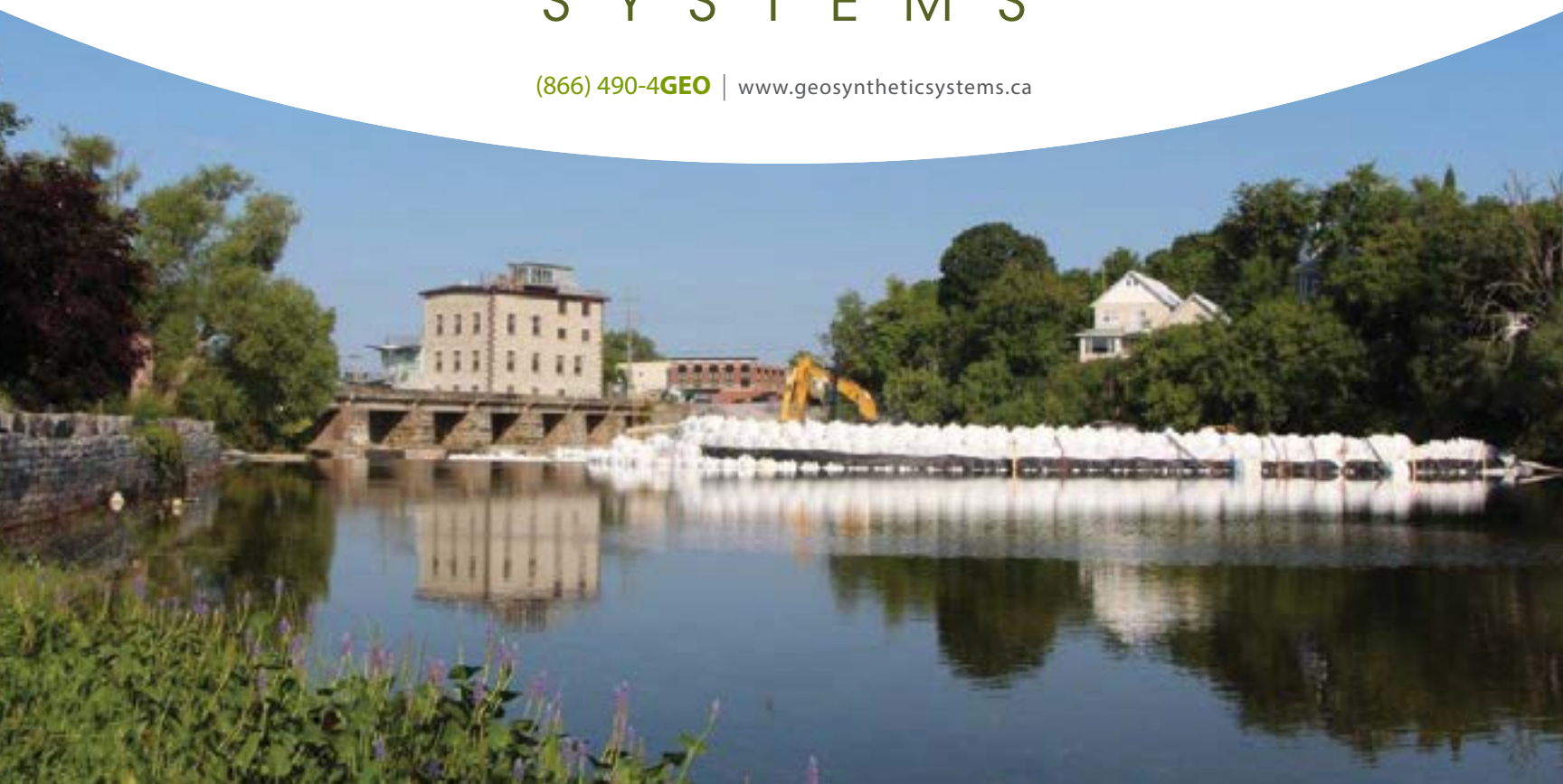


DECADES OF SOIL MANAGEMENT SOLUTIONS



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S Y S T E M S

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**SOIL...** STABILIZATION | CONFINEMENT | SEPARATION | REINFORCEMENT





**GEOSYNTHETIC**  
SYSTEMS

Thank you for turning to **Geosynthetic Systems**, Eastern Ontario's best source for soil management solutions and advice to help you bring your project in on time and on budget.

Having been in business for more than three decades we have come to be recognized as a leader in identifying the emerging issues in soil conservation and management, and in sourcing the innovative "*geosolutions*" that address those issues.

We were the first to bring geotextile and geotextile application knowledge to the region, first to identify the cost & performance benefits of gabion baskets as an engineered wall solution and first to roll out erosion control blankets to contractors and landscapers across the region.

While our product line continues to grow to meet the evolving needs of our clients, our goal remains unchanged: to provide maximum quality products at the lowest price possible.

No matter how large or small your project is, know that help is only a click or a phone call away. Call "**The Down To Earth People**" today for free expert advice with any soil management challenge.

*Kelly-jo Mulrooney,*  
President

THANK  
YOU

"THE DOWN TO EARTH PEOPLE"

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## INDUSTRIAL FABRICS AND MEMBRANES

Providing solutions for soil separation, confinement and reinforcement is the very reason **Geosynthetic Systems** was conceived. We rolled out the first geotextiles in the National Capital Region back in the late 1970s and we haven't stopped! We stock a full range of geomembranes, pond liners, woven and nonwoven geotextiles — in bulk quantities or by the lineal metre — to meet every specification and project requirement, from drainage and filtration applications to road construction. Whether you have engineered specifications or just an idea of what you want to do, we can help.



## GEOTEXTILES

When you specify or purchase a geotextile from **Geosynthetic Systems**, you get way more than you bargain for: You get an unbeatable 30 years of experience and locally-grown expertise, and service you can count on. We've broken a lot of ground over the last few decades in our nation's capital region, and then covered it in geotextile!



