

# Administrative Leadership Meeting

Randy Woodson

Chancellor

Tuesday, November 9, 2021



# Upcoming ALMs

January 11

TBD

Titmus

March 15

TBD

Titmus

# Red and White Week

## Recap

- Fitts-Woolard Hall  
Dedication
- Belltower Time Capsule
- Think and Do The  
Extraordinary Campaign





## Commencement Update

- Commencement will be held on Tuesday, December 14 in PNC Arena
- Mark Templeton will serve as Commencement Speaker



# Questions?





NC STATE UNIVERSITY



# POWER **FORWARD**

Electrical Distribution System Upgrade

**NC State is embarking on a  
multi-year, multi-phase  
upgrade to our electrical  
distribution system.**



# POWER FORWARD

Electrical Distribution System Upgrade

The **Electric Distribution System Upgrade** project is a multi-year, multi-phase project that will **organize the system** to reduce operational risk, enhance **reliability**, improve **safety**, and position campus for **future growth**.



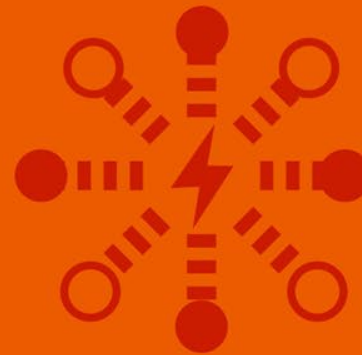
## Safe

Revamped, above-ground infrastructure will reduce risks for the maintenance workers who keep our lights on and our labs humming.



## Reliable

Overhauling the system will ensure NC State's energy independence — and help campus stand up to storms or freezing temperatures.



## Self-healing

Smarter technology will allow our grid to protect itself against threats, isolate faults and minimize outages and disruption on campus.



## Futureproof

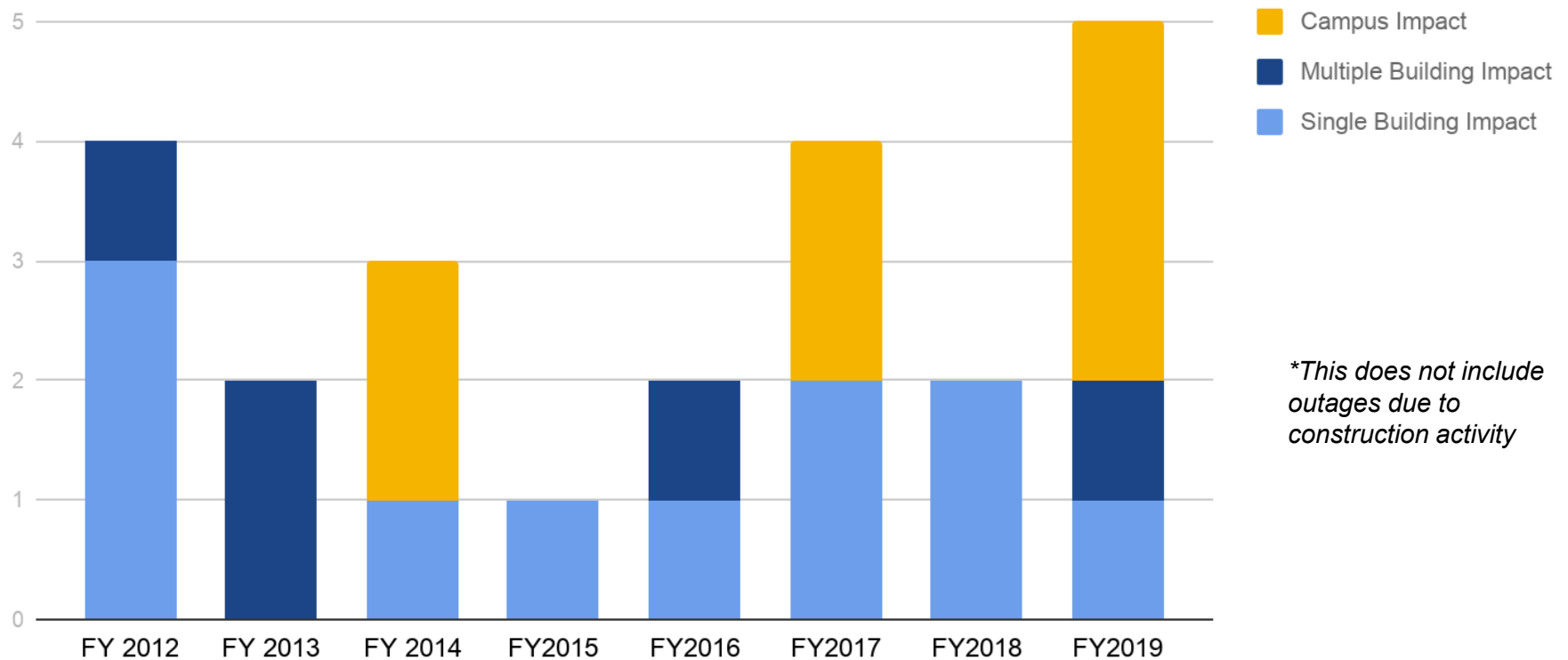
The new system will have 50% more electrical capacity, giving our university room to grow and thrive in the decades ahead.

