SILVA CELLS FOR STREETSCAPE APPLICATIONS

Basic Silva Cell details are available in one, two, and three-layers of Cell frames. These are a generic representation of a plaza and should be modified to depict actual project conditions.

SILVA CELL SYSTEM COMPONENTS

- **Concrete 1.1**
- **Concrete 1.2**
- **Concrete 1.3**
- **Concrete 2.1**
- **Concrete 2.2**
- **Concrete 2.3**
- **Concrete 3.1**
- **Concrete 3.2**
- **Concrete 3.3**
- **Pavers, Asphalt & Porous Pavements 1.1**
- **Pavers, Asphalt & Porous Pavements 1.2**
- **Pavers, Asphalt & Porous Pavements 1.3**
- **Pavers, Asphalt & Porous Pavements 2.1**
- **Pavers, Asphalt & Porous Pavements 2.2**
- **Pavers, Asphalt & Porous Pavements 2.3**
- **Pavers, Asphalt & Porous Pavements 3.1**
- **Pavers, Asphalt & Porous Pavements 3.2**
- **Pavers, Asphalt & Porous Pavements 3.3**

- **Concrete curb**: Provides a stabilized edge around the tree opening. Keeps aggregate base course from migrating into the tree opening and potentially undermining the pavement.
- **Root barrier**: Directs roots down into the Silva Cell system. Prevents roots from accessing the pavement section.
- **Aggregate base course**: Typical of pavement sections, but with specific aggregate gradation to work well with the Silva Cell deck.
- **Air space**: Beneficial to plant material, this small air space allows oxygen flow below the pavement surfaces.
- **Spike**: Keeps Cells in place during construction and maintains typical spacing.
- **Geotextile**: Keeps aggregate from migrating down through Cell deck.
- **Geotextile**: Provides separation between existing material and aggregate sub base.
- **Geogrid**: Provides vertical separation between planting soil and backfill while allowing for root penetration into adjacent soils.

NOTES:
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2. Do not scale drawings.

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**Concrete 1.1**

**Silva Cells for STREETSCAPE APPLICATIONS**
*Depending on project specifics such as curb dimensions and sequencing of curb installation, additional space or alternate compaction methods may be required. Contact a DeepRoot representative to determine the best option for your project.

18” (450mm) minimum
Setback from face of curb

Curb and street per project specifications

4”(100mm) concrete paving
4”(100mm) aggregate base course
Geotextile, 18”(450mm) minimum overlap past excavation
1”(25mm) air space between Silva Cell deck and planting soil
18”(450mm)

Paving base course per project specifications

Screw Cell decks to frames after snapping in place (typ.)
Geogrid, J’6”(150mm) minimum below backfill at base.
Overlap 12”(300mm) minimum at top of Cells
3/16” x 14”(5mm x 350mm) zip ties, attaching Geogrid to Silva Cells at each level and at Cell deck
Backfill, installed in 8”(200mm) lifts, within 4”-6”(100-150mm) from top of decks, compacted to 95%
Silva Cell base slope to max. 5%
Geotextile on compacted subgrade
Placing soil per Silva Cell specifications, installed in 8”(200mm) lifts (2 lifts per cell)
4”(100mm) aggregate sub base, compacted to 95%
Subgrade below geotextile and aggregate base course, compacted to 95%

Concrete 1.2

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Tree

KEY PLAN
(for reference only)

Sidewalk

DeepRoot UB18-2 Root barrier

1"-2"(25mm-50mm) mulch above tree pit

Curb and street per project specifications

Tree trunk, size varies

1"-2"(25mm-50mm) mulch above tree pit

Curb and street per project specifications

DeepRoot UB18-2 Root barrier

Tree root package, size varies

Angle of repose, varies per project specifications

Planting soil, tamped to max. 85% compaction below root package

Silva Cells

2012 Release

DeepRoot Green Infrastructure, LLC
530 Washington Street
San Francisco, California  94111
Ph. 415 781-9700
www.deeproot.com

Urban Trees and Soils
915 Creek Drive
Annapolis, Maryland 21403
Ph. 410 263-4838

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Concrete 2.1

Silva Cells for STREETSCAPE APPLICATIONS

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DeepRoot Green Infrastructure, LLC
730 Washington Street
San Francisco, California  94111
Ph. 415 781-9700
www.deeproot.com

Concrete 2.2

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Tree trunk, size varies
1"-2"(25mm-50mm) mulch above tree pit
Curb and street per project specifications
DeepRoot UB18-2 Root barrier
Tree root package, size varies
Angle of repose, varies per project specifications
Planting soil, tamped to max. 85% compaction below root package

4"(100mm) concrete, turn down to deck around tree opening. Position curb over Cell posts.
4"(100mm) aggregate base course
Geotextile, 18"(450mm) minimum overlap past excavation
1"(25mm) air space between Silva Cell deck and planting soil

Paving base course per project specifications
Screw Cell decks to frames after snapping in place (typ.)
Geogrid, 'J' 6"(150mm) minimum below backfill at base. Overlap 12"(300mm) minimum at top of Cells. 3/16" x 14"(5mm x 350mm) zip ties, attaching Geogrid to Silva Cells at each level and at Cell deck
Backfill, installed in 8"(200mm) lifts, within 4"-6"(100-150mm) from top of decks, compacted to 95%
Anchor each Silva Cell to ground with (4) 10"(250mm) spike, <10mm dia., see Cell base for spike hole

Silva Cell base slope to max. 5%
Geotextile on compacted subgrade
Planting soil per Silva Cell specifications, installed in 8"(200mm) lifts (2 lifts per cell)
4"(100mm) aggregate sub base, compacted to 95%
Subgrade below geotextile and aggregate base course, compacted to 95%