### WOVEN & NONWOVEN GEOTEXTILES

Geotextiles typically perform one or more of the following four functions: **separation**, **reinforcement**, **filtration** or **drainage**. Matching the right geotextile with its application depends upon accurate identification of its proposed function(s) and its relevant physical properties. To simplify the selection process, we've provided a reference chart below to help you identify the right type of geotextile for the job.



FUNCTION	EXPLANATION	SAMPLE APPLICATIONS
<b>FILTRATION</b>	Filtration functions to restrict the migration of fine soil particles from a soil mass while remaining permeable to water movement greater than, or at least equivalent to the permeability of the protected soil.	<ul style="list-style-type: none"><li>• Subdrains</li><li>• French drains</li><li>• Foundation drains</li><li>• Trench drains</li><li>• Blanket drains</li></ul>
<b>REINFORCEMENT</b>	The function involves the stabilization of a soil mass by provision of tensile strength to the soil-fabric system.	<ul style="list-style-type: none"><li>• Revetments</li><li>• Channel Linings</li><li>• Rivers/Creeks</li><li>• Lighter Coastal Applications</li></ul>
<b>SEPARATION</b>	Separation is the function which prevents two distinct soils or different materials from intermixing. The key factors for a geotextile to satisfy this function are porometry, toughness and strength.	<ul style="list-style-type: none"><li>• Roadways: access routes, industrial yards</li><li>• Railways: track rehabilitation, new track construction</li></ul>
<b>DRAINAGE</b>	Water is conveyed along the plane of the geotextile due to its construction, and then to an outlet. Water may be vertically or horizontally conveyed. Drainage is related to the role of filtration, and is a function of the permeability of a geotextile and its pore opening size or porometry.	<ul style="list-style-type: none"><li>• Gabion baskets</li><li>• Retaining walls</li><li>• Drop Structure</li><li>• Ditch Lining</li></ul>

## GEOMEMBRANES

Geomembrane liners are impermeable sheets of polymer most commonly used in either primary or secondary containment applications, and are available in both large custom panels or rolled form. **Geosynthetic Systems** represents a number of geomembrane manufacturers who offer a large selection of products to suit your requirements. From backyard ponds to hazardous waste containment we've got you covered, whether you need a few m<sup>2</sup> or a few km<sup>2</sup>.



### H.D.P.E. (HIGH DENSITY POLYETHYLENE)

H.D.P.E. has become the most widely used geomembrane today – most commonly in landfill liner applications. Their exceptionally high chemical resistance, reliability in exposed environments due to their high UV and cold temperature resistance renders HDPE liners the logical choice in numerous waste containment applications.

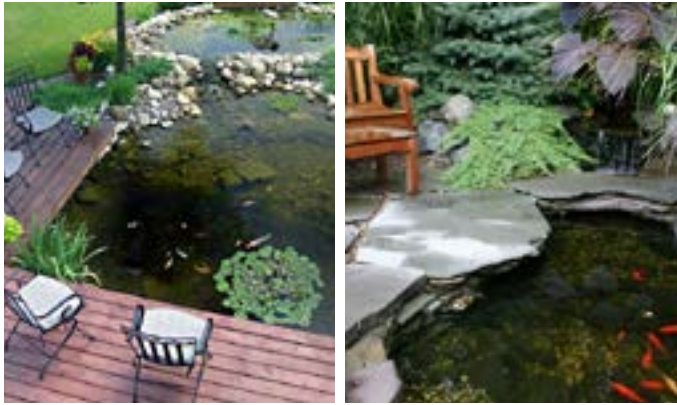
It is an extremely versatile material which is used widely across all applications and is an excellent choice for many secondary containments and virtually all water storage, including potable water, exposed canals and run-off ponds, settling ponds, and decorative ponds. In exposed applications HDPE geomembranes can last 20 years, in backfilled applications they will last hundreds of years.



### **R.P.E. (REINFORCED POLYETHYLENE)**

R.P.E. geomembranes are lightweight multi-layer materials which offer a very economical solution in many primary containment applications, such as temporary landfill caps, canal lining, soil remediation and other non-hazardous applications. R.P.E.s remain flexible in very low temperatures, have good chemical resistance and short-term UV resistance, allowing it to remain exposed for three to five years.

The inner layer is typically a pre-stressed woven polyethylene tape, coated on both sides with an impermeable LDPE (low density polyethylene).



### **E.P.D.M. (ETHYLENE PROPYLENE DIENE MONOMER)**

E.P.D.M. liners are particularly suitable – due to their compatibility with all aquatic life – for use in landscape or recreational ponds such as water gardens, basins for fountains, bog gardens, lining of cracked hard-shell ponds, and other applications. They are economical, easy to install and fish ready.

**Geosynthetic Systems** offers 45mil E.P.D.M. liner in varying roll sizes; we also provide off-the-spool 45mil EPDM sold by the square foot, for smaller projects.



### **P.P. (POLYPROPYLENE)**

PP geomembrane is manufactured without the reinforcing scrim found in supported styles, allowing them increased flexibility – ideal membrane solutions for detail work such as attaching to structures or creating corners. In addition to flexibility PP has other outstanding properties such as outstanding resistance to low temperatures and high UV resistance making PP ideal for exposed ponds. PP can be installed and welded in the coldest conditions (as low as -50C) and is a perfect choice for water and water based effluent storage applications where the liner will be left exposed, delivering many years of reliable containment.





## GEOGRIDS

**Geosynthetic Systems** distributes several varieties of geogrids, supplied by manufacturers we select as much for the outstanding quality of their products as for their consistent reliability.

**Geogrids** are designed for multiple purposes – from base reinforcement in road construction to reinforced slopes and segmental retaining wall construction. Geogrids allow optimum flexibility while providing low cost solutions to difficult grade separation site conditions.

**Geogrids** are mechanically and chemically durable and produced in multiple strengths in order to provide the most efficient design possible. Geogrids are designed to be a reinforcement material that is easy to install in the field as they can be cut by hand for precise shaping.

Selection of the appropriate geogrid depends upon the application and project specification, so make sure to contact **Geosynthetic Systems** to ensure the right product gets to the jobsite.



