

# BLENDING UTILITY DISTRIBUTION SYSTEMS INTO A CAMPUS ENVIRONMENT



**CampusEnergy2020**  
THE POWER TO CHANGE  
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**RMF Engineering**  
Reliability. Efficiency. Integrity.



# BLENDING UTILITY DISTRIBUTION SYSTEMS INTO A CAMPUS ENVIRONMENT

## › INTRODUCTION

- › PRESERVE CAMPUS AESTHETICS
- › MINIMIZE CAMPUS IMPACT
- › ACCESS & SECURITY

## › TOPICS

- › SYSTEMS
- › OPERATION
- › SURFACE FEATURES
- › RESTORATION
- › IMPLEMENTATION
- › MAINTENANCE

# SYSTEM SELECTION



**ABOVE GROUND (\$)**



**DIRECT BURIED (\$\$)**



**CONCRETE TRENCH (\$\$\$)**



**WALKABLE TUNNEL (\$\$\$\$)**

# SYSTEM SELECTION

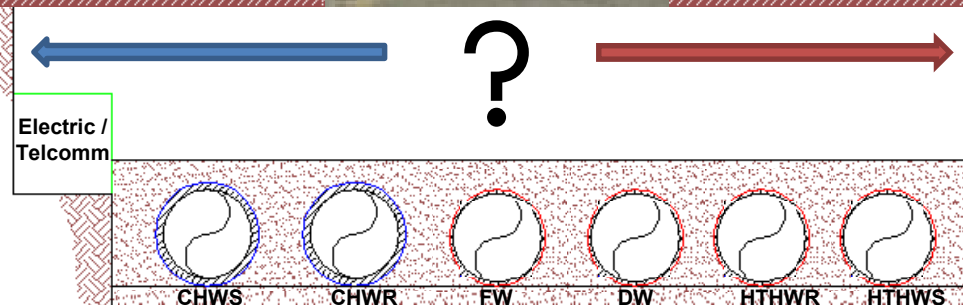


**DIRECT BURIED PIPING**



**SHALLOW TRENCH**

# ROUTING PATHWAYS





# ROUTING PATHWAYS





# SECURITY & ACCESS



**DIRECT BURIED VALVES**



**VALVE BOXES**



# SECURITY & ACCESS



**UNDERGROUND VAULTS**



**HATCHES**



# SURFACE FEATURES



**“GOOSENECK”**



**“STACK”**



**“COFFER”**



# SURFACE FEATURES



**PAVEMENT CUTS**



**TURF RESTORATION**



