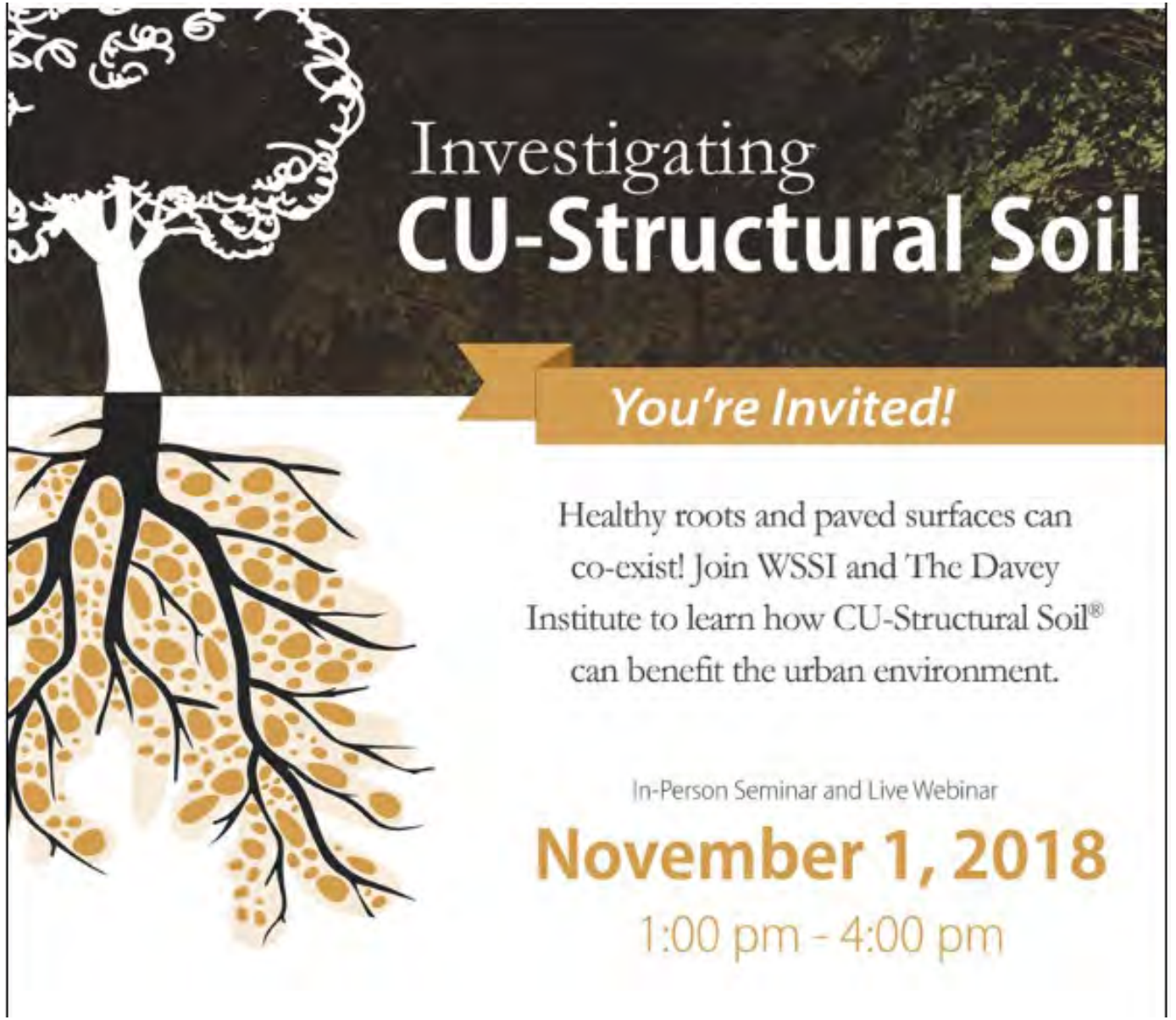
Case study: A parking lot with traditional asphalt, porous asphalt, trees, and CU Soil after 13 years of limited maintenance.

