

# VCE Loudoun Gravel Bed Project



# Agenda

- Idea and AWS Grant
- Team Assembly
- Preparation and Construction
- Bare Root Saplings: Choice & Purchase
- Heeling-in Gravel
- Irrigation
- Maintenance
- Extraction & Measurements
- In-ground Planting
- Signage
- Future

# What is a Gravel Bed?

- Irrigated bed
- Pea Gravel & Sand
- Bare root trees/shrubs
- Spring to fall
- Maximize fibrous root growth

# Idea & AWS Grant

- Started in 2020
- Covid Delay
- AWS Grant
- New Partnership
- MG College – Tree Stewards
- Commitment



# Team Assembly

- Mighty 12 Tree Steward Interns
- Broke out components
  - Team Lead
  - Construction Lead
  - Sapling team
  - Education Team
  - GB Management Team
  - Extraction/Planting Team
  - Plan for future....
- Two Beds/Two Parks!

# Preparation & Construction

- Ground prep
- Meetings
- Scheduling
- Work

# Construction Bed #1



# Construction Bed 1





# Ready for Saplings!



# Bare Root Saplings

- Benefits of bare root
- Natives
  - River birch
  - Ironwood
  - Common hackberry
  - Dwarf hackberry
  - Persimmon
  - Black gum
  - Black cherry
  - Ninebark
  - American bladdernut
  - Slippery elm
  - Blackhaw viburnum
  - Red twig dogwood

# Washing off soil & Measuring



#23  
Red Twig  
Dogwood



# Heeling-in





# Irrigation



# Maintenance

- Rotating schedules
- Check saplings
- Water timing



# Extraction after 3 months



#23  
Red Twig  
Dogwood



#23  
Red Twig  
Dogwood

At planting



After 3 months



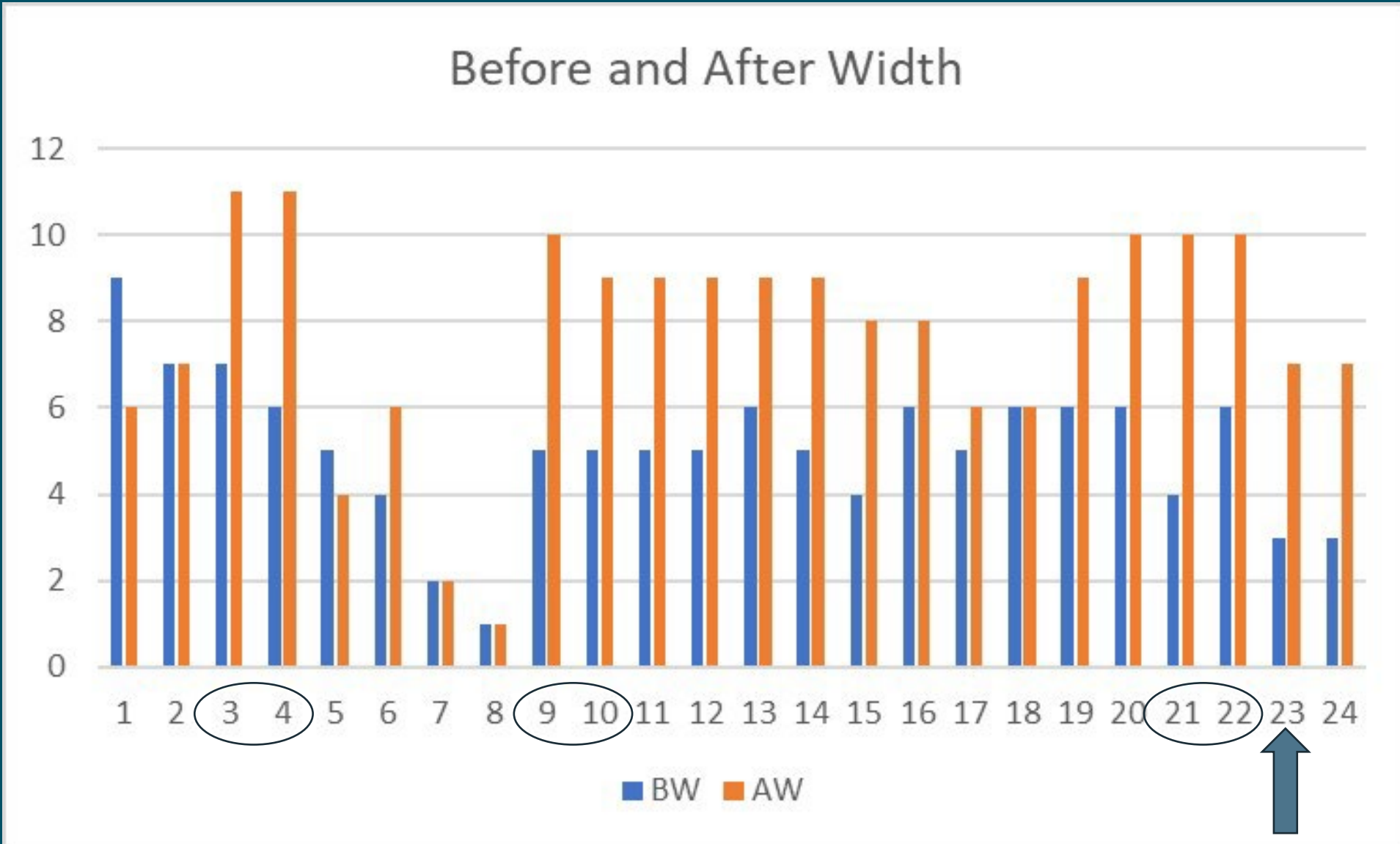
# In-ground Planting

- Roots remained moist
- Holes dug prior
- BMPs followed for planting
  - Roots spread out
  - Covered w/ soil
- Sleeves/stakes
- Watering





