## What's new and exciting at Terrafix geosynthetics?

TerraFirm combines structural earth anchors with surface protection materials to offer a unique solution to many slope instability challenges. The Earth anchors come in a wide range of size and are percussion driven below the shallow slide failure surface. Surface materials including erosion control blankets and geogrids are locked to the anchor tendons on the surface to provide long term stability and protection for vegetative growth. Installation is easy and usually can be accomplished with light weight handheld equipment.

Terrafix provides experience-based technical guidance, design and on-site assistance. We can also carry out tests to aid in pre-contract site evaluation. If you have a challenging slope situation, give us a call, we would be glad to take a look at it.

## Lunch & Learn

Terrafix offers a project specific approach to solving your erosion & sediment and stormwater management challenges.

We offer detailed assistance from the design stage to onsite support. With a professional staff of experienced engineers and specialists, we are available to assist designers and clients in selecting cost effective solutions.

If you are interested in an office Lunch & Learn, please contact our office at (416)674-0363, ext. 241.

## Additional Information?

For stormwater and erosion control challenges, please call J.J. Breede, P.Eng. at 416-674-0363, ext. 241 or e-mail at jjbreede@terrafixgeo.com

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At Terrafix, we provide powerful new technologies in geosynthetic products and services for construction and environmental applications. These new technologies can save you installation time and money.... and we can prove it!

Terrafix offers a turnkey approach to solving your environmental problems. From engineering to construction, our team of professionals are committed to providing the most advanced engineering solutions to today's environmental challenges.

We have technical experts available every day to answer your technical questions and to give you engineering solutions in which you can have confidence.

Because we carry the complete line of geosynthetic products you can count on us to have inventory available when you need it. And, many of our products can be custom cut and fabricated to fit the requirements of your project which will save you labour costs, installation time and minimize waste. Ask us about it!

Terrafix has been in business over 37 years. We have a track record of success and reliability. You can be certain that we will be here when you need us.

Call on Terrafix for all your geosynthetic product or service applications!

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geosynthetics inc.

Canada's leader of complete geosynthetic solutions

issue **number ten**

slipliner
the newsletter dedicated to culvert sliplining

Case Study: Burlington, ON – CN Railway

**Terrafix CASE STUDY**
Burlington, ON – CN Railway
(Bronte Rd. & Derry Rd.)

**INSTALLATION DATE**
November 2010

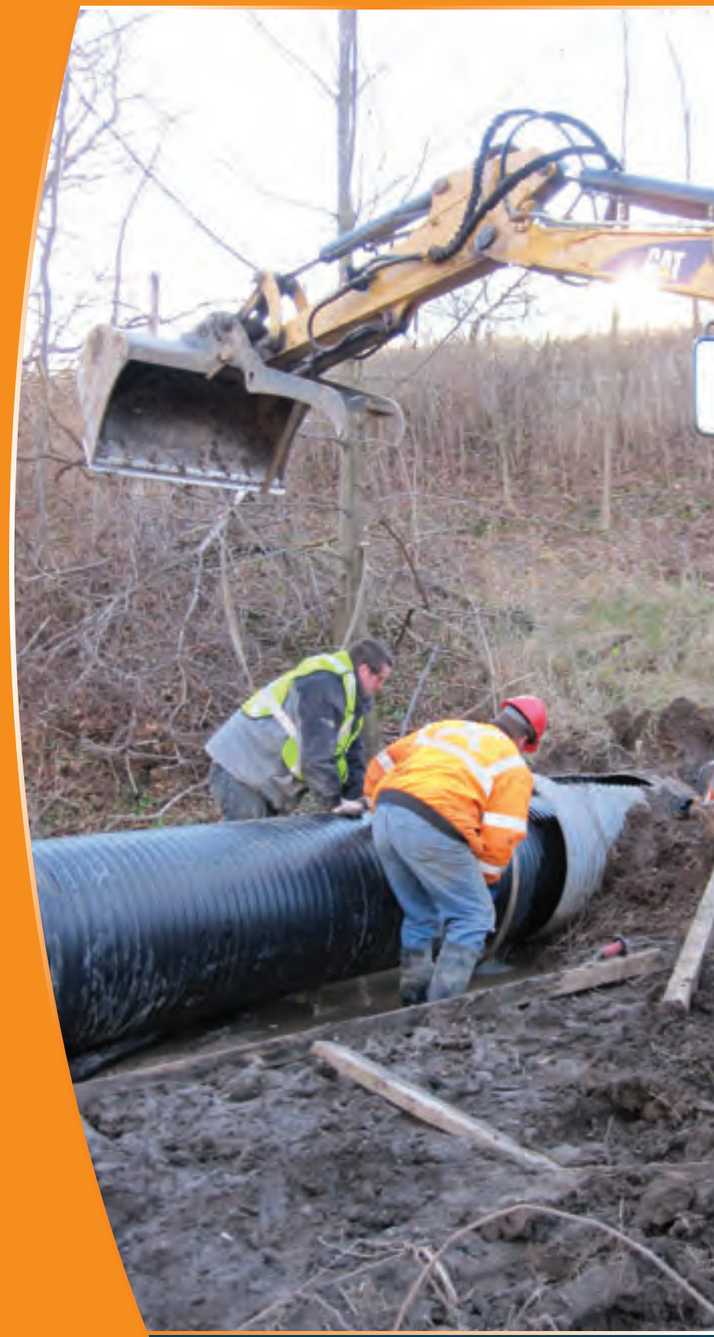
**SITE SERVICING CONTRACTOR**
P.W. Concrete

