the least of harmful emissions throughout the construction and life cycle.

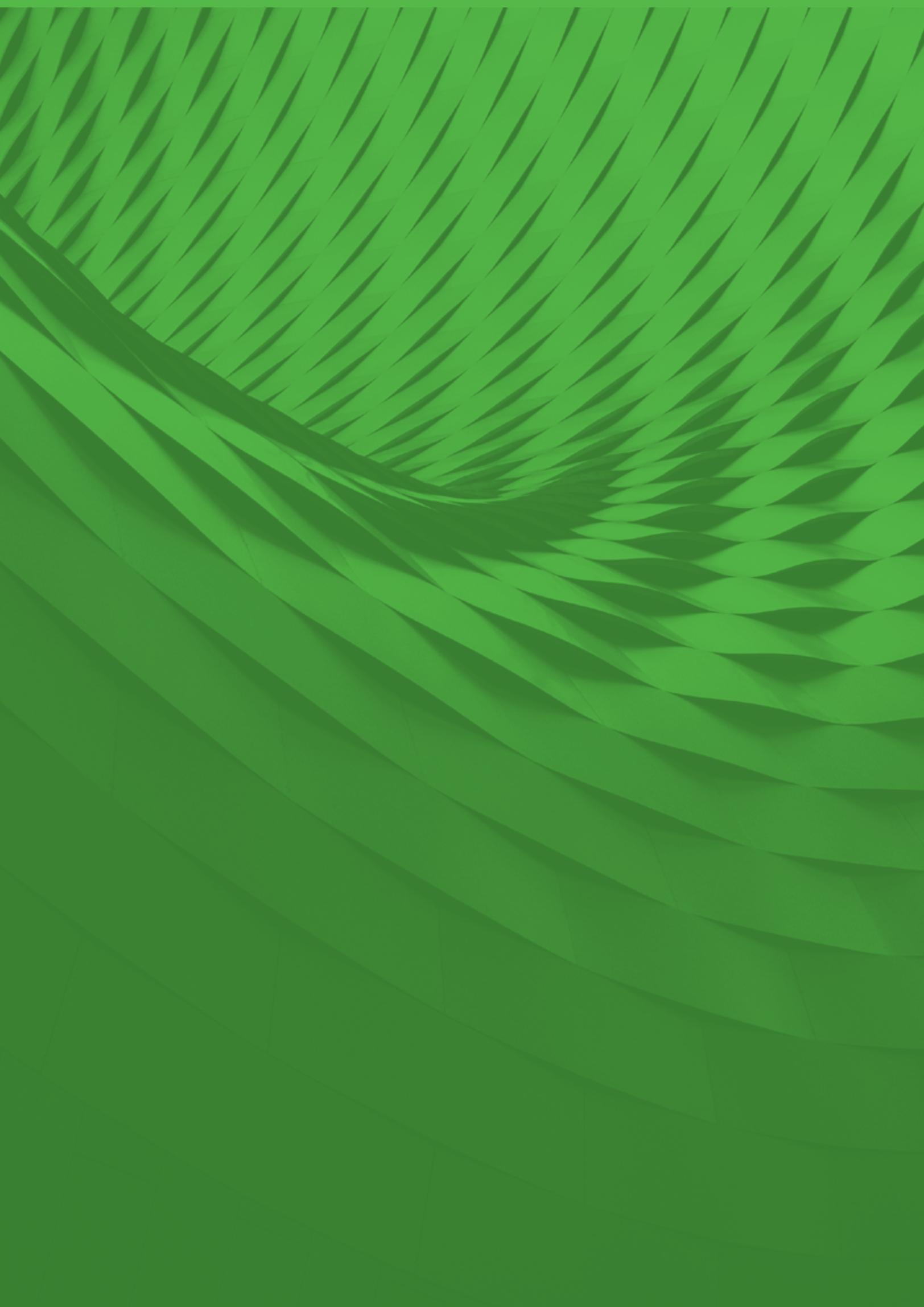
Future

Futuristic solutions by replacing bulky traditional construction materials with new efficient engineered products.



