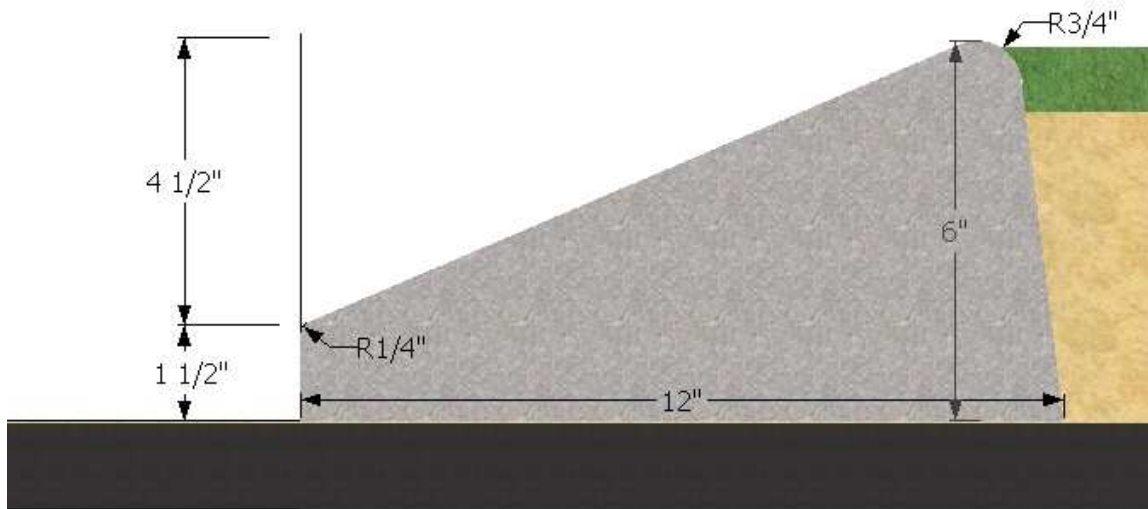
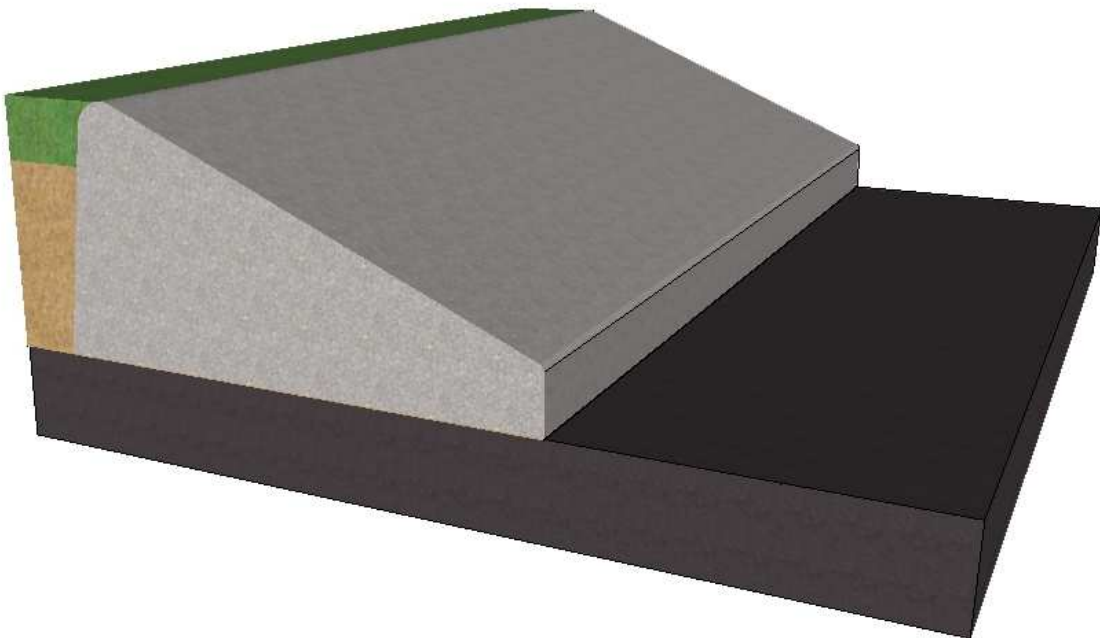