**OWNERS**
CN Railway

**CHALLENGE**
Existing corrugated steel pipe, under the CN railway tracks, near the Bronte Rd. and Derry Rd. intersection, had deteriorated, showing signs of corrosion along the bottom and springline of the pipe. The structure is approximately 60m in length and 900mm in diameter.

**SOLUTION**
Without any disturbance to the existing railway tracks, the existing pipe was relined with 690mm dia. Weholite RSC160 pipe with an outside diameter of 772mm dia. The work was successfully completed in less than one week.

**PROJECT OVERVIEW**
The existing culvert is located under the CN railway tracks which is a busy line running through Milton and Burlington. Twelve (12) lengths of 690mm dia. Weholite RSC160 pipe (5.03m each) with threaded joints were delivered on site. All work, including threading and pushing the Weholite pipe into the host culvert and pumping the grout upstream into the annular voids, took place on the east side of the tracks. Train traffic was not disrupted at any time during construction. In addition, the existing railway line was not compromised by open cutting for remove and replace construction. Due to the smooth inside wall surface of Weholite pipe, the full pipe flow capacity increases 16%.



## Storm & Waste Water Systems

- Weholite HDPE Pipe
- Corrugated HDPE Pipe
- Subdrain Pipe and Fittings
- Stormwater Infiltration Systems / Triton™ Stormwater Solutions
- GrassPave²
- GravelPave²

## Erosion & Sediment Control

- Straw, Coconut and Excelsior Blankets
- Coir Mats and Logs
- Turf Reinforcement Mats
- Terraweb® Cellular Confinement System
- Gabion Baskets and Mats
- Silt Curtains
- Fencing Products
- FLEXICRETE®
- Siltsacks® / Envirobags
- MeterBags
- ScourStop™

## Geotextiles

- Non-woven Geotextiles
- Woven Geotextiles
- High Strength Wovens
- Monofilament Wovens

## Retained Soil Systems

- TerraSlope®
- TerraFort Panel Wall System
- TerraSteep® Geogrid Reinforced Earth Systems

## Geogrids

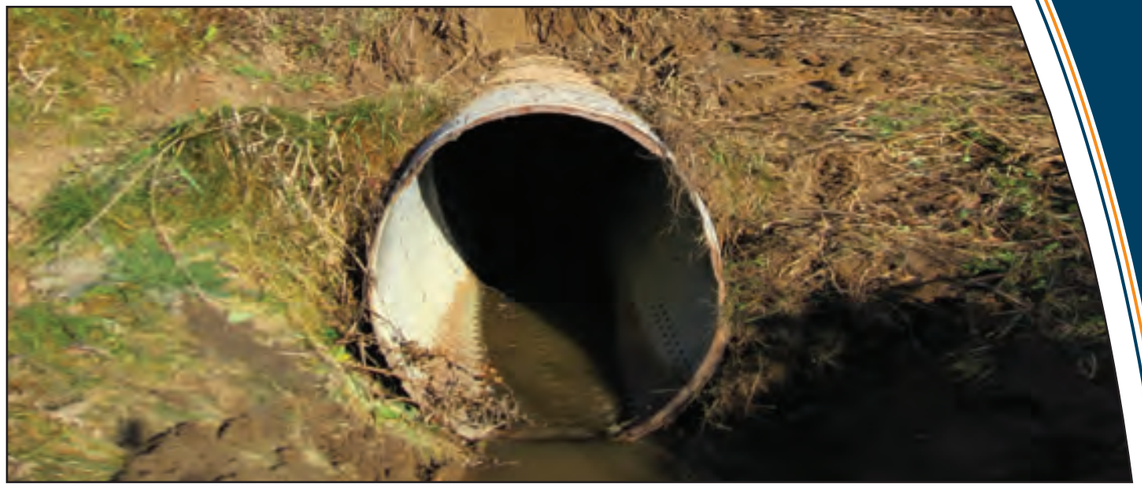
- Uniaxial / Biaxial
- Base Reinforcement
- Combigrid®
- STRATAGRID®

## Lining Systems

- HDPE Geomembranes
- Thermal Lock Geosynthetic Clay Liner
- Spray Applied Geomembranes