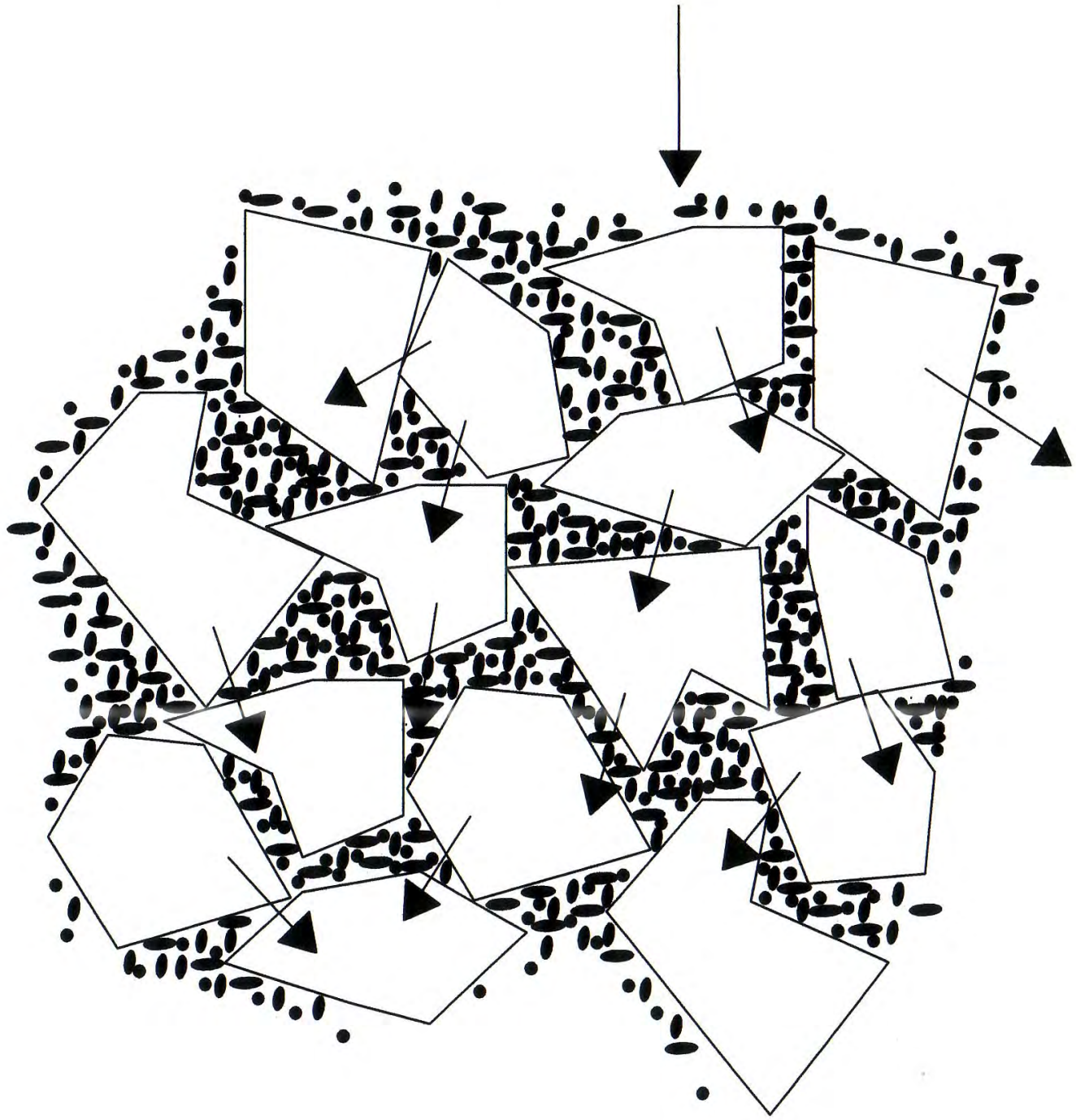


Solution to the Stormwater Problem:

Structural Soil Combined with Porous Asphalt

- **Allows water to filter through pavement, slowly recharging groundwater and reducing the need for retention/detention ponds and bioswales.**

