Planter Tube

Vegetation Improvement on Erosion Control Mat with Various Species

Applications

1. Soil Slope
2. Soil Nail Head
3. Weathered Rock Slope
4. Revegetation on PVC Erosion Control Mat

Plant Species



- *Hedera helix* 常春藤



- *Lonicera japonica* 金銀花



- *Parthenocissus himalayana* 爬牆虎



- *Wedelia trilobata* 三裂葉蟛蜞菊

Advantages





1. Cost effective
2. Efficient greening method
3. Low maintenance
4. Choices of variety plant species

Installation Procedure

1



Hole drilling with electric driller

2



Planter tube with climber

3



Full vegetation coverage

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Planter Tube

Cost Effective Planting Technique on Steep Slope



Planter Tube – Planting Species

Fern



Christella acuminata
小毛蕨



Nephrolepis cordilfolia
腎蕨



Peteris seminpinnata
半邊旗



Acrostichum aureum
鹵蕨



Cyclosorus parasiticus
華南毛蕨



Pteris vittata
蜈蚣草



Brainea insignis
蘇鐵蕨



Dicranopteris pedata
芒萁

Planter Tube – Planting Species

Fern



Blechnum orientale
烏毛蕨



Nephrolepis exaltata
var. Bostoniensis
波士頓蕨

Planter Tube – Planting Species

Shrub



Aegiceras corniculatum桐花樹



Cuphea hyssopifolia
雪茄花



Rhododendron pulchrum紫杜鵑



Pittosporum tobira
海桐



Schefflera arboricola青八葉



Gordonia axillaris
大頭茶



Carmona microphylla
福建茶



Clerodendrum inerme
苦郎樹

Planter Tube – Planting Species

Shrub



Codiaeum variegatum Golden 海南灑金



Gardenia jasminoides 白蟬



Rhaphiolepis indica 車輪梅



Scaevola taccada 草海桐



Tabernaemontana divaricata 狗牙花



Vitex angus-castus 白背蔓荊



Zanthoxylum 胡椒木



Chlorophytum comosun白斑八葉

Planter Tube – Planting Species

