

A blue sky with white clouds and a bird in flight. The bird is a hawk or eagle, seen from below, with its wings spread. The sky is a clear, vibrant blue, and there are some wispy white clouds. In the bottom left corner, there are some green trees.

# Thanks

Danny McDaniel, Director of  
Security, Safety, and Transportation

Cindy Greczek, Director of Safety

Barbara Banks, Manger of Museum  
Security

Gary Burger, Director of  
Conservation

Mark Hopkins, PE, Hughes and  
Associates







Three sites with wet-pipe systems



**Bruton Heights Wallace Collections  
Building**



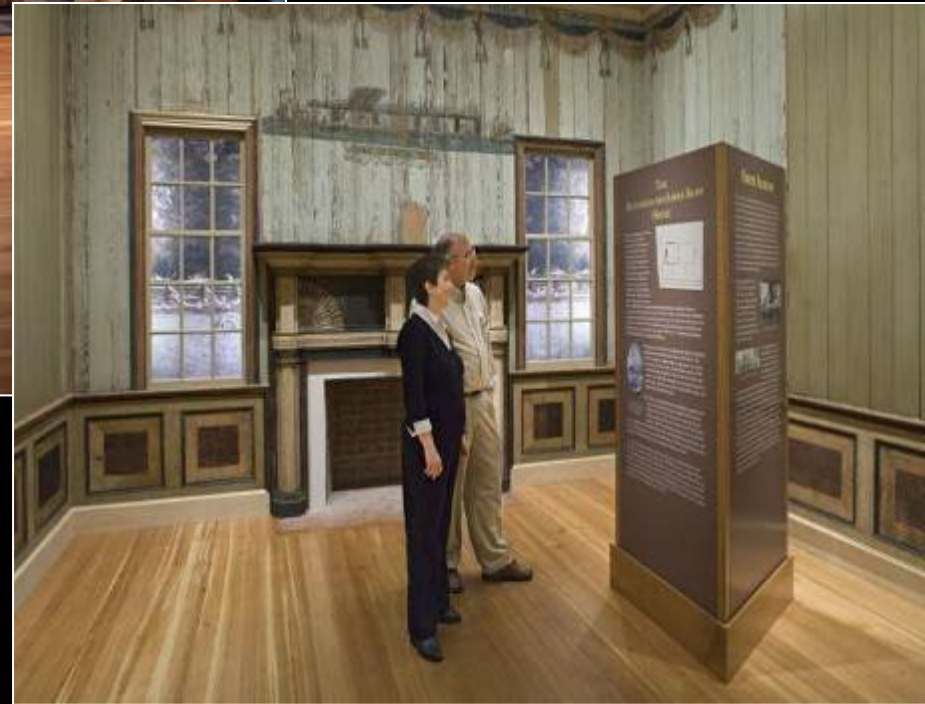






# DEWITT WALLACE DECORATIVE ARTS MUSEUM





ABBY ALDRICH ROCKEFELLER  
FOLK • ART • MUSEUM

















# We had Problems

- Smelly, slimy, chunky discharge when pipes were opened
- Delayed Trip Times

# We had Problems



Localized Repairs





# We had Problems

Pin-holes in pipes



# We had Problems

Corrosion evident on pipes and at joints





# We had Problems

## Leaks



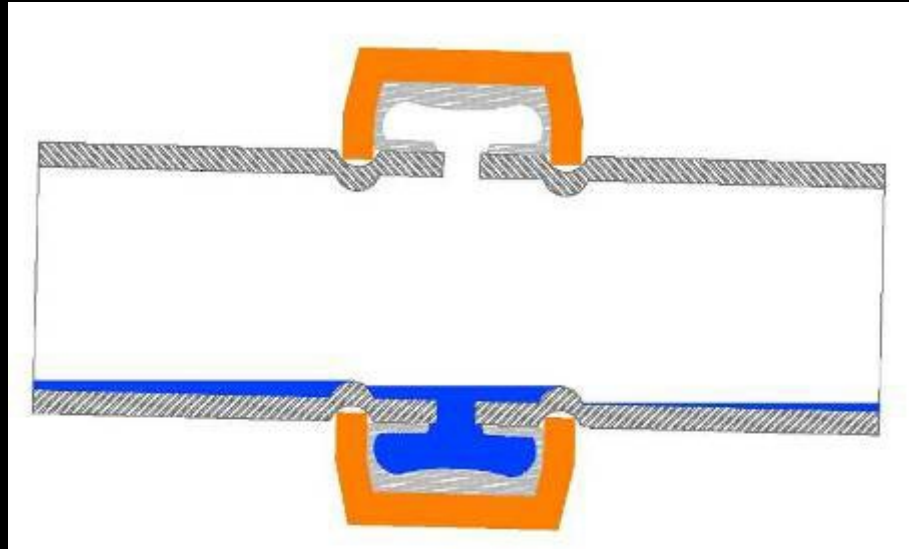
# Corrosion can lead to failure

- Pipe walls thin
- Holes develop
- Joints fail
- Valves fail
- Heads or pipe can be blocked