- **Allows trees to grow in paved sites.**

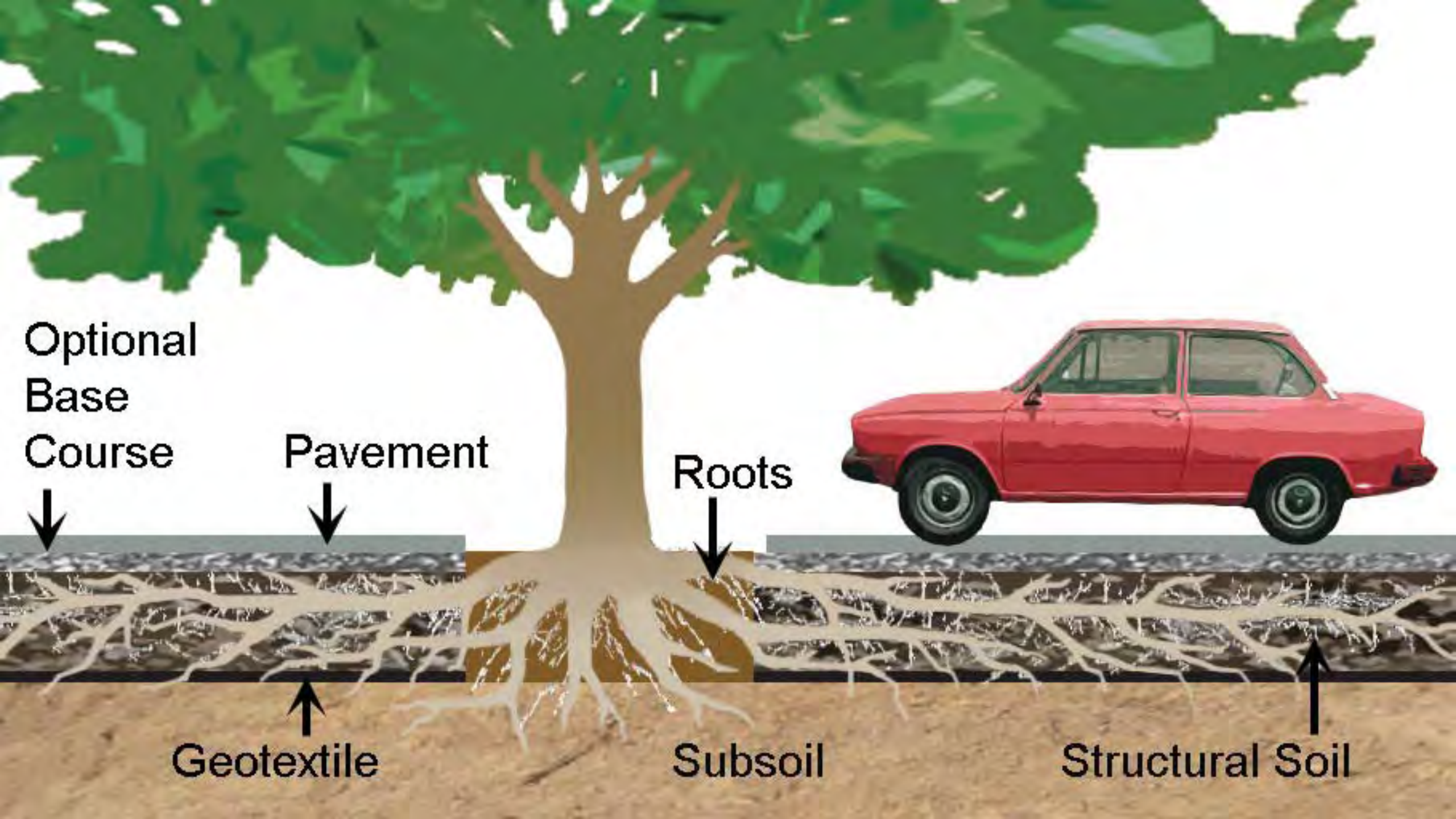


Stone particle

Soil particle

Air or water pore

