

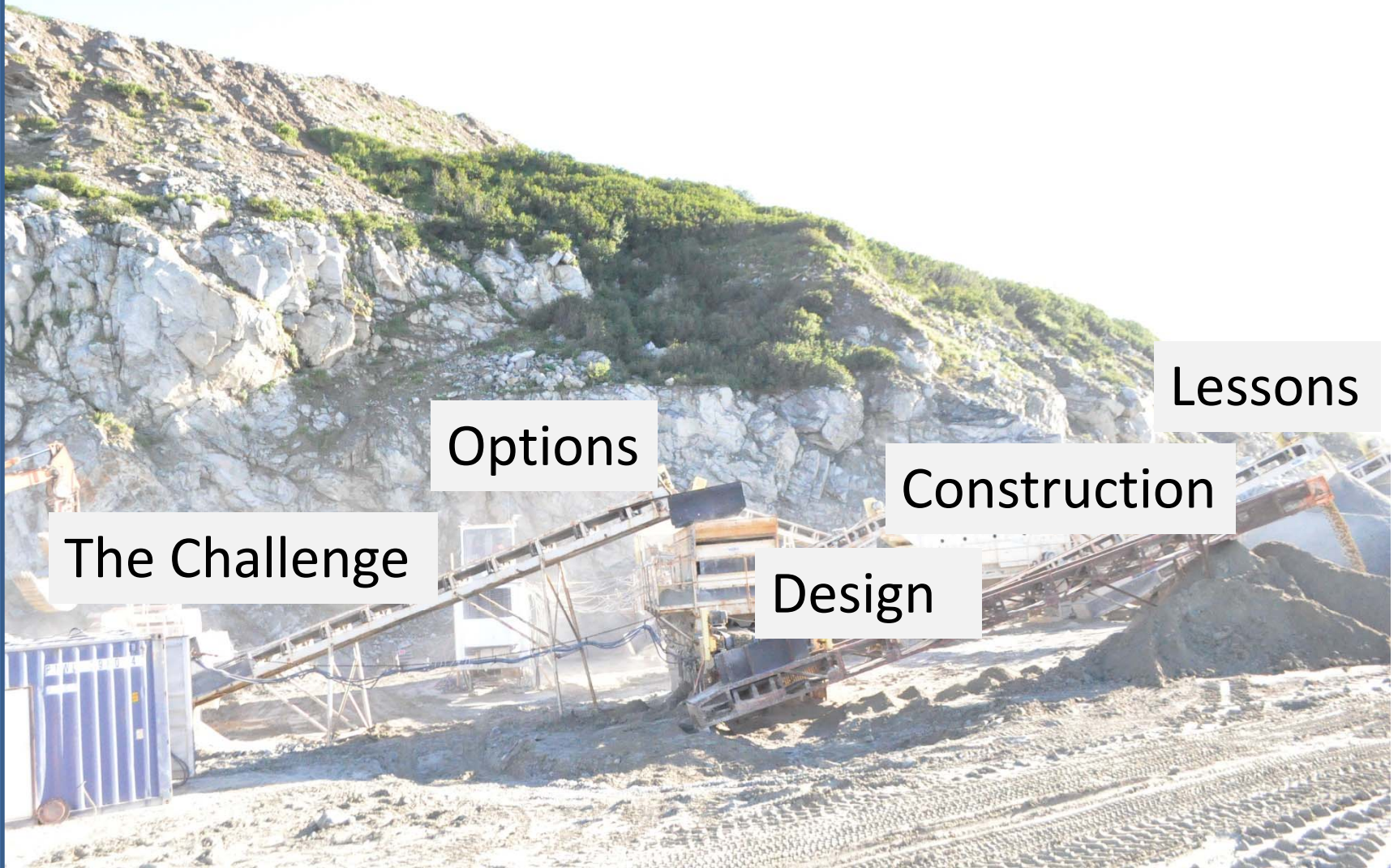
# Blending Materials to Surface Runways – *Lessons Learned from Wainwright Airport*

Presented at DOT&PF Quarterly Design Meeting #59

by

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HDL Engineering Consultants, LLC

