

INNOVATIVE IDEAS FOR AN INNOVATIVE FUTURE



Construck provides
next generation technologies for
new civil engineering challenges

Slope Stabilization Systems | Value Engineering | Geo-technical Consultancy | Supply Chain

 **CONSTRUCK**
SYSTEMS &
TECHNOLOGY

www.Construck.me

ABOUT US

Construck provides next generation technologies for new civil engineering challenges

Construck Systems & Technology is a multi-disciplinary 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 spans various manufacturers, we bring them all together to become part of the solution. Our expertise includes concept, design, testing of such solutions and providing consultation 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 Systems & Technology 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

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

Future

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



TOGETHER TODAY. FOR BETTER 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.

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 kick off 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 in hearing from you.

Our Products

- ← Erosion Control Mats
- ← Geogrids and Geocomposites
- ← Geomembranes and Clay liners
- ← Waterproofing Materials
- ← Micropiles and Soil Nails
- ← Anchor Knob Sheets
- ← Wire Rope Safety Barrier
- ← Insulation and Wood fiber boards
- ← Pre-fabricated/Modular House Components
- ← GeoFoam Structural Solutions

Features of Products





Geotechnical Consultancy

The world is being updated every day with newer technologies and ideas. It branches out to newer areas making each subject more complicated than ever. With specialized teams always on the watch out for new knowledge, Construck is on the forefront of giving consultancy services in the field of Geotechnics and 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. Geotechnics a branch of civil engineering is quite existent in itself. Everyday newer innovations are made across the world in product development and it would be hard for the industry experts to keep up to date with various development 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 must 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 stabilization.

Construck recommends and designs solutions that allow the implementation of new and innovative coastal protection measures. Needle-punched non-woven 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 tend to have lower bearing capacity while hard and dense soil have opposite effect. Factors like ground water, clay content etcetera 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 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



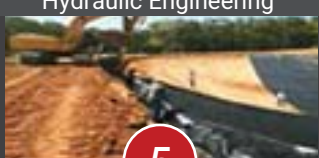
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Micro Piling



4

Hydraulic Engineering



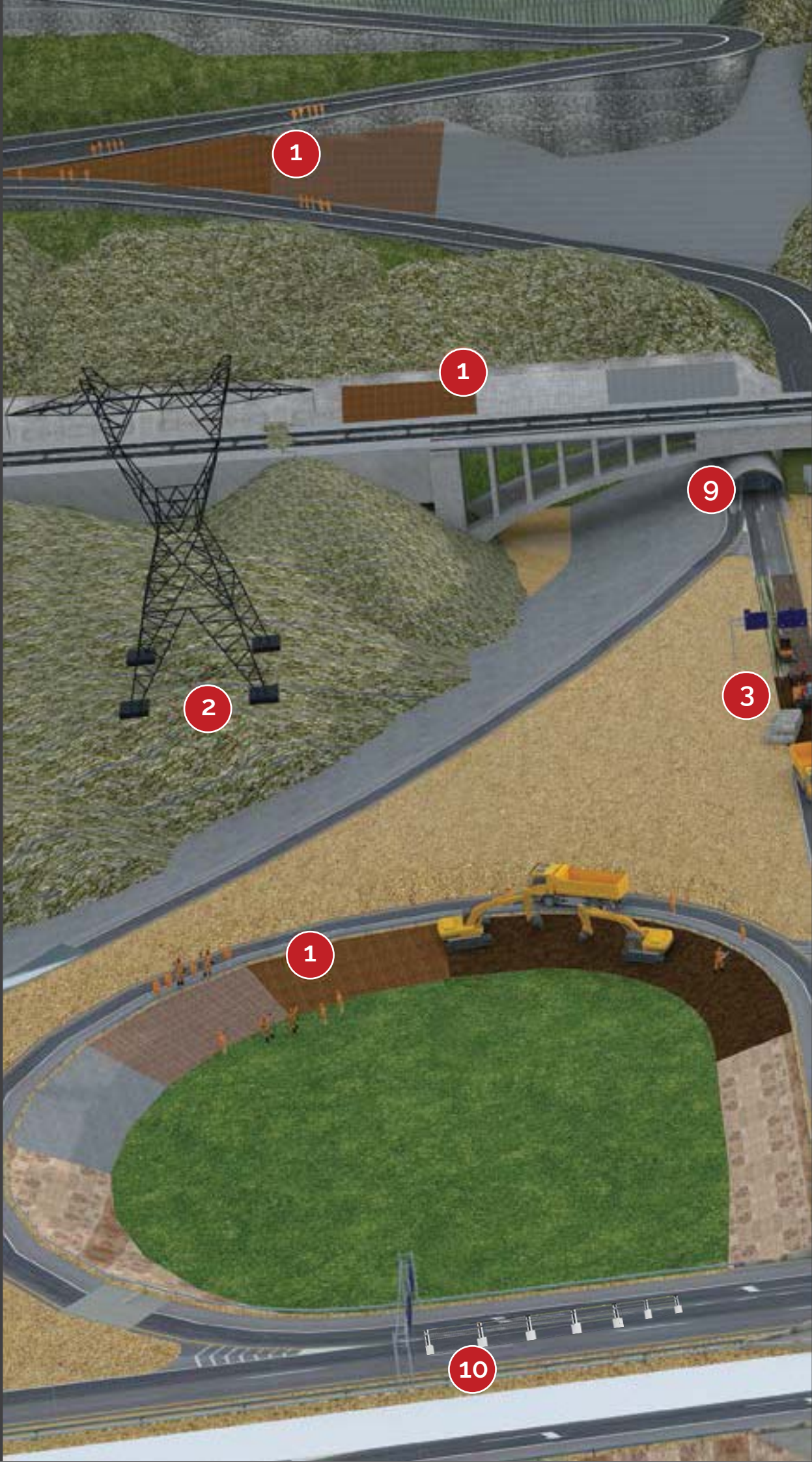
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Environmental Lining