6" Mountable Curb



6" Mountable Curb Cross Section
Drawing Not To Scale



6" Mountable Curb Cross Section 3D View
Drawing Not To Scale

DRIVABLE GRASS®

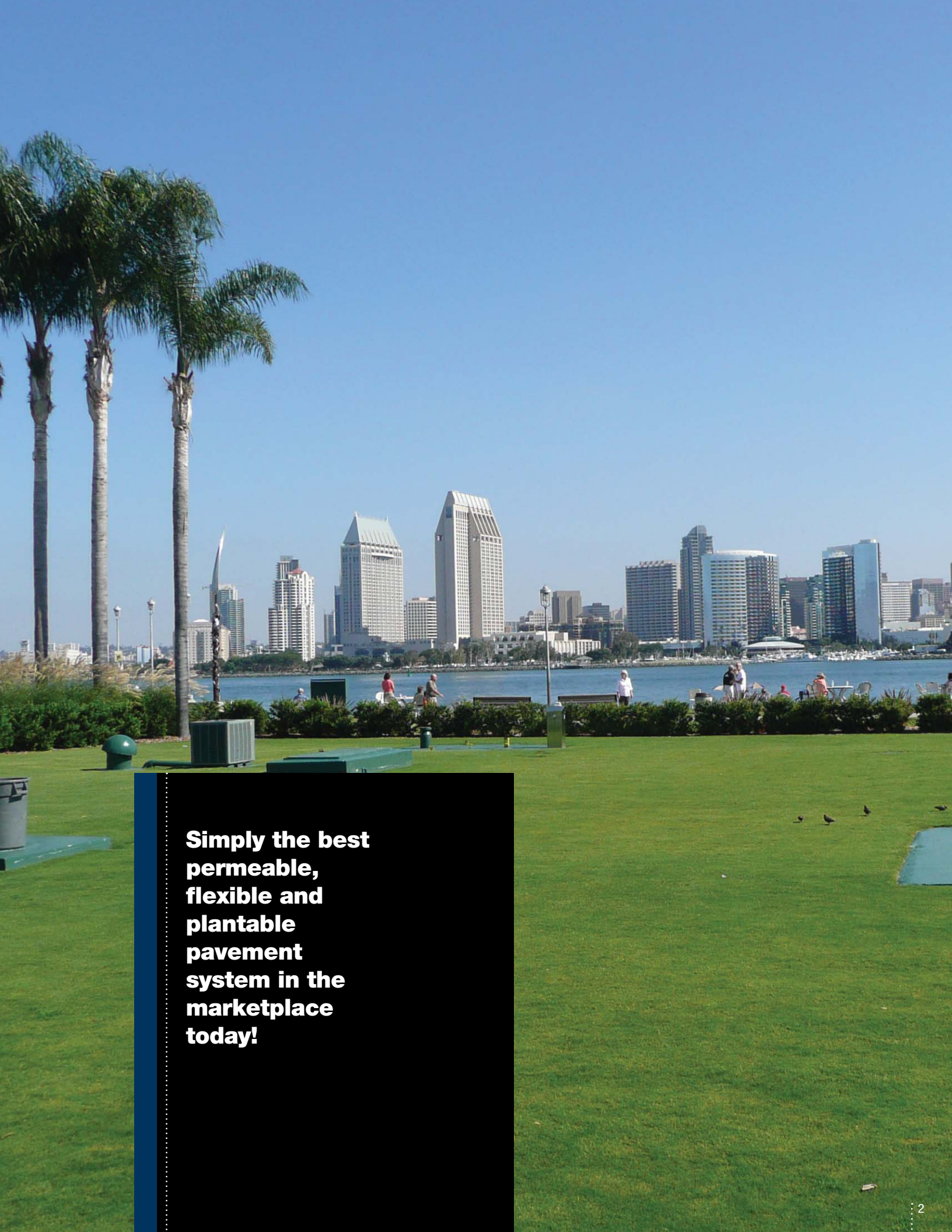
Permeable, Flexible and Plantable Concrete Pavement System