# Outline



# The Challenge

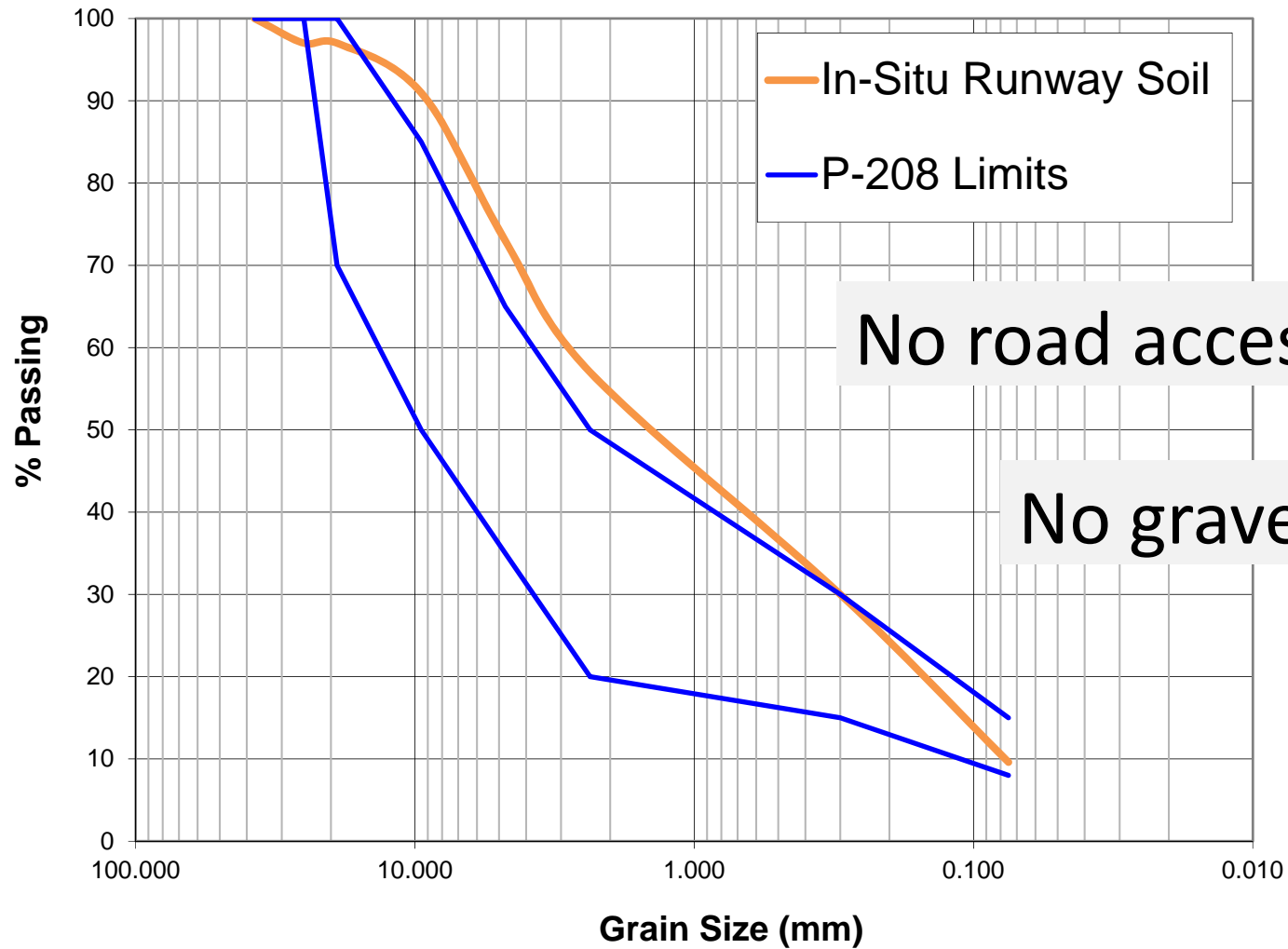


Constructed in 1980's

No crushed aggregate surface course

Failing runway