### UNIAXIAL GEOGRIDS

Uniaxial Geogrids are built to reinforce soils in the construction of structures such as bridge abutments, retaining walls, steep slopes and slip repairs. They are manufactured to produce high strength in the direction of roll length (machine direction).

### BIAXIAL GEOGRIDS

Biaxial Geogrids combine major cost savings with considerable performance benefits in granular capping and sub-base layers. Saving in granular thickness of up to 40% with no performance loss, reduction of excavated soil and conservation of natural aggregates while improving fill compaction and reducing disturbance of sensitive subgrades are some of the benefits achieved through the use of the right biaxial geogrid.





## TRIAXIAL GEOGRIDS

With its unique triangular structure, Tensor's patented TriAx (triaxial) geogrid represents a revolutionary advancement in geogrid technology. Its multi-directional properties leverage triangular geometry, one of construction's most stable shapes, providing greater stability and stiffness. TriAx geogrids offer superior performance for paved and unpaved roads, improving the service life while reducing excavation and pavement material thickness. This all equates to cost savings as well as an overall reduction of the associated environmental impact.



## COMBIGRID® GEOGRIDS

Combigrid® geogrids are the next generation of geogrids produced with state of the art manufacturing technology, unlike any other geogrid on the marketplace today. The reinforcement element is a highly oriented polypropylene or polyester bar that is uniformly extruded and drawn to achieve a high modulus and strength at low elongations. A three dimensional fibre matrix of the needle-punched Secutex® non – woven is placed between the Secugrid® bars during the manufacturing process and is firmly bonded with the reinforcement bars with the NAUE patented welding technology to provide a structurally sound and stable geogrid.



### Advantages of Combigrid®:

- reinforcement, filtration, separation and drainage in just one product, reducing aggregate thickness
- firmly bonded composite product
- very high strength at low strains
- immediate interlocking with cover aggregate
- high resistance against installation damage
- nonwoven geotextile firmly bonded between uniformly extruded PP or PET bars
- high resistance against biological and chemical degradation
- 4.75 m wide rolls
- quick and easy to install







## GEOSYNTHETIC CLAY LINERS

Geosynthetic Clay Liners (GCL's) are composites that combine geotextile outer layers with an inner layer of bentonite clay. Typically, one geotextile is a non-woven geotextile while the other can be woven or non-woven. During fabrication of the GCL the bentonite is distributed evenly between the two geotextile layers and then they are needle-punched together. This process pulls fibers from the non-woven fabric through the bentonite to the other geotextile layer and keeps the bentonite in place.

Bentonite is a natural sodium sealant which, when hydrated, will swell to create a low permeability liner offering approximately the same hydraulic protection as one metre of compacted clay. Replacing this thick clay liner with an easily deployed GCL can result in an increase in airspace, creating increased capacity and therefore more income for landfill operators.



GCL's are well suited to numerous applications including:

- LANDFILL CAPS / BASE LINERS
- STORMWATER MANAGEMENT PONDS
- RECREATIONAL PONDS
- DAMS/DIKES
- CANALS, RIVERS & LAKES
- GROUNDWATER PROTECTION COVER



## EROSION & SEDIMENT CONTROL

Soil erosion can be a serious problem, resulting in catastrophic damage to water sources, landscaping and wildlife. Repairing damage caused by soil erosion can be difficult, time consuming, and expensive.

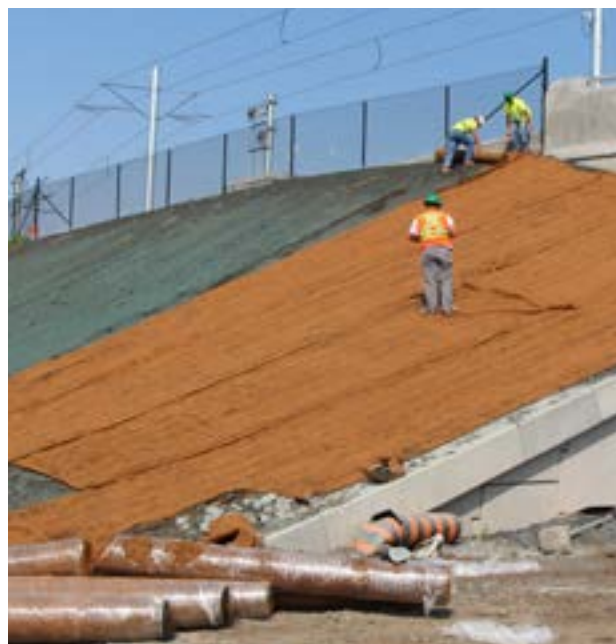
**Geosynthetic Systems** has been distributing erosion control products longer than any other company in Eastern Canada. We carry a full inventory of many erosion control solutions for consumer, commercial and industrial applications



### EROSION CONTROL BLANKETS

**Geosynthetic Systems** offers only top quality rolled erosion control blankets, ranging from those designed to degrade quickly (accelerated) to permanent turf reinforcement mats.

Rolled erosion control products (RECPs), by nature, hold moisture and therefore help to accelerate germination and vegetation establishment, providing nature's own permanent erosion control. From accelerated products designed to degrade rapidly to permanent turf reinforcement mats, **Geosynthetic Systems** has what you need to keep soil in its place.







### ACCELERATED ROLLED EROSION CONTROL PRODUCT'S (RESP)

Accelerated blankets are comprised of 100% agricultural straw blankets stitched with degradable thread to either a single/double UV accelerated photodegradable polypropylene netting. They are designed to degrade in as little as 45 days making them ideal for vegetation establishment in areas where close mowing is required and rapid vegetation establishment is anticipated (i.e. golf courses/residential applications).



### SHORT TERM RECP

(45 days - 12 months) **Geosynthetic System's** short-term erosion control blankets are designed to act as a reinforced mulch to protect seeds and soil from erosion caused by wind and rain. They provide all-natural erosion protection for up to 12 months to moderate slopes and low flow channels requiring low maintenance. Once the blanket has biodegraded and vegetation has been established soil erosion is under control. Applications for short term ECB's include residential lawns, golf courses, landfill caps, highways, mines and more.