SOIL RETENTION

Manufacturing • Distribution • Design • Installation

Plantable concrete systems®



**Simply the best
permeable,
flexible and
plantable
pavement
system in the
marketplace
today!**



DRIVABLE GRASS® is a permeable, flexible and plantable concrete pavement system. It is designed for use in areas where a permeable, and/or a vegetated surface is desired for aesthetic or sustainable reasons.

An engineered grid system allows the product to flex and conform to irregular ground surface contours while providing the intended structural support. The products geometry allows for enhanced root penetration, infiltration/filtration of storm water, increased on-site storm water storage and minimization of site runoff. **DRIVABLE GRASS®** maintains its load supporting characteristics even when saturated.

COMMERCIAL APPLICATIONS



**The perfect
paving choice
for a wide
variety of
applications!**

Access Easements
Fire Lanes
Parking Areas
Driveways
RV & Boat Storage
Golf Cart Paths
Bio-Swale Reinforcement
Green Roofs
Pathways
Maintenance Yards
RV Parks
Boat Ramps
Slope Armor
Trickle Channels
Stream Bank Installation
Culvert Outlets

DRIVABLE GRASS® is a prime example of the new generation of environmentally friendly products that engineers and designers should specify and the development and building industries must provide in this era of sustainability. **DRIVABLE GRASS®** can be used in place of poured concrete and asphalt for a wide variety of applications. It is designed for use in areas where a permeable, vegetated vehicle access or parking surface is beneficial or required. In addition to driveways and parking stalls, other applications include emergency and service vehicle access lanes, RV parking, and bio-swale protection, just to name a few. Its unique properties provide opportunity for a diverse range of uses. Whether your project is a residential driveway or an acre of alternative parking that doubles as a storm water bio-retention basin, **DRIVABLE GRASS®** is the best solution to your permeable pavement design needs.



More and more homeowners today want to do their part to insure a better tomorrow!

Many homeowners today are looking for ways to reflect their environmental concerns in sustainable yet aesthetically pleasing home improvements. Along with other low impact development (LID) strategies, the use of **DRIVABLE GRASS®** as “GREEN” driveways, side yard parking access, garden paths and permeable patios provides a perfect opportunity to minimize storm water runoff and reduce heat island effect.

RESIDENTIAL APPLICATIONS



ALTERNATIVE INFILLS



There are many reasons for choosing **DRIVABLE GRASS®** with an alternative infill. Whether it's environmental concern, an aesthetic choice, regional climate response or regulatory constraint, not everybody wants to grow turf grass.

Alternative infills basically divide into two classes: alternative planting and non-vegetated materials. Alternative plants for **DRIVABLE GRASS®** include ground covers and non-turf grasses. With alternative plants, the installation profile remains the same as with turf-grass; a mix of sand and organic material above and below the mats to act as a rooting zone.

In some cases the plant material can be seeded like turf grass, while others may require hand installation of plant plugs in the void spaces between the mat pads or even the periodic removal of individual pads for installation of plant sizes up to a 4" pot. Watering requirements will depend on the plant material selected, but in most cases it will be significantly lower than for turf grass.

Non-vegetated infills include crushed rock, sand, dirt, bark mulch and even artificial turf. Each of these products may be chosen for their particular properties, as well as the fact that they require no water. A one-inch layer of sand, without added organic material, is placed as a leveling base below the **DRIVABLE GRASS®** mat for non-vegetated infill. The sand base is placed over a landscape filter fabric to prevent weed growth.