# **Why upgrade the electrical distribution system?**



# Unplanned Electrical Outages

## Electrical Outages On Central and North Campus\*



*\*This does not include outages due to construction activity*

# Our Existing System

A crucial part of NC State's utility infrastructure is the **medium-voltage electrical distribution system**.

## DELIVERY

- 1 High-voltage power generated by Duke Energy Progress is transmitted to Sullivan Substation.



## DISTRIBUTION

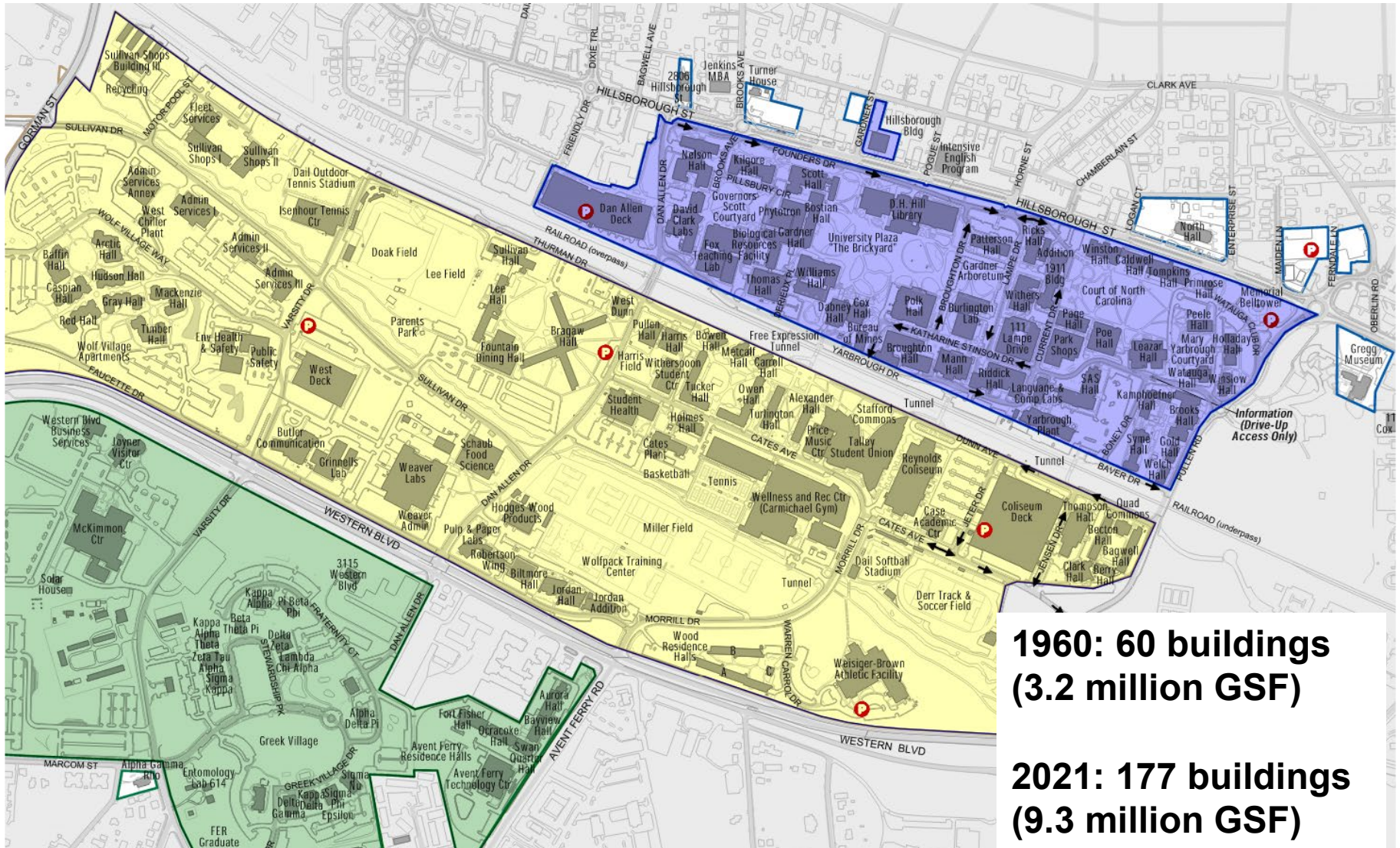
- 2 Power is distributed throughout Central and North Campus via a complex underground network of cables, switches and conduit.
- 3 Power arrives at campus buildings, including the two central utility plants. These utility plants use electricity, in part, to create steam and chilled water for many buildings.