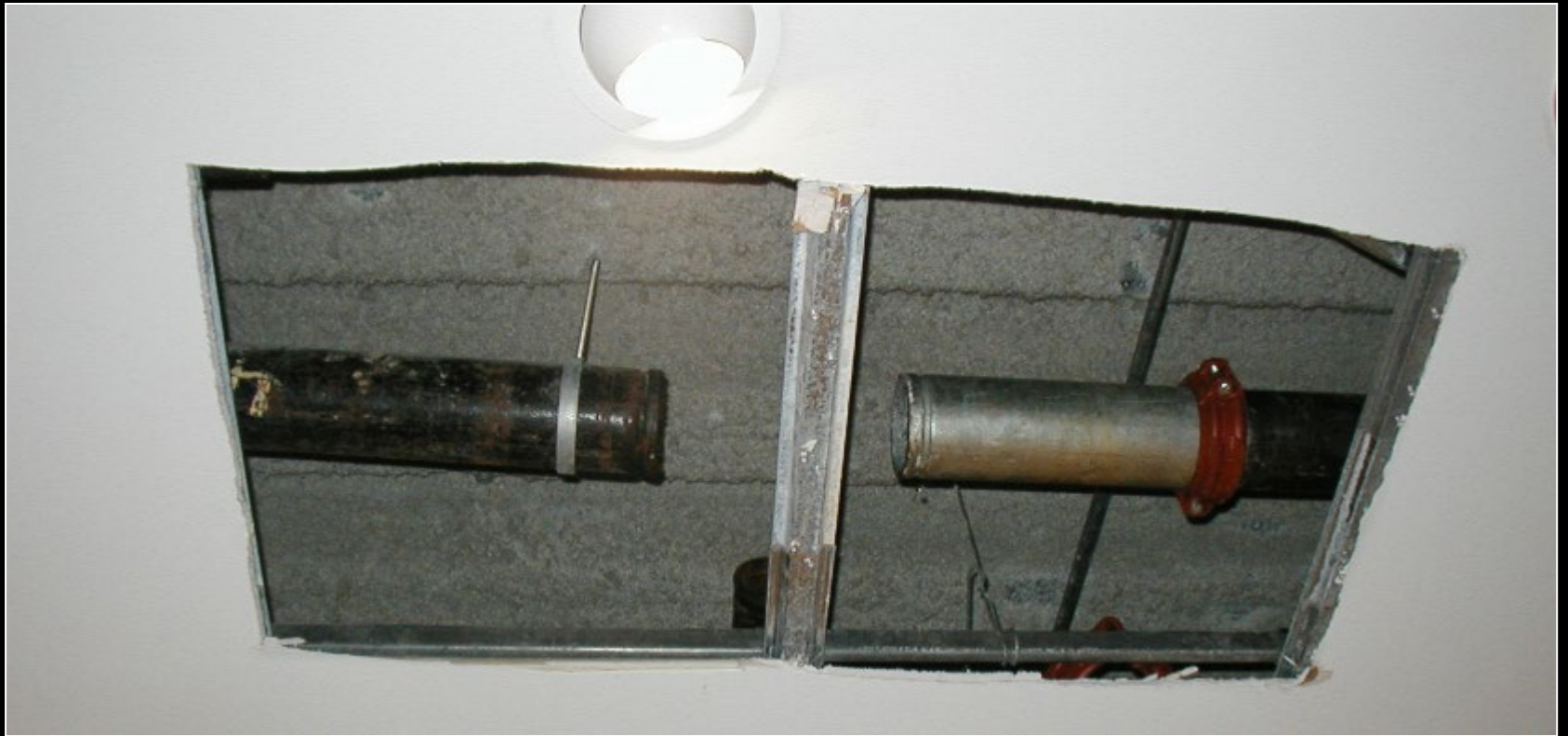


# Roll grooves trap water





# Inspection



# “Dry” Pipe after

- 3 months



- 7 years







# MIC (Microbiologically Influenced Corrosion)

- Block pipe or heads
- Accelerate Corrosion



# What are our options?

- Salvage and treat the existing dry-pipe system then convert it to a wet-pipe system
- Complete removal and replacement – which type of fire suppression?