# SURFACE FEATURES



**DESIGN DEPTH**



# SURFACE FEATURES



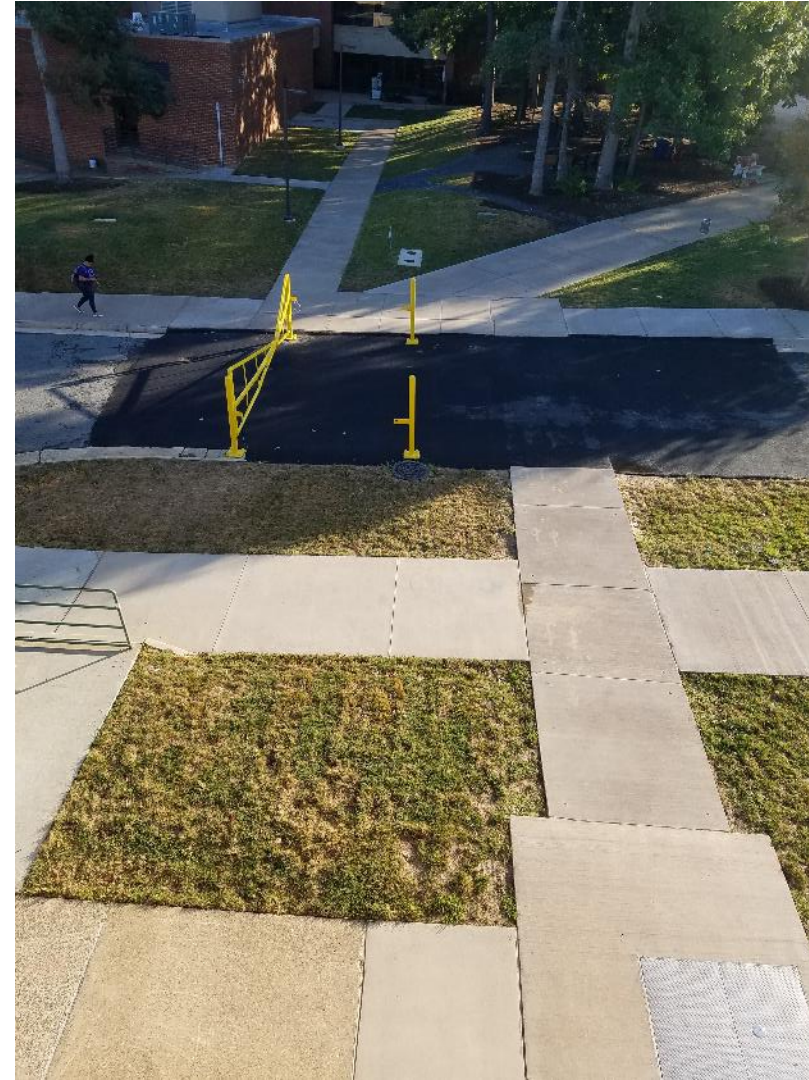


# SURFACE FEATURES





# RESTORATION





# STANDARDS IMPLEMENTATION



**BEFORE**



**AFTER**

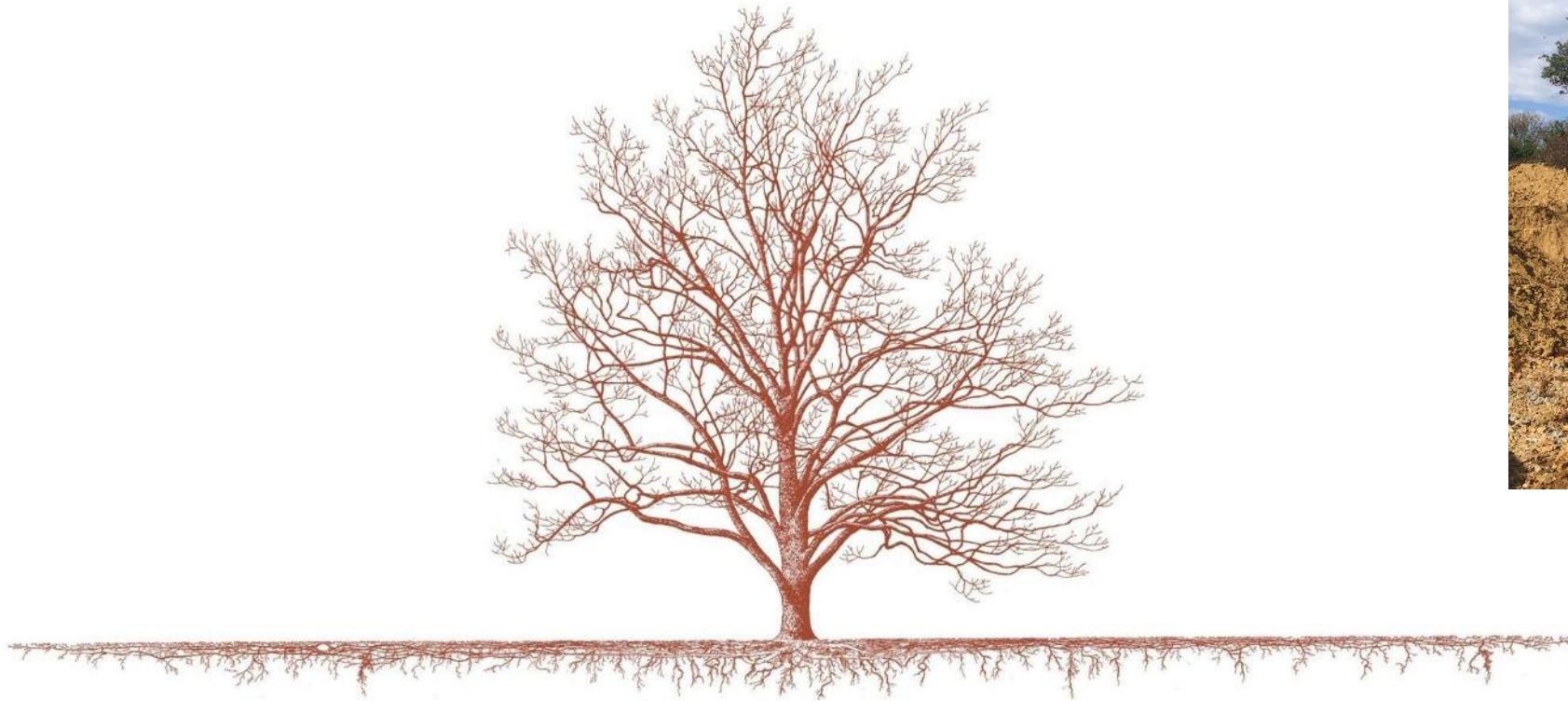


# LANDSCAPE DESIGN





# TREE PROTECTION



The MORTON  
Arboretum  
PLANT TREES 

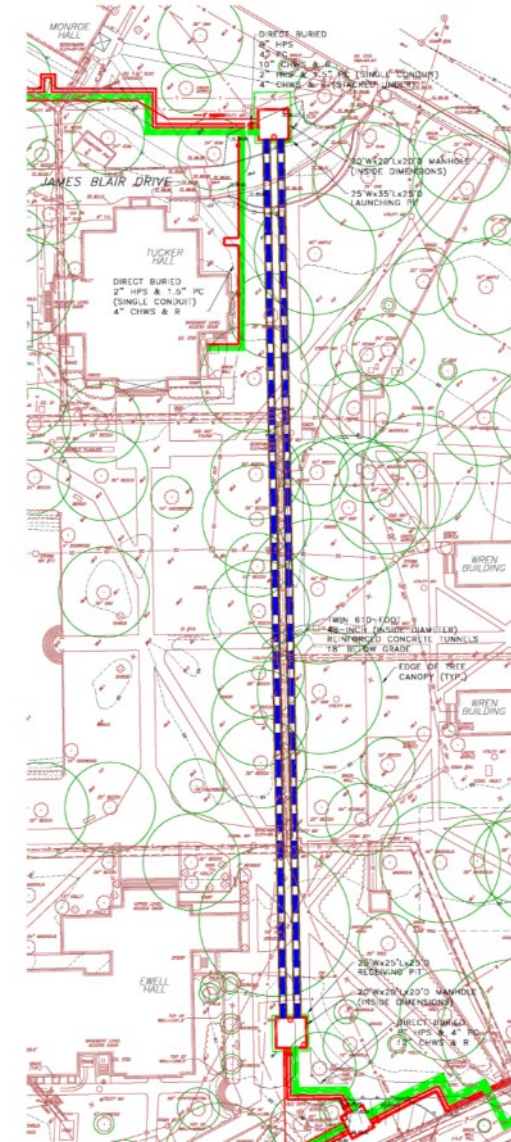
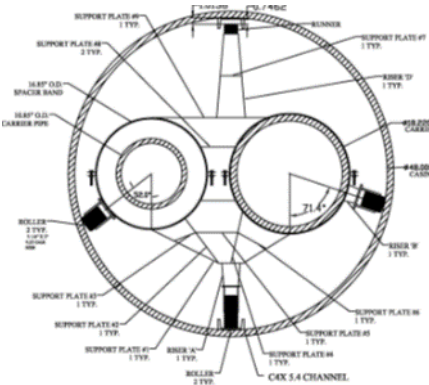
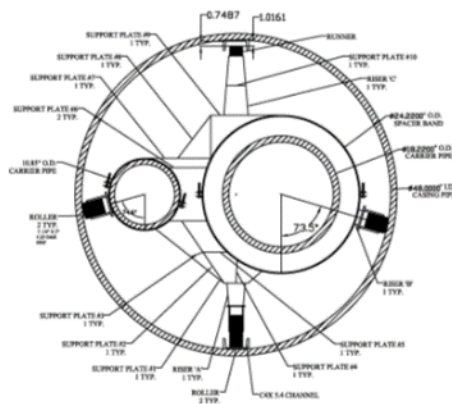
TYZNIK / N BARTELS  
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# IMPLEMENTATION