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Road Construction





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Channel Slope Lining



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Land Reclaiming Systems

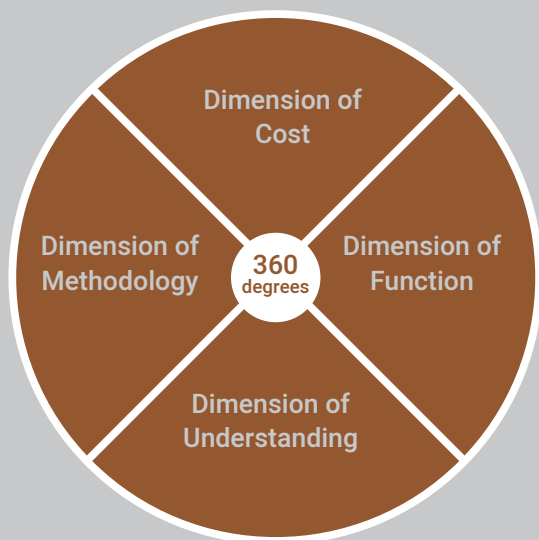


Thinking Perspective! Dimensions Unlimited

Value Engineering

Engineering applications always comes with a Cost. The quantum of costs depends on how we look at it in solutions. Construck adds Value by creating engineering solutions costing less to our clients without compromising 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 correct angle. This approach helps us blend 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 along with associated life and maintenance 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