**Where
reduced water
consumption is
a consideration,
DRIVABLE GRASS®
can be installed
using alternative
infills.**

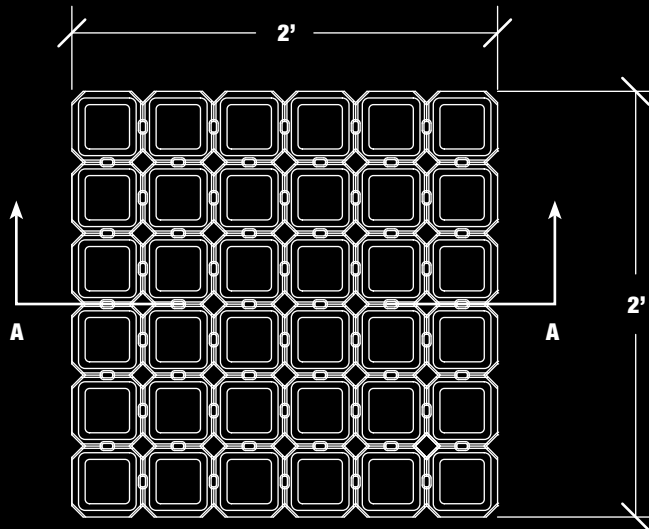


Strength and Durability!

Soil Retention's **DRIVABLE GRASS®** product was just the solution we were looking for. Providing the strength and durability we require while at the same time solving our run off water issue."

- Oceanside Fire Chief

Plan View

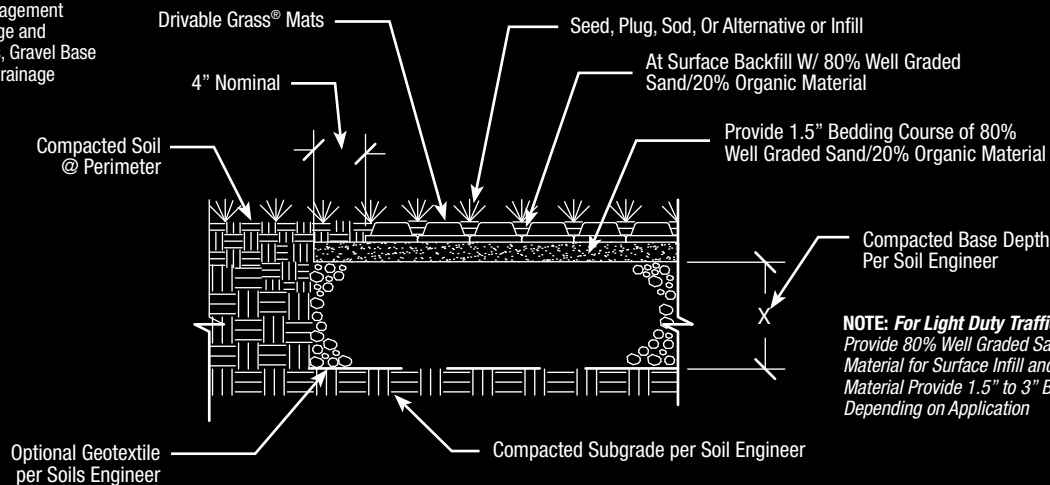


DG1

Typical Heavy Traffic Drivable Grass® Detail

SECTION A-A

NOTE: For Storm Water Management Applications Including Storage and Infiltration; Alternative Infills, Gravel Base Material, and Sub-Surface Drainage may be Required



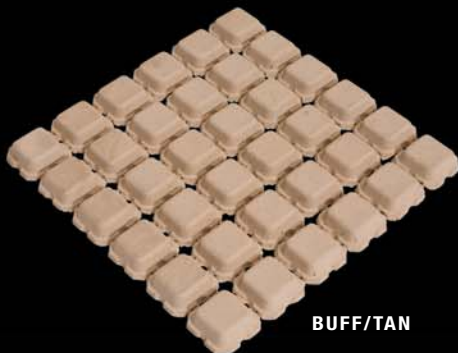
DRIVABLE GRASS® Structural Design Guidelines