A long, straight asphalt road stretches into the distance, flanked by green fields. The sky is bright blue with scattered white clouds, and the sun is shining brightly from the horizon, creating a lens flare effect. The road has a white dashed line down the center and solid white lines on the sides.

TOGETHER. FOR TOMORROW





OUR SERVICES

Supply Chain

Construck is an authorized supplier/distributor of various specialized construction materials.

Certain specialized products are not commonly produced in most countries and hence rely on high lead time and even trans-continental sourcing. With partners and offices across countries, we have an established network of manufacturers with promoting/distribution rights to bring these products to our clients.

Availability of materials is one of the major requirements of any construction project. We understand that projects neednt always follow the availability of construction materials and hence the need to ensure of a flexible and managed delivery of the requirements.

With products sourced from across the world, timely delivery with the reduced inventory has always been a challenge due to the lead times required by the manufacturers and those desired by the clients. Hence Construck introduces smart supply chain methodology to ensure the projects can kickoff in a timely fashion while ensuring continued supply.

If you are looking for any product or specification of a product and unable to find the local delivery option, we will be interested to hearing from you.

- ▶ Erosion Control Mats
- ▶ Geogrids and Geocomposites
- ▶ Geomembrances and Clayliners
- ▶ Waterproofing Materials
- ▶ Micropiles and Soil Nails
- ▶ Anchor Knob Sheets
- ▶ Wire Rope Safety Barrier
- ▶ Insulation and Wood fiber boards
- ▶ Prefabricated/Modular House Components





Geotechnical Consultancy

The world is being updated everyday with newer technologies and ideas. It branches out to newer branches making each subjects more complicated than ever. With specialised teams always on the watchout for new knowledge, Construck is on the forefront of giving consultancy services in the field of Geotechnics. Our team is dedicated to keeping abreast with the latest innovations in this field and improving our product offering solutions.

Civil Engineering is a vast field and Geotechnics even though a vast field in itself is only a branch in this field. Everyday newer innovations are made across the world in product development and it would be hard for the industry experts to keep upto date with various developments in the same field. Construck achieves the same albeit with different strategy.

Dynamic Team

A team comprising of people with different ideas and totally different way in keeping them updated

Dynamic Skills

Skills has to be versatile. Instead of being single minded, we believe in having multi-talented options at every stage.

Dynamic Solutions

A team of dynamic personalities equipped with the right weapons of versatile skills can be expected only to provide Out of box solutions

Dynamic Synergy

We bring together various solutions together to work as a single solution in a coordinated synergy.

Our Consultancy

Coastal Infrastructure



Any Coastal Infrastructure is always under constant threat from perpetual movement of water and wind. With our wide range of product knowledge of geosynthetics, we can suggest and design the right system and its components. Geosynthetics are used in various coastal protection applications such as filters in dykes and dams, for foundations under groynes and breakwaters, as well as by using geotextile containers as structural elements in groynes, seawalls, breakers or for bed and embankment stabilisation.

Construck recommends and designs solutions that allow the implementation of new and innovative coastal protection measures. Needle-punched nonwoven geotextiles, sand mats and sand containers can be effectively employed in dykes, transverse structures, as well as breakers for erosion control. Placement of the robust and resistant geo-synthetic products can be carried out under dry conditions, as well as from ships or underwater. Our solutions and products allow new approaches to coastal protection that are close to nature.



Knowledge is Power.
One who shares
knowledge is Powerful.

Environmental Lining/Landfills



Waste Collection and Storage is one of the most critical aspects of a dwelling infrastructure. The nature of these wastes can decide the methodology used for the same. Construck is very sensitive to the hazardous effects that can emanate from inadequate waste management and storage and provides world class support to achieving the goals. We design and recommend systems that can keep the landfills non hazardous for 100s of years. This will be one of the direct benefits to the planet and is one of the core offerings of our consultancy services.