# Options

- **Mist: not tested in the field long enough**
- **Gas: spaces are too large**
- **Pre-action: complicated equipment**
- **All of the above are very expensive and don't have the history of reliability we require.**

# Why Wet Pipe?

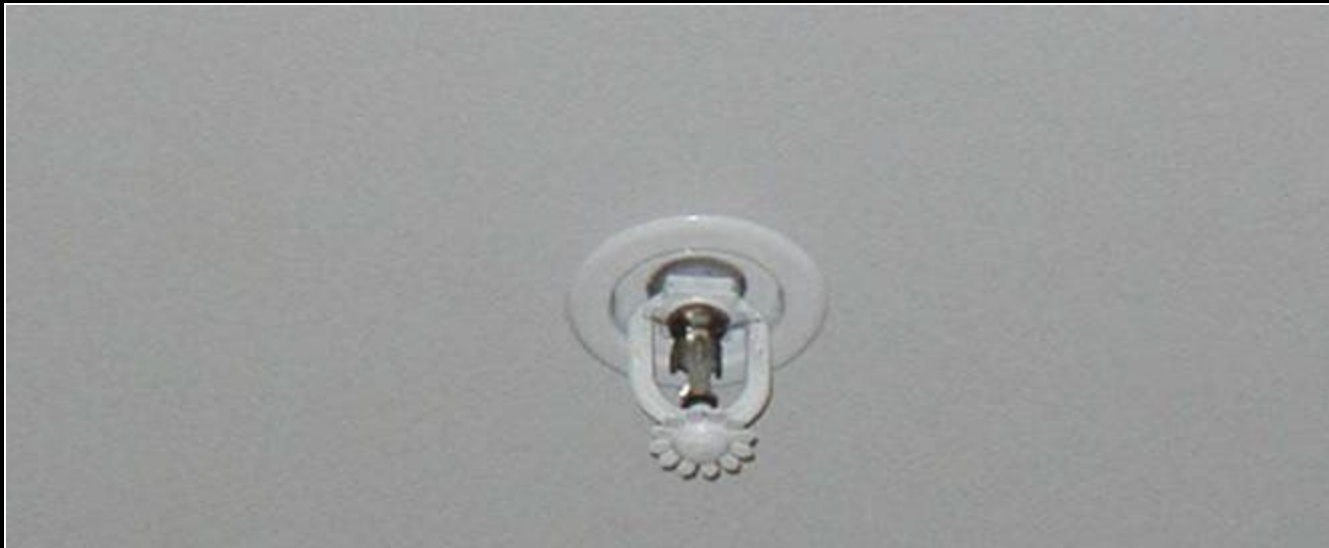
- Simple equipment and maintenance
- Field-tested and proven in over 100 years of use
- Immediate local response
- Less water pressure than fire hoses