Stone contact points where load is transferred


Optional
Base
Course
Pavement
Roots
Geotextile
Subsoil
Structural Soil

Roots growing through CU-Structural Soil

S&F
S&F
S&F

S&F
S&F
S&F
S&F

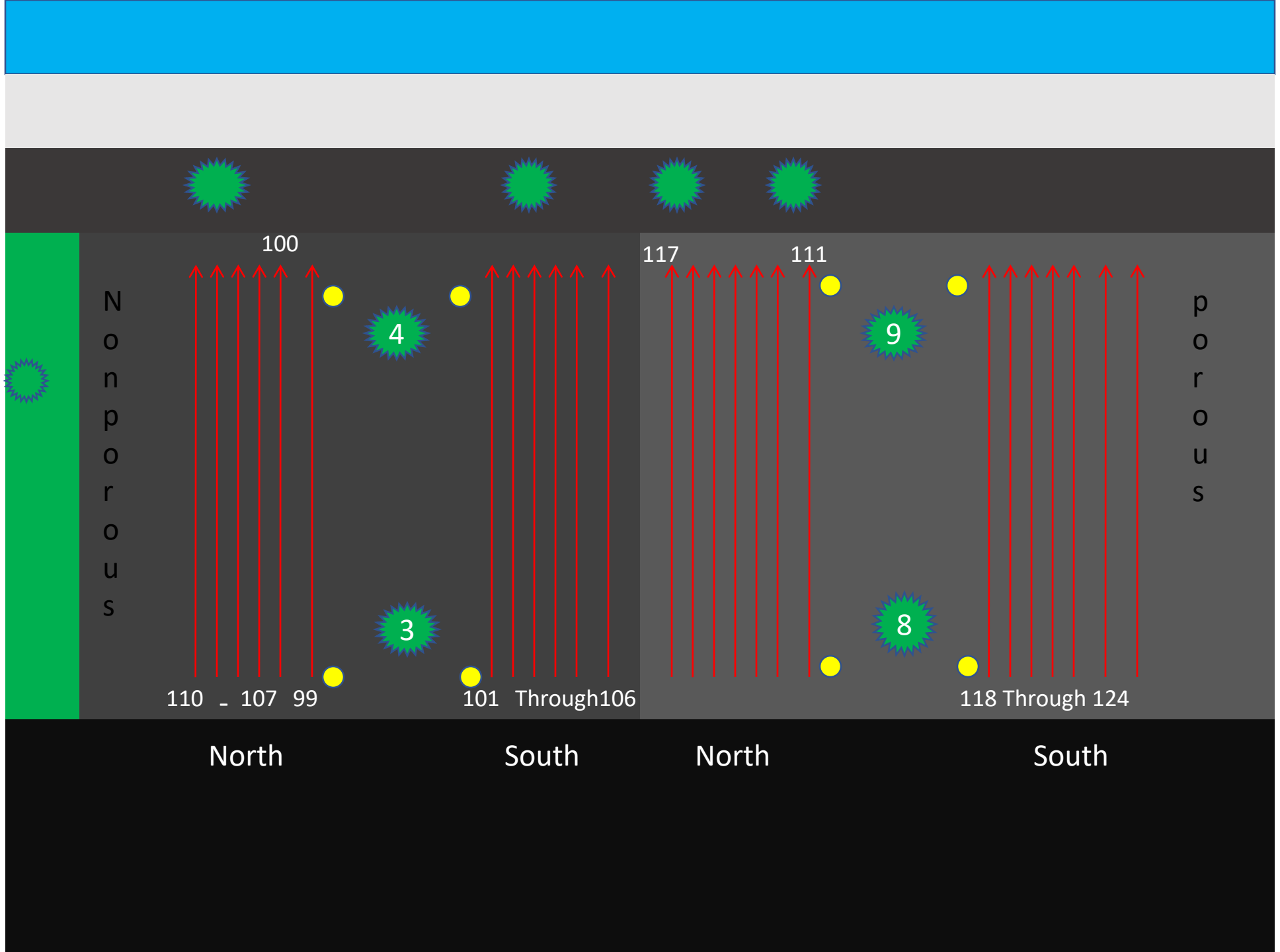
Porous Asphalt Research -