Basal Reinforcement



Soil quality varies from region to region. A certain strength and stability is required by the ground level to receive any structures on its surface. This is typically known as CBR - California Bearing Ratio. Failure to achieve the required bearing capacity can lead to deformations beneath the surface. This could lead to collapsing, sinking, movement of the structures above. The soil quality is dependent on the types of soil material that constitutes the ground and below layers. Finer soil tends to have lower bearing capacity while hard and dense soil have opposite effect. Factors like ground water, clay content etc can also play significant roles in reducing or increasing the bearing capacity. Basal reinforcement is required to reinforce such weak soil and to allow to receive structures. Construck can design the basal reinforcement ideas with various products to achieve the right cost based performance oriented results for the clients.

Micro Piling Solutions



Piling is one of the methods to allow heavier structures to stay on soft ground. A column of suitable material, typically concrete is made to reach the hard and dense sub surface soil onto which the above structures can be placed. Such solutions are costly and sometimes an over kill. Hence Construck can provide Micro-Piling ideas for areas that doesn't require an expensive piling solution. These micro-piles can hold structures up to 3500 kn of point loads and the application methodology can be quite simpler with more mechanized systems. Construck can provide designs to use micro-piles for clients and the areas of applications can range from

- ▶ Retaining Walls
- ▶ Gantry/Cantilever Foundations
- ▶ Telecom/Transmission Towers
- ▶ Tunnels/Subway Infrastructure
- ▶ Building Basements
- ▶ Bridge Footings



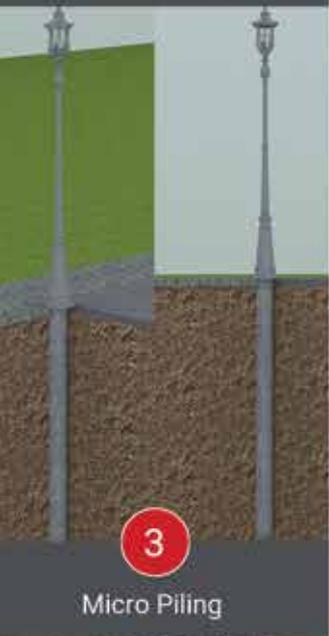
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Slope Stabilization & Protection