### EXTENDED & LONG TERM RECP

(18 - 36 months) **Geosynthetic System's** extended and long term blankets incorporate the use of coconut fibers to provide longer and better protection against erosion problems on steep slopes, medium- to high-flow channels and shorelines. The extended term blankets also utilize a UV stabilized netting that lasts from 18 to 36 months, depending upon the product and upon conditions. Once the blanket degrades soil erosion is controlled by the root system of the mature, established vegetation.



### PERMANENT TURF REINFORCEMENT MATs (TRM)

**Geosynthetic Systems'** permanent turf reinforcement mats (TRMs) provide long term solutions to some of the most extreme erosion challenges. All our permanent protection products promote rapid vegetation growth in areas where the forces exerted by wind and or water exceed the shear limits of non-reinforced vegetation.

In addition to the rolled erosion control products and turf reinforcement mats, **Geosynthetic Systems** also stocks a full inventory of wood stakes, biodegradable stakes and steel 6" and 8" staples.







## SILT FENCE

A silt fence is a temporary sediment control device used on construction sites to protect water quality in nearby streams, rivers, lakes and bays. As perimeter controls, silt fences are typically used in combination with (properly designed) sediment basins and sediment traps, as well as erosion controls, which are designed to retain sediment in place where soil is being disturbed by construction processes.

You'll find silt fence on just about every active construction site around, and often on most inactive sites as well. **Geosynthetic Systems** now offers several grades of silt fence (custom branding available), including our new **GeoSOLUTION Silt fence, a tear and wind resistant light-duty silt fence** – *an industry exclusive available only from Geosynthetic Systems* – which features a 1.5" x 24" lathe that effectively pins the fabric to the hardwood post, keeping it attached and extending the product's life. All grades of our silt fence are manufactured in 0.91m high x 30.5m long rolls with 2" x 2" hardwood pickets (except economy grade, which are 1.5" x 1.5") and are 80% UV resistant at 500 hours.

## FLOATING SILT BARRIER

Floating silt barriers (FSBs), also known as silt curtains, are designed to control the settling of solids (silt) suspended in water by providing a controlled area of containment, reducing the impact area of these solids. **Geosynthetic Systems** can provide custom designed specific floating booms to solve unique challenges, offering a variety of fabric options, flotation sizes, load-bearing and ballast members, connectors and lengths.



## COIR LOGS

Our 100% natural, organic, biodegradable coir logs and mats are fabricated with pure coconut husk. Coir fiber is durable and strong, wildlife-friendly and is naturally conducive to the processes involved – being spun and woven – in the fabrication of erosion & sediment control mats and logs. Typical erosion and sediment control applications include slope and channel stabilization, stream and river bank stabilization, wetland construction, dams, detention ponds, highway and rail embankments, mining operations and landfills, ski slopes and ski lift tracks, pipelines, high altitude planting reservoirs and construction sites.





## EROSION & SEDIMENT CONTROL BAGS

### SAND BAGS

Simple and easy to transport/use, our sturdy polypropylene sand bags are available in bulk or individually. We inventory up to 10,000 sand bags; orders received prior to 3:00pm can often be delivered to sites within the nation's capital region the same day.



### ENVIROBAGS

Also known as a dewatering bag, the EnviroBag is a geotextile filter bag designed to filter silt from water as it is pumped from construction/excavation sites. Use of a dewatering bag to remove hazardous materials such as silt before environmental damage occurs, is an economical solution to prevent costly clean-up of a stormwater system. The potential liability from adding silt to an aquatic ecosystem makes the EnviroBag a valuable environmental protection device.



### METRE BAGS

**Geosynthetic Systems'** Metre Bags are designed for use in the construction of temporary dams. They are faster and easier to work with than sand bags, allowing efficient, economical filling with any on-site granular material or sand. Constructed with four lifting handles, these high-strength units are quickly filled and deployed to allow fast access to dry working conditions.



### SILTSACKS

SiltSacks are a cost effective, easy way to stop silt and sediment from entering catch basins on construction sites. Constructed of a reusable woven polypropylene geotextile is designed to prevent silt and sediment from entering your drainage system while still allowing the water to flow through.

Siltsacks are placed inside the drain and held in place by the drain grate. Once full they can be easily cleaned & placed back into the drain. Routine inspection of the Siltsacks are required to prevent overflow.







## ARTICULATED CONCRETE BLOCKS

FLEXICRETE is a system of solid concrete blocks connected together to form continuous inter-connected areas which can be used for a variety of purposes. It can be made in various shapes depending upon your application – square, rectangle, trapezoidal, hexagonal or even circular. Depending on the purpose for which the FLEXICRETE panels are to be used, different types of interlocking materials can be used such as mild steel, nylon rope, high tensile steel and stainless steel aircraft cable.



Flexicrete can be used for:

- EMBANKMENT PROTECTION
- TO PREVENT EROSION
- OPEN STORM DRAIN LINING
- AQUEDUCT LINING
- SHORE AND BEACH PROTECTION
- BREAKWATERS
- BOAT LAUNCH RAMPS
- SPILLWEIRS
- POND LINING SUPPORT
- ROADS
- EXPRESS ROAD SHOULDERS
- RETAINING WALLS
- PARKING AREAS
- PROTECTION OF BURIED UTILITIES - (INCLUDING UTILITIES UNDER WATER)





## DRAINAGE & STORMWATER MANAGEMENT

An integral part of conserving and managing soil is managing the water that falls on it. From traditional products such as sub-surface drainage tubing and corrugated steel pipe to innovative products such as geocomposite drainage systems, the experts at **Geosynthetic Systems** can make sure you find the products and receive the installation information you need to get your project designed and built right the first time.



### GEOCOMPOSITE DRAINAGE SYSTEMS

A geocomposite is a two-part prefabricated drainage system consisting of a formed polystyrene core covered on one side with either a woven or nonwoven filter fabric (depending upon the application). The fabric allows water to pass into the drain core while restricting the movement of soil particles that might clog the core.