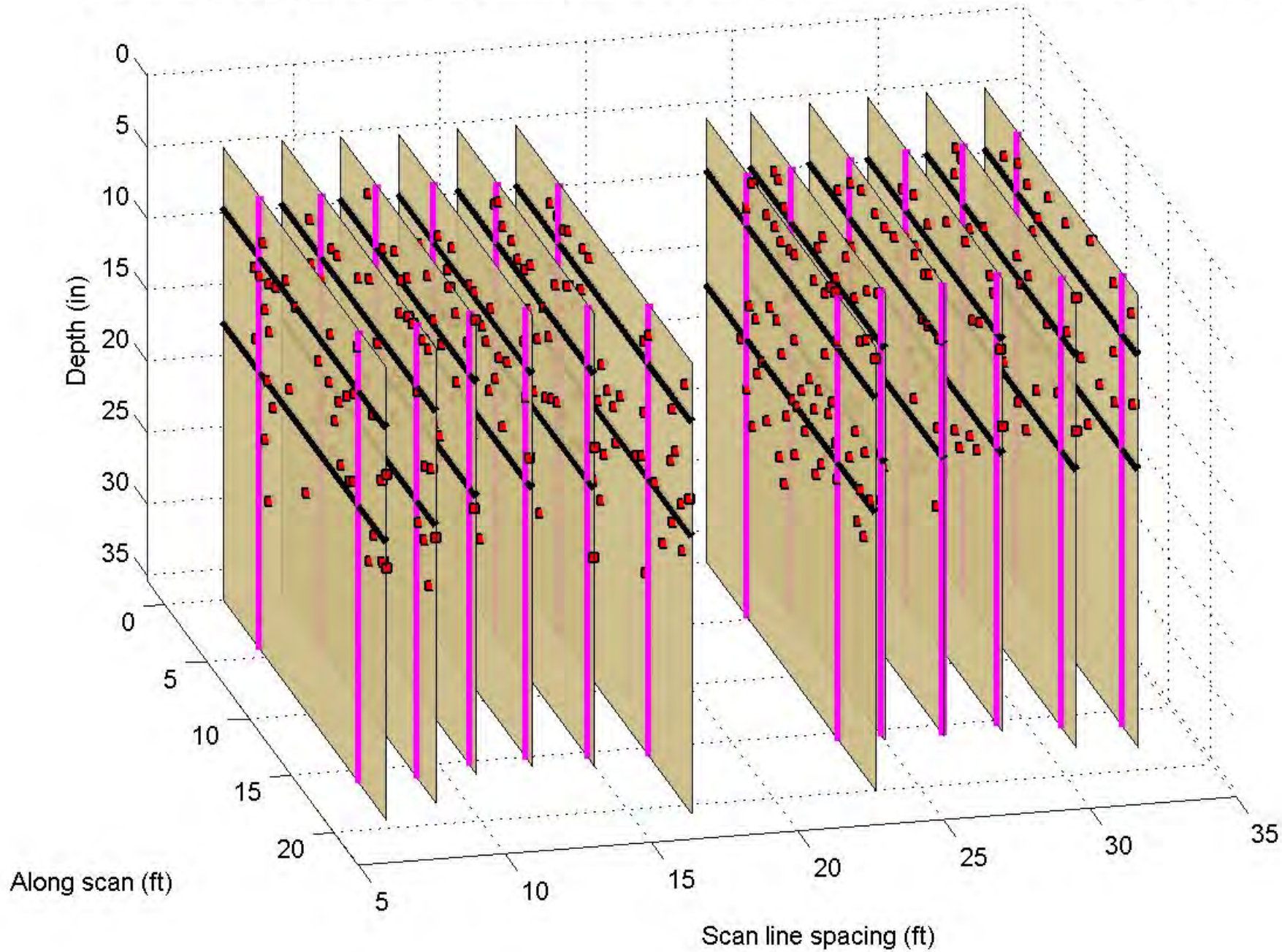
Planting in CU-Structural Soil

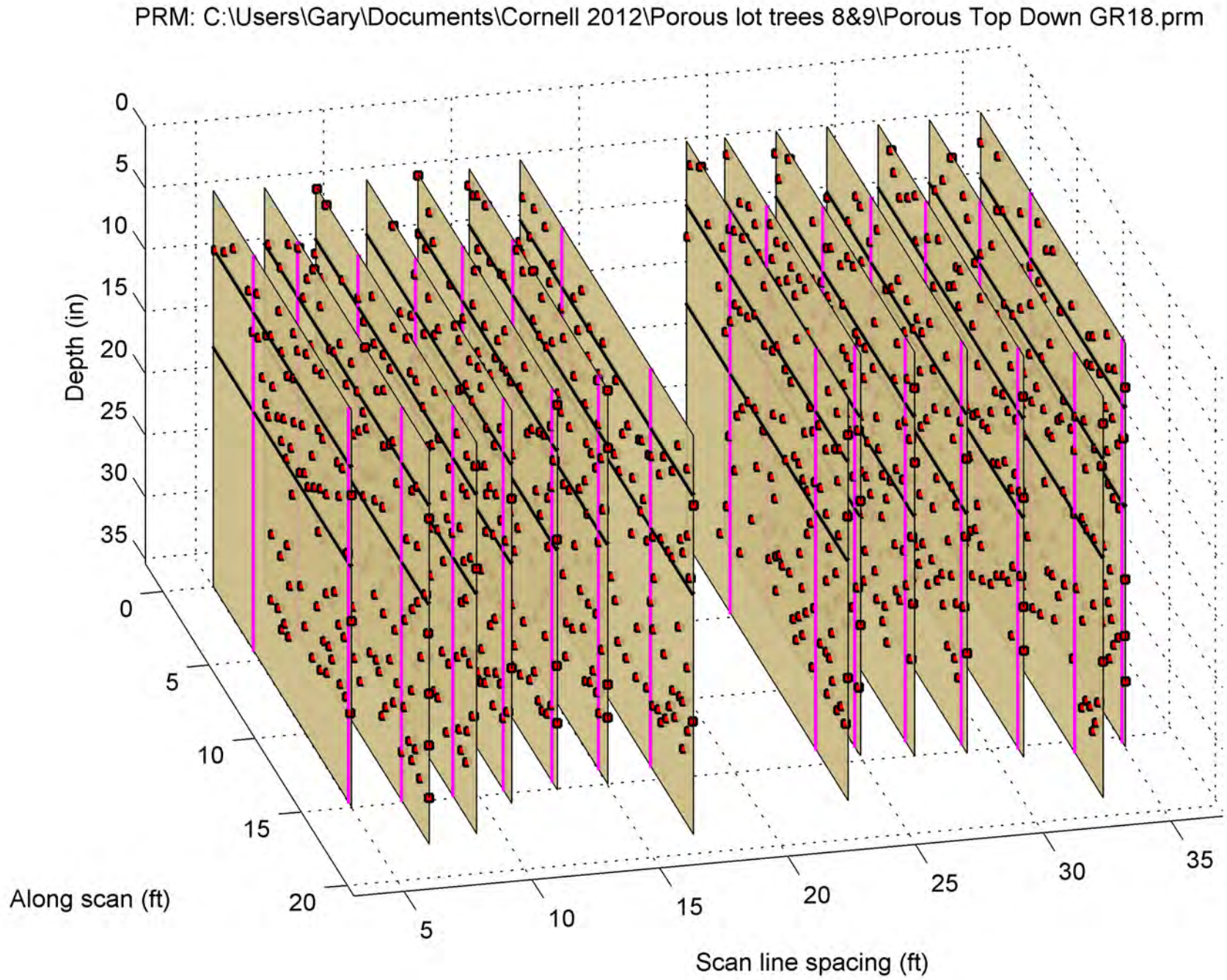
DODGE STRATUS
NEW YORK
FYR-1513
EMPIRE STATE