# Sullivan Substation





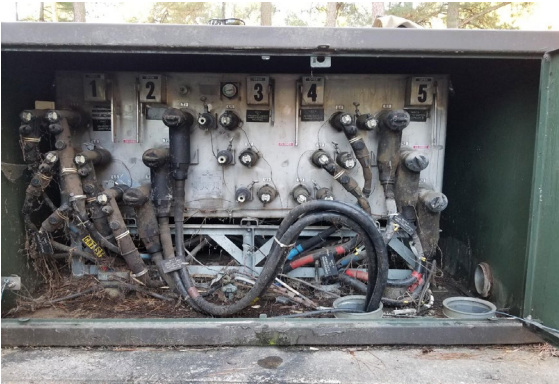
# Sullivan Substation Service Area





# The current system faces three main challenges:

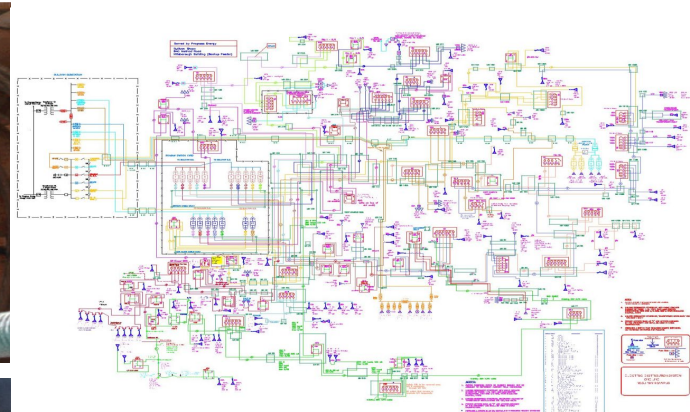