2

Micro Piling



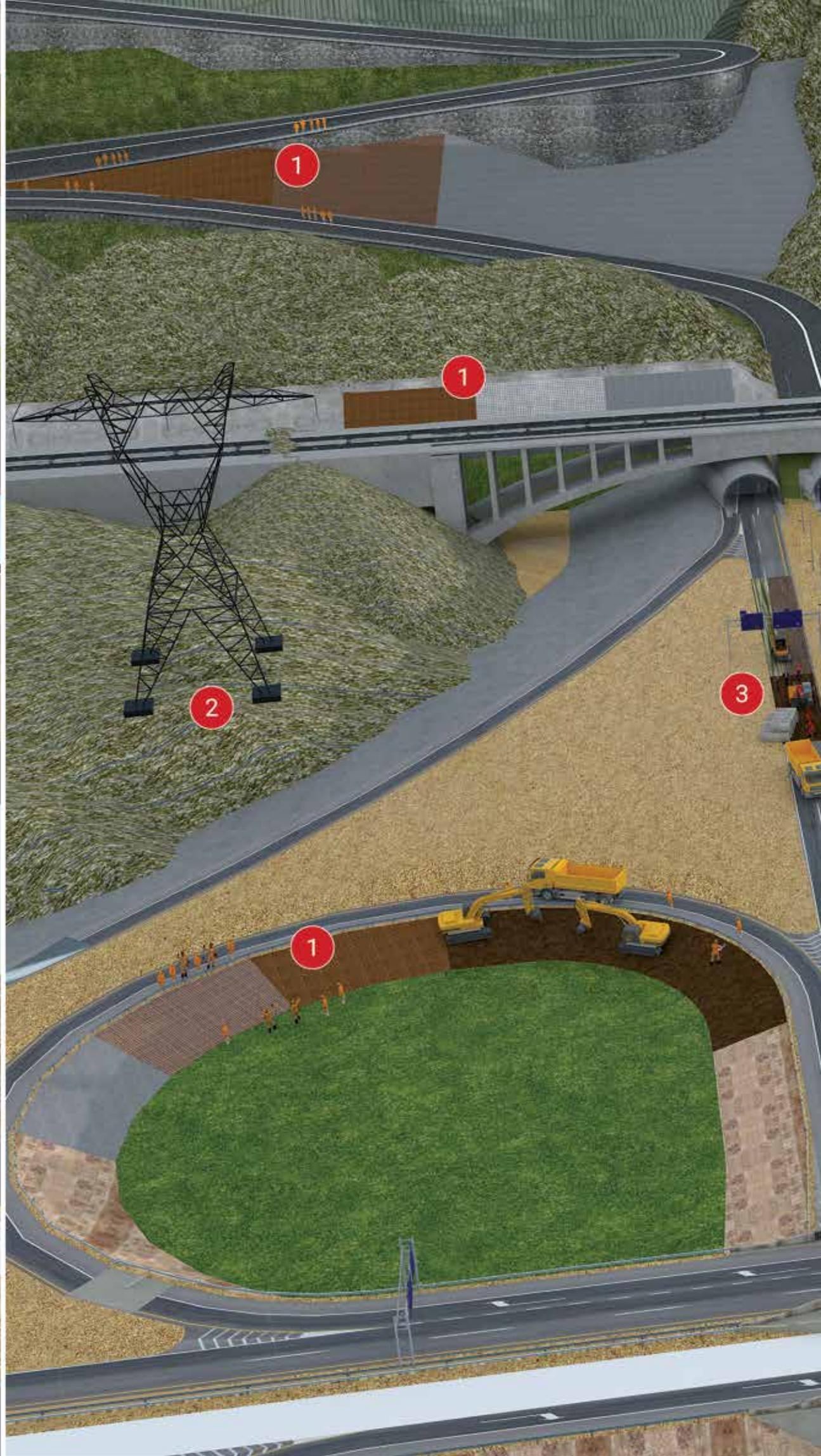
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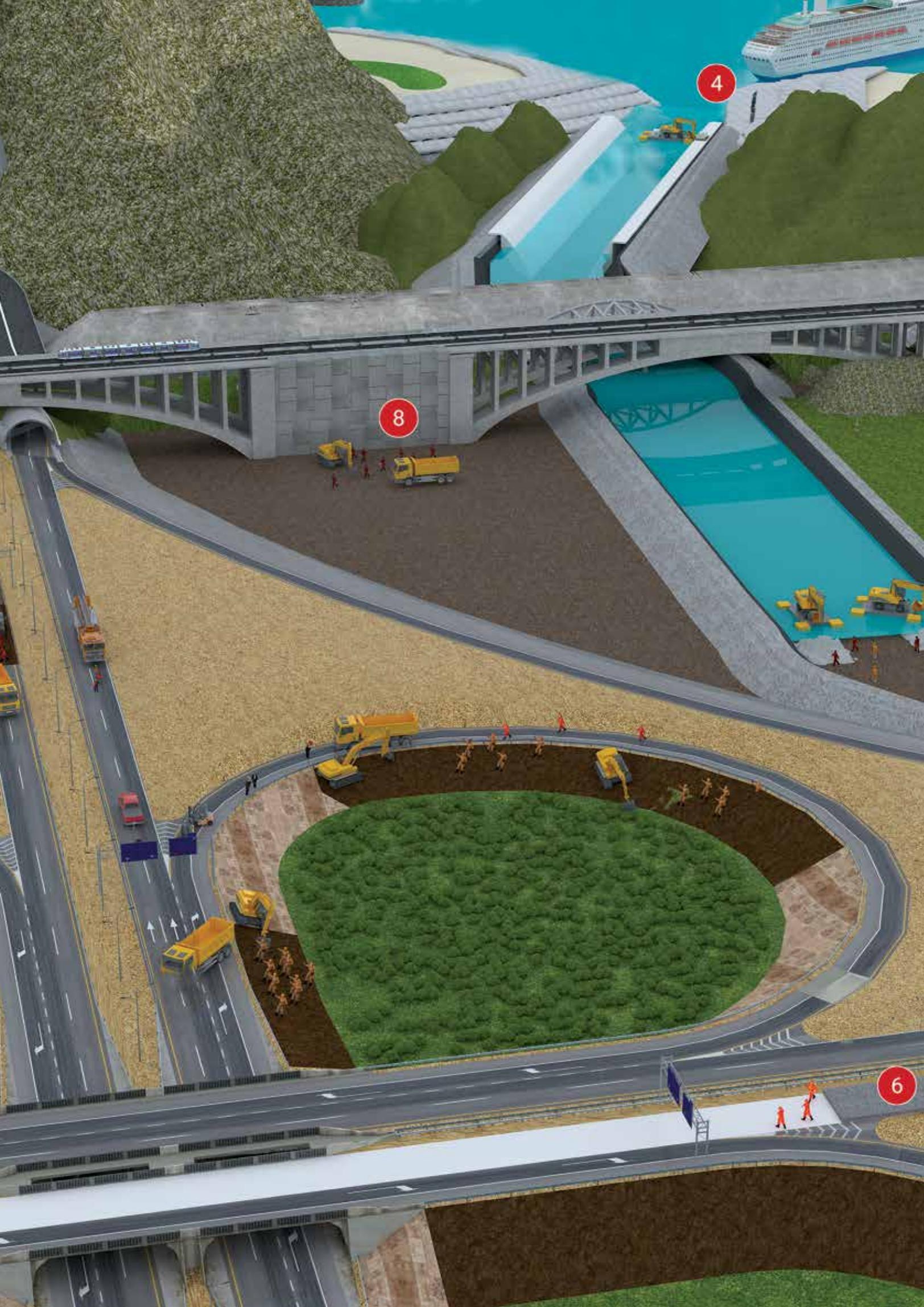
Micro Piling