# Width Graph



# Comparisons

## Best Width Growth

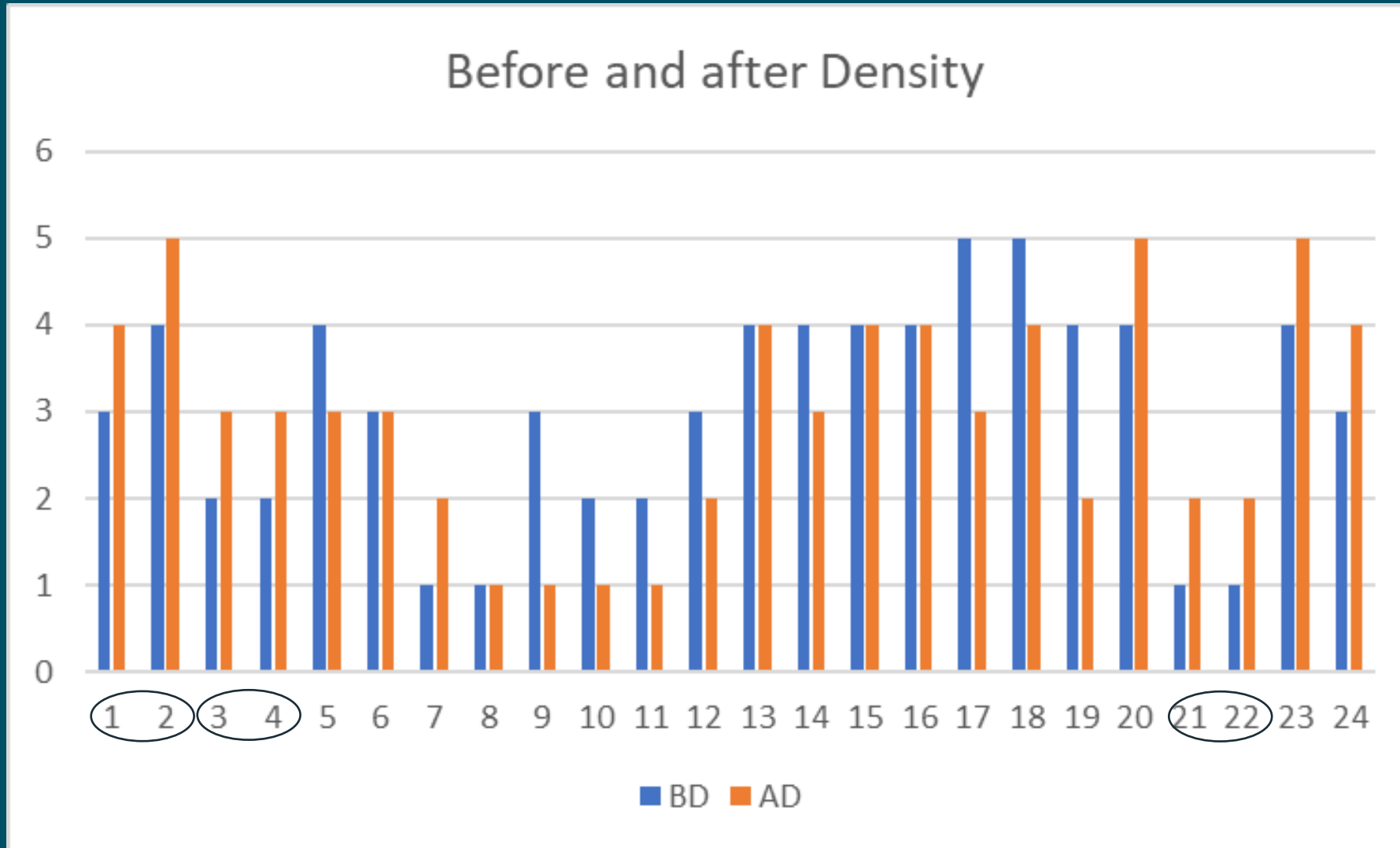
- Ironwood (#3, 4)
- Persimmon (#9, 10)
- Blackhaw viburnum (#21, 22)

## Less/No Width Growth

- River birch (#1, 2)
- Dwarf hackberry (#7, 8)
- American bladdernut (# 17, 18)



# Density Graph



# Comparisons

## Best Density Growth\*

- River birch (#1, 2)
- Ironwood (#3, 4)
- Blackhaw viburnum (#21, 22)

*\* River birch had lowest width growth. Ironwood and Blackhaw had best width growth as well density.*

## Lost Density

- Persimmon\*\* (#9, 10)
- American bladdernut (# 17, 18)

*\*\*Best width growth but lost density.*

# Signage & Website

## Demonstration Gravel Bed

Tree Root Growth Project on break until spring.

*VCE Loudoun Master Gardeners in partnership with Loudoun County Parks, Recreation and Community Services.*



Learn More Here



# Construction Bed #2







# Cost

- 10 x 10 ~ \$2200
- 20 x 10 ~ \$5500
- Water use is Park expense

# Future Years

- 75 Saplings/year
- Education Opportunities
- Communities
- Partnerships



*Thank you!*

