Alternative Pavement

for

Shared Use Paths

George Batchelor, Supervisor of Landscape Design
MassHighway

Why Alternative Pavement?

- “Softer” surface
- Environmentally friendly
- Aesthetics (‘natural’)

Guidance

- Accessibility Law
  - 521 CMR and ADAAG
- AASHTO Guide for the Development of Bicycle Facilities (1999)
- MassHighway Project Development & Design Guide

521 CMR (State)
&
ADAAG (Federal)

- Firm, stable, and slip resistant
- Smooth (1/4” max deviation)

AASHTO Guide

"Hard, all-weather pavement surfaces are usually preferred over those of crushed aggregate, sand, clay, or stabilized earth."

"Operating agencies that have chosen crushed aggregate as their surface material have found they can achieve a completed path in less time and for less expense than with asphalt or concrete."

AASHTO Guide

- “Operating agencies have found that skaters were not drawn to the crushed aggregate path, and that bicyclists speeds were slower”

- “Areas subject to frequent or even occasional flooding or drainage problems, or in areas of steep terrain, unpaved surfaces will often erode and are not recommended”

AASHTO Guide

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MassHighway Guide

- Firm, stable, slip resistant
- Without slopes and cross-slopes greater than that allowed by AAB.
- “This can be a difficult standard to meet”
- Without level changes greater than ¼”
- Without low-hanging branches or obstacles protruding between 27-80 inches

MassHighway Guide

- “Some surface treatments may be appropriate to introduce a particular theme or certain aesthetic quality”
- Must be maintained and repaired, per requirements of AAB and ADAAG

MassHighway Guide

- “521 CMR, The Rules and Regulations of the Massachusetts Architectural Access Board, applies to any pathway constructed for pedestrian use.”

521 CMR – The Regs

521 CMR: ARCHITECTURAL ACCESS BOARD

22.00: **WALKWAYS**

22.5 **SURFACE**

Walkway surfaces shall be stable, and firm and shall lie generally in a continuous plane with a minimum of surface warping.

22.6 **DRAINAGE**

Grading and drainage shall be designed to minimize pooling of water or accumulation of ice or flow of water across *walkways*.

MassHighway Guide

"In most cases a 4-inch bituminous concrete riding surface placed over 8-12 inch aggregate base is recommended"

Example Projects
Pavement Types

- Crushed Aggregate (stone dust)
- Organically Stabilized
- Cement Concrete Stabilized
- Chip-seal

Example Projects

- Carlisle – Walking Path (stone dust)
- Plymouth – Seaside Trail
- Canton – Recreation Park
- DCR – Upper Charles Path
- NPS – Minuteman National Park

Measures of Success

- Construction Issues
  - Ease of construction
  - Affordability
- Performance (Does it work?)
  - Engineering Standards
  - Aesthetics
- Maintenance
  - Does it last?
  - How easy to fix?

