NYC MillionTree Initiative:
The Dirty Truth to Great Soil

Matthew Stephens
Director of Street Tree Planting
New York City Parks & Recreation
matthew.stephens@parks.nyc.gov

Vegetation Loss

• NYC lost 9,000 acres (4.5%) of vegetative cover between 1984 – 2002

• A Forest Service study found NYC lost 1.8% area of tree canopy between 2004 and 2009
**Getting to One Million Trees: Tree Planting Strategies**

**WHO**—municipal and non-profit partnership  
**WHEN**—initially 10-years **(now 8 years!)**  
**WHERE**—on public and private property

**NYC Parks**
- Park reforestation
- Street trees
- Green infrastructure
- Publicly-managed land
- Other Agency Construction Projects

**New York Restoration Project**
- Single family homes
- Co-ops, commercial and residential developments
- Schoolyards and universities
- Public housing campuses

[Diagram showing distribution of tree planting efforts:]
- NYC Parks: 75%
- NYRP and Partners: 23%
- Other Agencies: 2%
TREE CROWN AND TRUNK SHALL BE
FREE OF DEFECTS AND TRUE TO FORM
ONE GALLON PERENNIAL
12" OR 18" ON CENTER SPACING
OR AS SPECIFIED BY DPR
MAINTENANCE: RECLAMING TAG
ATTACHED TO STUDY SPANDREL SUPPORT
TWO (2) PIECES OF "ABORTED TREE"
STAKE, LIT GROOT AROUND
TREE TRUNK THROUGH ONE ANOTHER,
TWISTED AND SECURED TO STAKE
TWO (2) 6" LONG, ⅝" BNA STAKES
SET STAKE OUTSIDE OF ROOTBALL,
LEVEL AND WITH IN 8" VISIBLE ABOVE GROUND
ROOT FLANGE SHALL BE EXPOSED AND
FLUSH WITH FINISH GRADE
TOPSOIL SHALL BE FORMED INTO 4'-6" WIDE
SAUCER AROUND BASE OF TREEBALL
WITH 2'-6" HIGH SOIL AND MULCH TO A 3'-DEEP
ROOTBALL BASKET SHALL BE CUT TO REMOVE THE TOP 3/4 OF WIRE
AND BURLAP
BARK CHIP MULCH 2'-DEPTH
FINISH GRADE
TOPSOIL SHALL BE 6" MULLED
MEETING DPR SPECIFICATIONS
UNDISTURBED SUBSTRATE

TREE PLANTING & STAKE DETAIL WITH PERENNIAL PLANTINGS
Street Tree Planting Soil Specification

**CHEMICAL AND PHYSICAL COMPOSITION:** Natural loam with the addition of humus shall comply with the following requirements:

a. Organic Matter-- backfill shall contain between 5%-9% organic matter.

b. The pH shall be in the range of 6.0 to 7.5 inclusive, unless otherwise approved or specified by the Project Manager.

c. Soil Textural Analysis: Topsoil shall consist of the following percentages of sand, silt and clay. Any soil that does not meet the requirements below will be rejected and removed from the site.

<table>
<thead>
<tr>
<th>Particle Size (mm)</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>&gt;2.0</td>
<td>&lt;25%</td>
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<tr>
<td>0.05-2 mm</td>
<td>40%-70%</td>
</tr>
<tr>
<td>0.002-0.05 mm</td>
<td>10%-50%</td>
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<tr>
<td>&lt;0.002 mm</td>
<td>20% maximum</td>
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</tbody>
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NYC Soil Supply Diagram

1. Soil excavated and taken to certified recycling center
2. Soil screened at recycling center
3. Soil mixed with sand and organic matter
4. Soil brought to site for tree planting

Costs to Changing Soil and Percentage of Total Tree Planting Cost

<table>
<thead>
<tr>
<th>Location</th>
<th>Cost</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Bronx</td>
<td>$1,023</td>
<td>47.39%</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>$1,076</td>
<td>41.61%</td>
</tr>
<tr>
<td>Manhattan</td>
<td>$1,126</td>
<td>35.53%</td>
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<tr>
<td>Queens</td>
<td>$1,047</td>
<td>51.58%</td>
</tr>
<tr>
<td>Staten Island</td>
<td>$1,168</td>
<td>35.97%</td>
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<tr>
<td>Citywide</td>
<td>$1,088</td>
<td>42.19%</td>
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Tree Longevity

Longevity:

Years since planting:

- Phase III
  - 1 year: 89%
  - 2 years: 88%
  - 3 years: 82%
  - 4 years: 91%
  - 5 years: 78%
  - 6 years: 78%
  - 7 years: 77%
  - 8 years: 73%
  - 9 years: 77%

- Phase II
  - 1 year: 83%
  - 2 years: 76%
  - 3 years: 76%
  - 4 years: 83%
  - 5 years: 83%
  - 6 years: 76%
  - 7 years: 76%
  - 8 years: 83%
  - 9 years: 83%
Continuous Tree Beds

BEFORE

AFTER
Questions?

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