



NCST Investigation of the Champlain Towers South Collapse

Investigation Overview

Judith Mitrani-Reiser
Lead Investigator

Jennifer Huergo
Family Liaison



Champlain Towers South Investigation: a year in reflection

NCST Advisory Committee Meeting, June 8-9, 2022






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Champlain Towers South Investigation: a year in reflection

Prelim. Recon./Invoke NCST
Engage Local Stakeholders
Execute Agreement (USACE)



From Preliminary Reconnaissance to NCST Launch

	1. INCIDENT NAME: Champlain Towers Building Collapse	2. DATE PREPARED: 7/01/2021	3. TIME PREPARED: 2000 hrs
	EVIDENTIARY RUBBLE HANDLING PROCEDURE		



Data Portal for the NIST Disaster and Failure Studies Program

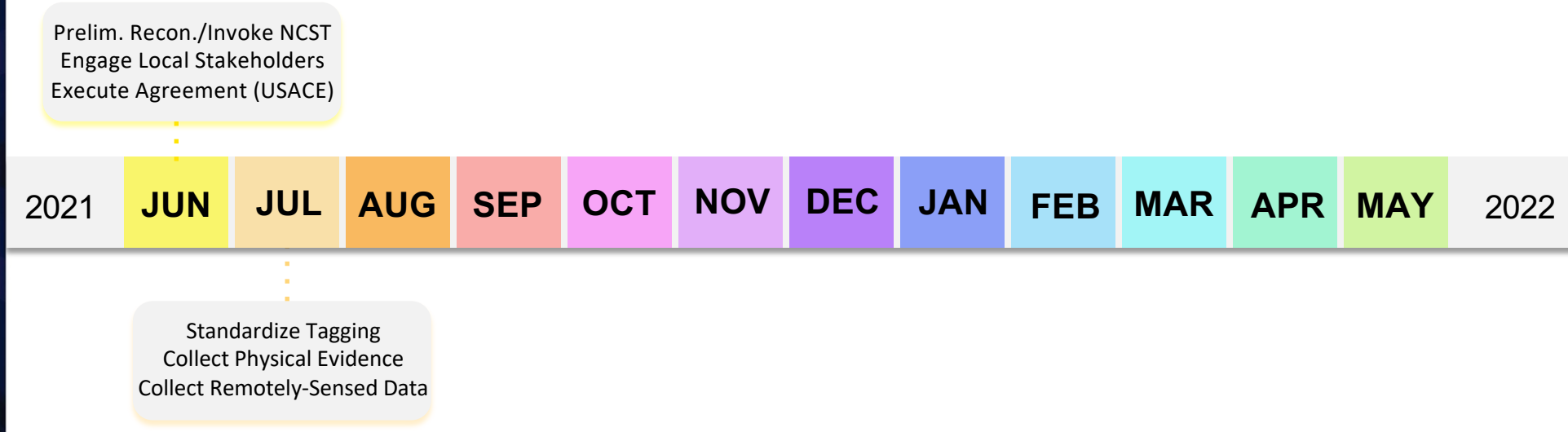
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Champlain Towers South Investigation: a year in reflection

NCST Advisory Committee Meeting, June 8-9, 2022



Standardize Procedures for Evidence Collection



Source: NIST



Source: NIST

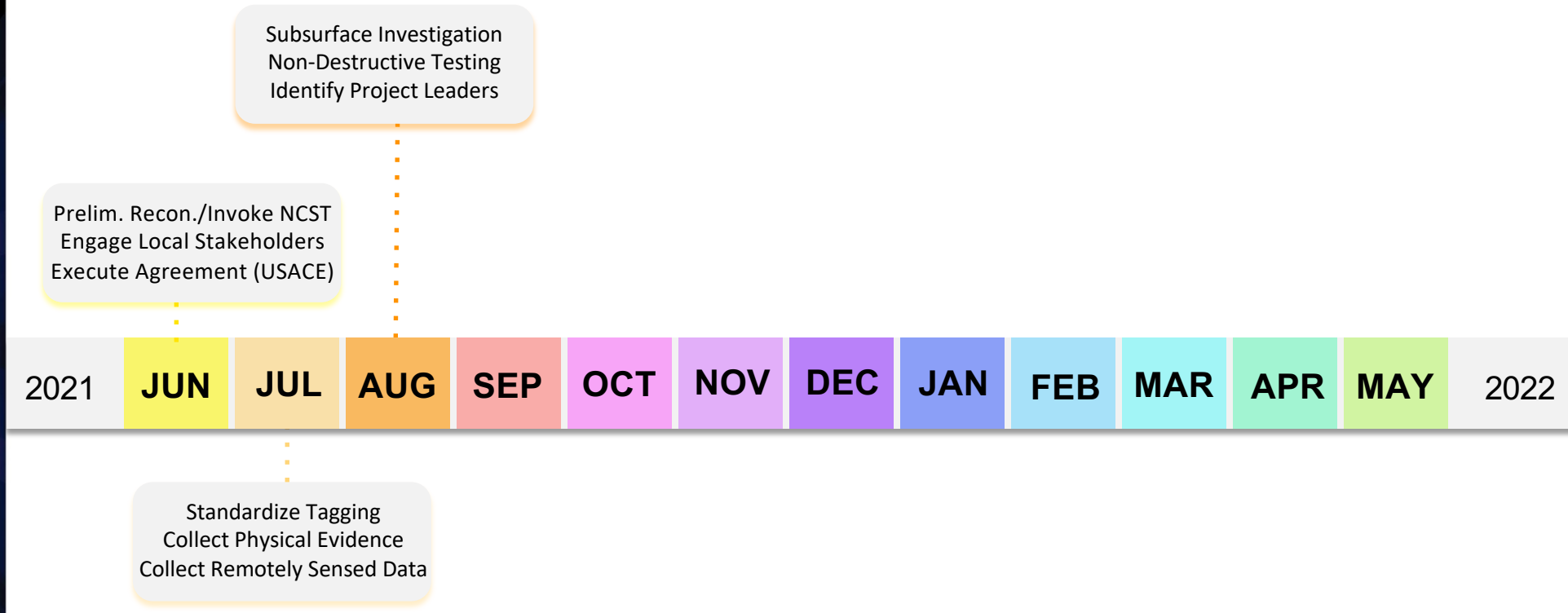


Source: NIST



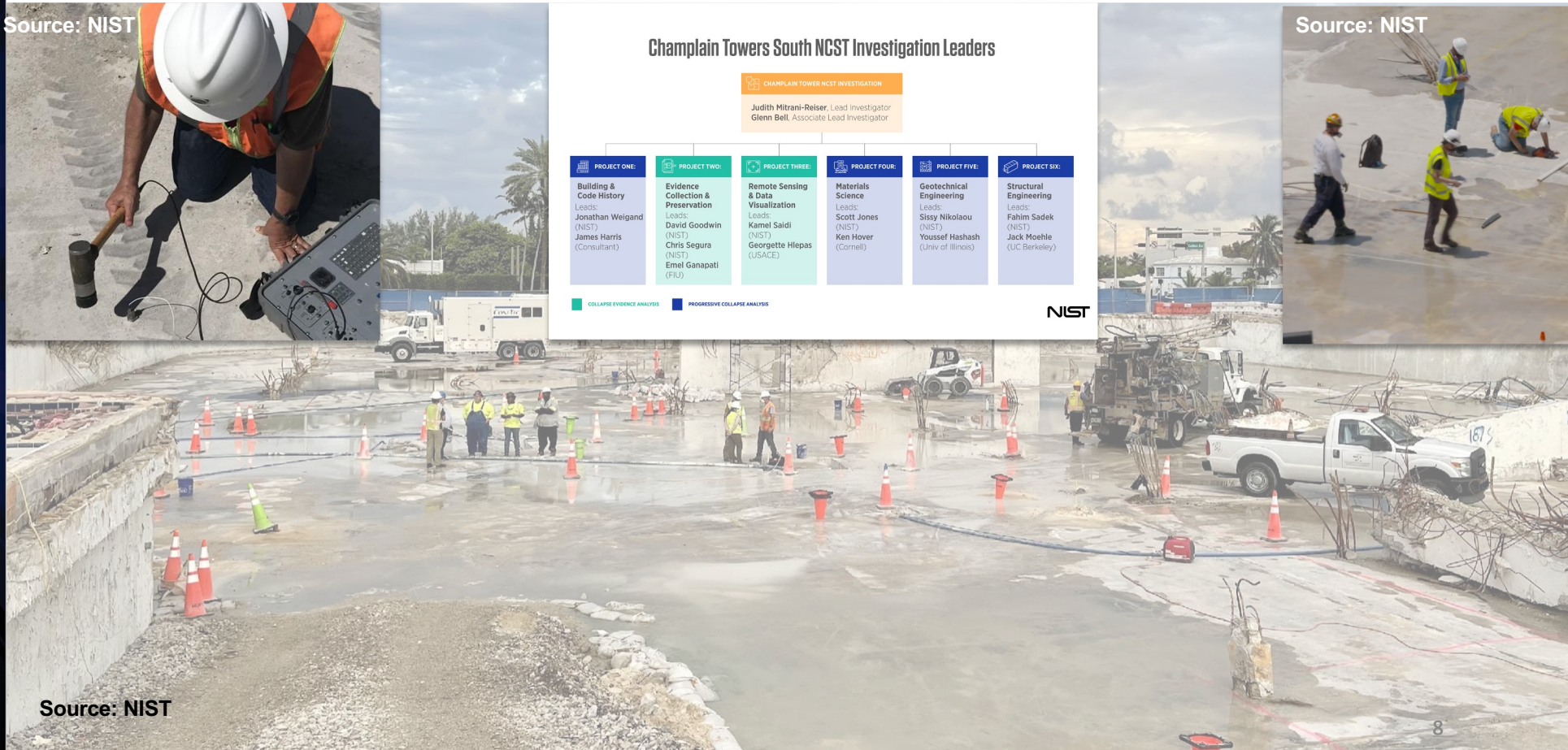
NCST Advisory Committee Meeting, June 8-9, 2022

Champlain Towers South Investigation: a year in reflection



Finalize Activities at Collapse Site and Develop the Investigation's Organization

