

Adding 20# of OPC

<u>Formula</u>	<u>comp. strength</u>	<u>28d abrasion mass kept</u>	<u>infiltration</u>
A2	2724	86	
C10 (+20 OPC)	2712.5	76	1573
C11 (+20 OPC)	2302	72	2258
C12 (+20 OPC)	2256.5	70	1697
C13 (+20 OPC)	2680.5	67	N/T
C17 (+20 OPC)	2966.5	74	N/T
Averages	2584	72	1843

Adding 125# Sand

<u>Formula</u>	<u>comp. strength</u>	<u>28d abrasion mass kept</u>	<u>infiltration</u>
A2	2724	86	
C14 (+125 sand)	2551.5	80	2116
C15 (+125 sand)	2902	72	2840
C16 (+125 sand)	2376.5	81	N/T
C18 (+125 sand)	2261	67	N/T
Averages	2523	75	2478

Does it Need Maintenance?



Absolutely!



Can it be Cleaned?



Absolutely!



NRMCA Maintenance & Operations Guide



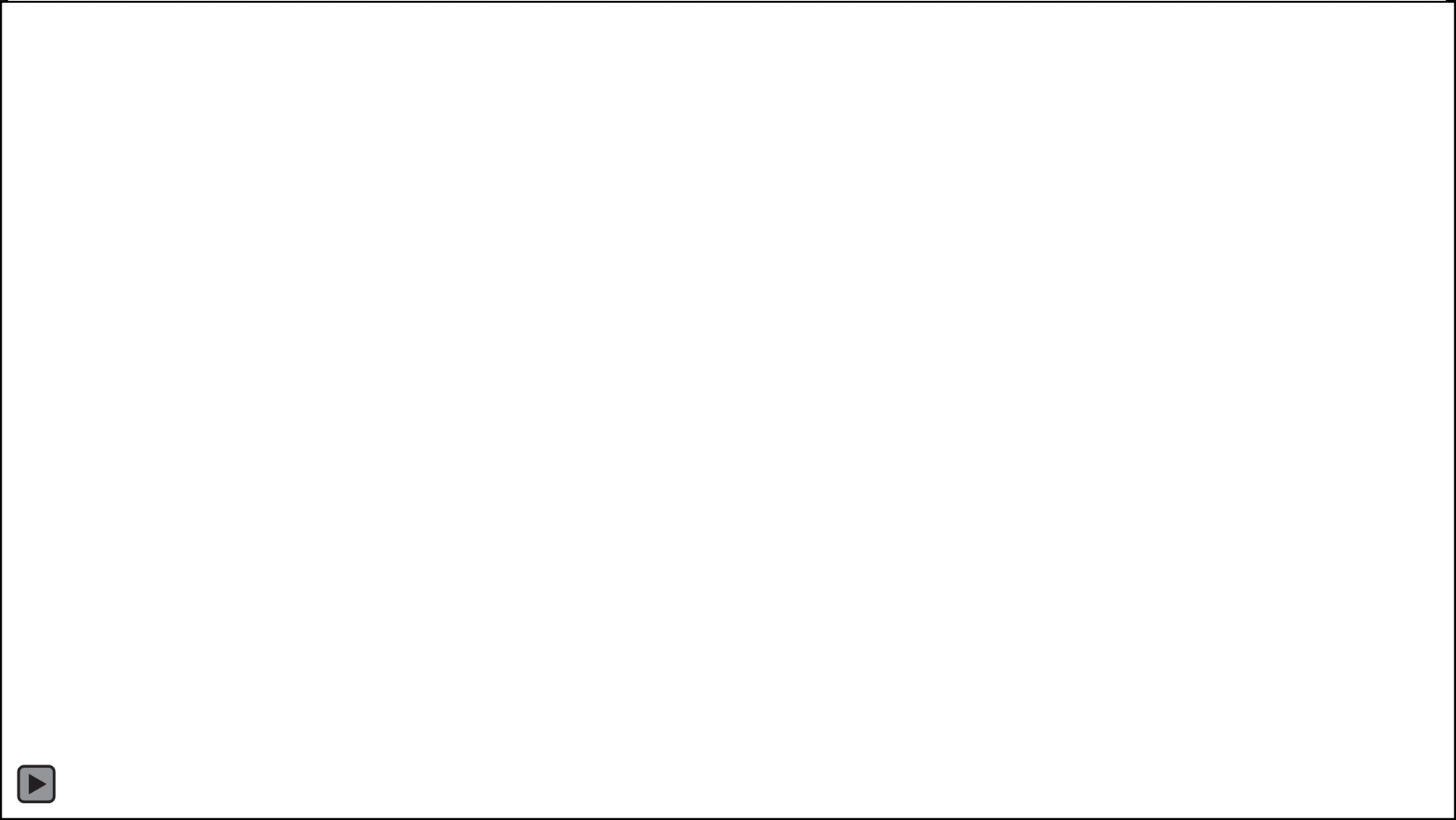
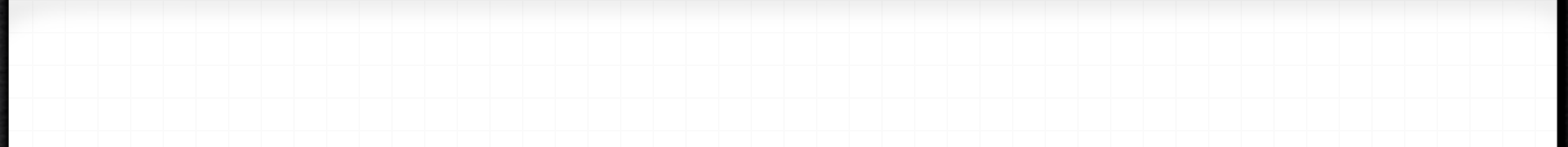
First Steps