Shrub



Ruellia elegans
大花虎莉



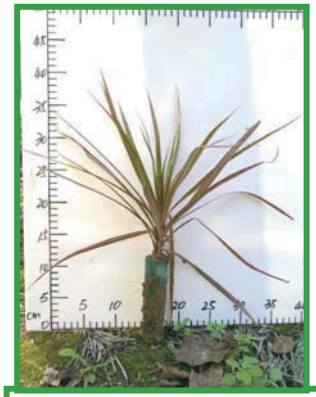
Begonia cucullata var hookeri四季秋海棠



Duranta erecta Golden Leaves 金連翹



Loropetalum chinense 紅繼木



Dracaena marginata var Tricolor Rainbow
彩虹竹蕉



Psychotria asiatica L
九節



Rhododendron simsii
紅杜鵑



Rhodomyrtus tomentosa 桃金娘

Planter Tube – Planting Species

Shrub



Melastoma sanguineum 毛稔



Ixora chinensis
龍船花



Rhododendron hybrida
比利時杜鵑



Tibouchina semidecandra
巴西野牡丹

Planter Tube – Planting Species

Climber



Allamanda cathartica 軟枝黃蟬



Bauhinia glauca 羊蹄甲藤



Lonicera japonica 金銀花



Ipomoea pes-caprae 厚藤



Hedera helix L 常春藤



Lantana montevidensis 鋪地臭金鳳



Bougainvillea glabra 勒杜鵑



Parthenocissus dalzielii爬墻虎

Planter Tube – Planting Species

Climber



Ficus pumila
薜荔



Wedelia trilobata
三裂葉蟛蜞菊



Wedelia chinensis
蟛蜞菊

Planter Tube – Planting Species

Herb



Crinum asiaticum
文殊蘭



Dianella ensifolia
花葉山管蘭



Ophiopogon jaburan
花葉沿階草



Ophiopogon jaburan
Siebold Lodd 白邊蒲草



Cymbidium ssp.
蘭花



Cymbidium ssp.
蘭花



Iris tectorum
鳶尾

Planter Tube – Planting Species

Tree



Gordonia axillaris
大頭茶

Planter Tube – Planting Species

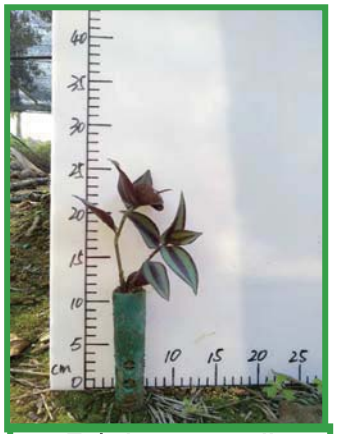
Ground Cover



Asparagus cochinchinensis 天冬



Syngonium podophyllum Schott
白蝴蝶



Zebrina purpusii
紫吊竹草



Scindapsus aureu
綠蘿

Tube Planting

Planter Tube

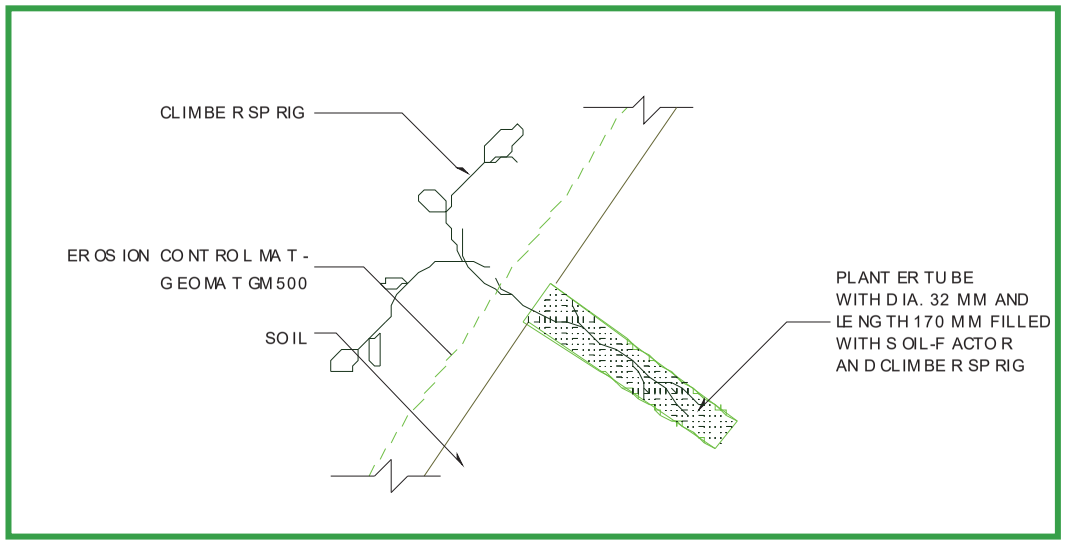
Objective

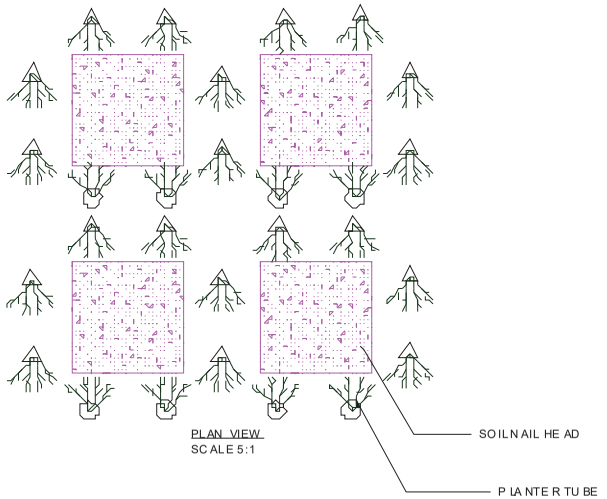
- To provide ground cover and climber vegetation

Application

- Steep slope without adequate top soil
- Steep slope with erosion control mat > 45^0