Source: NIST



Source: NIST

Champlain Towers South NCST Investigation Leaders

CHAMPLAIN TOWER NCST INVESTIGATION

Judith Mitrani-Reiser, Lead Investigator
Glenn Bell, Associate Lead Investigator

PROJECT ONE:	PROJECT TWO:	PROJECT THREE:	PROJECT FOUR:	PROJECT FIVE:	PROJECT SIX:
Building & Code History Leads: Jonathan Weigand (NIST) James Harris (Consultant)	Evidence Collection & Preservation Leads: David Goodwin (NIST) Chris Segura (NIST) Emel Ganapati (FIU)	Remote Sensing & Data Visualization Leads: Kamel Saidi (NIST) Georgette Hlepas (USACE)	Materials Science Leads: Scott Jones (NIST) Ken Hover (Cornell)	Geotechnical Engineering Leads: Sissy Nikolau (NIST) Youssef Hashash (Univ of Illinois)	Structural Engineering Leads: Fahim Sadek (NIST) Jack Moehle (UC Berkeley)

■ COLLAPSE EVIDENCE ANALYSIS
 ■ PROGRESSIVE COLLAPSE ANALYSIS

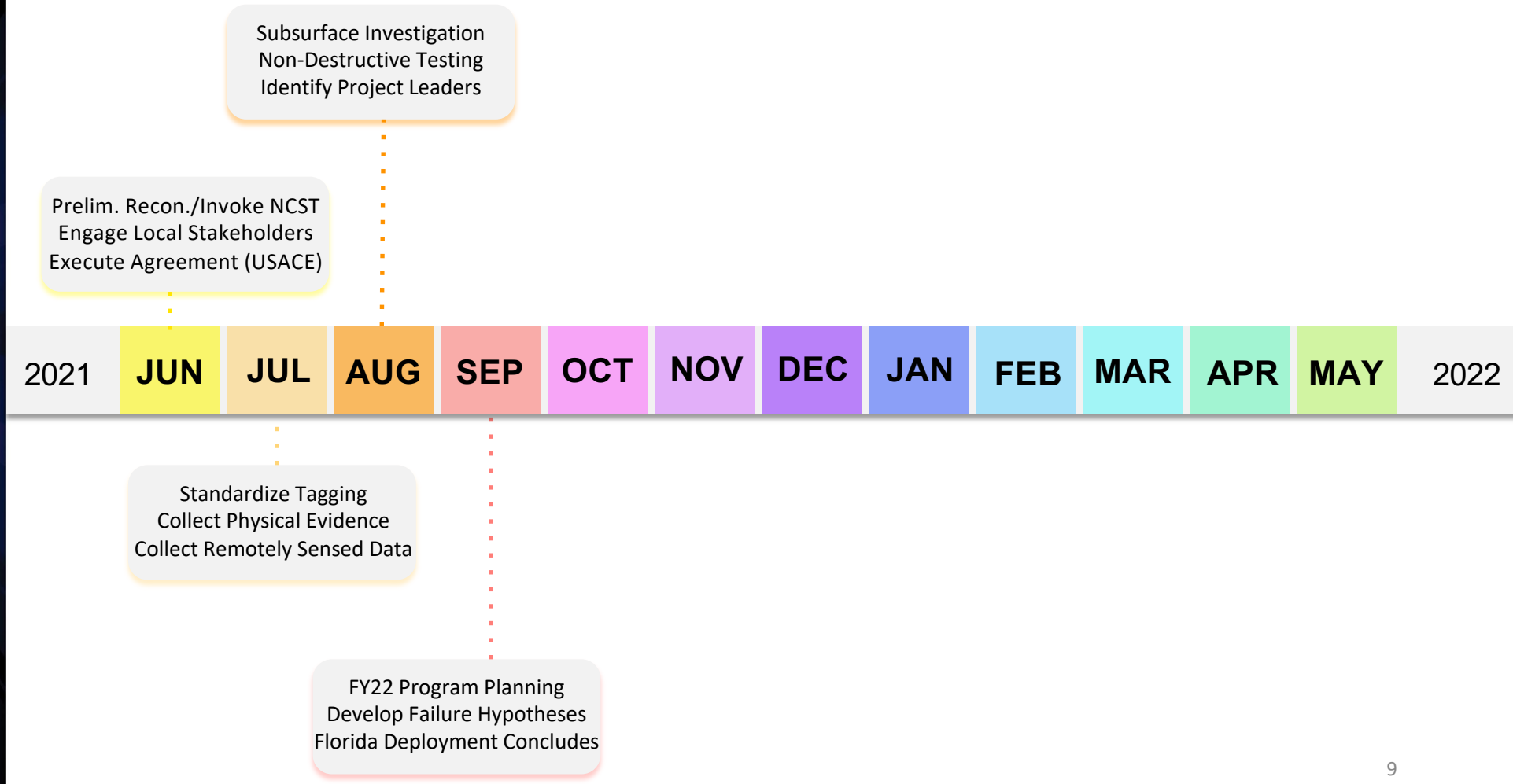
NIST

Source: NIST

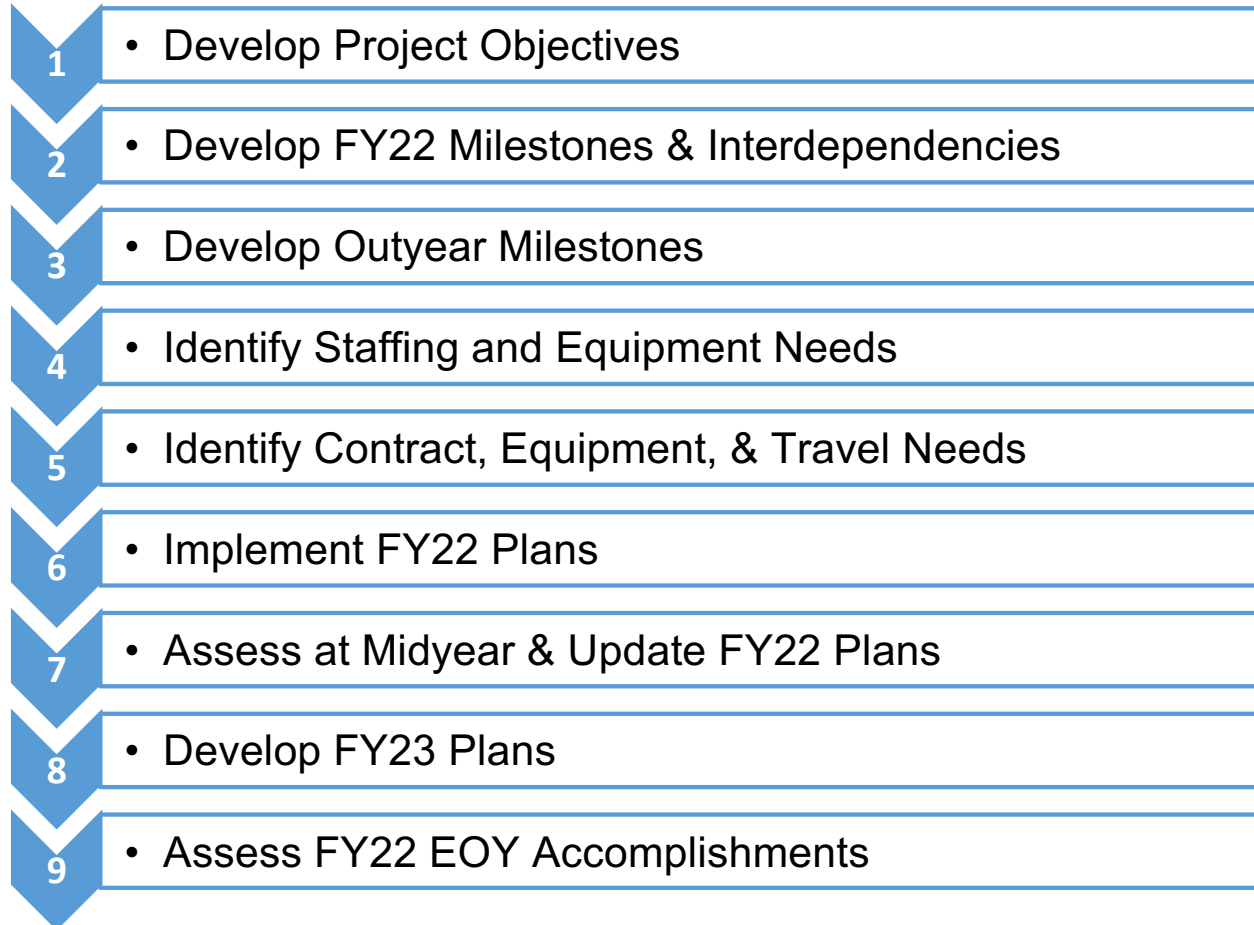


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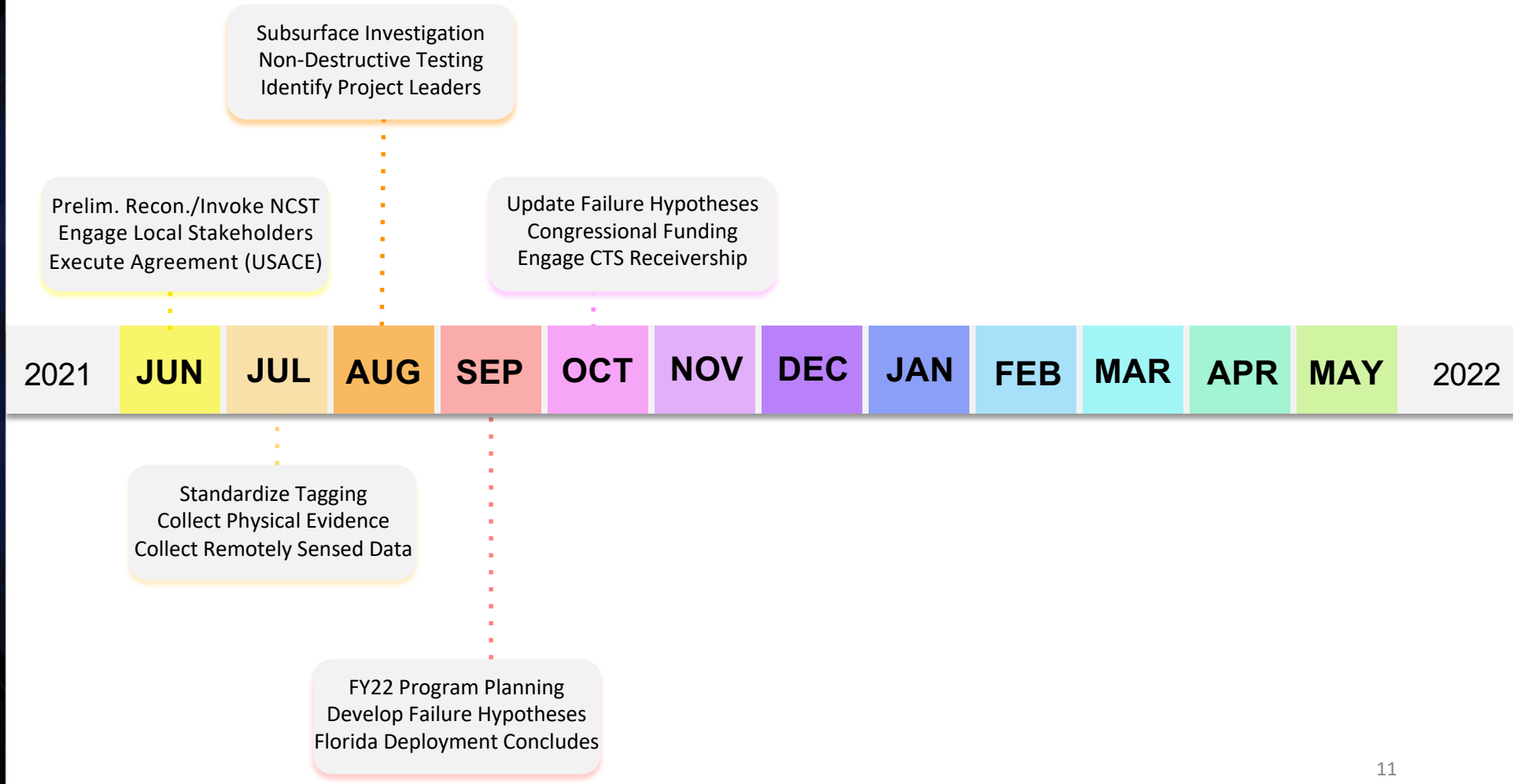
FY22 Program Planning Work Flow



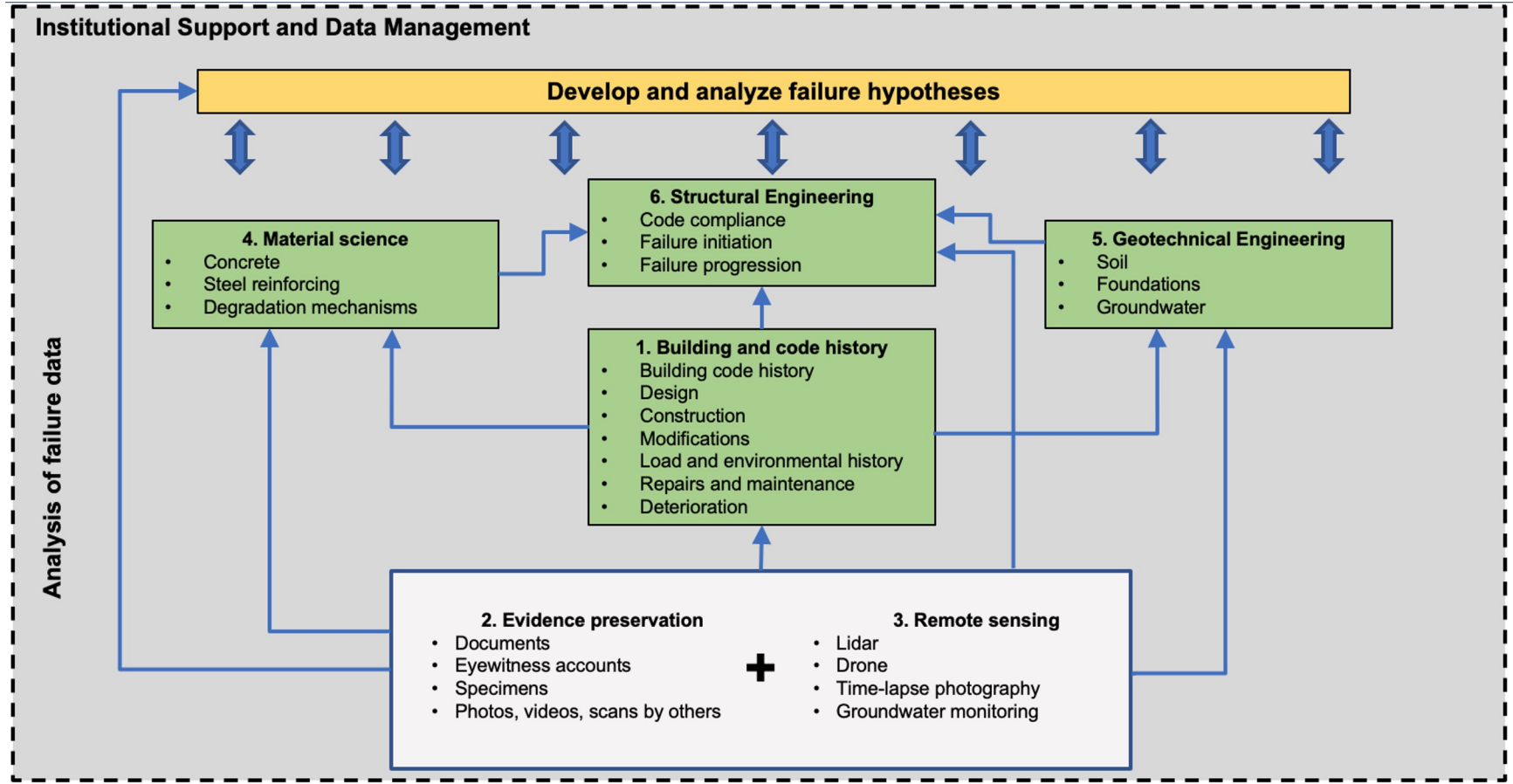


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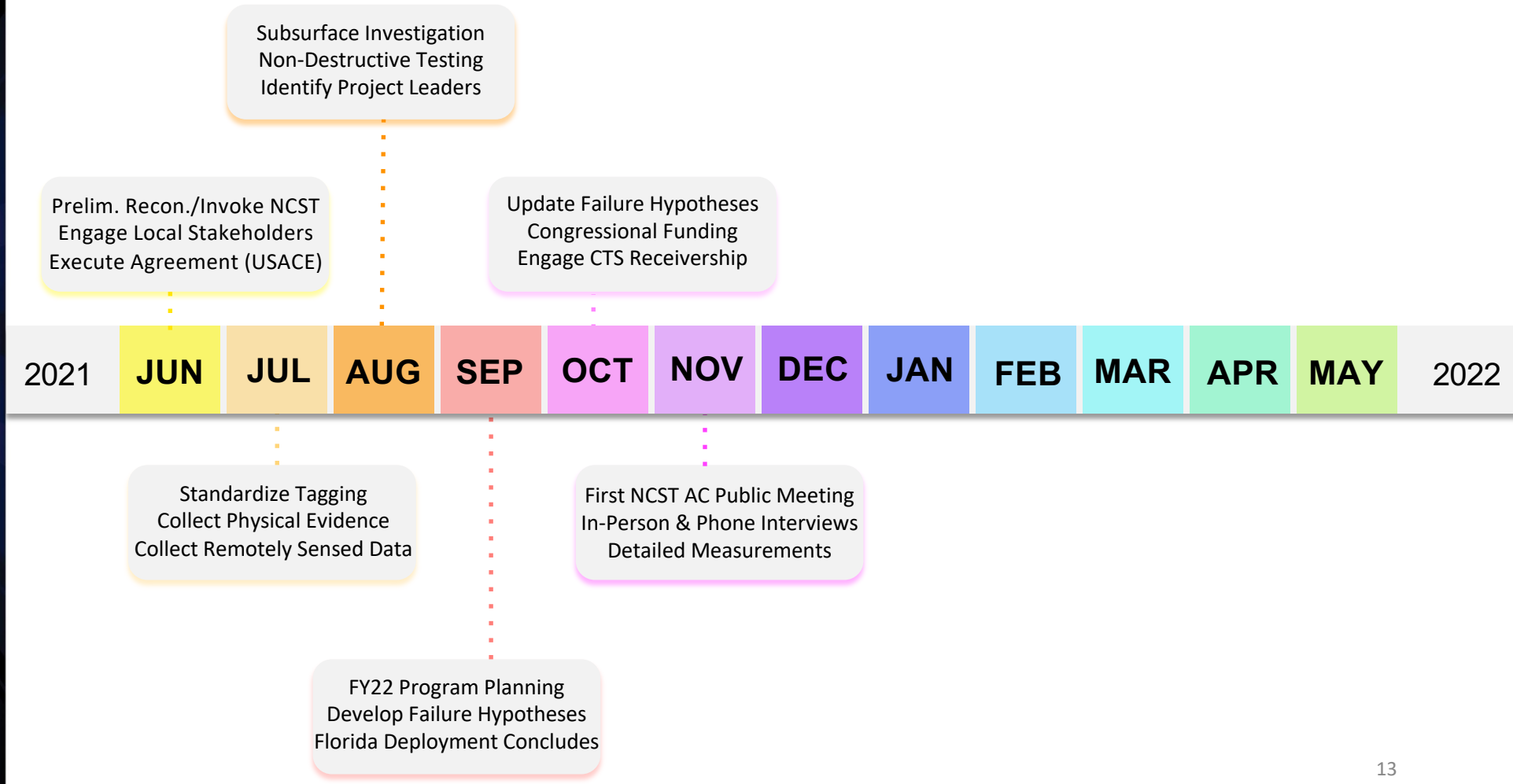