08.08.2012

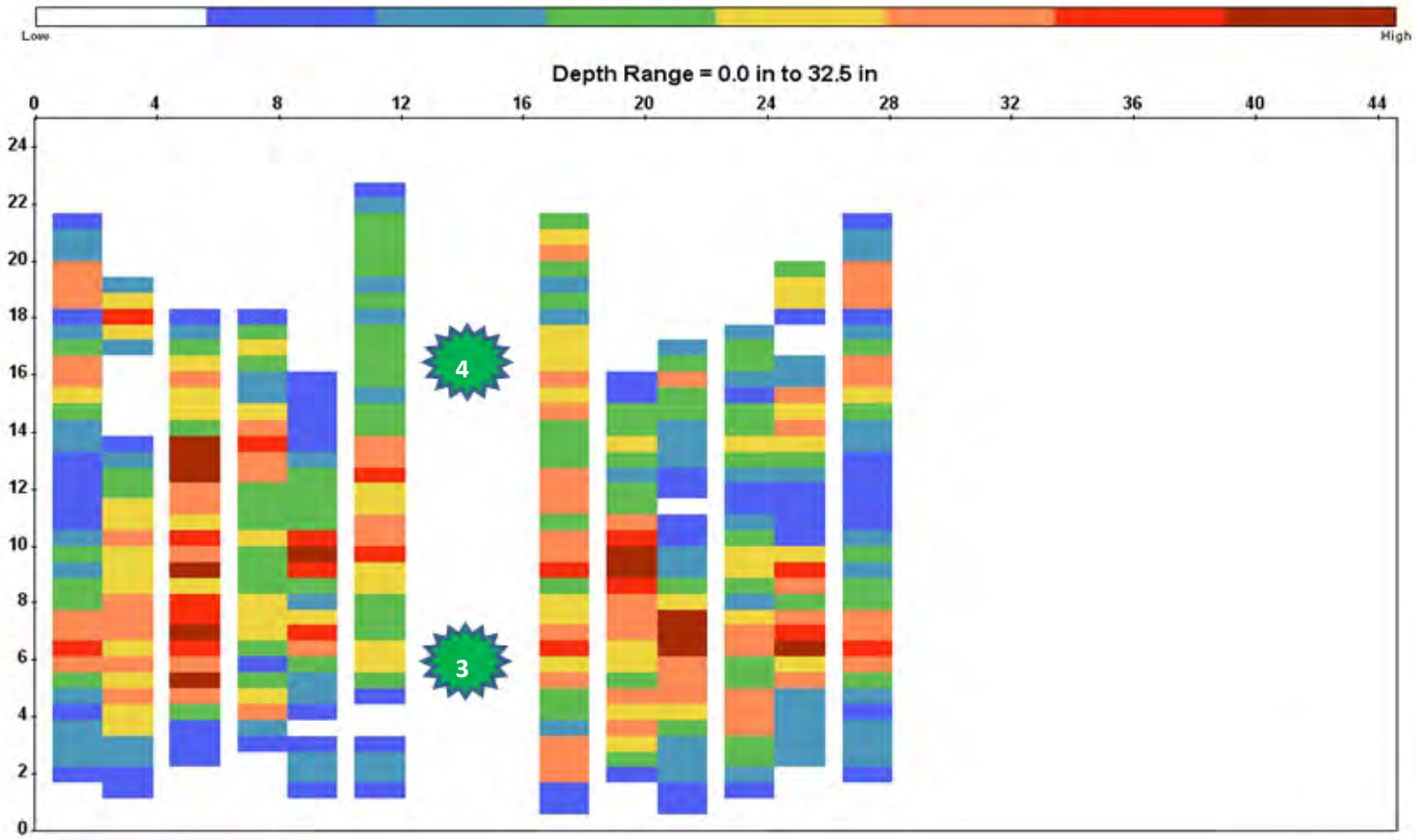
Non-porous
Porous


100
Nonporous
4
3
110 - 107 99
101 Through106
117
111
9
8
118 Through 124
porous
North
South
North
South


PRM: C:\Users\Gary\Documents\Cornell\Cornell 2012\Non-porous lott rees 3&4\PRM NonPorous GR18.prm
Depth (in)
0
5
10
15
20
25
30
35
Along scan (ft)
0
5
10
15
20
Scan line spacing (ft)
5
10
15
20
25
30
35