# The Challenge



# Options Considered

Synthetic fluid/fibers

Cement stabilization

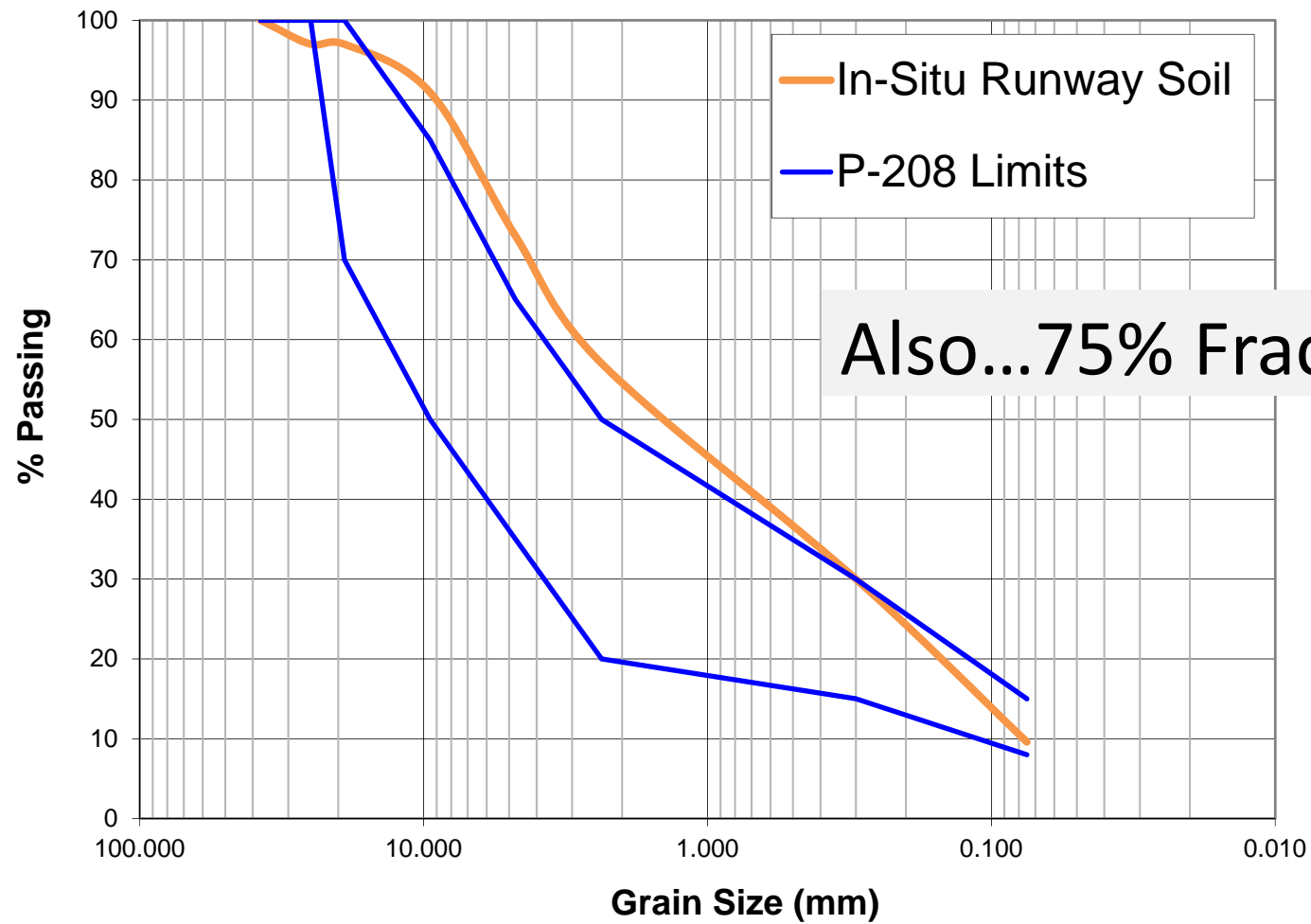
Asphalt stabilization