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Hydraulic Engineering





4

8

6



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Environmental Lining



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Road Construction



7

Channel Slope Lining



8

MSE/Retaining Walls

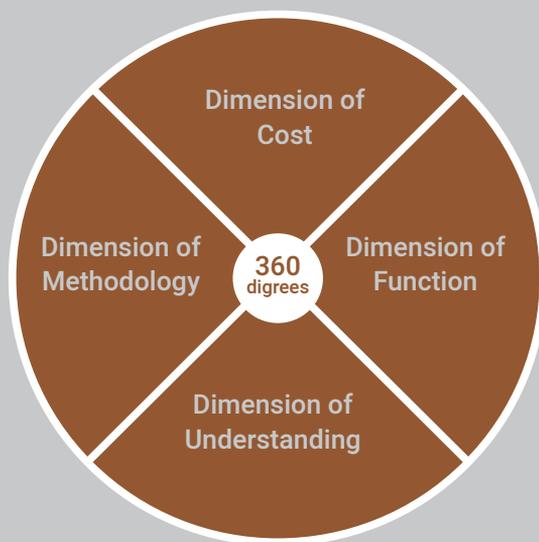


Thinking Perspective! Dimensions Unlimited

Value Engineering

Engineering Challenges always comes with a Cost. The quantum of costs depends on how we look at it in solutions. Construck adds Value create engineering solutions costing less to our clients without compromise on performance. Construck is built on the idea that the solutions we look for are partly provided by the problems itself. Everything is an opportunity if we are facing the right angle. This approach helps us blent our solutions as part of the system. This way, we design systems that can utilize the favorable features of the problems itself and inhibit the undesirable effects that could have caused the same.