← Car Parks Decks

← Water Containment Structures and Reservoirs

← Sewage Tunnels and Treatment tanks

Special Micro Pole 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

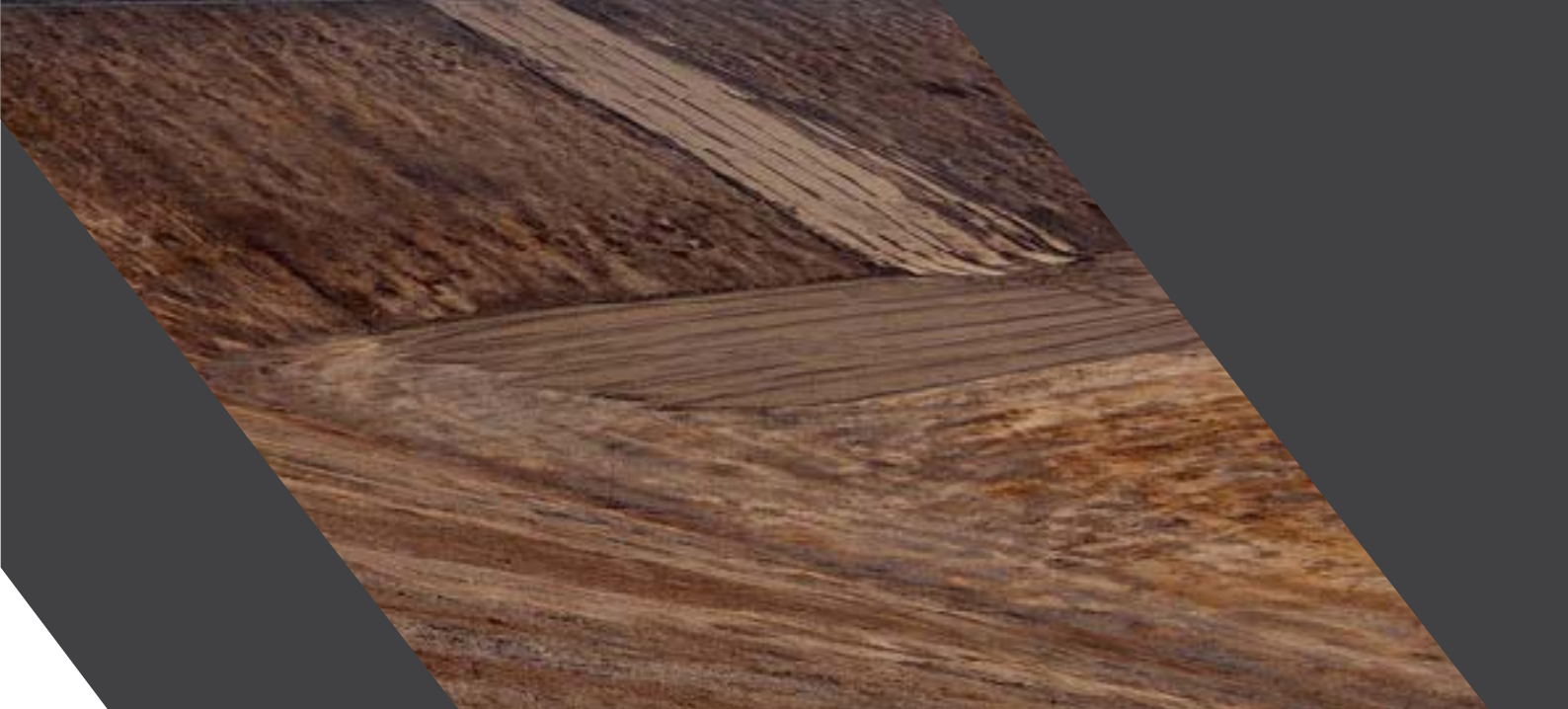
← Street Lighting Poles

← Retaining Wall Footings

← Telecom/Transmission Towers

← Bridge Footings

← Pipe Rack Footings



Anti-Soil Replacement Systems



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 PI 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 existing fill but create systems to allow each material to inhibit its undesirable qualities while relying 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 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





Cathodic Protection and all sorts of metallic protection



Construck designs suitable Cathodic Protection System and all sorts of metallic protection based on high end software modules to protect a wide range of metallic structures in various environments including but not limited to water or fuel Pipelines, tank bottoms, Underground vessels, petrochemical, plants & refineries, offshore wind farm foundations and metal reinforcement bars in concrete buildings and structures.

At Construck, we also carry out the installation, testing and commissioning of the deployed protection systems along with regular corrosion monitoring and maintenance for effectiveness and longevity of installation.

GeoFoam Structural Solutions



In various construction projects, there are often conditions which will not allow for conventional soil, sand or stone fill materials. The soil conditions might be soft or loose making it incapable of supporting required loads. This can result in multiple failure plains leading to landslides, bridge collapse etc. Construck provides an effective and mechanized application for filling voids using a specifically designed solution of Geofoam.

Geofoam is a lightweight fill which has low density and high strength and also allows precise and specific design criteria as opposed to other lightweight fillers. It can be easily cut and shaped on a project site reducing further challenges.

These solutions are designed for quick installations and higher life with products complying with ASTM D6817 standards.

Our solutions are for below applications:

- ← Slope Protection
- ← Embankments
- ← Utility Protection
- ← Stadium Seating
- ← Building Fill

- ← Retaining Walls
- ← Bridge Abutments
- ← Foundation Fill
- ← Plaza Decks



Worlds Most Economic and Eco-Friendly Road Construction Systems



Construck has redefined the traditional road construction methodology. We are determined to put behind the days of dealing with Time Consuming excavations, Costly Fill Imports, Sub Base Courses and Aggregate Base courses application etc. ConstruckRoads® can be built in ease on very challenging conditions like Clay soil, Desert soft soil, Sabkha Soil or even very soft marshy lands. Our technology of road construction reduces the time and cost of building these roads and negates requirement of excavation and refill. We achieve success by modifying unsuitable soil into suitable condition using our patented soil mixing technology.