Blending

Geosynthetics

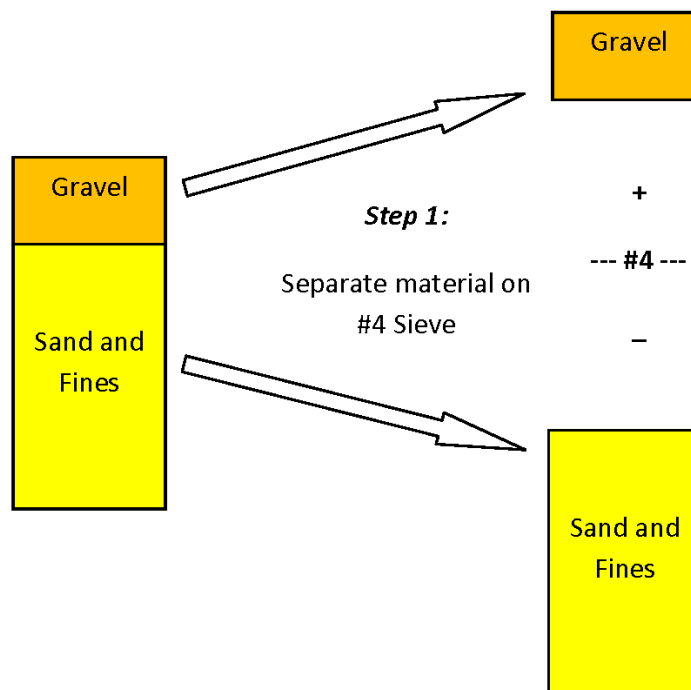
Import crushed aggregate

# The Design

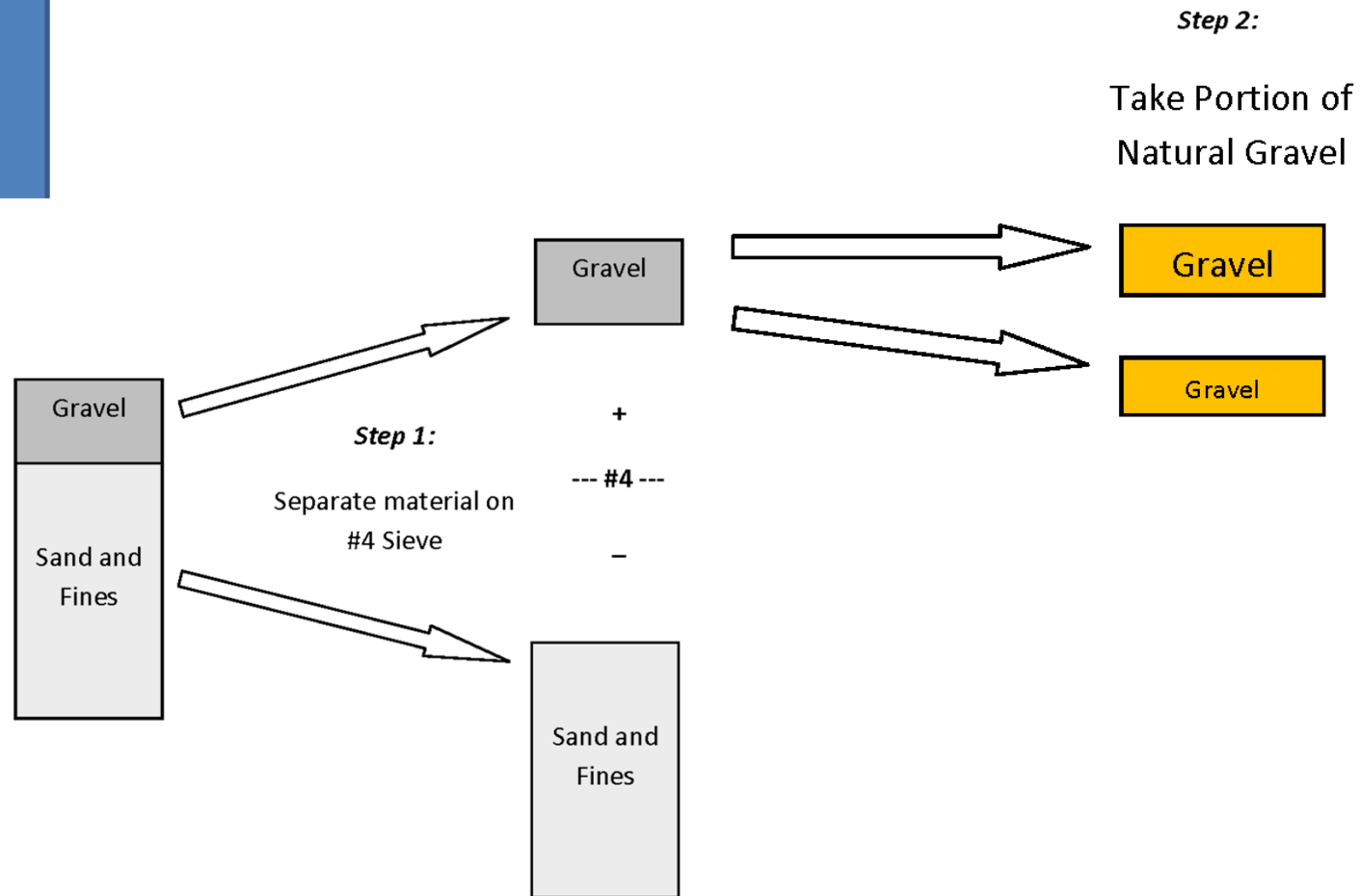