Planter Tube

Working Procedure



1. Drilling hole by using electrical driller



2. Inserting planter tube with climber



Full vegetation coverage

Advantages

- Cutting of erosion control mat/rock mesh is NOT required
- No heavy machinery is required
- Maintenance-free

Planter Tube - Job Reference

Contract No. : GE/2002/24
Job Title : LPM Project, Phase 2, Package B
Location : Feature No. 6SW-DC55, Tai Lam Correctional Institution
Consultant : Mounsel Consultants Limited
Soil Condition : Colluviums Soil with Erosion Control Mat and Soil Nail
Qty. : 600 m^2
Completion Date : September 2002

Installation



After



Planter Tube - Job Reference

Contract No. : GE/2001/27

Job Title : LPM Project, Phase 2, Package

Consultant : Halcrow China Limited

Location : South Island Road, Cheung Sha

Description of Slope : Colluviums Soil with Erosion Control Mat

Qty. : 3,500 m^2

Completion Date : December 2003

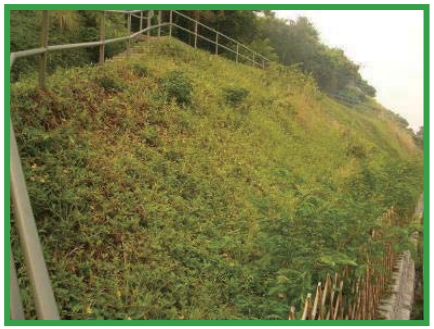
Before



After (June 2005)







Planter Tube - Job Reference

Contract No. : GE/2002/25

Job Title : LPM Project, Phase 2, Package D

Location : Wu Kut Tan, Tai Po

Consultant : Black & Veatch Hong Kong Limited

Soil Condition : Colluviums Soil with Erosion Control Mat and Soil Nail

Qty. : 2,500 m^2

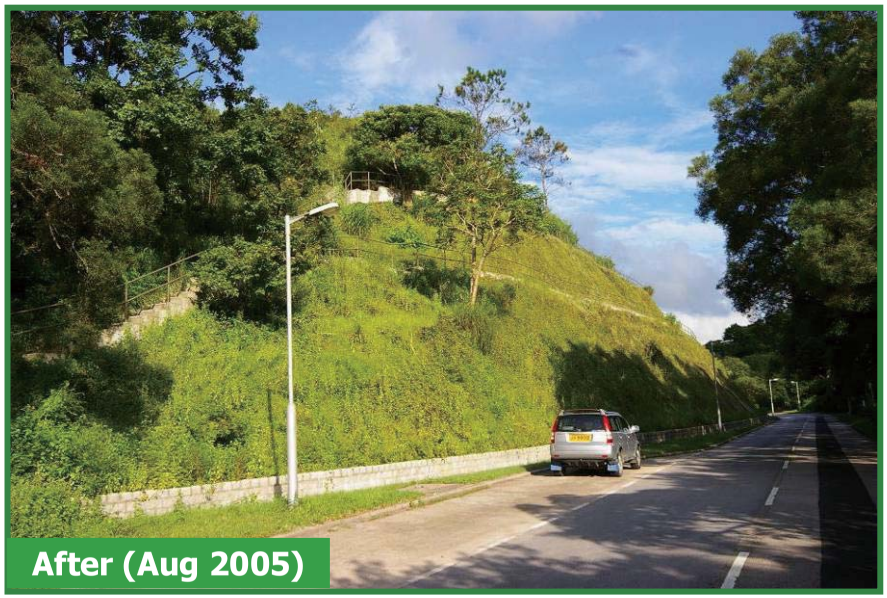
Completion Date : March 2004



Before



After (Oct 2003)



After (Aug 2005)