- ❖ Designs should be checked to see if they are maintenance-friendly
- ❖ Assure/Verify a quality installation, including soil characteristics, gravel layer, and pervious
- ❖ Require certified installers and REQUIRE initial infiltration testing (C1701)
- ❖ Provide owner with Maintenance/Operations Guide

Next (Three) Steps

Step One: Routine Maintenance

- ❖ Periodic Visual Inspection
- ❖ Leaf blower or similar as needed
- ❖ Sweeping (for entire lot) as needed
- ❖ Spot maintenance – more intensive as needed to prevent more severe clogging



Next (Three) Steps

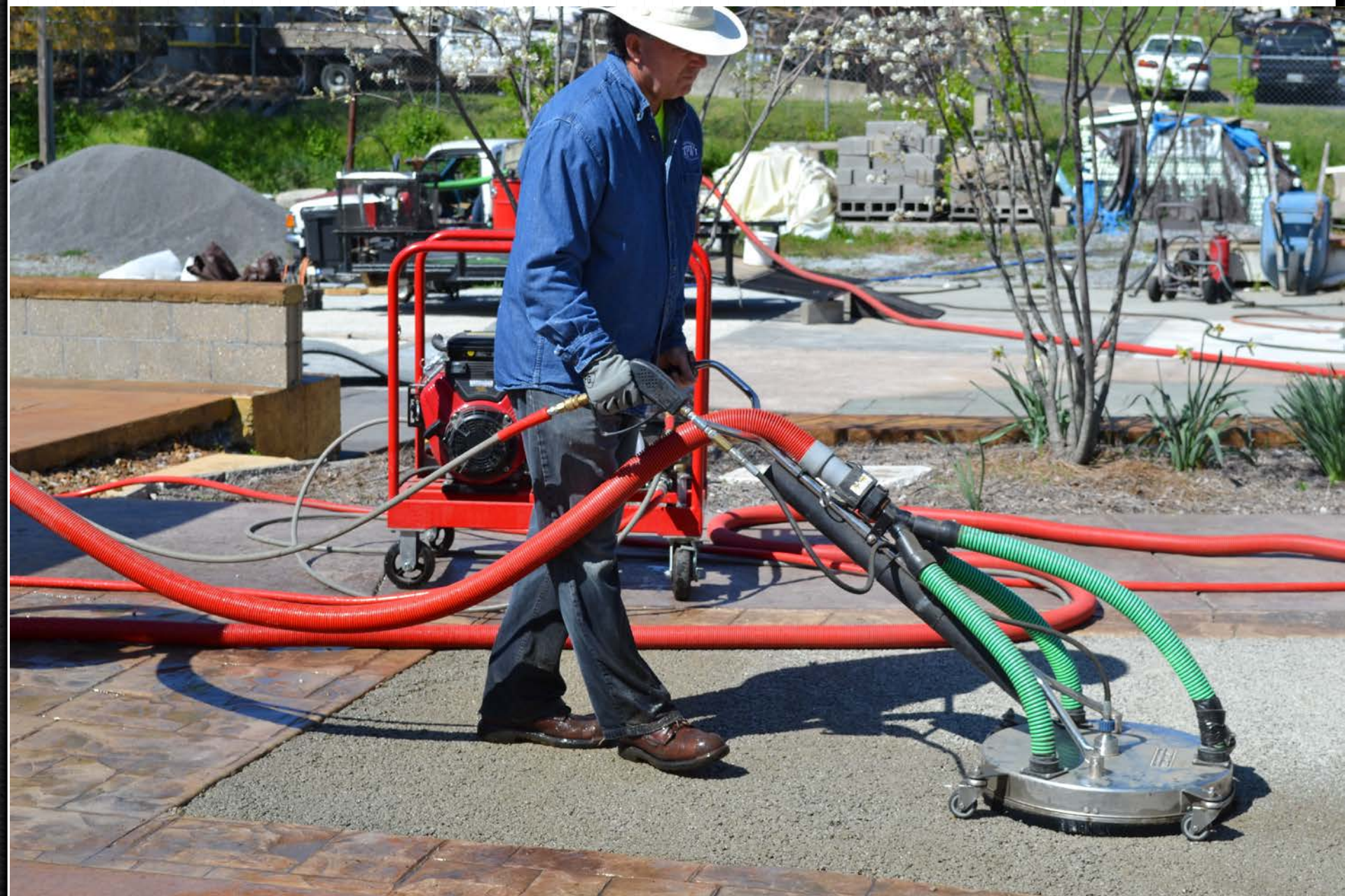
Step Two: Periodic Maintenance

- ◆ Often PRIOR to onset of winter, always when routine maintenance isn't enough
- ◆ Should start with sweeping or dry vacuum process – get all loose material off. Measure (weigh) if possible.
- ◆ May require pressure wash and vacuum at same time

Next (Three) Steps

Step Three: Deep Cleaning

- ◆ When infiltration rate drops by more than 25%, or under 100 inches per hour.
- ◆ Will require simultaneous application of pressurized water and significant vacuum – specialized equipment.





Franklin (TN) Parking Lot

Estimated Pounds Removed:	843
Primary Filter Bag	169
Dry Vacuum Removal:	280
Total Pounds Removed:	1292

Over $\frac{1}{4}$ # of sediment per SF

Franklin (TN) Parking Lot

Average Infiltration Before:	18	Inches/HR
Average Infiltration After:	196	Inches/HR

Winter Time Notes

- ❖ 1st winter is more critical – same as for conventional concrete
- ❖ Use of silane/siloxane sealers can provide some protection
- ❖ De-icing chemicals NOT recommended. Research ongoing for admixtures to impart better chemical resistance
- ❖ Plain COARSE sand may be used – pavement must be vacuumed at end of winter
- ❖ Plow with caution

Contact Information

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