Subgrade	Gravels/Clean Sand	Sands	Clay/Silt
USCS Classification	GW - Well Graded Gravels GP - Poorly Graded Gravels GM - Silty Gravels GC - Clayey Gravels SW - Well Graded Sands SP - Poorly Graded Sands	SM - Silty Sands 6-10 SC - Clayey Sands	ML - Inorganic silts of low plasticity CL - Inorganic clays of low plasticity MH - Inorganic silts of high plasticity CH - Inorganic clays of High plasticity
Typical R- Value Range	30-70	10-40	5-15
Application	Base Thickness (in.)		
Firelane	6-8	6-10	10-12
Parking Lots Stalls	4-8	6-10	8-12
Parking Lots Traveled Way	6-12	8-14	12-16
Residential Driveways	0-4	2-6	6-10
Walkways	0	0	0-4

NOTE: Existing subgrade and base materials are to be compacted prior to placement of the DRIVABLE GRASS®. These recommendations are to be used as a general guide. Refer to your Civil or Geotechnical engineer for actual base thickness design. Recommendations were generated using Crushed Miscellaneous Base (CMB) as the typical base material, other types of base material can be used, CMB has a gravel factor of GF=1.1. Actual base thickness will be dependant on the Traffic Index (TI) and the Gravel Factor (GF) generated by the Engineer of Record for the project based on site specific conditions. Estimated Traffic Index (TI) values that were used for the generation of the recommended base thickness provided in the table are: Firelane TI=4.0, Parking stall TI=4.0, Traveled Way TI=5.5. Filter Fabric and subdrains may be required for soils with a low value of permeability and strength. Soils not recommended for use as subgrade material are the OL, OH, PT type soils. Stormwater requirements may ultimately govern the design of the base thickness.



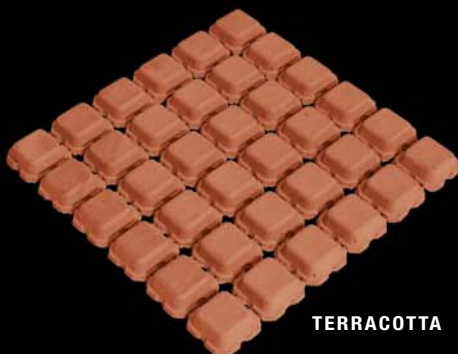
**Easier to
install than
interlocking
concrete
pavers!**



BUFF/TAN



GREY



TERRACOTTA

Properties	
Property	Value
Nominal Area LxWxH	24"x 24" x 1.5"
Gross Area of each mat	4 s.f.
Concrete Strength	5000 psi
Weight of each mat	45 lbs
Flexibility min. radius of curvature	12 in
Plantable Area	60% 100% for Sod
Concrete Surface Area	40%
Concrete Bearing Area	88%
Mats per pallet	60
Area covered per pallet	240 s.f.
Color*	Buff/Tan, Grey, Terracotta
* other colors available for special order	



LEED Credits and Potential Point Contributions



Section	Intent/Application	Example Uses	Credit	Points
---------	--------------------	--------------	--------	--------

Sustainable Sites

Alternative Transportation	Parking capacity	DRIVABLE GRASS® would allow overflow parking that would not count for excess of local zoning requirements	4.4	1
Site Development	Protect/Restore Habitat	Overflow Parking Stalls, Bioswale	5.1	1
Site Development	Maximize Open Spaces	Parking Stalls, Access Roads, Walkways /Pathways	5.2	1
Stormwater Design	Quantity Control	Bioswale, Trickle Channels, Parking Areas, Vegetated Roof	6.1	1
Stormwater Design	Quality Control Credit	Bioswale, Trickle Channels, Parking Areas, Vegetated Roof	6.2	1
Heat Island Effect	Non-Roof	Parking Areas and Access Roads	7.1	1
Heat Island Effect	Roof	Green Roof Pathways/Erosion Control	7.2	1