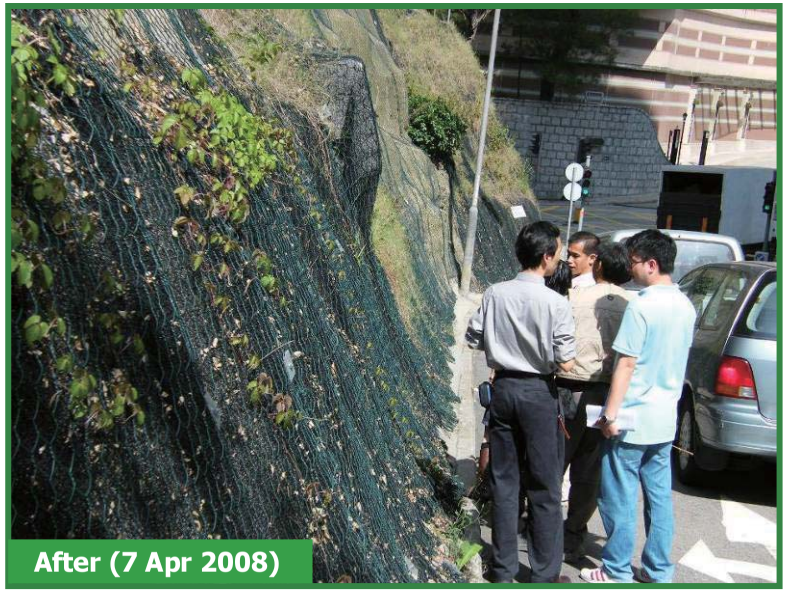
After (May 2008)

Planter Tube - Job Reference

Contract No. : GE/2004/11
Job Title : LPM Project, Phase 3, Package C
Location : King's Park Rise Garden, Wylie Road
Consultant : Maunsel Consultants Limited
Soil Condition : Rock Surface with Control Mat and Rock Mesh
Qty. : 200 m^2
Completion Date : February 2007


After (13 Sep 2007)


After (12 Feb 2007)


After (7 Apr 2008)

Planter Tube - Job Reference

Contract No. : GE/2002/25

Job Title : LPM Project, Phase 2, Package D

Location : Ching Cheung Road

Consultant : Black & Veatch Hong Kong Limited

Soil Condition : Colluviums Soil with Erosion Control Mat and Soil Nail

Qty. : 3,500 m2

Completion Date : December 2004

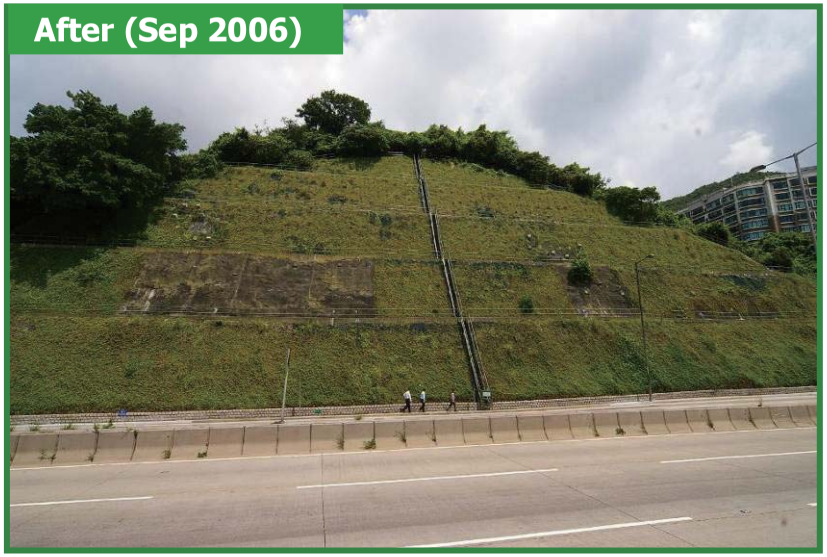


Installation

Before (Oct 2004)



After (Sep 2006)



Planter Tube - Job Reference

Contract No. : GE/2002/17
Job Title : LPM Project, Phase 2, Package G
Consultant : Halcrow China Limited
Location : Feature No. 13NW-B/C80 Keung Shan Road, Lantau Island
Description of Slope : High Decomposed Rock with Erosion Control Mat
Qty. : 600 m^2
Completion Date : January 2003

Before



After



Planter Tube - Job Reference

Contract No.: 1/WSD/06(W)