Construck 360 Degree Multi Dimensional Challenge



Dimension of Cost

Cost must be reduced both on immediate term and long term expenses even with alternative solutions

Dimension of Function

Every material Must function as expected and product selection is based on required technical parameters

Dimension of Methodology

More human hours is more cost. Hence Methodology must strike balance with time

Dimension of Understanding

Be more receptive to clients to create faith in alternative systems

Concrete Improvement Systems

Concrete is one of the oldest construction elements in any forms of construction. Even with its ordinary defects, it remains one of the most irreplaceable components in this industry. But we could also add features to enhance where it lacks certain qualities. Concrete is always affected by Corrosion. This could be due to various reasons. Some of them are controllable and some are not. Construck designs special concrete mixes with advanced polymer fibres that could reduce the consumption of various natural resources and also increase life.



Waterproofing Alternatives

Moisture is always the most corrosive element in a structure. Water ingress can create various un-sanitary living conditions, unsafe working conditions or simply makes the regular life more disturbing. Another aspect is to contain water where it must be stored. Hence for various reasons, it is important to always create water tight structures both from inside and outside

Waterproofing methods can have various costs and associated life and maintenance not to mention costs. Construck has studied various systems used across the world in different climates and its life to develop various suitable alternatives.

Our offerings are for the civil structures a below

- ▶ **Bridge Deck Waterproofing**
- ▶ **Water Containment Structures and Reservoirs**
- ▶ **Car Parks Decks**
- ▶ **Sewage Tunnels and Treatment tanks**

Special Micro Pile Anchor Systems

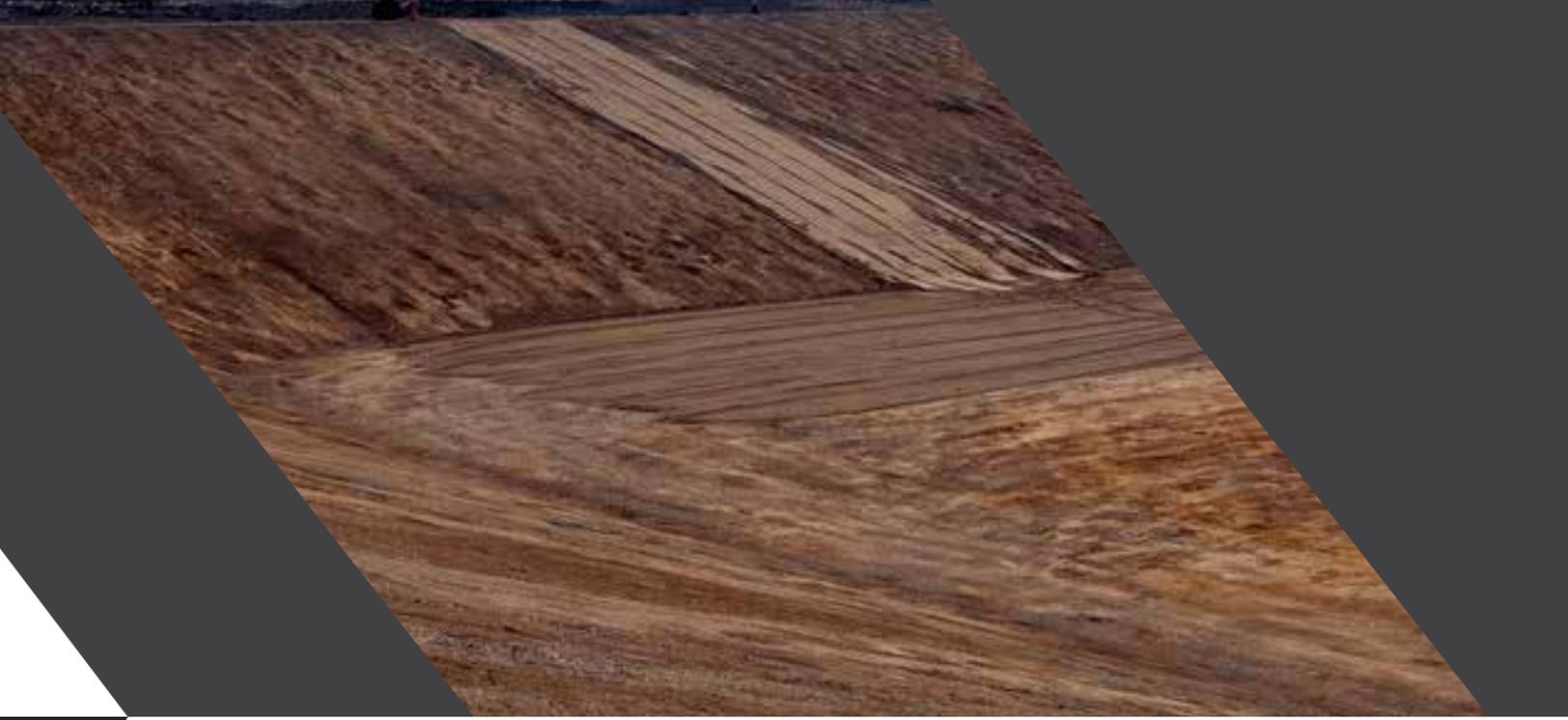
Various times many structures are required to be held to the ground. The proven technology is to use reinforced concrete blocks that can act as counterweight to lateral forces and holds it into place. These concrete structures can be costlier, more labor intensive and simply less practical in certain scenarios. Certain times the ground conditions make it even lesser effective.