Also...75% Fracture

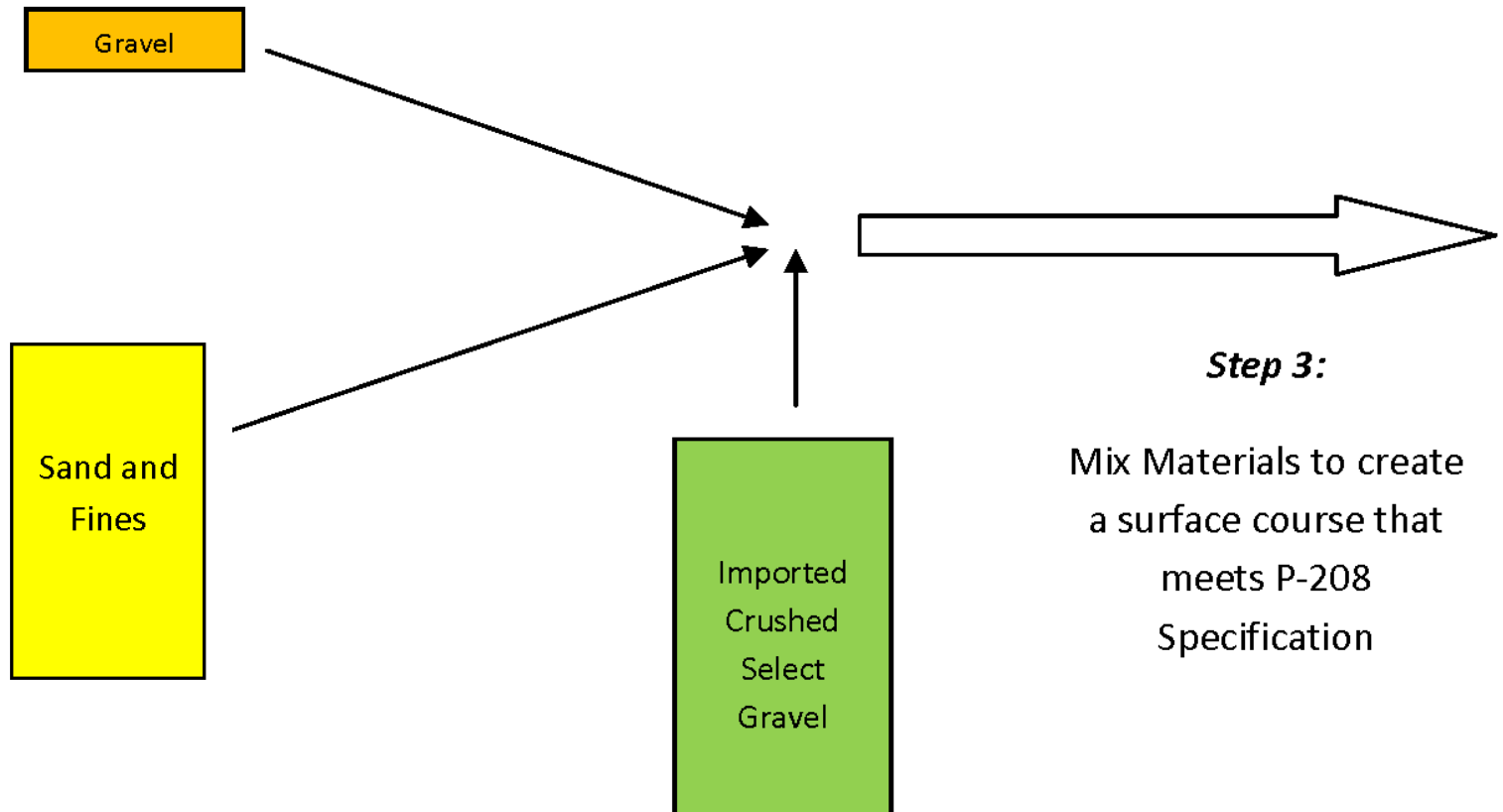
# The Design



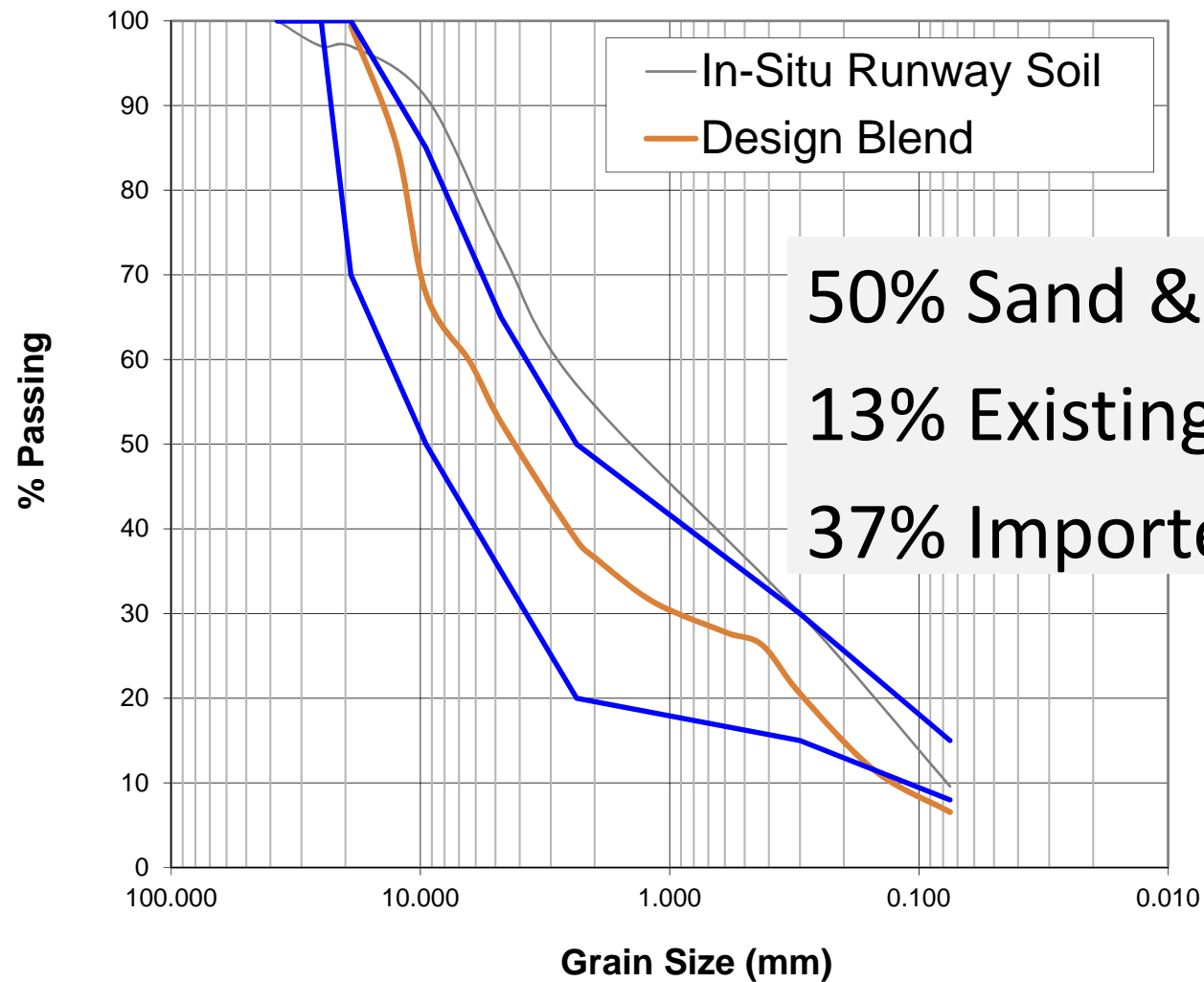