Develop Failure Hypotheses Based on Collected Evidence





Champlain Towers South Investigation: a year in reflection

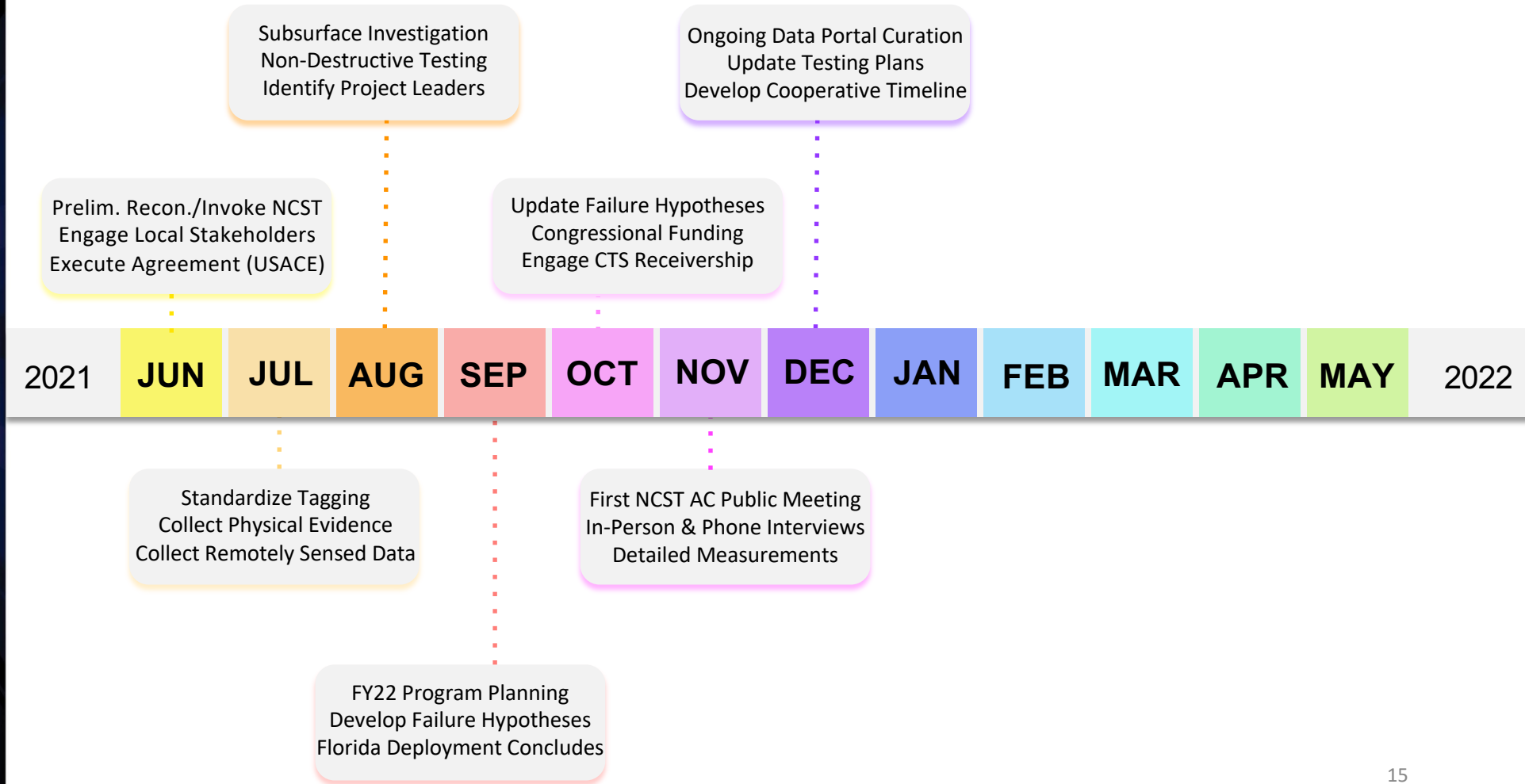


Collect Detailed Structural Measurements First CTS Public Meeting Held on Nov 8, 2021





Champlain Towers South Investigation: a year in reflection





Develop Draft Cooperative Timeline

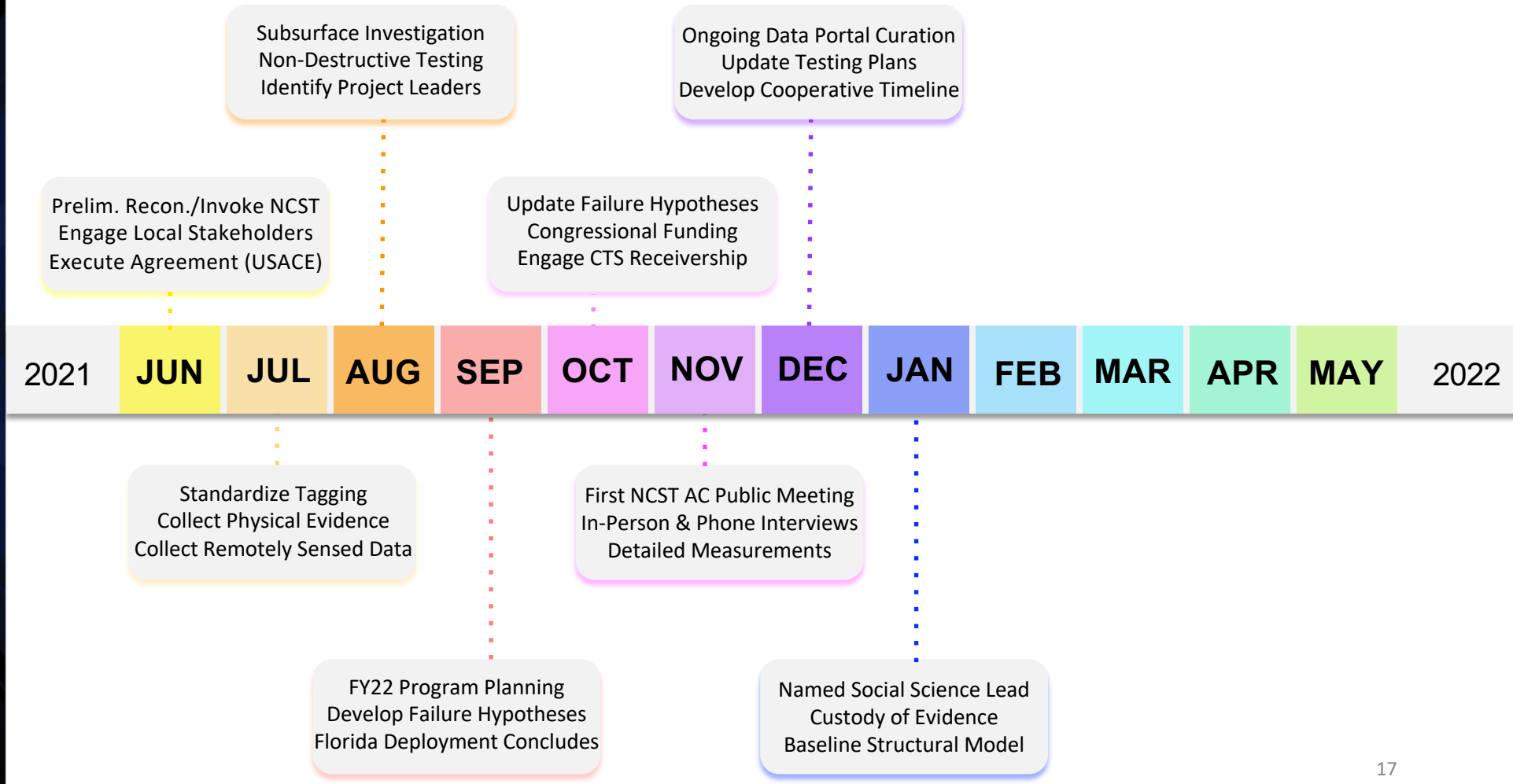
Entities	Phase Name
NIST + MDPD	Evidence Collection
CL	Observations & NDT
CL	Joint Protocol Development
CL	Joint Protocol Implementation
NIST + MDPD	Observations & NDT
NIST + MDPD + CL	Foyer Viewing
NIST + MDPD	Prepare Offsite
NIST + MDPD	Transport Specimens
NIST + MDPD	Prepare PEF for Testing
NIST + MDPD + CL	Observations & NDT
NIST + MDPD	Invasive Testing
NIST + MDPD + CL	Joint Protocol Development
NIST + MDPD + CL	Invasive Testing at PEF

FY21 Q4			FY22 Q1			FY22 Q2			FY22 Q3			FY22 Q4			FY23 Q1		
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Green	Green	Green															
			Blue	Blue													
				Blue	Blue	Blue											
						Blue	Blue	Blue									
			Green	Green	Green	Green	Green	Green	Green	Green							
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MDPD = Miami-Dade Police Department PEF = Primary Evidence Facility
 CL = Civil Litigants NDT = Non-Destructive Testing