Water Efficiency

Water Efficient Landscaping	Reduce by 50% or No Potable Water Use or Irrigation	Use as a permeable surface/filter to collect water which can then be used for landscaping Use with alternate infills or drought tolerant groundcovers or as part of a Xeriscape w/gravel infill for erosion control	1	2-4
-----------------------------	---	--	---	-----

Materials and Resources

Recycled Content	10% / 20% (Post-Consumer + 1/2 Pre- Consumer)	45% Cement Replacement with Fly Ash in Concrete Mix	4	1-2
Regional Materials	10% / 20% Extracted Processed and Manufactured Regionally	We currently manufacture in several states. Please contact us for locations.	5	1-2

Innovation & Design Process

Innovation in Design			1	1-5
----------------------	--	--	---	-----



BENEFITS

LOW IMPACT DEVELOPMENT (LID)

Drivable Grass® provides a soft visual look.

BEST MANAGEMENT

PRACTICE (BMP)

Long term effective solutions.

DURABILITY

Drivable Grass® has a concrete compressive strength of 5,000 psi. The design allows Drivable Grass® to move up and down with a freeze/thaw cycle.

STRENGTH

Proven load capacity – see Oceanside Fire Department and other test reports.

FLEXIBILITY WITHOUT MEMORY

Reinforcing grid and grooves in Drivable Grass® give it the ability to conform to uneven contours in the sub-base.

BIO-FILTRATION

Insects and micro-organisms within the grass infill help to significantly break down pollutants in the stormwater.

PERMEABILITY

Reduces site runoff, promoting ground water recharge and onsite storage.

ROOT PENETRATION

Drivable Grass® allows for superior root penetration into the underlying sub-grade promoting healthy growth.

LOWER RUNOFF COEFFICIENT “C”

Helps to reduce storm drain and inlet size.

REDUCTION IN HEAT ISLAND EFFECT

Light color and grass surface reflects solar radiation helping to cool the surroundings.

LESS EXCAVATION

Requires less removal of sub-base than traditional pavers or thick blocks.

QUICK EASY INSTALLATION

Placement of 4 s.f. at a time. Drivable Grass® is installed in half the time of conventional pavers.