In vertical applications (retaining walls, foundation drainage, chimney drainage, etc.) geocomposites reduce hydrostatic pressure and convey groundwater away from the structure and towards designated drainage exits. In horizontal applications (roof drainage, planting beds, parking decks, plaza decks, balconies and under slab applications..) the geocomposite directs water to designated exits to alleviate pooling and subsequent damage to plant material. In either case – horizontal or vertical – geocomposites offer a modern, cost-effective alternative to conventional aggregate drainage systems which are costly, difficult to install and in applications such as roof drainage, too heavy.



## SURFACE DRAINAGE SYSTEMS

Collecting & redirecting surface water is an elemental consideration in landscape design & construction. Having our roots in landscaping has helped **Geosynthetic Systems** to shape our product line; because of that experience we understand exactly what landscape contractors need to design and build beautiful, lasting exteriors.

When it comes to drainage, we know that no matter how creative the design or how well constructed the installation, unless surface and subsurface drainage has been properly addressed, design failure is nearly always unavoidable. Trust the GeoSolution Team to provide the products and installation information you need to get your project designed and built the right way the first time. Our selection of specialty landscape drainage systems will make any surface drainage challenge easier to meet, and will make the difference between a professionally designed exterior and one that's all wet!



The selection and variety of surface drainage products is as vast as the numerous applications and challenges they solve. Included in our offering are the following:

- CHANNEL DRAINS
- CATCH BASINS
- POP-UP DRAINS
- STEEL/PLASTIC GRATES

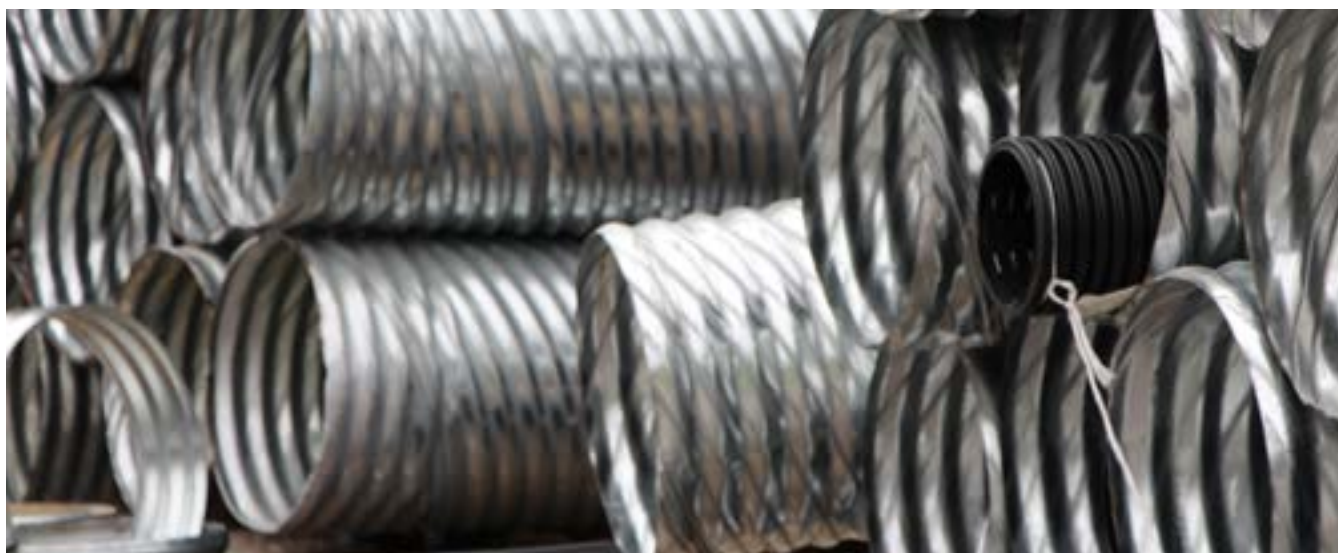
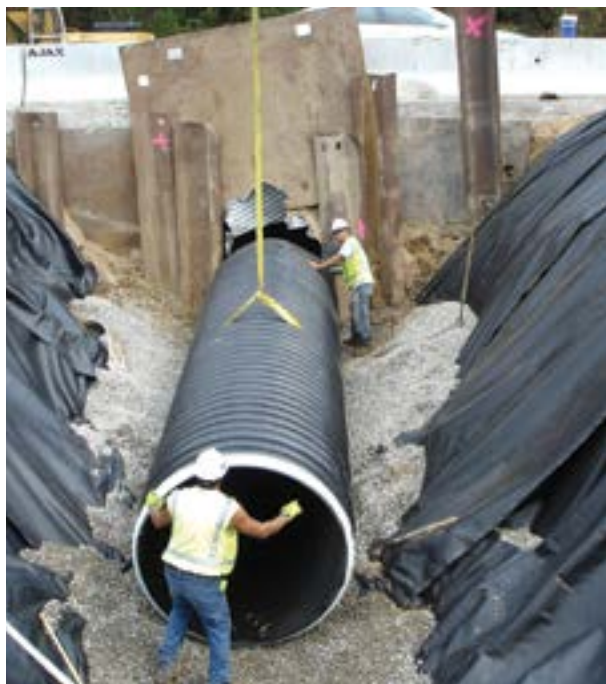
For a complete list of NDS Drainage Products please visit our supplier's website: [www.ndspro.com](http://www.ndspro.com)

## SUBDRAIN PIPE AND FITTINGS

**Geosynthetic Systems** has sold countless metres of subsurface drainage tubing installed beneath and alongside city streets, municipal roads and highways, and has supplied our region's contractors with corrugated plastic pipe for residential drainage for three decades.

No one in the industry has more knowledge or expertise than our team when it comes to foundation drainage, keeping basements dry and stabilizing the footings. From driveway and sidewalk drainage, culverts for road crossings, window well and yard drainage, we're a one-stop-shop for subsurface and surface drainage.