## AGE



## SAFETY



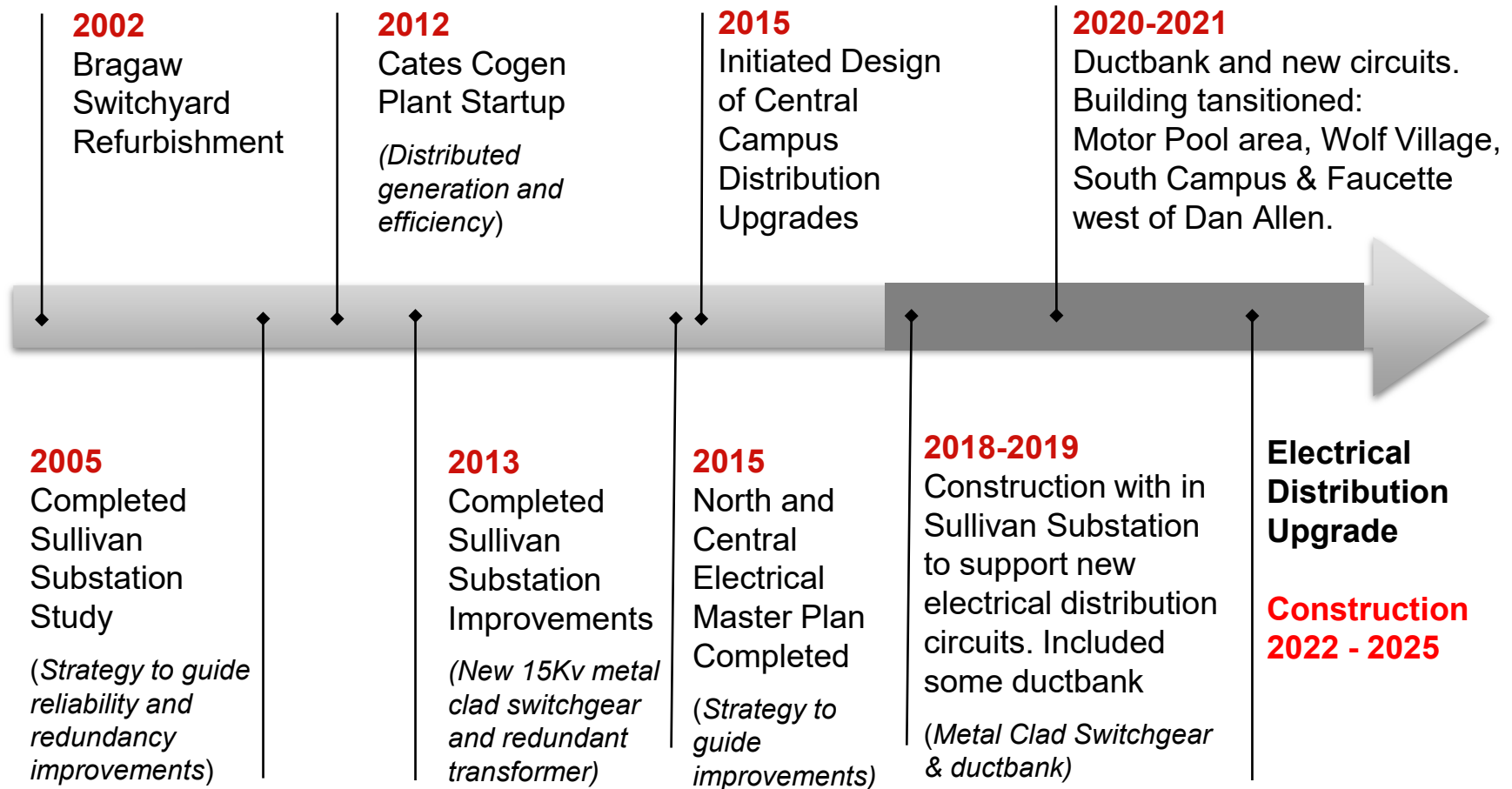
## COMPLEXITY

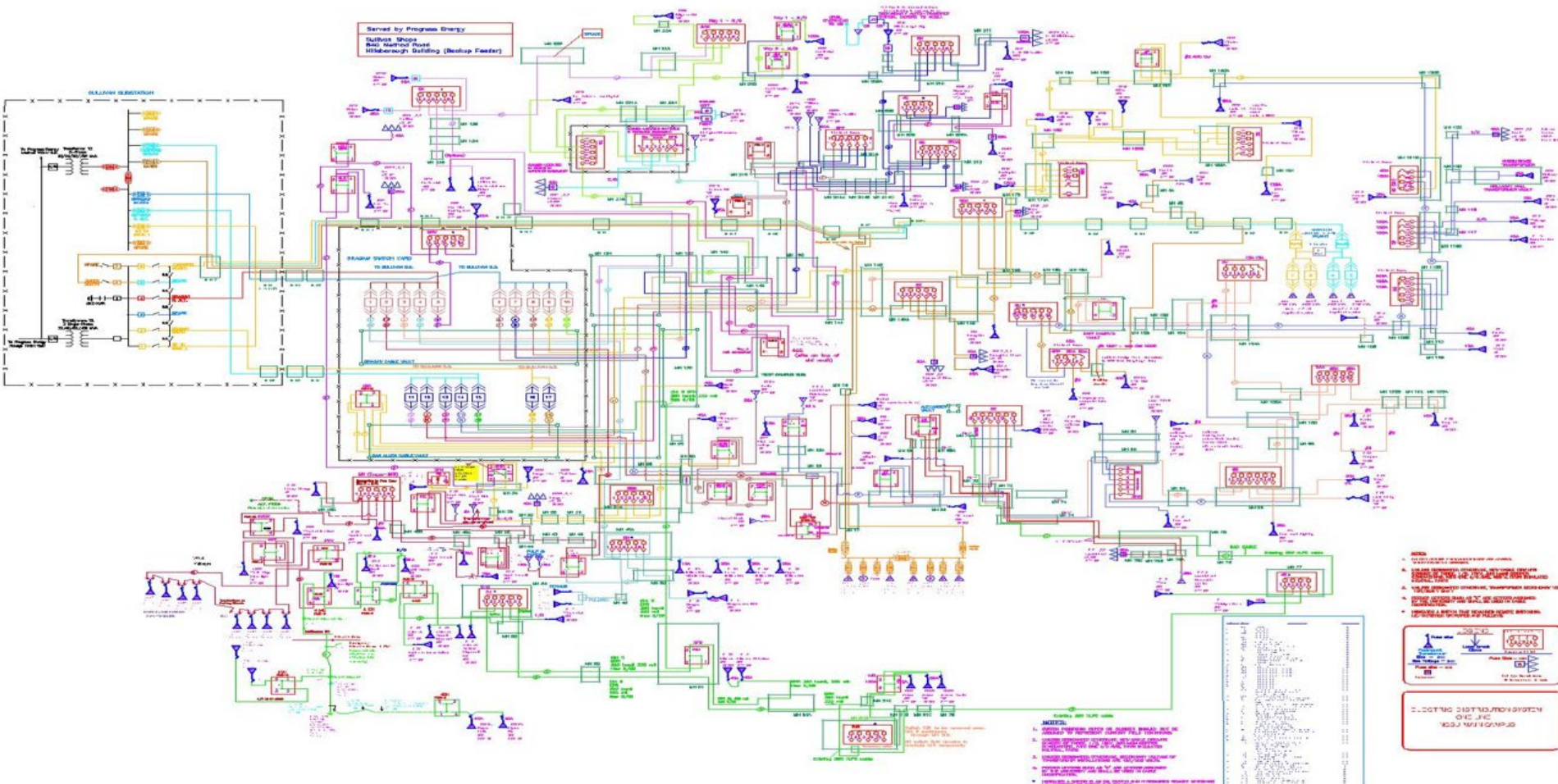


**THE SOLUTION:**

# **Electrical