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Curb and street per project specifications

18" (450mm) minimum setback from rear of curb

12'(300mm) aggregate base course

18'(450mm) minimum overlap past excavation

1"(25mm) air space between Silva Cell deck and planting soil

Paving base course per project specifications

6"(150mm) aggregate sub base, compacted to 95%

Silva Cell base slope to max. 5%

Geotextile on compacted subgrade

Planting soil per Silva Cell specifications, installed in 8"(200mm) lifts (2 lifts per cell)

3/16" x 14"(5mm x 350mm) zip ties, attaching Geogrid to Silva Cells at each level and at Cell deck

Backfill, installed in 8"(200mm) lifts, within 4"-6"(100-150mm) from top of decks, compacted to 95%

Anchor each Silva Cell to ground with (4) 10" (250mm) spikes, 10mm dia., see Cell base for spike hole

Screw Cell decks to frames after snapping in place (typ.)

Geogrid. 'J' 6"(150mm) minimum below backfill at base. Overlap 12"(300mm) minimum at top of Cells.

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DeepRoot UB18-2 Root barrier
Tree root package, size varies
Planting soil, tamped to max. 85% compaction below root package

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1215 Creek Drive
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Pavers, Asphalt, & Porous Pavements
2.1

Back to Index
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4" (100mm) aggregate subbase, compacted to 95%
Silva Cell base slope to max. 5%
Subgrade below geotextile and aggregate base course, compacted to 95%
Paving, per project specifications
12" (300mm) aggregate base course
1" (25mm) air space between Silva Cell deck and planting soil
4" (100mm) aggregate subbase, compacted to 95%
Pavers, Asphalt, & Porous Pavements

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919 Creek Drive
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www.urban-tree.com

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The Kestrel Design Group
7109 Ohms Lane
Minneapolis, MN 55439
952-928-9600
fax 952-224-9860
www.kestreldesigngroup.com

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6"(150mm) aggregate sub base, compacted to 95% SilvA Cell base slope to max. 5% Subgrade below geotextile and aggregate base course, compacted to 95%

Planting soil per SilvA Cell specifications, installed in 8"(200mm) lifts (2 lifts per cell)

Geotextile on compacted subgrade

Tree root package, size varies

1"-2"(25mm-50mm) mulch above tree pit

DeepRoot UB18-2 Root barrier

Inspection riser

Concrete curb, sized per project specifications, positioned over Cell posts. Attach to paving.
Paving, per project specifications

12"(300mm) aggregate base course

Geotextile, 18"(450mm) minimum overlap past excavation

1"(25mm) air space between SilvA Cell deck and planting soil

Paving base course per project specifications

3/16" x 14"(5mm x 350mm) zip ties, attaching Geogrid to SilvA Cells at each level and at Cell deck

Anchor each SilvA Cell to ground with (4) 10"(250mm) spike,<10mm dia., see Cell base for spike hole

Screw Cell decks to frames after snapping in place (typ.)

Geogrid, 'J' 6"(150mm) minimum below backfill at base. Overlap 12"(300mm) minimum at top of Cells.

3/16" x 14"(5mm x 350mm) zip ties, attaching Geogrid to SilvA Cells at each level and at Cell deck

Backfill, installed in 8"(200mm) lifts, within 4"-6"(100-150mm) from top of decks, compacted to 95%

Anchor each SilvA Cell to ground with (4) 10" (250mm) spike,<10mm dia., see Cell base for spike hole

Tree root package, size varies

Planting soil, tamped to max. 85% compaction below root package

SilvA Cell base slope to max. 5%

Subgrade below geotextile and aggregate base course, compacted to 95%
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- **Tree trunk, size varies**
- **1”-2” (25mm-50mm) mulch above tree pit**
- **Curb and street per project specifications**
- **DeepRoot UB18-2 Root barrier**
- **Tree root package, size varies**
- **Angle of repose, varies per project specifications**
- **Planting soil, tamped to max. 85% compaction below root package**
- **Concrete curb, sized per project specifications, positioned over Cell posts. Attach to paving.**
- **Paving, per project specifications**
- **12” (300mm) aggregate base course**
- **Geotextile, 18” (450mm) minimum overlap past excavation**
- **1” (25mm) air space between Silva Cell deck and planting soil**
- **Inspection riser**
- **Paving base course per project specifications**
- **Silva Cell base slope to max. 5%**
- **Geotextile on compacted subgrade**
- **Planting soil per Silva Cell specifications, installed in 8” (200mm) lifts (2 lifts per cell)**
- **4” (100mm) aggregate sub base, compacted to 95%**
- **Subgrade below geotextile and aggregate base course, compacted to 95%**
- **Screw Cell decks to frames after snapping in place (typ.)**
- **Geogrid, ‘J’ 6” (150mm) minimum below backfill at base. Overlap 12” (300mm) minimum at top of Cells. 3/16” x 14” (5mm x 350mm) zip ties, attaching Geogrid to Silva Cells at each level and at Cell deck.**
- **Backfill, installed in 8” (200mm) lifts, within 4”-6” (100-150mm) from top of decks, compacted to 95%**
- **Anchor each Silva Cell to ground with (4) 10” (250mm) spike, <10mm dia., see Cell base for spike hole**

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**Tree**

**KEY PLAN**

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Geotextile on compacted subgrade

Paving base course per project specifications

Concrete curb, sized per project specifications, positioned over Cell posts. Attach to paving.

Tree root package, size varies

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Backfill, installed in 8"(200mm) lifts, within 4"-6"(100-150mm) from top of decks, compacted to 95%

Anchor each Silva Cell to ground with (4) 10"(250mm) spike, <10mm dia., see Cell base for spike hole

Pavers, Asphalt, & Porous Pavements

3.3

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