### SMOOTHWALL HDPE PIPE AND FITTINGS

We stock HDPE pipe for storm water management in diameters ranging from 6" to 36" and offer two types of coupling systems in order to meet every specification standard. At less than 10% of the weight of concrete pipe throughout the full range, HDPE pipe affords the contractor many important benefits:

- Saving on Installation (less manpower/equipment required)
- Impact Toughness (regardless of temperature)
- Faster Installation (25% faster than concrete)
- Safer handling
- Quick On-Site Cutting

### CORRUGATED STEEL PIPE (CSP)

Corrugated steel pipe has a long history of proven service performance for storm sewer, highway construction, mining and forestry applications. CSP is available in a variety of sizes, corrugation profiles, thicknesses and lengths to suit virtually any application; a complete line of standard & specialized fittings, couplers & accessories are also available.

**Geosynthetic Systems'** large inventory of corrugated steel pipe (CSP) and accessories help us to maintain a competitive price edge while allowing us to provide quick, hassle-free delivery to job sites across the region.





## LANDSCAPING SPECIALTIES

We spent years growing a landscape design & construction business before we became experts in product distribution. Our experience in the field taught us what we needed to know about which brands/products/systems work and which simply don't. Thirty years later and we're still serving the green industry by supplying the products and systems that work.



### ECORASTER PERMEABLE PAVING

Ecoraster ground reinforcement or permeable paving is an eco-friendly and cost-effective alternative to traditional permeable and non-permeable paving surfaces. Ecoraster is made from 100% recycled plastic, and its interlocking blocks are easy to install. After installation, Ecoraster is filled with sand, gravel, soil, or turf to grade – Ecoraster BLOXX are filled with paving stones. The result is a durable surface, absorbing rainwater without puddling, ponding, or mud. It also prevents potholes, digging, and pawing. Finally, unlike traditional paving solutions, Ecoraster surfaces do not crack, flake, or break. **Geosynthetic Systems** stocks multiple Ecoraster grades and colors, resistant up to 70 tons per square foot.

Ecoraster ground reinforcement suitable for driveways, parking areas, footpaths, cycling lanes, indoor and outdoor equestrian riding areas, cattle pens, outdoor kennels, dog runs, green roofs, anywhere structured soil is needed. Ecoraster can also easily be implemented in temporary installations, such as equestrian shows and seasonal public events. As a permanent structured soil retention device, Ecoraster is ideal for temperature and climate extremes, durable and flexible for foot, animal, machine, and vehicle traffic – Ecoraster is even resistant to snowplows.





### ALTURNAMATS

These rugged mats are made of 1/2" thick recycled polyethylene so they are virtually indestructible. They withstand vehicles weighing up to 120 tons, bend but do not break and they feature a Limited Lifetime Warranty. AlturnaMATS have been tested in record cold and heat.

With AlturnaMATS, getting stuck is virtually eliminated. They are available smooth on one side or smooth on both sides and in different sizes, ideal for removing dirt or gravel.



### PLASTIC & ALUMINUM PAVER RESTRAINT

From cost effective economy style to top-shelf name brands, **Geosynthetic Systems** stocks every type of plastic and aluminum paver restraint professional installers need.

SnapEdge plastic paver restraint system is the undisputed best in the industry. Buy it by the 8' length or talk to us about our bulk discounts for bundles and pallets.

Brick stop aluminum mill finish paver restraint is made from non-rusting recycled aluminum and allows for straight or curved installation of pavers on either side of the edging; sold in 8'4" section with one joiner tab/length.



### WEED BARRIER AND LANDSCAPE FABRIC

Using a synthetic weed barrier/landscape fabric offers gardeners and landscapers several advantages, including moisture retention, soil temperature moderation, reduced weed growth, etc. We offer weed barrier in rolls of 4' or 7' x 300', as well as mulch sheeting in rolls measuring 5' x 1200'. We also offer GreenLine woven fabric – often used as a separator beneath interlock, in rolls and by the foot.

Burlap is used for numerous purposes, including as concrete curing blankets and for winter protection for trees, bushes and shrubs. Our burlap is 100% natural jute, practical and economical. It is available in 7oz. and 10oz. weights, 2 convenient roll sizes, is re-usable and easy to install.







### PLASTIC AND ALUMINUM LAWN EDGING

We stock both 20' lengths and 100' rolls of commercial grade black plastic lawn edging as well as fittings. We also carry industry leader SureLoc Aluminum lawn edging in mill or black anodized finish (other colours available by special order), in various heights, thicknesses and lengths.

### HAND TOOLS

Contractors spoke and we listened. We offer only top-of-the-line professional grade, superior strength hand tools by Wolverine. Their standard and specialty tools are created using superior materials such as chromoly steel, aircraft aluminum, pultruded fiberglass and ash or hickory hardwoods. With a one year limited warranty, these tools stand the test of time, eliminating the need for replacement.

### STEEL WINDOW WELLS

Corrugated steel window wells are available in widths from 24" to 120" and numerous depths and projections. We stock the largest variety and quantity in Eastern Ontario, and offer the lowest prices in the area.



### BOMAN KEMP WINDOW WELL

Most basements are dark because they have very small windows, if any, but larger windows and window wells are an excellent way to allow for more light in sub-grade basement construction. Even larger basement windows and larger egress window wells allow for a secondary escape route in case of fire, flood, or another emergency. The typical window well is constructed of corrugated galvanized steel, with all the appeal of living in a drainage ditch. While these may be fine for emergency exits, they are not aesthetically pleasing.

We are pleased to announce the introduction of Boman Kemp window wells, a modern and attractive take on the window well. What makes Boman Kemp window wells different is the weatherproof grey "stone wall" interior finish, something more attractive than corrugated steel. Future tenants will enjoy the extra light and safety that a Boman Kemp window well provides, as well as be more likely to leave the curtains open.