# The Design



# The Design



# The Design



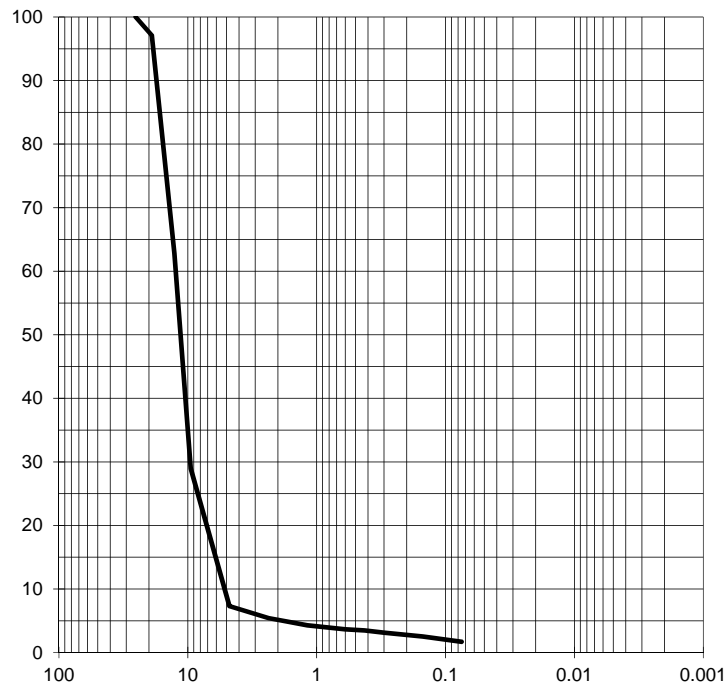
50% Sand & Fines

13% Existing Gravel

37% Imported Gravel