We use a specially designed system of micropiles that can achieve the same or better performance with less complicated application methods. These systems are designed for higher life with engineered products manufactured in Europe. We can provide the full designs and method statement for such elements to construct the same.

Our solutions are available for foundations of

- ▶ **Gantry Cantilever Structures**
- ▶ **Telecom/Transmission Towers**
- ▶ **Street Lighting Poles**
- ▶ **Bridge Footings**
- ▶ **Retaining Wall Footings**
- ▶ **Pipe Rack Footings**





Anti Soil Replacement System

Soil replacement is one of the most effective and regular methods to treat unsuitable soil. Anti-Soil Replacement system is an extension of Ground Improvement to treat the bearing ratio requirements albeit in more challenging environments like high ground water, higher P.I or Plasticity Index, Gypsiphorous Contents and so forth.

The traditional method involves excavation and replacement of the fill in the totally affected area. However, this method is costly, time consuming and simply not environment friendly. Hence Construck has developed methods to utilize the existing fill but create systems to allow each material to inhibit its undesirable qualities while rely on its required properties. Such systems can be a combination of various geo-synthetic products and other treatments of soil. Anti-Soil replacement system represents the human ingenuity to deal with some of the most complex ground engineering challenges.

Anti-Scour Systems

Scouring is the result of any hydraulic movement ranging from small rivers to huge waves in the sea. The scouring can be particularly catastrophic if it erodes the foundations of heavy structures and cause the collapse of the various dependent elements. Construck has various Anti-Scour systems that can reduce and in some cases nullify such effects. Our Anti-Scour systems are used in

- ▶ River/Wadi Erosion of Bridge Footings
- ▶ Canal & Dyke Scour Control
- ▶ Flooding Erosion at Irish Crossings
- ▶ Beach Scour Protection

Next Generation Road Construction

All traditional road projects includes excavation and adding several layers of engineered fill like CABC, GBC, ABC etc. These process are very energy intensive, time consuming and consists of requirements of various raw materials. For certain road projects temporary or permanent, such process can only increase the complexity when built in remote locations due to lack of access to amenities. Hence Construck has developed and promoting new solutions for such road construction activities where resources are limited and time is crucial



Combining Engineered Geo-synthetics
with Slope Stabilization.