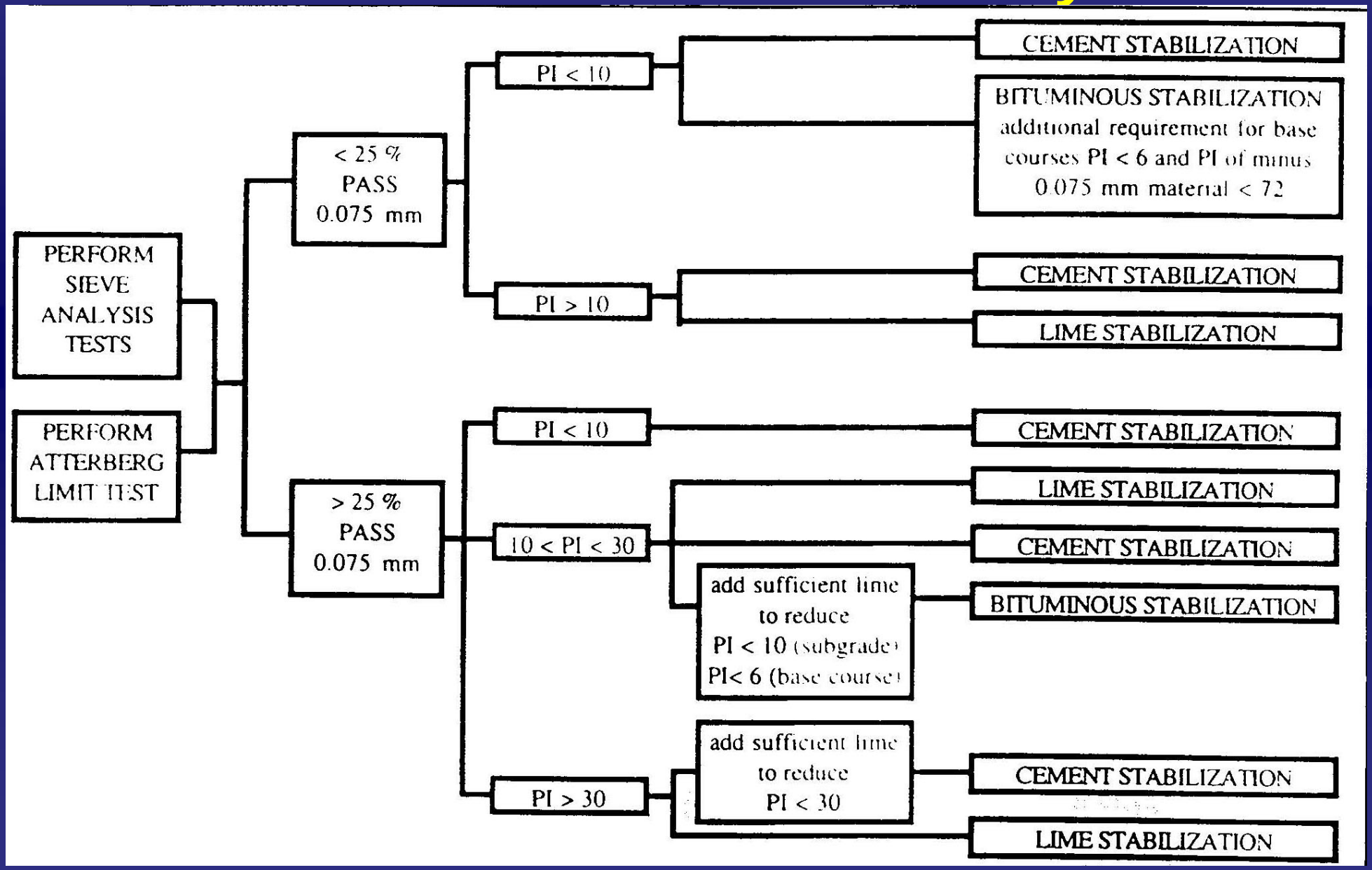

Stone Dust Path
Carlisle
Completed: 2004
Photo: September 2006


Stone Dust Path
Carlisle
Completed: 2004
Photo: September 2006

Measures of Success
Carlisle

- Construction Issues
  - Ease of construction
  - Affordability
- Performance
  - Engineering Standards
  - Aesthetics
- Maintenance
  - Does it last?
  - How easy to fix?

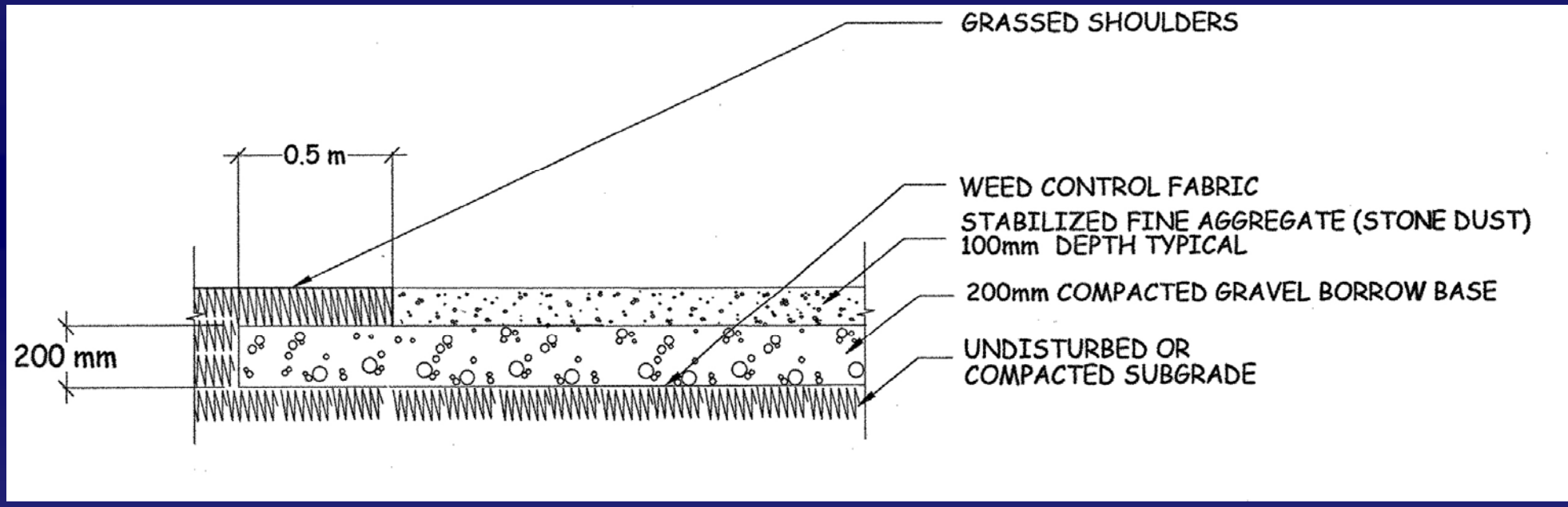
Stabilization
Soil Stabilization Index System



Soil Stabilization
Alternative Stabilizer Products

- Stabilizer
- Dirtglue
- Road Oyl
- MountainGrout

Plymouth Seaside Rail Trail Cross Section




Plymouth Seaside Trail
Completed: Spring 2005
Photo: October 2006


Plymouth Seaside Trail
Completed: Spring 2005
Photo: October 2006


Plymouth Seaside Trail
Completed: Spring 2005
Photo: October 2006

Measures of Success
Ply mouth Seaside Rail Trail

- Construction Issues
  - Ease of construction
  - Affordability
- Performance
  - Engineering Standards
  - Aesthetics
- Maintenance
  - Does it last?
  - How easy to fix?