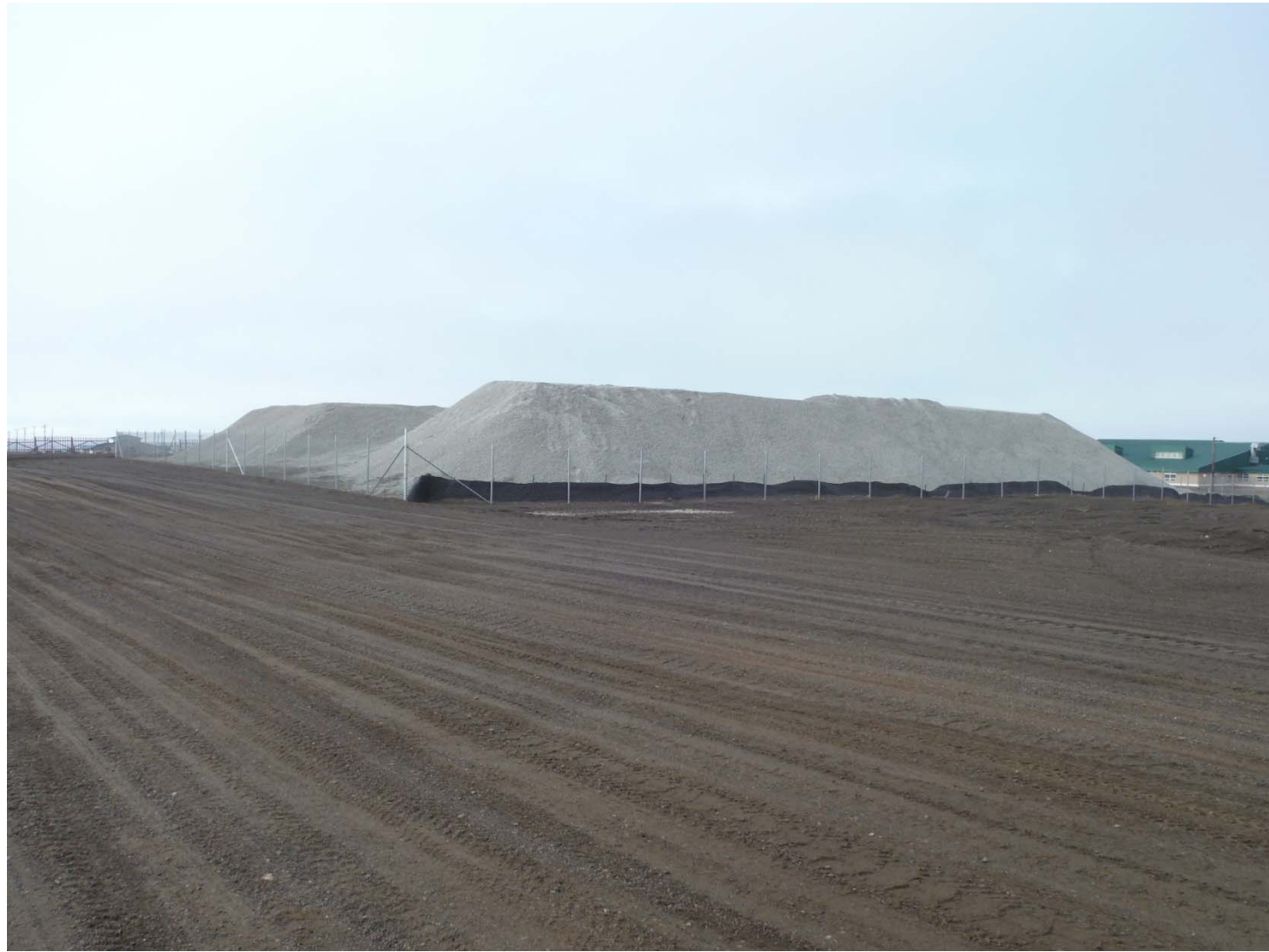
# The Design

## Imported Crushed



<u>Sieve</u>	<u>% Passing</u>
1"	100
3/4"	70-100
1/2"	55-75
3/8"	20-30
# 4	5-15
# 8	0-10