Slope Stabilization Systems

Construck is a leader in designing and executing slope stabilization/protection systems in various challenging conditions. Whether it is the challenging desert soil conditions or hazardous tropical landfall areas, Construck has developed some of the most competitive and technologically advanced performance oriented slope protection systems. We do so by bringing together the best Geotechnical Experts and Manufacturers from across the globe and providing a solution from concept to design to execution.

Construck Perspective.
Increase Lifespan, Save Costs



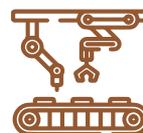
Intelligent Economics

We remain the most competitive slope protection systems for a given range of terrain



Intelligent Materials

Our innovative approach to reducing the dependent on traditional materials brings a new perspective to the slope design.



Intelligent Methods

By reducing the laborious tasks under harsh climate conditions, we bring new methodology of execution



Intelligent Designs

By bringing together various innovative ideas together, we bring the best of solutions to you.





Slope Erosion Control/Protection

Construck Innovative Solutions are designed for Slope Erosion Control Protection. All manmade/natural embankments need protection from all kinds of erosion caused by wind, rain water, flowing water and so forth. These erosions can cause the valuable sub grade materials to be washed away or to cause collapse even on stable slope areas. Construck Provides effective and mechanized application for protecting the embankments from such erosions. Construck has partnered with Manufacturers like Naue GmbH, Ischebeck and developed solution to give a long term Solution. View our Methodology.

Vertical Slope Stability Systems / Rock Fall Protection

Building a Motorway through rough and uneven terrains can be challenging. Such uneven terrains could be any structure obstructing the planned path including mountains causing unstable rock faces/soil profiles. Hence certain geometric modifications are required to accommodate for the construction of the road to remove such obstructions. However, such modifications can develop unstable slopes on the sides of motor way which is susceptible to collapse immediately or under the influence of external conditions. Hence its necessary to protect these slope areas to prevent greater damage to life and properties in general. Construck Provides one of the most advances systems to arrest and protect such slopes from collapsing using minimum profiling to achieve stability. Construck has partnered with world leading manufacturers and developed solution to give a long term Solution.





Soil Nailed MSE Walls

M.S.E Walls are Mechanically Stabilized Earth walls designed to withstand and retain soil fill in a vertical fashion and allow design allocated load to be placed on above. Various times these M.S.E walls are held by Polymer Strips or Geogrids. Based on the wall height and the load, certain length of soil is required to absorb the loads. However, in many conditions we are unable to build this wall as not much length is available or costly excavation is required to create the length to insert the Geogrid. Construck Provides systems to create MSE walls in most difficult conditions without much excavations.

Earth Retaining Walls

Earth Retaining Walls have the similar function of M.S.E walls but without the Geogrid/Polymer strip support to contain Soil. Retaining walls are standalone walls that can withstand and contain the soil infill. In many areas such solutions are costly and require expensive and deep foundations. Construck has designed retaining walls reinforced with Geosynthetic Elements that reduces the costs of such expensive walls by drawing strength from the fill itself.

Environmental Benefits

Construck system generates just 6% of emissions generated by conventional system during its various applications.. This translates into much lesser carbon foot print from the emissions generated at time of collection, screening, separation and laying of the traditional system.

Construck reduces the usage of precious natural resources like natural stones from rivers which when removed an induce river bed erosion, scour and other related effects. Construck also reduces the use of traditional building materials and water consumption during application which also translates in to great environmental benefits. Construck reduces the quantum of excavations during various situations and helps in reducing time and related energy costs for the same. Construck preserves and protects the natural profile of the mountain in a much higher level by reducing geometric profiling to achieve slope stability.





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