Term Contract for Waterworks District W – New Territories West

Feature No.: Tsing Lung Tau-6SE-C/C232

Completion Date : 25 January 2010

Before (Jun 2009)



Installation (Sep 2009)



After (Sep 2010)



Planter Tube - Job Reference

Contract No.: 1/WSD/06/(H)

Term Contract for Maintenance of Waterworks Hong Kong Island

Feature No.: 11SE-C/CR624, 11SE-C/CR626 and 11SE-C/CR631

Completion Date : June 2009

After



After



After



Planter Tube - Job Reference

Contract No.: 1/WSD/06(H)

Term Contract for Maintenance of Waterworks, Hong Kong Island

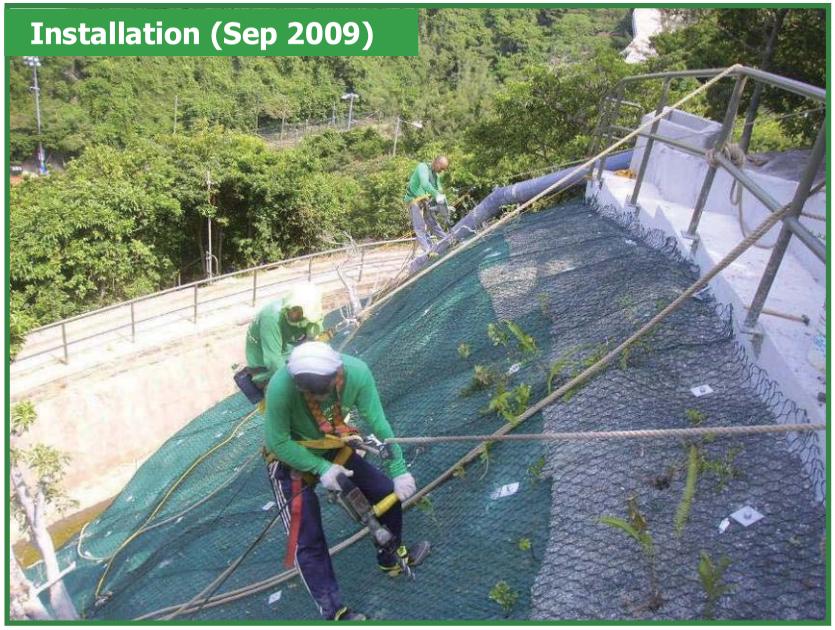
Feature No. : Stanley East Catchwaters, 15NE-A/C214

Consultant : Halcrow China Limited



Before (25 Jul 2009)

Installation (Sep 2009)



After (20 Jan 2010)



Planter Tube - Job Reference

Contract No. 1/WSD/06(H)

Term Contract for Maintenance of Waterworks, Hong Kong Island

Feature No. : Stanley East Catchwaters 15NE-A/C215

Consultant : Halcrow China Limited



Before (Feb 2010)



Installation (Mar 2010)



After (Aug 2010)

Planter Tube - Job Reference

Contract No. 1/WSD/06(H)

Term Contract for Maintenance of Waterworks Hong Kong Island

Feature No. : Stanley East Catchwaters 15NE-A/C216

Consultant : Halcrow China Limited

Before (Feb 2010)



After (Sep 2010)



Planter Tube - Job Reference

Contract No. 1/WSD/06(H)