# Construction



# Construction

2015

½ Width runway

Night time closures



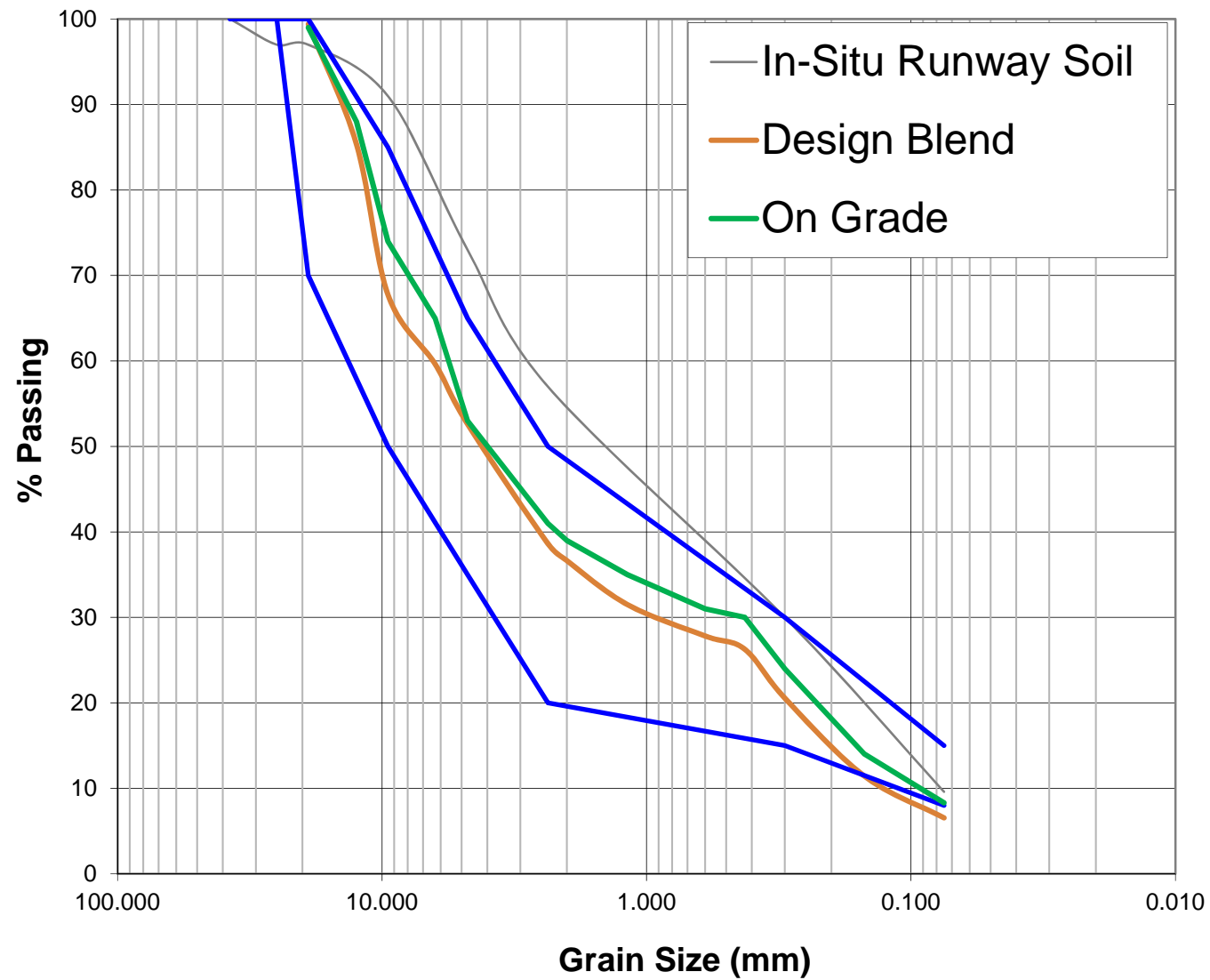
# Construction



# Construction



# Construction



# Lessons

Use common products

Screening on #4



Assumed 0% fracture in existing

# Lessons

1 ton + 1 ton = 2 ton

1 CY + 1 CY < 2 CY

“You can never have too many  
samples”

# Lessons