ConstruckRoads® is the answer to the growing economy of developing countries where a road infrastructure can be the backbone of economy where we can build the most efficient roads with least cost and fastest time frame giving huge savings to the stakeholders. These roads contribute lower carbon emissions and reuse existing resources and hence promotes sustainable construction values.

Bridges and Culverts



Bridges and Culverts are an integral part of the transportation system. The construction of Bridges and Culverts has evolved drastically and has seen significant shift in technology. From rocks, rope and wood structure, now we have upgraded to steel elements due to their high tensile strength and durability. Construck has successfully engineered the below products for faster construction time with minimal disruptions and custom designed to suit the site

01

Structural Plate Bridges & Culverts

Plate structures dramatically reduces construction time and traffic disruptions and are ideally suited for emergency bridge replacements.

02

Prefabricated Bridges

Ideal for permanent or temporary applications, our bridges are pre-engineered and prefabricated to ship and install quickly with local crews and equipment often in several hours.



Road Rehabilitation Systems



Full Depth Reclamation (FDR) and Stabilization is a pavement rehabilitation process that pulverizes and re-uses the existing pavement and sub-base materials mixed with our soil stabilization technology to produce a structurally strong pavement base course. It is a process best suited for failed roadways where heavy pot holes, cracking and rutting exist. Even the most severe pavement problems can be solved using Full Depth Reclamation. These roadways deteriorate to a point that conventional maintenance and/or repair and overlay practices become expensive and do not perform well due to the condition of the underlying structure.

Full-depth reclamation with ConstruckRoads® increases the structural capacity of the new roadway by providing a stronger and more consistent sub-base or base layer along with supreme environmental benefits, monetary and time savings, as the system recycles 100% of existing materials

Highway Safety Systems



Safety is one of the primary concerns while driving at high speeds on a highway. It is imperative to have barriers on highways, to keep vehicles within their roadway and to prevent errant vehicles from traversing from a slope or from entering the opposing traffic reducing head-on collisions. Installing barriers can be extremely time consuming and expensive. Repairing/replacing a crash barrier after an accident is equally challenging. Hence, Construck has designed the easiest system of its kind to install and repair, reducing installation time and yielding further savings while promptly re-establishing safety on the roads.

The ConstruckWire™ TL-4 (or TL-3) cable barrier has been designed, tested and accepted to NCHRP 350 longitudinal cable barrier criteria. ConstruckWire's unique oval posts have been designed to firmly secure the cable, minimizing the use of fasteners with only one post cap used to lock up all cables in place. Upon impact with either an 820, 2000 or 8000 kg vehicles ConstruckWire™ safely re-directed them from impact angles up to 25° and speeds up to 100kph. Zero deformation was found in the passenger's cabins regardless of the size of the vehicle. Safe and predictable trajectories were observed during the tests. ConstruckWire™ has the lowest deflection of its category (NCH RP 350, 100kph, 25°, 2000kg), at 1.54m while using 3m posts spacing. This allows big capital savings while investing in a high performing product.



Safety



Reliability



Less Maintenance



Unbreakable



Containment

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



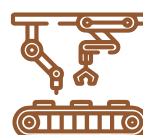
Intelligent Economics

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



Intelligent Materials

Our innovative approach to reducing the dependence 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 man-made/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 long term solutions. 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, 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 motorway 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 advanced systems to arrest and protect such slopes from collapsing using minimum profit to achieve desired stability. Construck has partnered with world's leading manufacturers and developed long-term solutions.





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 certain 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 the 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 with-stand 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.

Land Reclaiming Systems

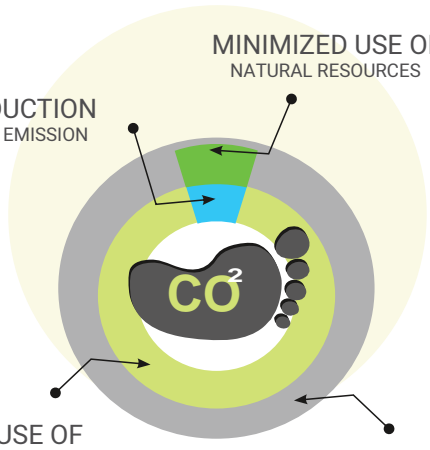
Land is one of the most valuable possessions in today's economy. Reclaiming land on a slope can be extremely challenging if not impossible. One of the biggest challenges being unstable land susceptible to collapse due to external factors. Hence, it is necessary to reclaim land in the most effective manner preventing damage to soil and stabilizing it. Construck has engineered one of the most advanced systems to conventionally reclaim the land by arresting and protecting soil from eroding and achieving land stability.