## EARTH & MARINE ANCHORS

**What do you need to anchor?** For anchoring applications ranging from light-medium capacity (tree guying, root balls and theft deterrence), to medium-heavy capacity (utility poles, gabion baskets, boat moorings, revetment mats), to heavy capacity (transmission towers, sheet piles, excavation shoring), we've got you covered with Duckbill®, Manta Ray® and Stingray®

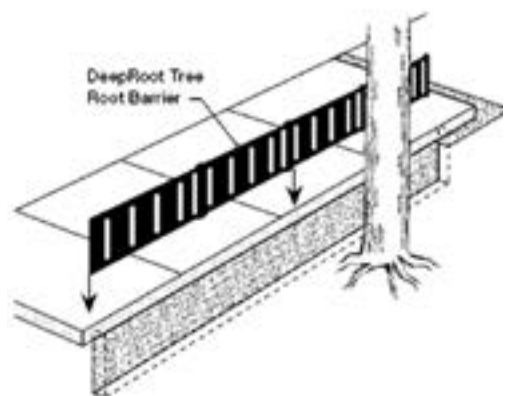
Saving time and labor, patented DUCKBILL® earth anchors work like toggle bolts in soil. They are driven into the ground with no holes, no digging, and minimal soil disturbance creating a safe and environmentally sensitive installation. With an upward pull, the anchor tendon rotates the DUCKBILL into a perpendicular "anchor lock" position in undisturbed soil resulting in superior holding capacities.

MANTA RAY® earth anchors are driven tipping plate soil anchors for reaction of tensile loads. MANTA RAY anchors have ultimate capacities up to 20 tons. The beautifully simple, effective and low cost MANTA RAY anchor system represents a major breakthrough in anchoring technology with a multitude of uses in the utility, civil engineering and marine markets.

STINGRAY earth anchors are the perfect solution for applications with heavy capacity requirements because they provide superior holding for civil construction jobs, excavation shoring and tieback

## ROOT BARRIERS

Root Barriers are H.D.P.E. panels which redirect tree roots down & away from hardscapes, preventing costly root damage while preserving the health and beauty of mature trees. Used for linear & surround applications as well as for root pruning applications on both new plantings and existing trees, root barriers make it possible to grow large, healthy trees in areas where root growth would normally be restricted.





## GABION SYSTEMS & ENGINEERED WALLS

For nearly 40 years **Geosynthetic Systems** has played a role in numerous slope stabilization projects in and around Eastern Ontario, incorporating a variety of solutions and soil management approaches.

We promote and distribute several products and systems designed for use on site with challenging grade changes, including the largest inventory of gabion baskets in the region.



### GABION BASKETS AND MATTRESSES

Double twisted hexagonal mesh gabions and reno mattresses have been used for channel linings, river bank restoration, soil retention, slope stabilization, and other applications successfully throughout the world for over 100 years.

Our standard gabion baskets are constructed of 3-mm or 4-mm galvanized steel wire, either woven or welded, depending on strength required. Welded 4-mm gabion baskets, for example, will last significantly longer than woven 3-mm gabion baskets, up to 60 years. After base-construction, gabion baskets are assembled, positioned, and filled with rock, slate, stone, or reclaimed aggregates.

Standard gabion baskets are 1 m high by 1 m deep, and 2 m, 3 m, or 4 m long. Used in certain retaining walls and erosion-control projects, gabion baskets are a more economical solution and easier to implement than engineered-wall systems.

Gabions offer many advantages over similar construction.

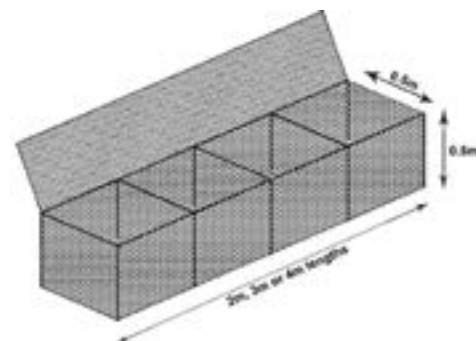
- FLEXIBILITY
- DURABILITY
- STRENGTH
- PERMEABILITY
- RELIABILITY
- LONGEVITY
- LOW COST





### MINI GABION BASKETS

In addition to standard gabion basket sizes, we also offer an exclusive line of Mini Gabions, available in standard 2 m, 3 m, and 4 m lengths, measuring 0.5 m high by 0.5 m deep. These economical alternatives offer greater design flexibility while reducing environmental impact and excavation and installation costs.



### DECORATIVE GABION BASKETS

Landscape designers and architects have noted gabion baskets can be quite attractive, depending on the fill, and more economical and easier to install than traditional brick, block, or stone walls. Our decorative gabion baskets are constructed of the same high-grade materials as our standard gabion baskets, but on a smaller scale. For use in residential and commercial projects, decorative gabion baskets are available in four standard sizes: 18"x18"x18", 36"x18"x18", 36"x36"x18", and 36"x36"x36".

Shipped flat and assembled on-site, using hog rings or spiral binders, gabion baskets are a flexible and economical solution to many erosion-control, landscape, and design challenges.





## ENGINEERED WALLS AND RETAINED SOILS SYSTEMS

**Geosynthetic Systems** has played a role in numerous slope stabilization projects in and around Eastern Ontario, incorporating a variety of solutions and soil management approaches.

We promote and distribute several products and systems designed for use on site with challenging grade changes, including TerraSlope® and TerraSteep®.

**TerraSlope® Slope Retention System** is a complete and fully integrated Mechanically Stabilized Earth (MSE) system. It delivers the benefits of performance, economy and beauty for almost any grade separation challenges that you might face.

**TerraSteep®** is designed for sites with slopes steeper than 1:1 and incorporates wire forms to allow for construction of angles greater than 45 degrees up to vertical. TerraSteep combines the technology of TerraSlope Systems with superior structural integrity and enhanced performance when compared with other techniques.

**TerraFort® Panel Wall System** is a complete and fully integrated Mechanically Stabilized Earth (MSE) system & combines the best in reinforced concrete durability and geogrid/soil reinforcement. TerraFort gets its strength from Uniaxial HDPE Geogrids. These geogrid layers work to stabilize the back-fill material and create a reinforced mass of granular soil. Because no metallic materials are used in the reinforced backfill, TerraFort is an ideal wall system for applications that involve corrosive soils, electrified rail, coastal waterways and transformer platforms. TerraFort® delivers the benefits of performance, economy and beauty for almost any grade separation challenges that you might face.