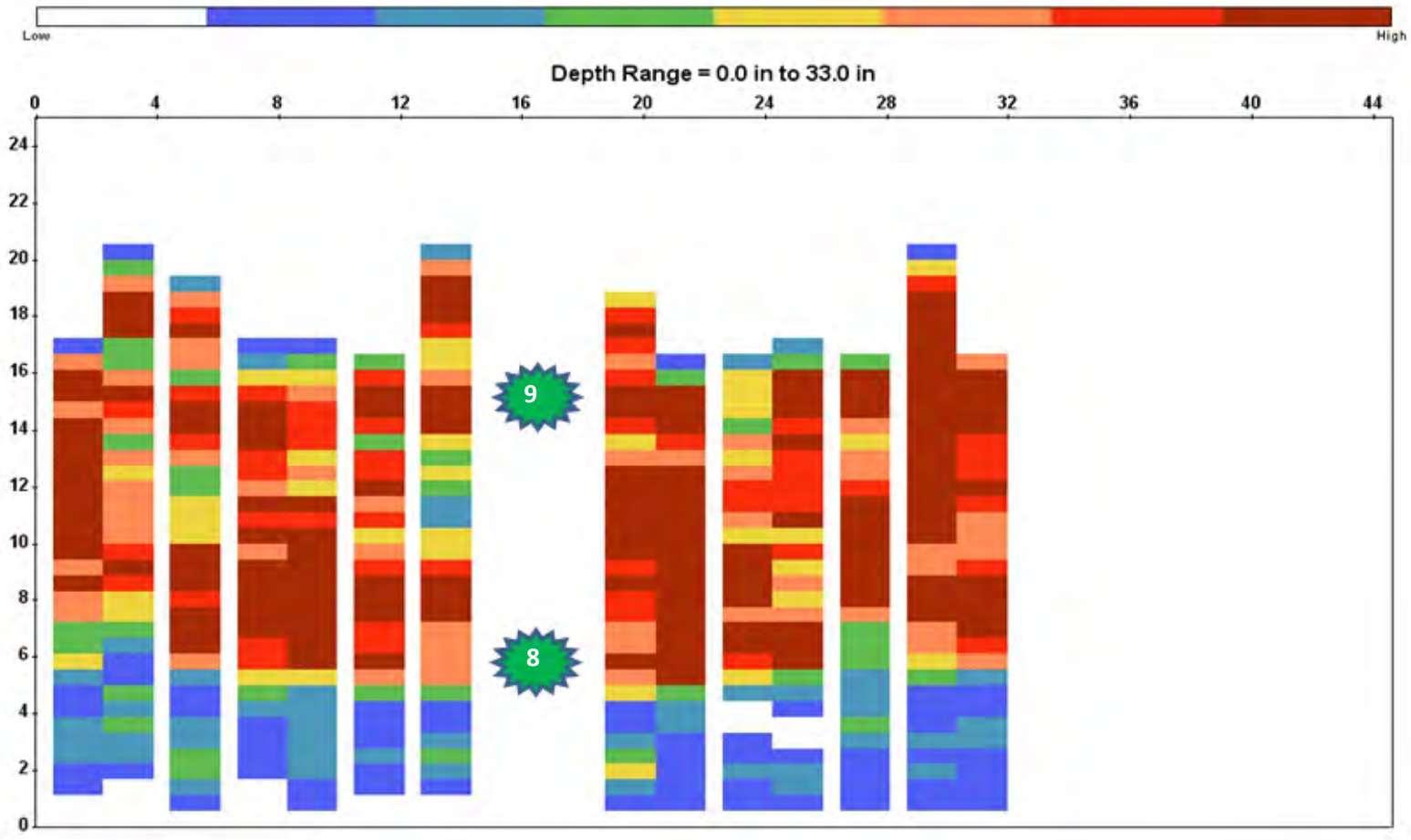

PRM: C:\Users\Gary\Documents\Cornell 2012\Porous lot trees 8&9\Porous Top Down GR18.prm
Depth (in)
0
5
10
15
20
25
30
35
Along scan (ft)
0
5
10
15
20
Scan line spacing (ft)
5
10
15
20
25
30
35

Non-Porous Lot. Root Density



Note: not to scale

Porous Lot. Root Density



Note: not to scale

Shoot and Trunk Growth under Porous and Non-porous Asphalt

Shoot growth 2018

- Non-porous= 11”(9)
- Porous = 18.9”(9)

Diameter of the trunk (dbh) 2018

- Non Porous=7.5”(6)
- Porous= 7.8”(6)

Welcome

Porous asphalt walkway connects to Waterfront Trail along Flood Control Channel.

Non-porous meets porous “bridge”of porous asphalt.

Runoff from non-porous asphalt into daylighted CU Structural Soil with mulch cover.

Daylighted CU Structural Soil between parking lot and Waterfront Trail paved with traditional asphalt.