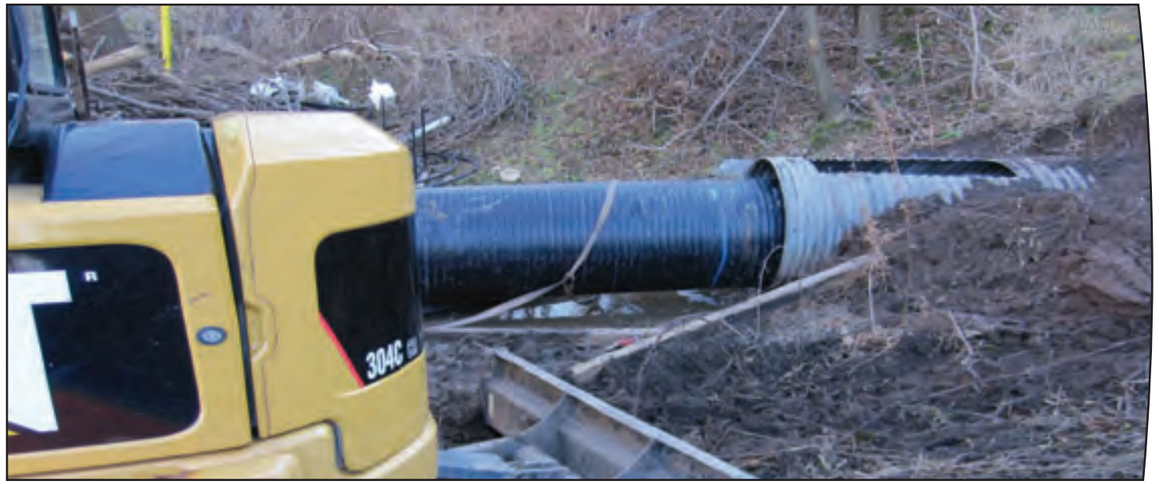
## And much, much more....

Delivered on site - 690mm dia Weholite, RSC160, 5.03m lengths, threaded ends.

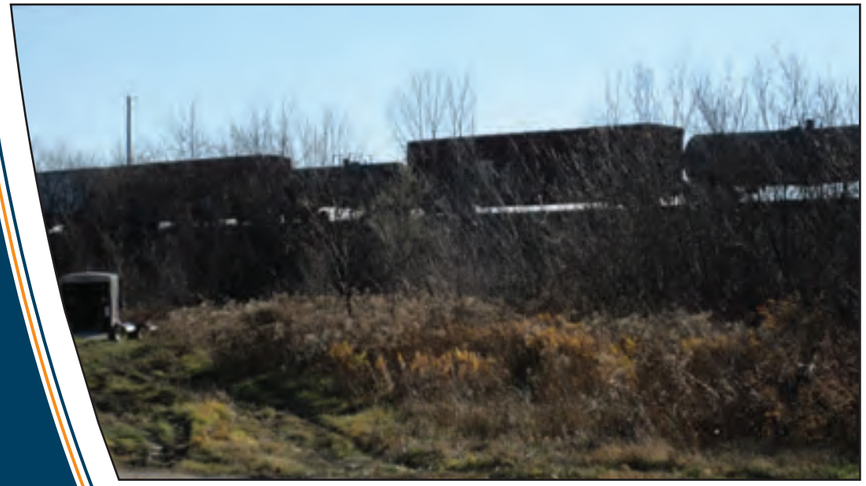


Corroded host CSP pipe.

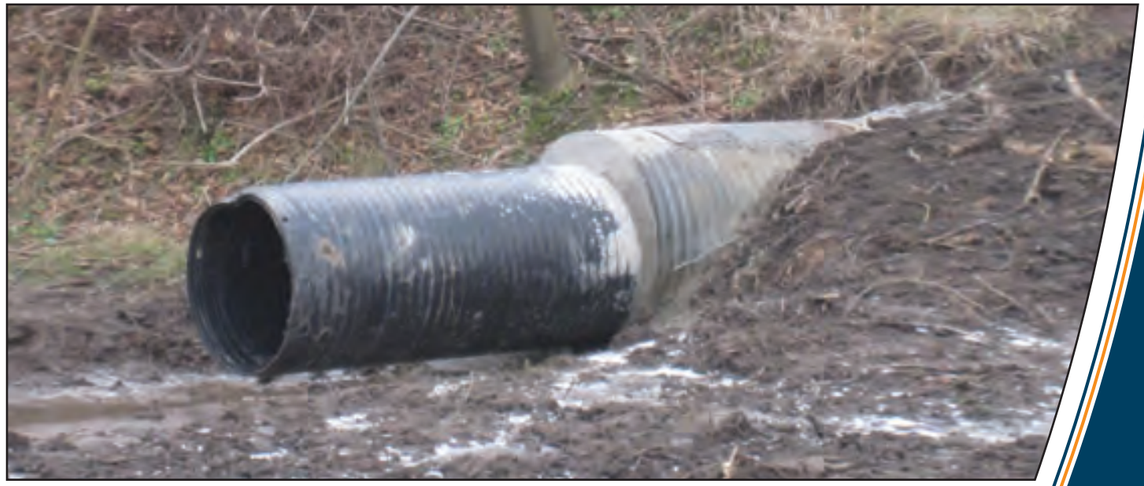
CN Railway over work zone.




Insertion of Weholite pipe into host pipe with cut-out at top of host pipe to allow insertion of grout tube.



CN Railway train passes over work zone.



Concrete bulkhead to contain the grout within the annular voids.