Distribution System Upgrade**

# Path to Improve Campus Electrical System

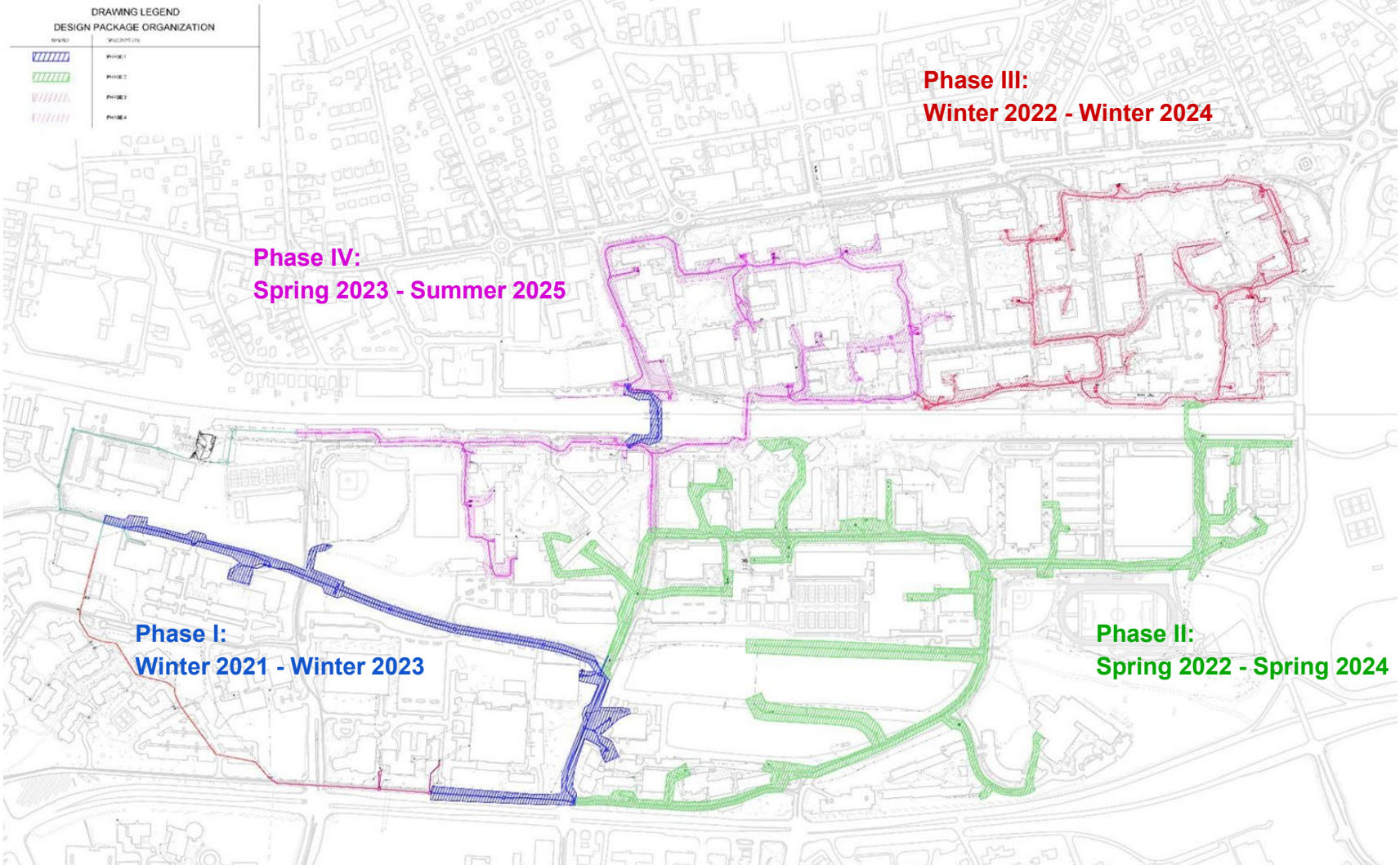






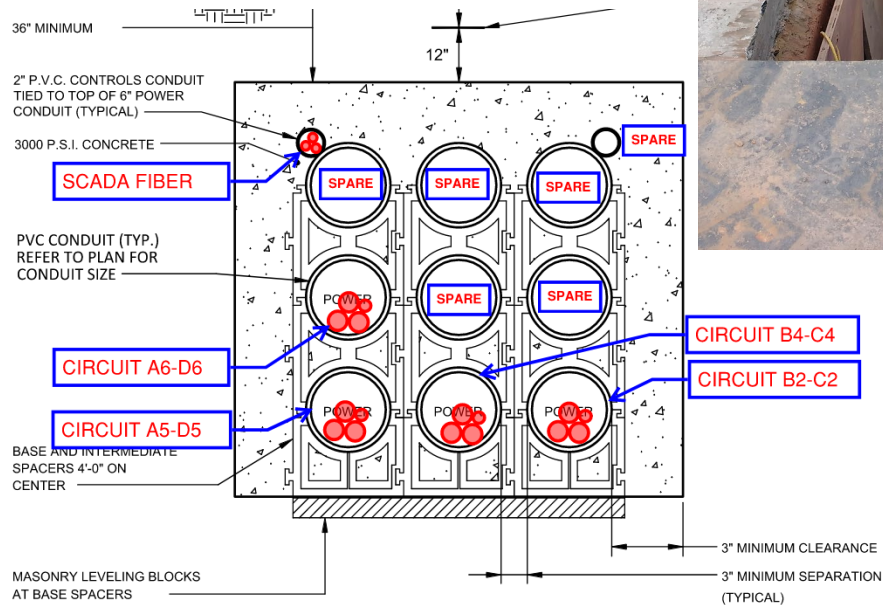
# The Plan:

## Construction Phasing and Impacts



# Stats:

- Over 5 miles of new ductbank





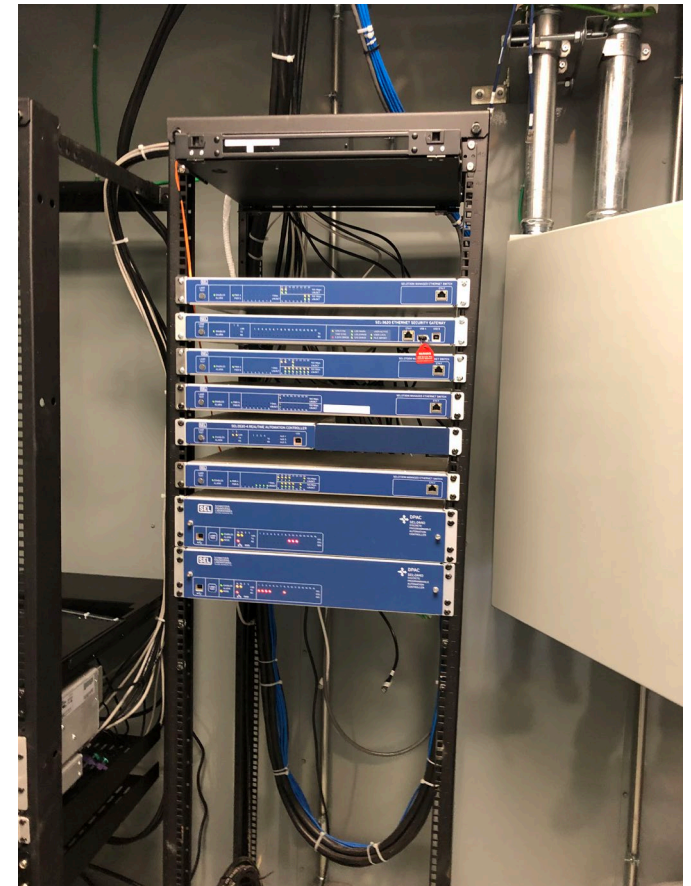
# Stats:

- 53 new above ground switches
- 104 transformer connections



# Integration:

- SCADA (Supervisory Control and Data Acquisition) controls



# Goals:



1.

**Improve  
safety**



2.

**Enhance  
reliability**



3.

**Isolate  
faults and  
minimize  
disruptions**



4.