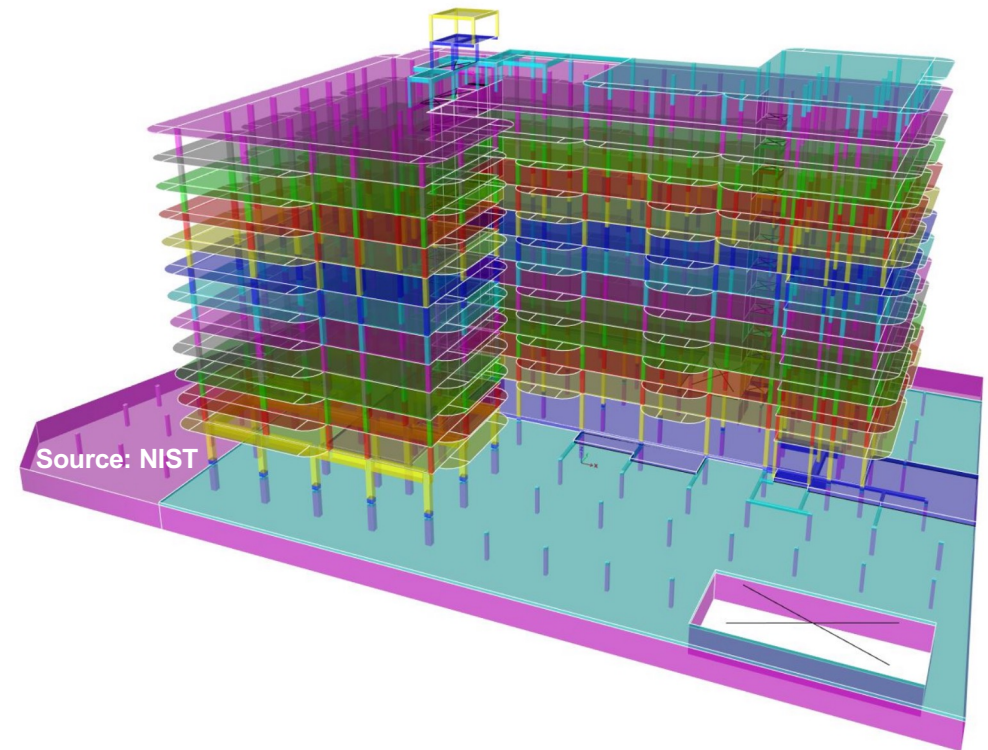
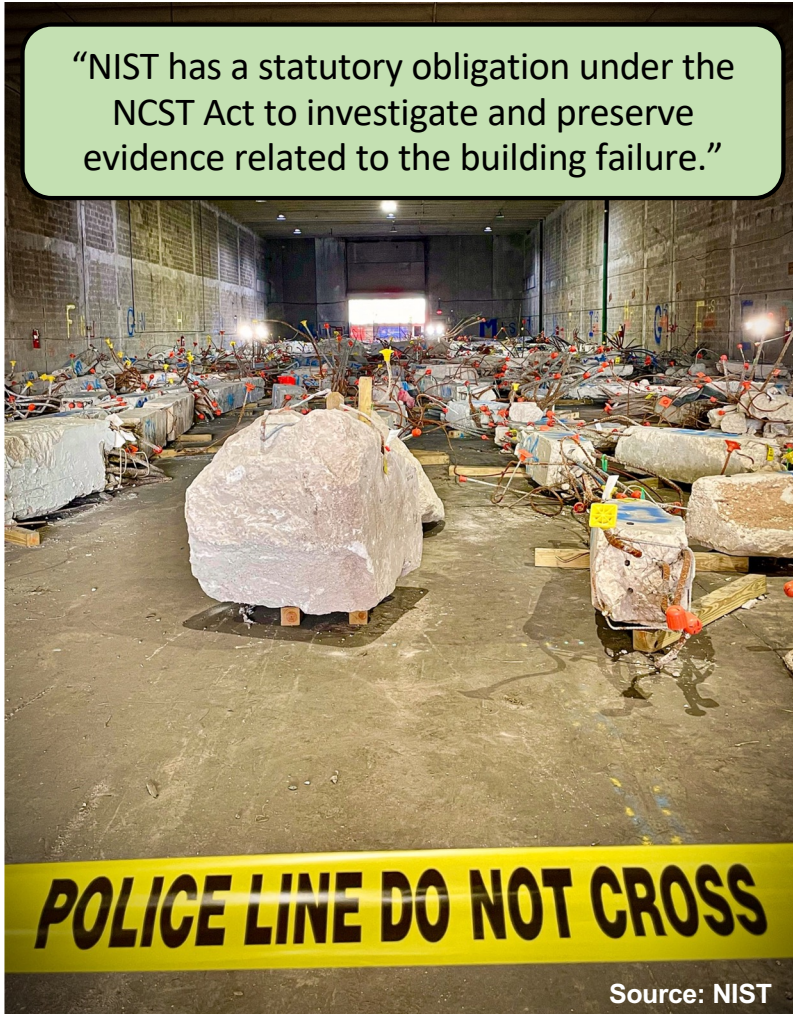


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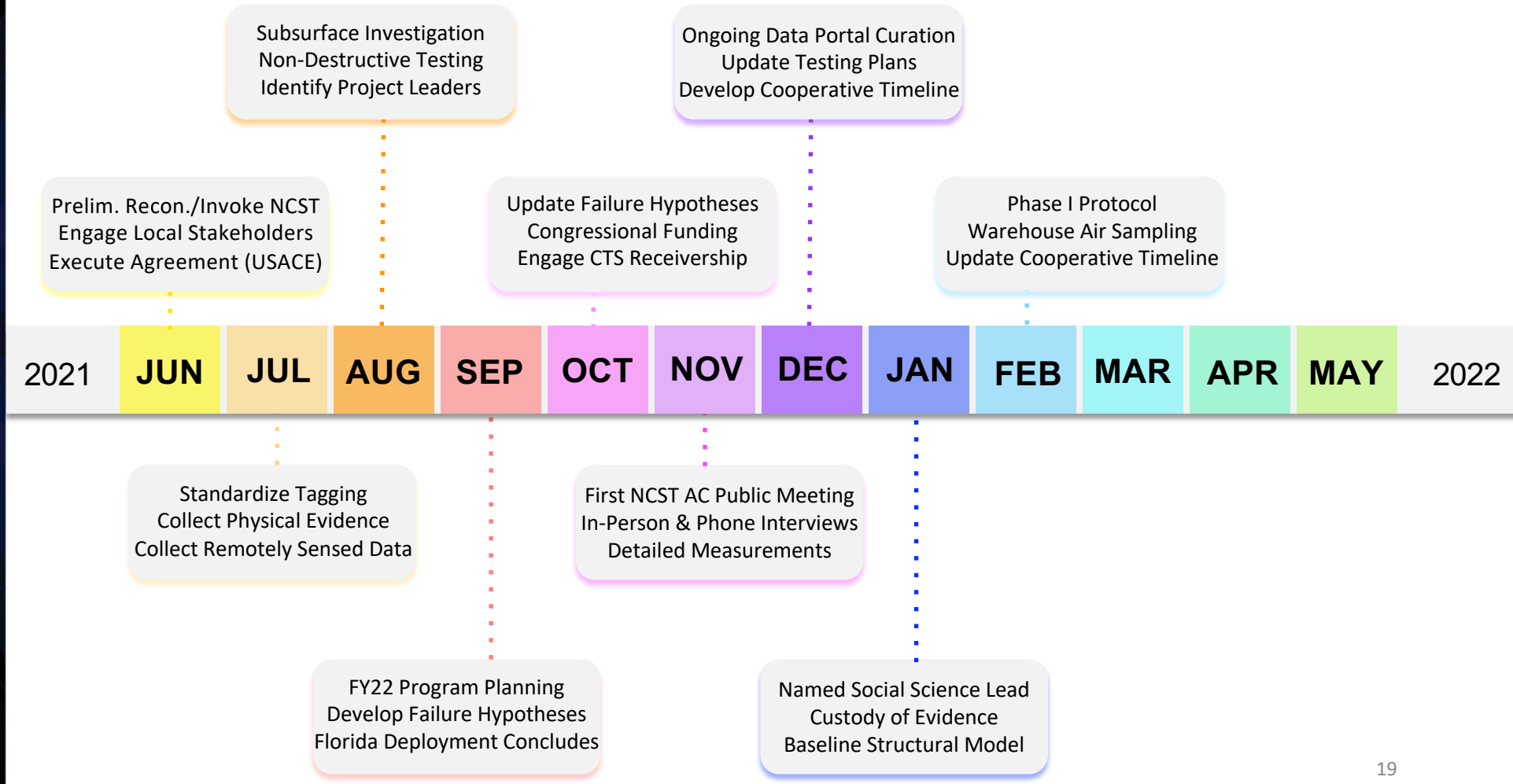
NIST Assumes Evidence Custody & Finalizes Baseline Model

“NIST has a statutory obligation under the NCST Act to investigate and preserve evidence related to the building failure.”