STORM WATER MANAGEMENT

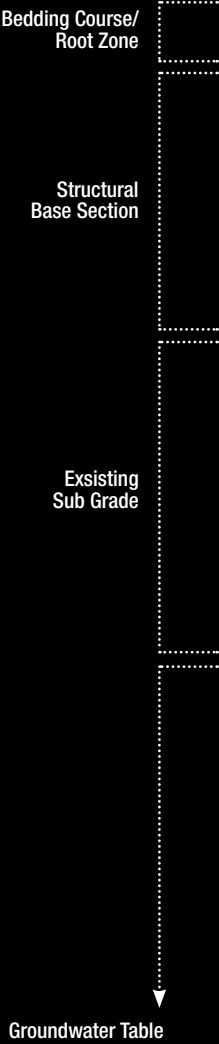


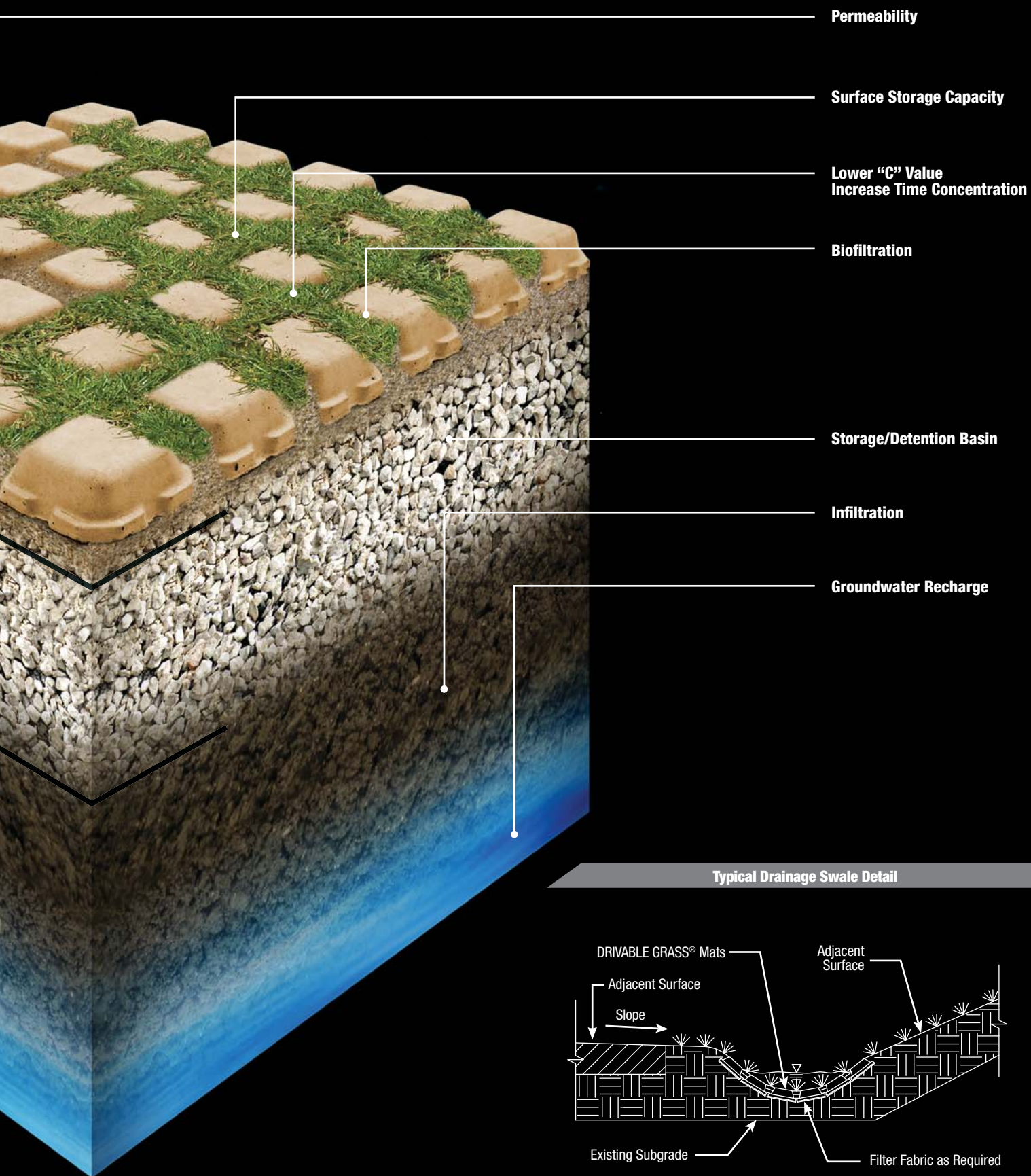
DRIVABLE GRASS® consists of a unique lattice-style structure that allows vegetation to grow through it while simultaneously providing a solid surface with strength comparable to more common paving materials. The permeable nature of **DRIVABLE GRASS®** enables precipitation to infiltrate into the underlying soil, thus increasing on-site storm water storage and minimizing runoff.

Stormwater Properties	
Property	Value
Run off coefficient (C)	
Aggregate Infill	0.1-0.6 *
Grass Infill	0-0.4 **
Infiltration rate (K in/hr)	
Aggregate Infill	4-40 *
Grass Infill	1-4 **
Manning's Roughness Factor (n)	- 0.025-0.03 */**

NOTES:
* Depends on size, shape of aggregate used as infill
** Depends on amount and type of grass used

Replace
conventional
detention
basins and
gain more
usable space!





NOTE: *Adjacent Surface Varies Depending on Application*



Protected by US and International Patents and Trademarks

Distributed By



www.soilretention.com



(800) 346-7995



NO PARKING

FIRE LANE