# Why Wet Pipe?

- Eutectic metal link (a.k.a. fusible link) heads
- Extremely low rate of failure
- Water flow and smoke alarms in place



# Why Wet Pipe?

Rigorous testing protocol prevents leaks:

- 40 psi air for 24 hours
- 200 psi water for 2 hours
- System is maintained under 55-60 psi



# Compact and Dense Storage

- More sprinkler heads (water) needed
- Space between units is necessary

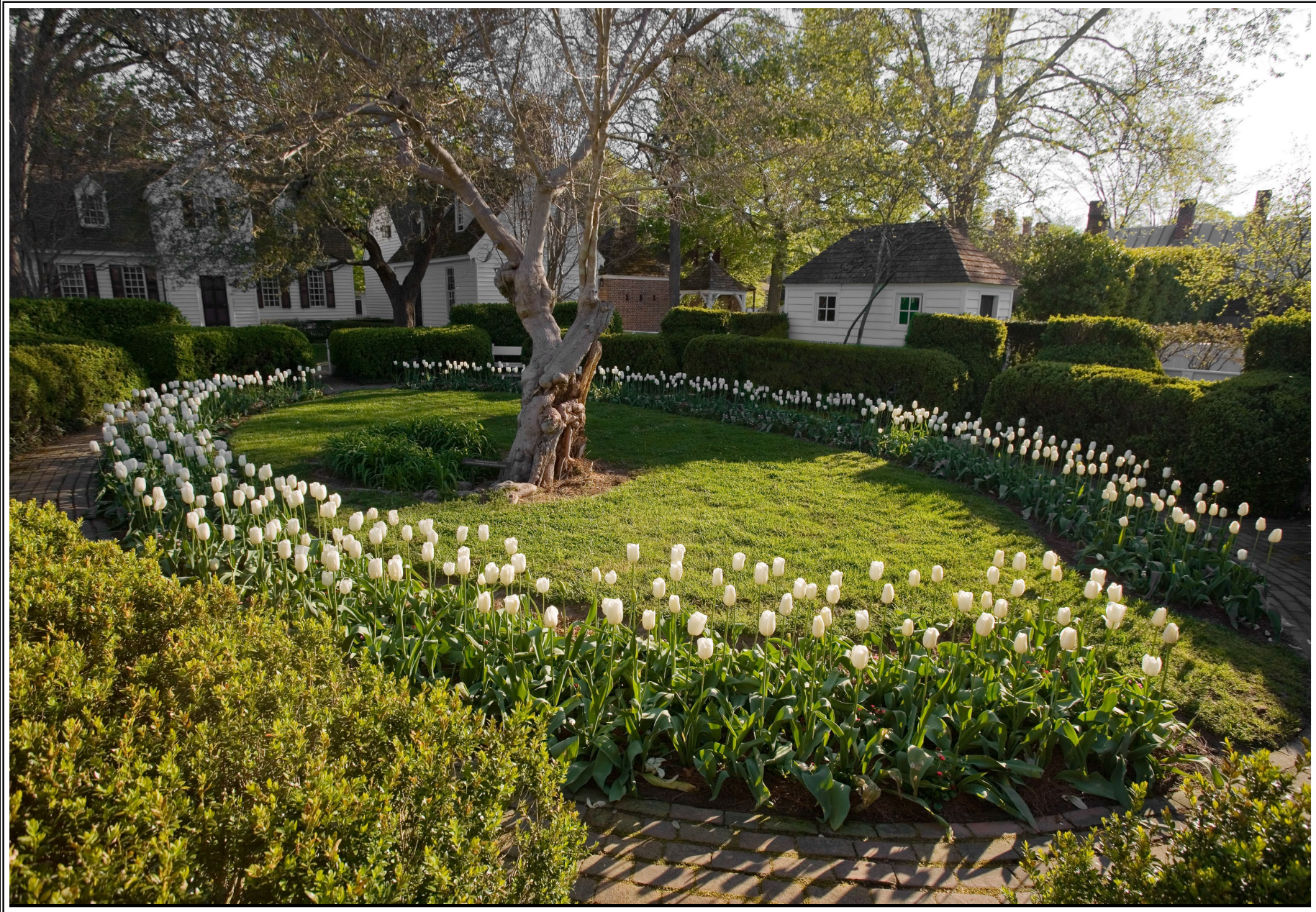


# Sprinkler Heads in Exhibit Cases

- Design and construction materials may dictate this requirement.