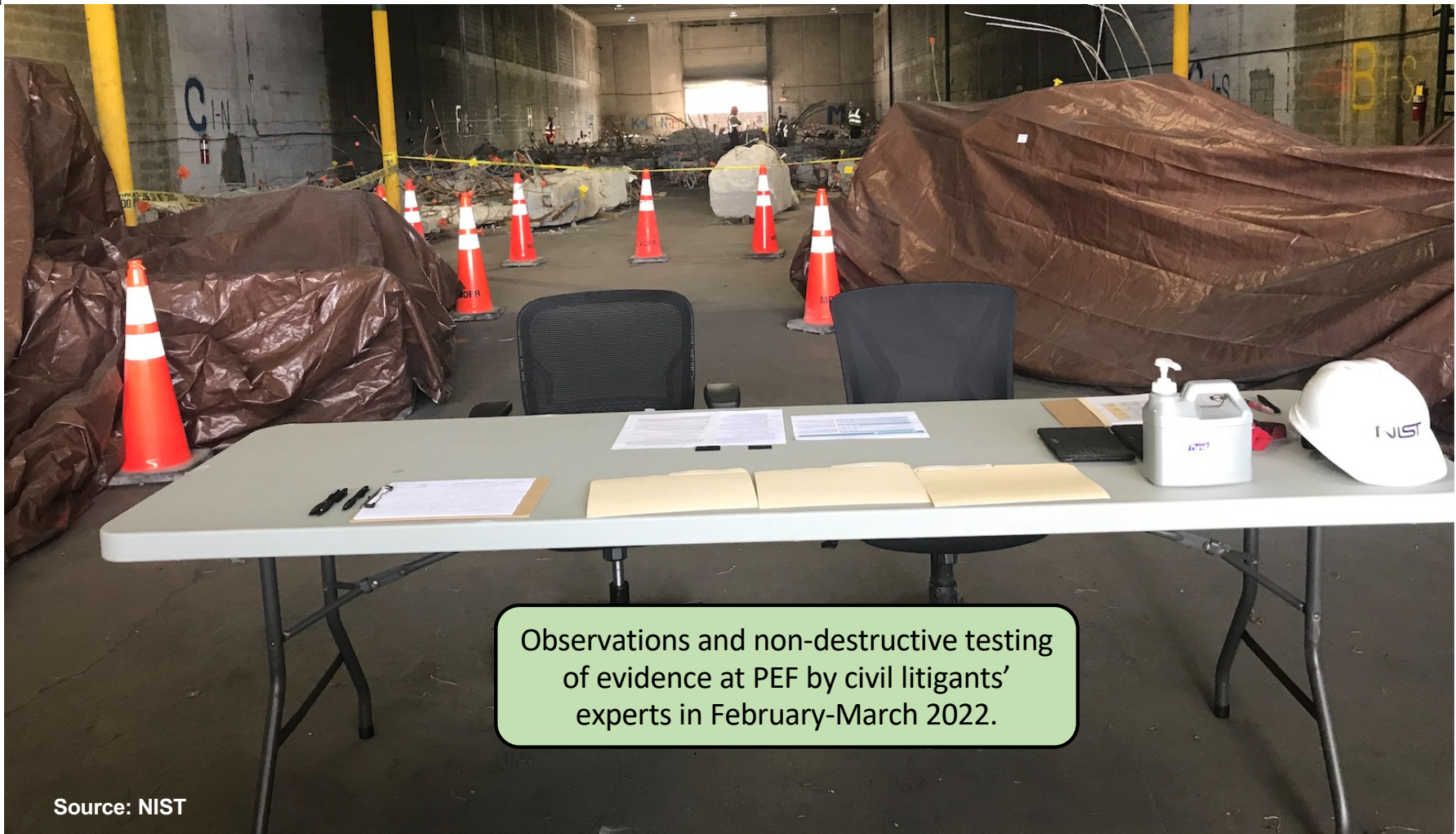


Champlain Towers South Investigation: a year in reflection





Implementation of Phase I Protocol

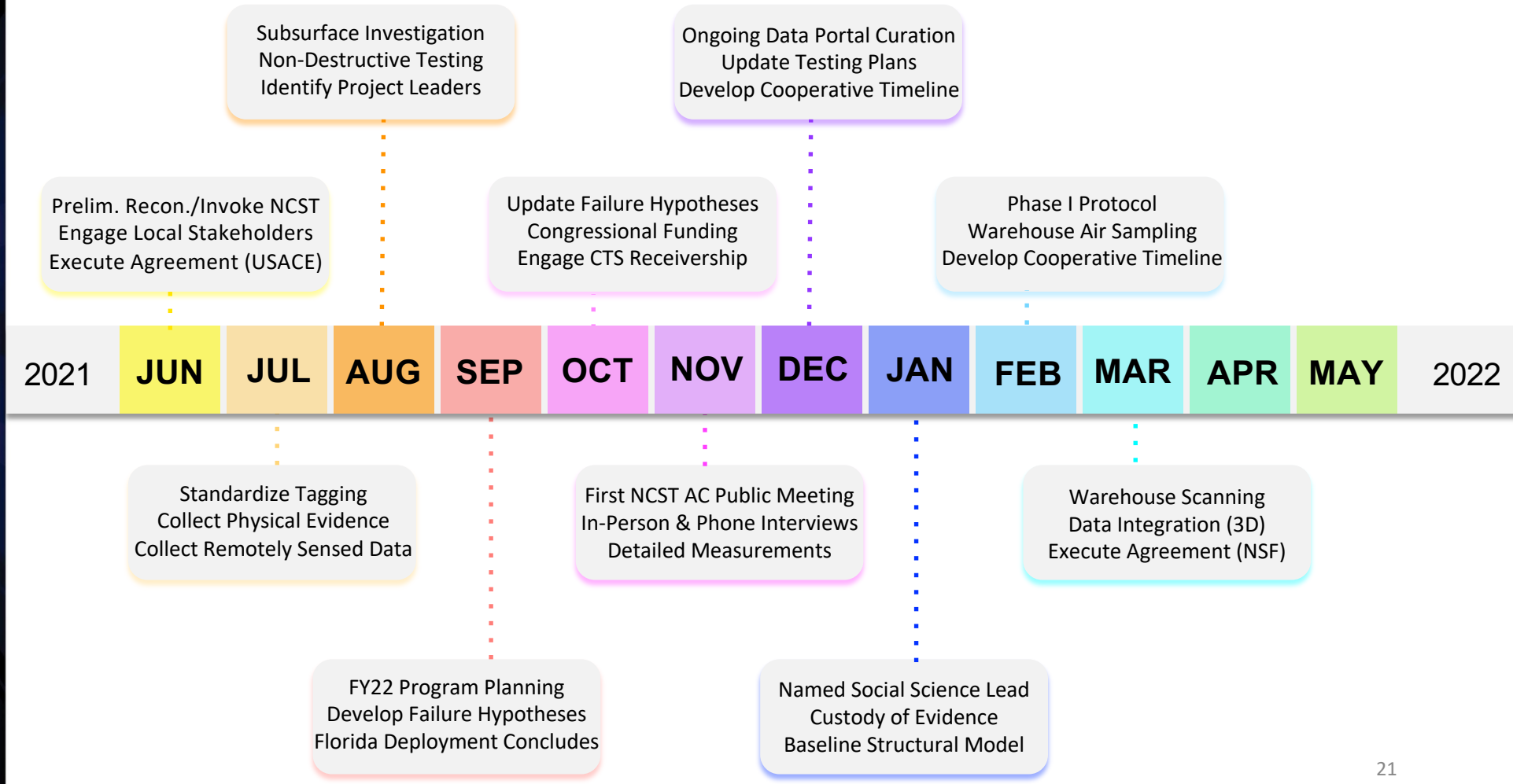


Observations and non-destructive testing of evidence at PEF by civil litigants' experts in February-March 2022.

Source: NIST

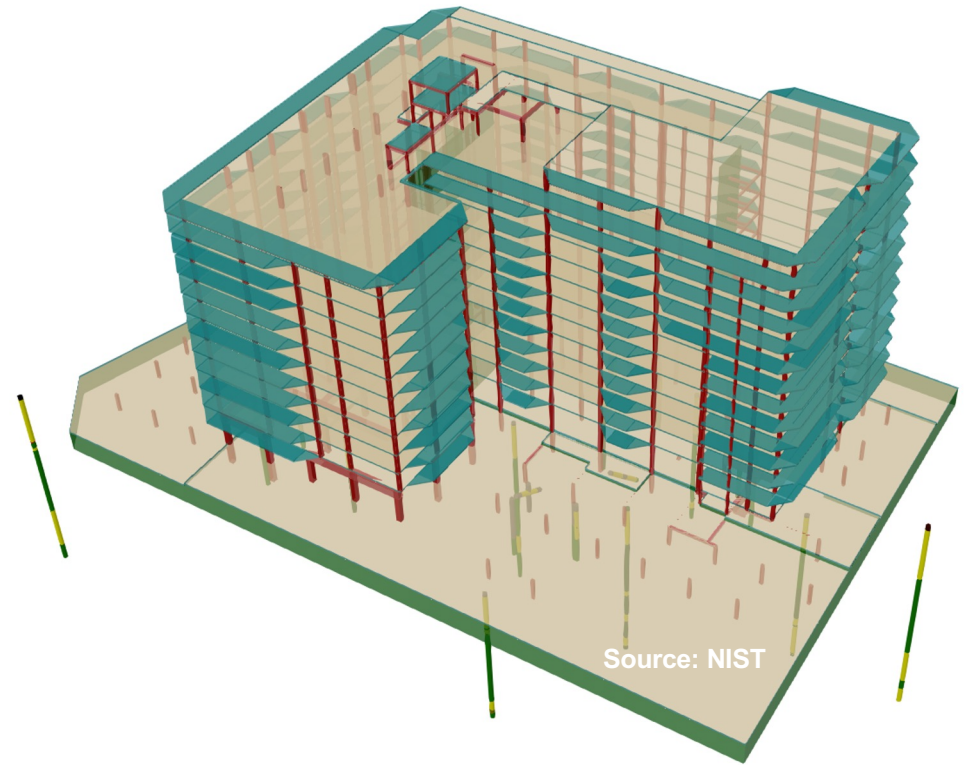


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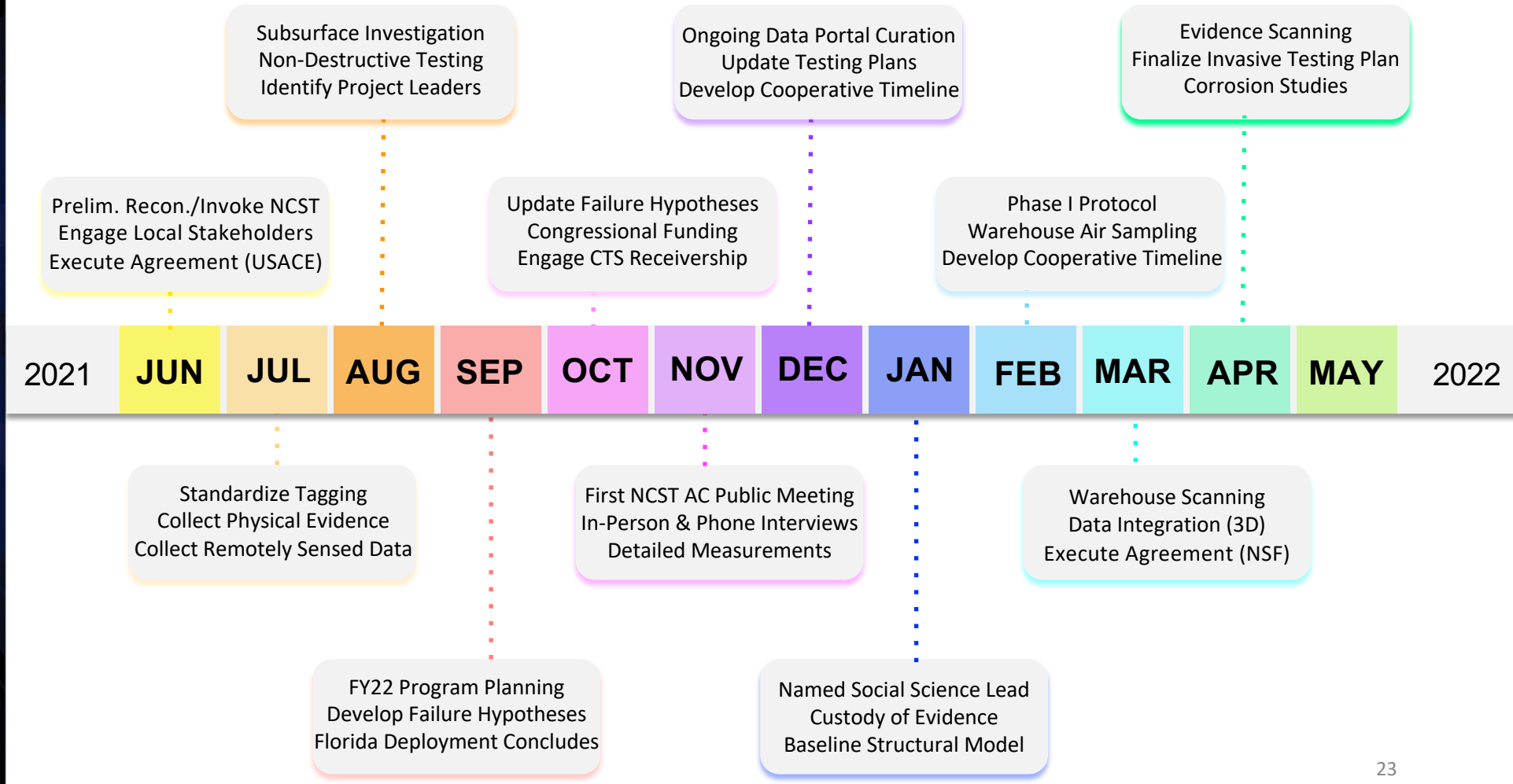