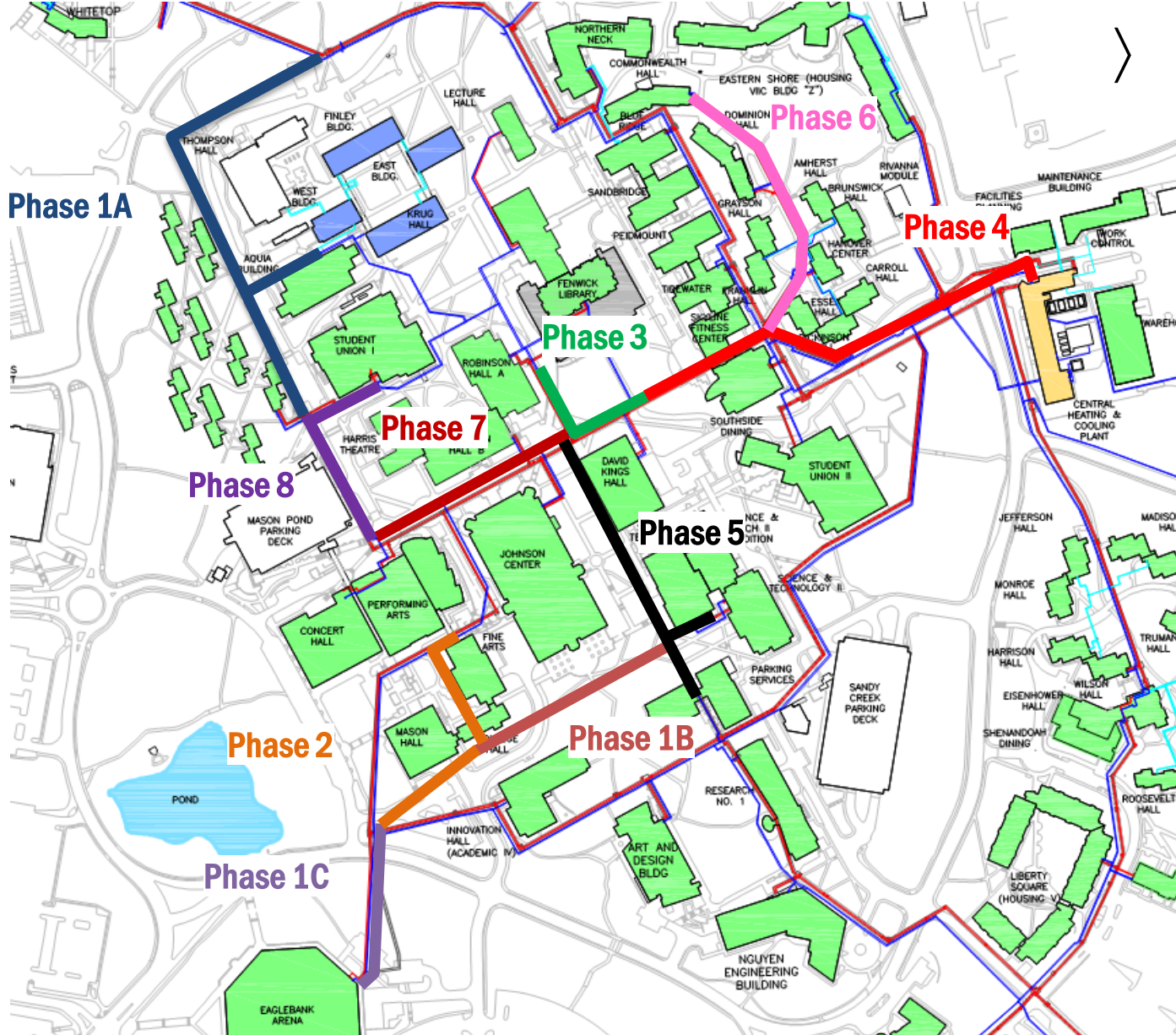


**TRENCHLESS TECHNOLOGY**





# IMPLEMENTATION



# PHASING

- › **MINIMIZE IMPACT**
- › **Utility Outages & Backfeeds**
- › **Vehicular & Emergency Access**
- › **Events & Proximity**
- › **Schedule**



# MAINTENANCE





# SUMMARY

## › **How can we:**

- › **Preserve Aesthetics?**
- › **Minimize Impact?**
- › **Provide Access and Security?**

## › **Consider:**

- › **System Selection & Options**
- › **Routing Pathways**
- › **Surface Features**
- › **Landscape & Restoration Design**
- › **Implementation**
- › **Maintenance**



# QUESTIONS?