LET'S SAVE THE WORLD TOGETHER

Environmental Benefits

94% REDUCTION IN CARBON EMISSION



MINIMIZED USE OF NATURAL RESOURCES

MAXIMIZED USE OF RECYCLED MATERIALS
GEO - SYNTHETIC MATERIALS

MAXIMIZED EFFICIENCY BY
-USE OF LATEST TECHNOLOGY
-MINIMUM WORK FORCE REQUIRED
-MODERN MECHANICAL PROCESSES
-LOW FUEL CONSUMPTION



REDUCED TIME IN CONSTRUCTION

OUR PROCESSES AND CONSTRUCTION TECHNOLOGY ALLOWS FOR FASTER CURING & HENCE REDUCES TIME REQUIRED FOR COMPLETION.



WE RECYCLE OIL & PLASTIC

OIL SPILLS CLEANED & WASTE OIL FROM VARIOUS INDUSTRIES USED IN ROAD CONSTRUCTION
PLASTIC MATERIALS COLLECTED & RECYCLED FOR USE IN ROAD CONSTRUCTION



LOW WATER CONSUMPTION

OUR SYSTEMS ARE DESIGNED FOR MINIMAL WATER USAGE & HELPS IN RETAINING GROUND WATER LEVELS

REDUCED EXCAVATION

CONSTRUCK SYSTEMS ALLOWS FOR LOWER EXCAVATION OF MOUNTAINS WHICH PRESERVES THE GEOGRAPHIC GEOMETRY OF SURROUNDING AREAS

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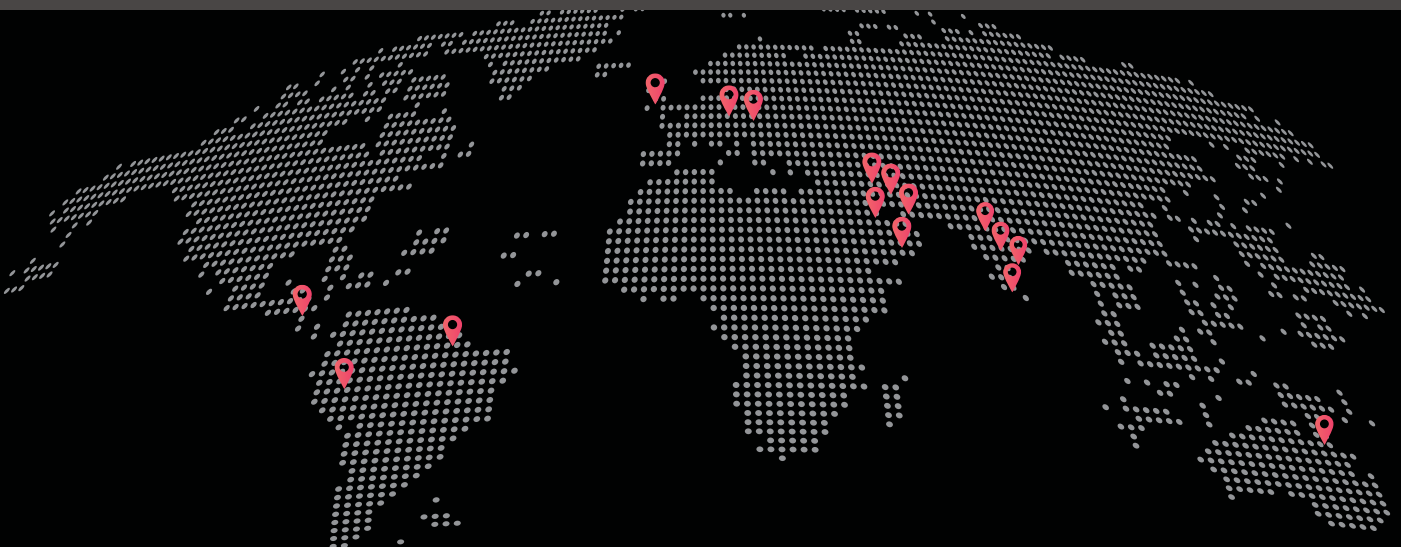
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To get the latest literature on our systems, please send an email to info@construck.me