Warehouse Scanning for Reorganization Plans and Evidence Integration in 3D Model





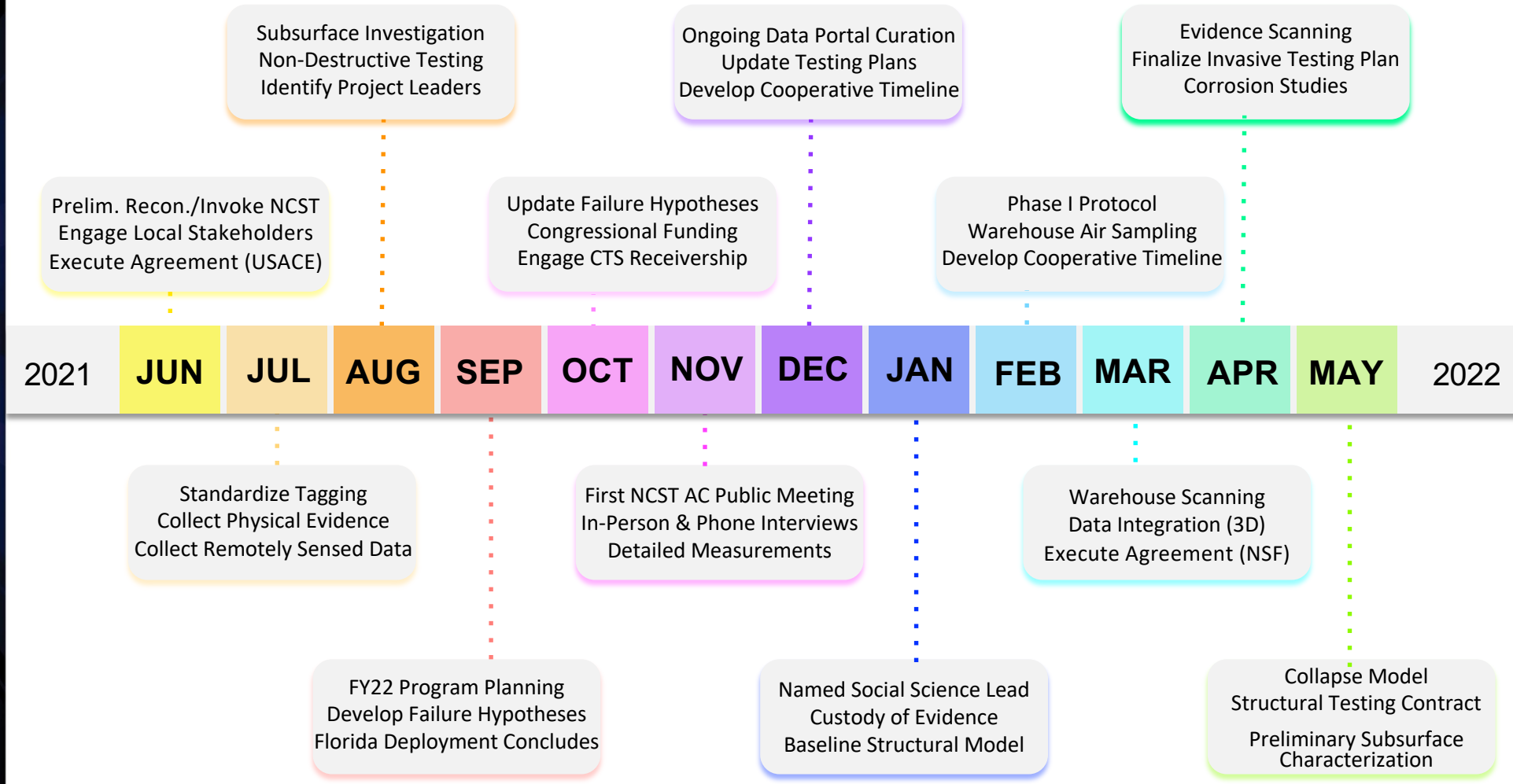
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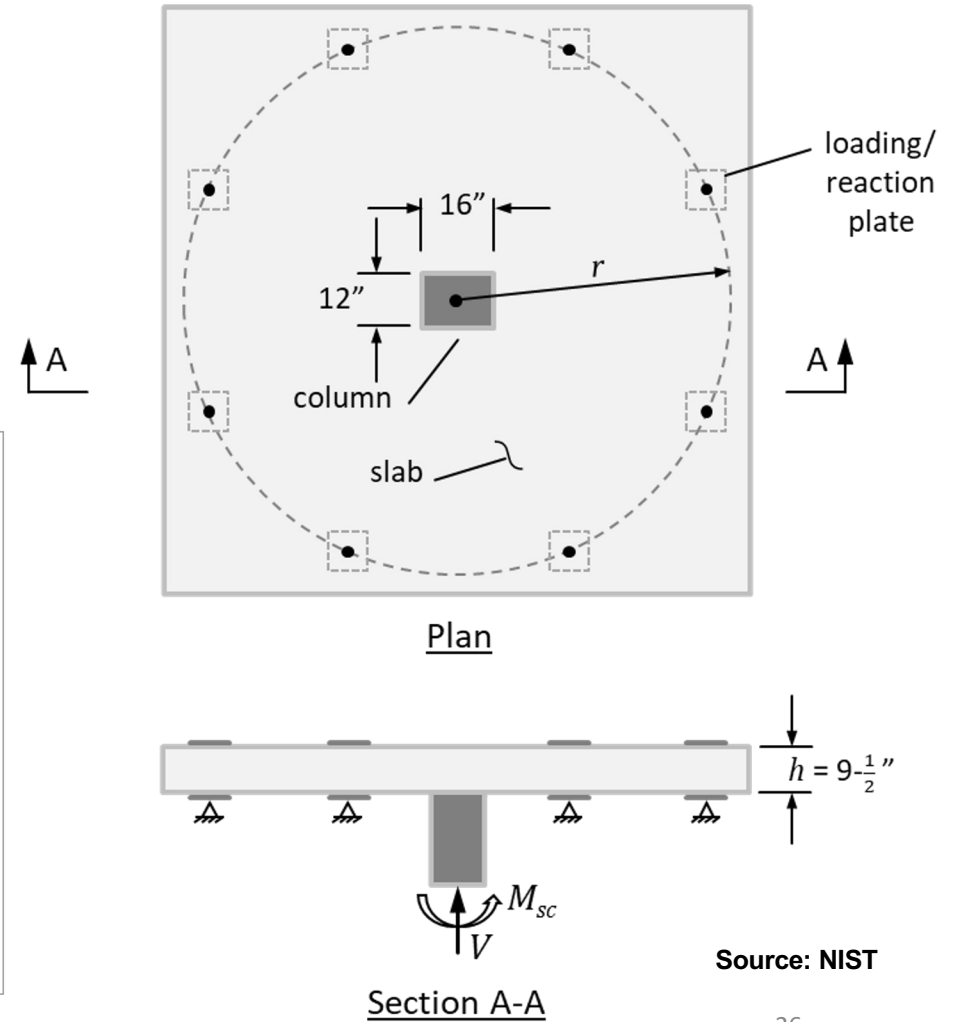
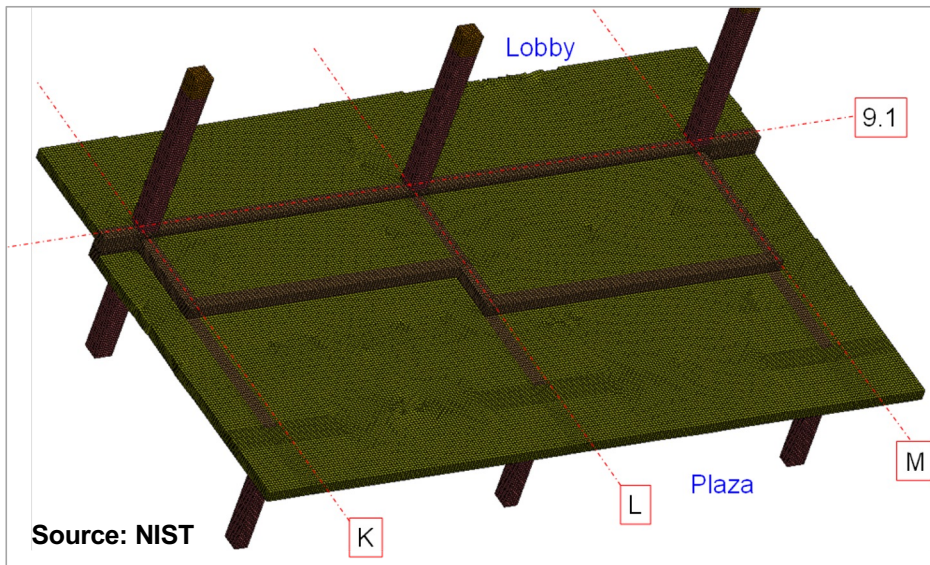