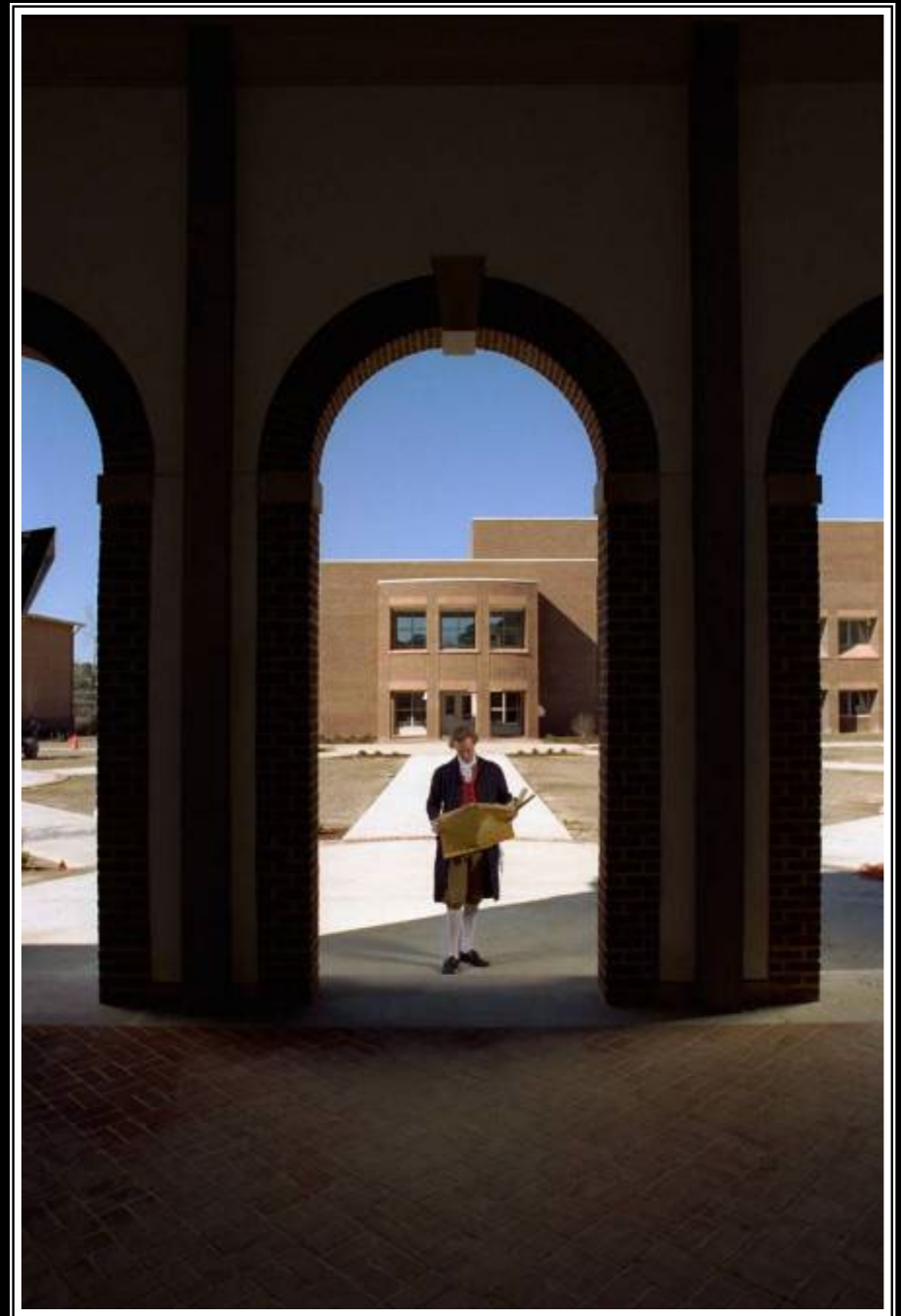






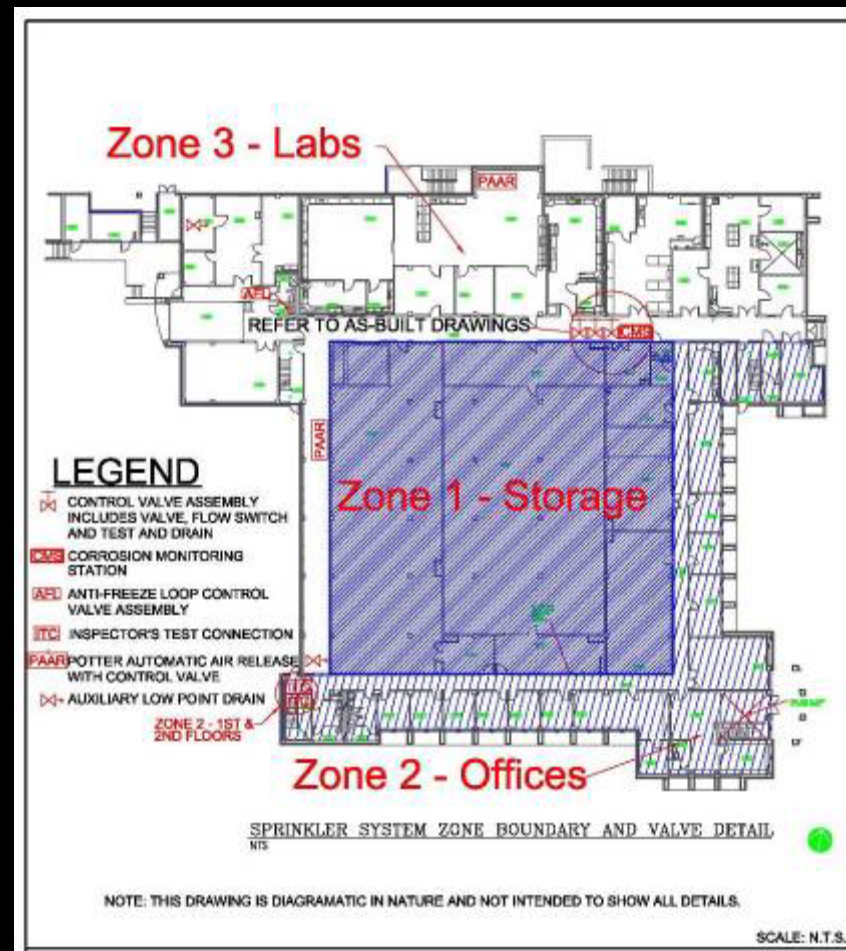
# Reliability

- Documentation
- Maintenance
- Testing





# Zones based on Building Use





# FLOWERS BIRDS & BASKETS



## PATTERN IN 19<sup>TH</sup>-CENTURY BEDCOVERINGS

Quilts, coverlets, and blankets keep people warm while sleeping. Yet physical warmth is only one function of bed coverings. Like today, many people in the 19th century could not resist embellishing their beds with bright color, bold pattern, and shimmering textures. Homeowners treated themselves with embroidery, piecing, applique, and quilting. Professional quilters used their looms to make popular, densely patterned coverlets. Festoons of flowers, flocks of birds, and abundant baskets adorned the beds in America.

Over the years the Colonial Williamsburg quilt collection has been greatly enhanced by the generosity of Susan and Marjorie McCall. It now includes many fine 19th-century quilts in this gallery, made possible by their generous donation to the gallery's quilt collection.





The Lincoln Market