## ABOUT THE GEOSOLUTION TEAM

Peter Mulrooney, founder of **Geosynthetic Systems**, was first to introduce many of the innovative soil conservation and management products that are now standard feature on road building, storm water management, landscaping, and building envelope projects across the region. Moreover, Peter's legacy of unwavering commitment to customer service continues to guide the Geosolutions Team.

**Kelly Mulrooney**

President  
Kelly@geosyn.ca

**Jim Peabody**

Manager, Operations & Technical Sales  
Jim@geosyn.ca

**Connor Murray**

Sales  
Connor@geosyn.ca

**Sue Windover**

Manager, Finances & Administration  
Sue@geosyn.ca

**Pete Campbell**

Manager, Inventory & Logistics  
Pete@geosyn.ca

## ABOUT THE INDUSTRIES WE SERVE

**Geosynthetic Systems** is a supporting member of numerous, industry & trade associations, including the following:



Drainage Superintendents  
Association of Ontario



Commercial Landscape  
Association of Eastern Ontario



Ottawa Valley Turfgrass  
Association



National Capital Heavy  
Construction Association



Landscape Ontario



Ottawa Geotechnical  
Group



International Erosion Control  
Association



Kingston Construction  
Association



ESCA Canada – Erosion  
Sediment Control  
Association of Canada



Ontario Association of  
Landscape Architects



Ottawa Construction  
Association

## WHAT OUR CLIENTS SAY ABOUT US...

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"Always have what I need when I need it, even when I don't know what I need. Knowledgeable staff that efficiently and professionally handle every request I have. Good quality products, never had a complaint on any product supplied from Geosynthetics."

Liam Clifford  
M&R Feeds & Farm Supply

"Thank you Geosynthetic Systems for the fantastic service over the past 20+ years! Your expertise in erosion control and earth anchoring systems has been invaluable to ODS Marine's success and to our customers satisfaction! Keep up the great work!!"

Ken Rule, Operations Manager  
O.D.S. Marine

"In this day and age where everyone is busy and everything is moving so fast, you pick up your phone to call or email someone and you'll rarely get a quick response. That is never the case with Connor and the crew at **Geosynthetic Systems** in Ottawa. Whether I'm looking for a specific product or trying to find something to conform to a spec they are always there to help. They are unbelievably quick at getting things quoted which comes in handy when we are tendering jobs, and they carry all the mainstream products we would be looking for at the best prices in Ottawa. It's companies like this and people like Connor that really enable me to do my job well, getting quality products for great prices in a timely fashion. What more could you ask for! Thank you for all your hard work, it doesn't go unnoticed."

Sara Postma, Project Manager/Estimator  
Greyleith Engineering Ltd.

"We have been doing business with **Geosynthetic Systems** for years, and we have always been extremely happy with the service they provide. Their inventory is always well stocked to ensure they have the product you need on hand (at competitive prices!), and their responsive, friendly sales staff have you in and out in no time at all."

D'Arcy Lancaster, Chief Estimator  
Brenning Construction Ltd.





WE ARE PROUD TO HAVE RECEIVED LANDSCAPE ONTARIO'S AWARD OF DISTINCTION FOR THE PAST 3 YEARS - 2014, 2015 AND 2016. NOMINATED AND VOTED ON BY OUR CUSTOMERS AND PEERS, THIS AWARD IS GRANTED FOR OUTSTANDING CUSTOMER SERVICE TO THE LANDSCAPE INDUSTRY.

## Our Story

### "Decades of soil management solutions"

At **Geosynthetic Systems**, we know dirt. From Peter Mulrooney's early childhood summers spent selling "black muck" (which his father Clarence had collected by hand) by the bag in Ottawa's Byward Market, to his work in road construction in the 1960s, to landscape design & construction in the 1970s, our family has been involved in the local construction industry in one way or another for more than 60 years.

Our decades of experience with local soil conditions means that we have the technical know-how and expertise to advise you on which products and services are right for your project. We can even save you time and money by working with you onsite to ensure proper installation.

We are your local soil experts. No matter how large or small your project, we can help you meet your soil-conservation and soil-management goals.



## Our Promise

### The right products, on-site, on time, on budget.

The construction and landscaping industries are ever evolving, and **Geosynthetic Systems** will continue to evolve with them. From keeping abreast of new legislation and ongoing technical training to sourcing innovative and environmentally friendly products and services, **Geosynthetic Systems** is committed to helping you meet your project objectives

## Our Mission

Is to provide friendly, down-to-earth expertise and quality geosynthetic/landscape supplies which reduce the environmental impact of construction and preserve our natural resources, while at the same time helping our clients achieve success with their projects.

Our business will grow and prosper by ensuring the well-being of our team, the integrity of our promise and the trust of our stakeholders.

## Our Values

These are the values that guide our company: No BS – we aim for transparency with everyone – staff, stakeholders and customers alike. We are not afraid of being honest. Heart – we care about what we do, how we do it and who we do it for; we like our planet and our customers enough to only sell what we can stand behind.

Team – we care about life-work balance. We encourage our staff to make sure they meet their family needs first. We want everyone on our team to feel like they work with us, not for us. We think it's important to have fun with your coworkers while you're working and contributing. Integrity – if it's something we'd have to whisper to talk about, we won't do it or sell it.

DECADES OF SOIL MANAGEMENT SOLUTIONS

Call ***"The Down To Earth People"*** at  
**Geosynthetic Systems** and get all the dirt  
on soil stabilization, confinement,  
separation and reinforcement.

1 (866) 490-4**GEO**



**GEOSYNTHETIC**  
S Y S T E M S

3543 Conroy Rd, Ottawa, ON K1T 3S6  
[www.geosyntheticsystems.ca](http://www.geosyntheticsystems.ca)  
(866) 490-4436  
(613) 733-9585

**SOIL...** STABILIZATION | CONFINEMENT | SEPARATION | REINFORCEMENT