Term Contract for Maintenance of Waterworks, Hong Kong Island

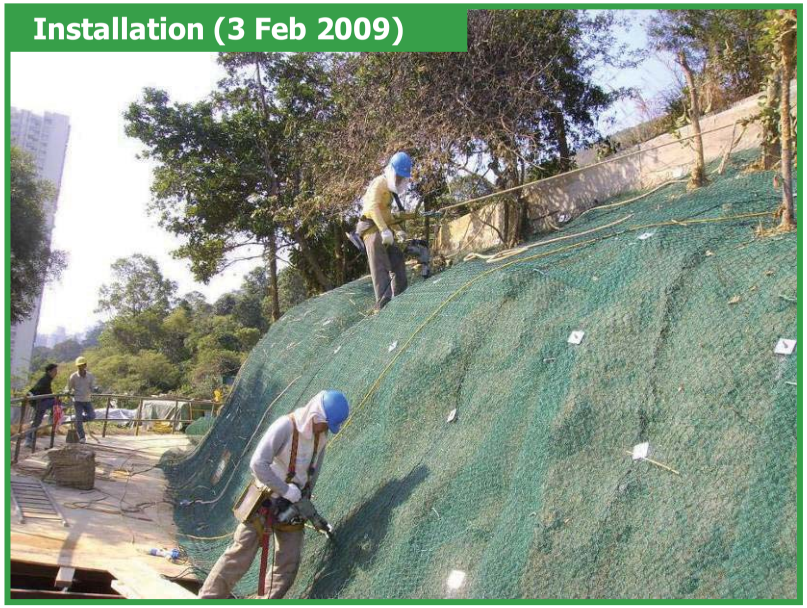
Feature No. : Shau Kei Wan reservoirs 11SE-D/CR620

Consultant : Halcrow China Limited

Before (5 Jan 2009)



Installation (3 Feb 2009)



After (11 Mar 2010)



Planter Tube - Job Reference

Contract No. 1/WSD/06(H)

Term Contract for Maintenance of Waterworks, Hong Kong Island

Feature No. : 11SE-D/CR627, Chai Wan

Consultant : Halcrow China Limited



Before (5 Mar 2010)



Installation (30 Jun 2010)



After (4 Aug 2010)

Planter Tube – Job Reference

Contract No. 1/WSD/06(W)

Term Contract for Waterworks District W – New Territories East

Feature No. : 6SW-C/CR253, So Kwun Fat

Consultant : Maunsell Geotechnical Services Ltd.



Before (Nov 2009)



Application of Bonded Fiber Matrix (10 Dec 2009) & after installation of Planer Tube (1 Jan 2010)



After (22 Jan 2010)

Planter Tube – Job Reference

Contract No. 1/WSD/06(W)

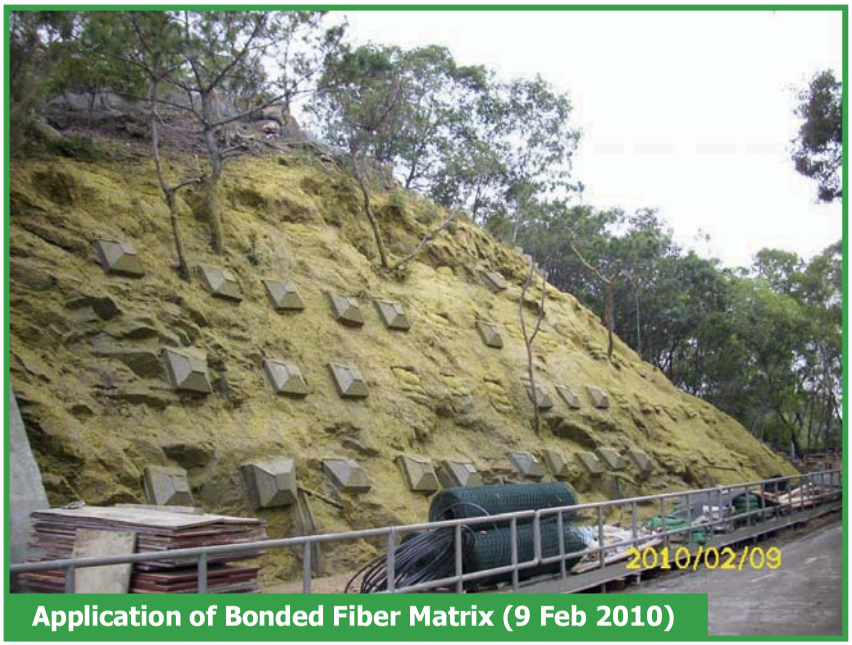
Term Contract for Waterworks District W – New Territories East

Feature No. : 6SW-C/CR263, So Kwun Fat

Consultant : Maunsell Geotechnical Services Ltd.



Before (Jan 2010)



Application of Bonded Fiber Matrix (9 Feb 2010)



After installation of Planter Tube (9 Mar 2010)