**Prepare the  
university  
for future  
growth**

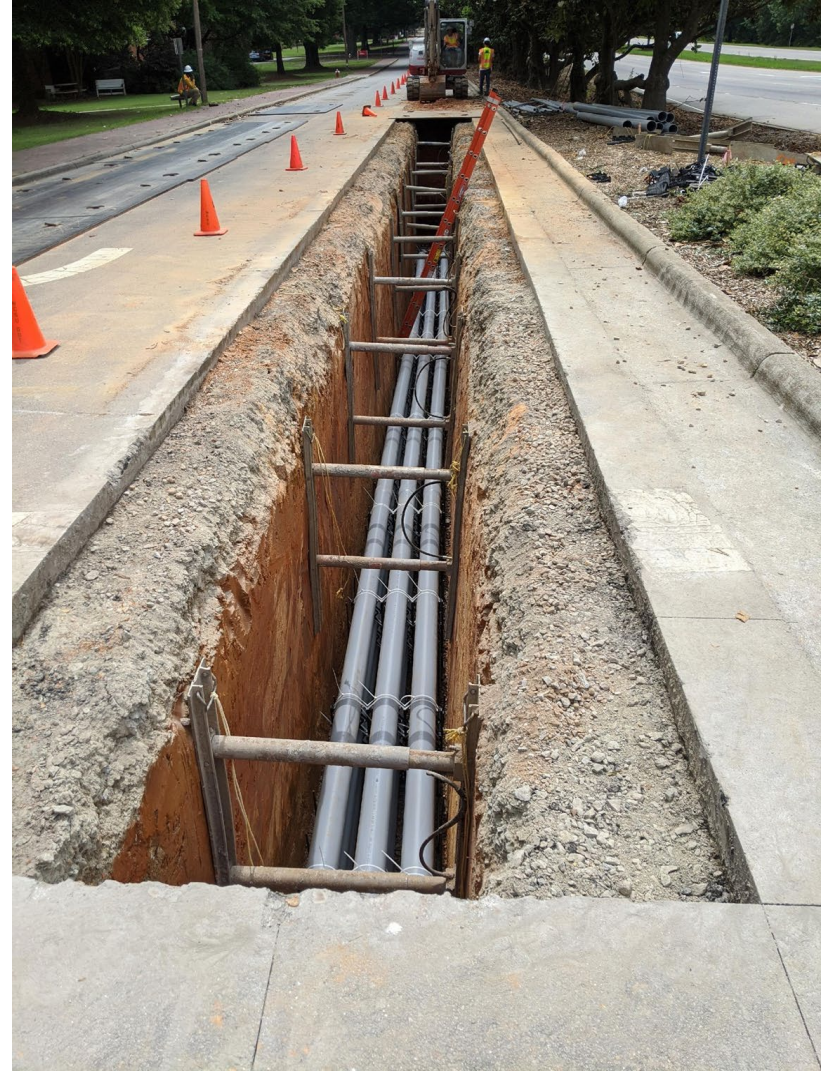


# GOAL 1: Improve Safety





## GOAL 2: Enhance Reliability



## GOAL 3:

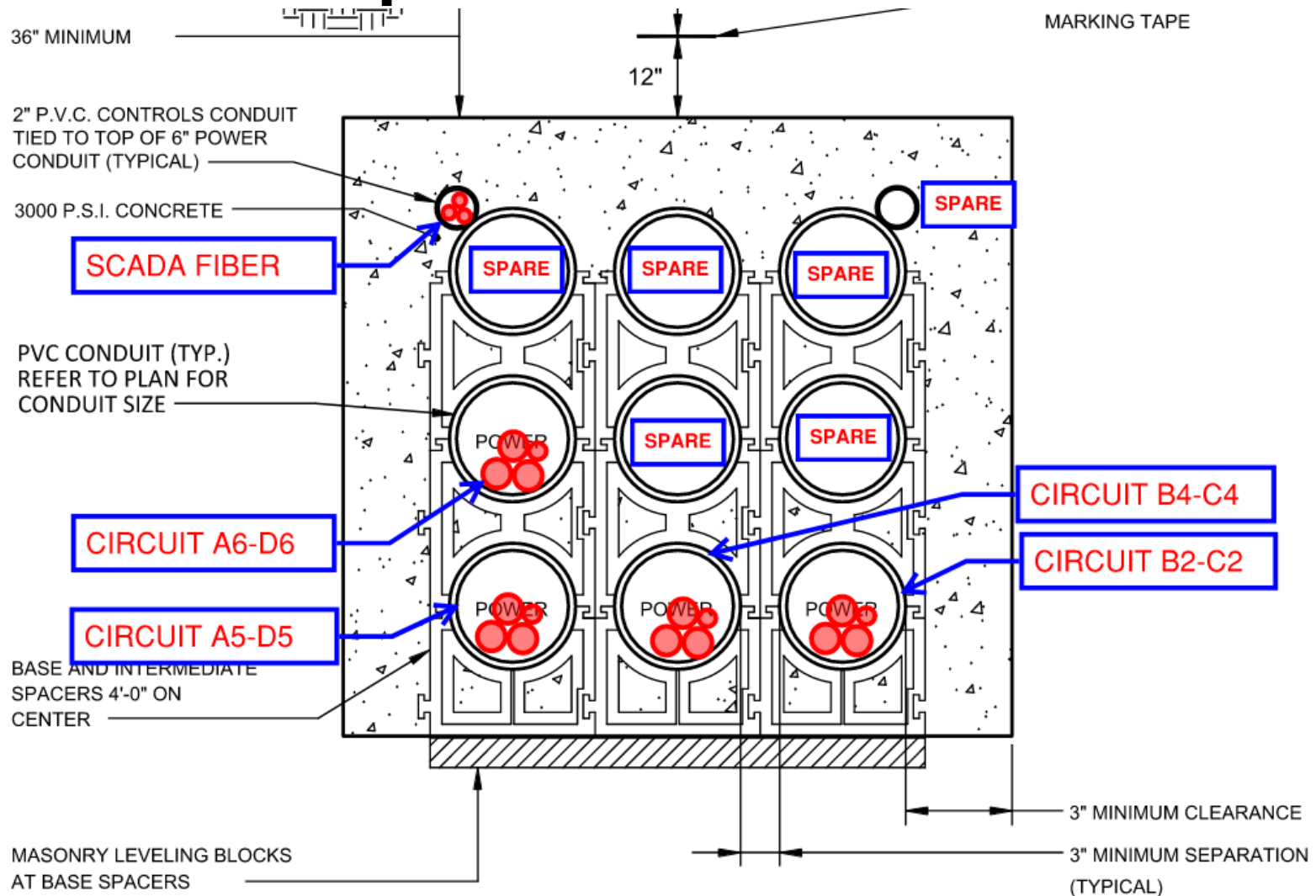
# Isolate Faults and Minimize Disruptions





## GOAL 4:

# Prepare for Future Growth





NC STATE UNIVERSITY



# POWER **FORWARD**

Electrical Distribution System Upgrade