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Develop First Generation of the Collapse Model & Finalize Structural Testing Program



NIST Engineering Laboratory (EL)

Structures Group (MSSD)
Infrastructure Materials Group (MSSD)
Earthquake Engineering Group (MSSD)
Community Resilience Group (MSSD)
Disaster Statutory Programs (MSSD)
Intelligent Systems & Fire Research Divisions
EL's Data, Security, Technology Group
EL's Applied Economics Office

MSSD = Materials and Structural Systems Division

NIST

Physical Measurement Laboratory
Materials Measurement Laboratory
Public Affairs Office
Office of Chief Counsel
Program Coordination Office
Management and Organization Office
Acquisition & Agreements Mgmt. Office
ITL's Statistical Engineering Division

ITL = Information Technology Laboratory

**Collaborate
Coordinate
Cooperate**

Federal

Federal Emergency Mgmt. Agency
U.S. Army Corps of Engineers
U.S. Geological Survey
National Science Foundation
Department of Defense
NOAA's National Weather Service
Bureau of Reclamation

NOAA = National Oceanic and Atmospheric Administration

Local and State

Miami-Dade County Mayor's Office,
Fire, Police, and Building Departments
Town of Surfside
City of Miami Beach
Florida Department of Emergency Mgmt.
Florida DOT and State Attorney's Office
Virginia Beach Fire Department
USAR Task Forces

DOT = Department of Transportation

USAR = Urban Search & Rescue

Family, Stakeholder, and Public Communications

June 25

Received our first media inquiry about NIST's potential role investigating the collapse. Chief of Material & Structural Systems Division Jason Averill gave multiple interviews to support public communications.

June 29

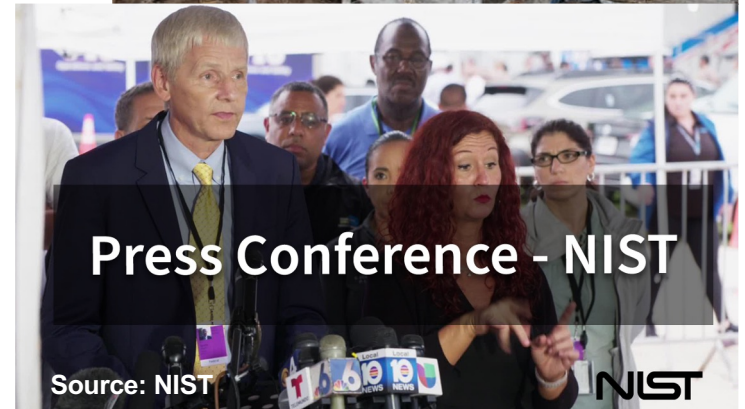
NIST director, Public Affairs Office acting director, video group director and video team onsite.

June 30

Announced investigation at press conference.

August 25

NIST press conference to announce team members.



Family, Stakeholder, and Public Communications

- NIST participated in numerous meetings with elected officials from the state and local levels, as well as federal and local response agencies.
- Created a webpage with an easy-to-recall URL where all updates, photos, videos, team information and more are kept up to date: www.nist.gov/champlain
- Established an email list to communicate with those survivors and family members who wish to hear directly from us



Source: FEMA

Champlain Towers South Collapse

Background
News and Updates
Projects
Public Meeting Videos
National Construction Safety Team

Champlain Towers South Collapse

On June 24, 2021, Champlain Towers South, a 12-floor condominium in Surfside, Florida, partially collapsed at approximately 1:30 a.m. EDT. The collapse happened suddenly and has resulted in mass casualties.

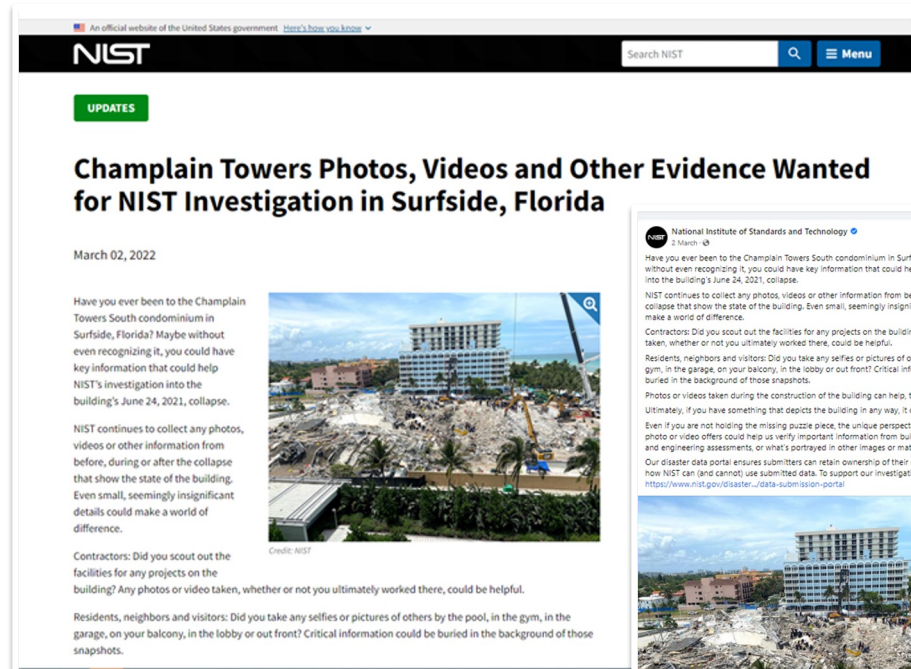
On June 25, NIST began deploying a team of six scientists and engineers to collect firsthand information on the collapse. Since then, NIST experts have been working with federal, state and local authorities to identify and preserve materials and information that might be helpful in understanding why the collapse occurred.

[Read More](#)

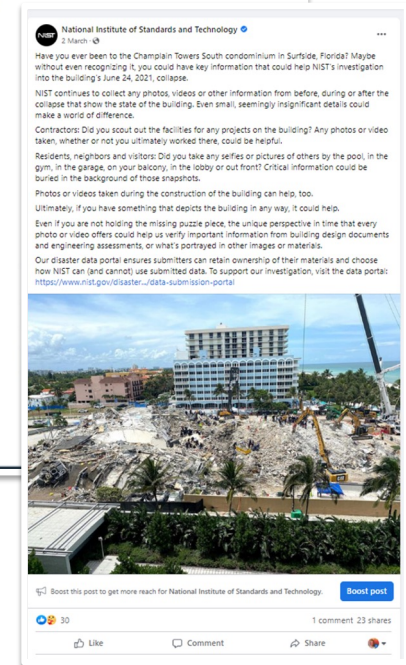
Source: NIST

Family, Stakeholder, and Public Communications

- Issued six news releases and updates
- Released video B-roll and photographs for media use, committee meeting video
- Use social media to amplify news releases and to call for photos, videos and other information on the building before the collapse



Source: NIST

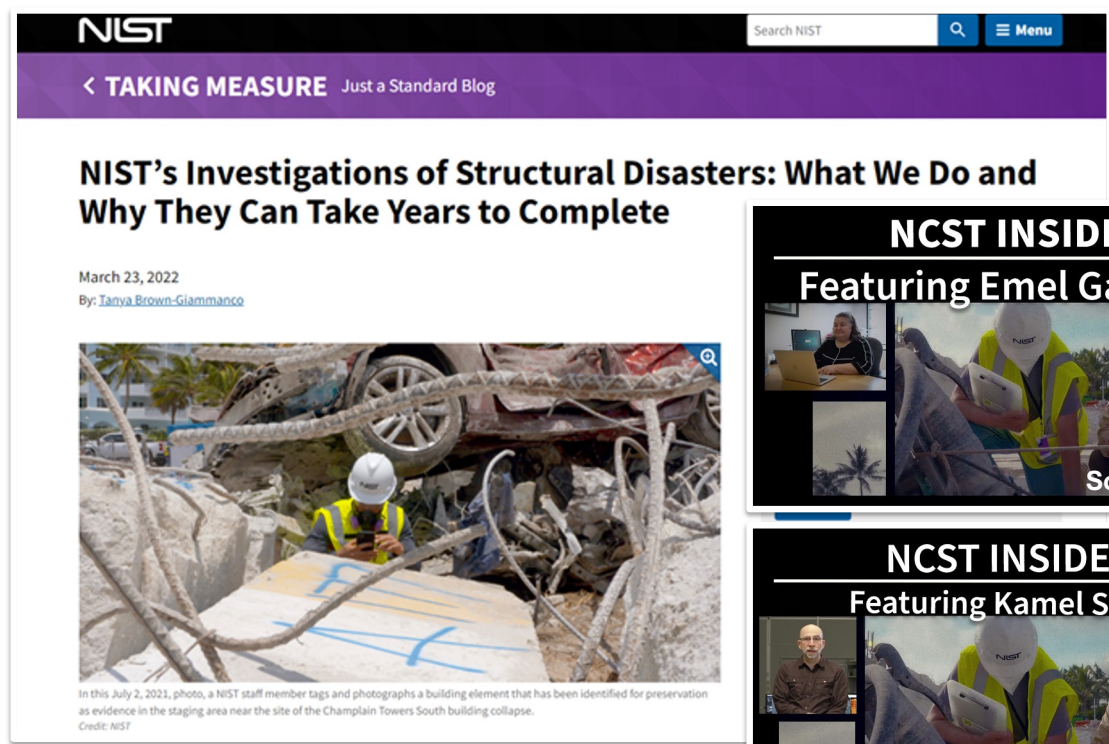


Source: NIST

Family, Stakeholder, and Public Communications

- Use multiple methods to communicate:

- ▶ Video
- 💬 Social media
- 🔔 News releases
- ✍️ Blog



Source: NIST



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<https://www.nist.gov/disaster-failure-studies/champlain-towers-south-collapse-ncst-investigation>

