

Journey of Moving from an Outdated 90-day Waste Facility to a New Environmental Management Facility

Tamela Greeley

July 2025



PennState
University Police
and Public Safety

“Love Canal” – Niagara Falls, NY



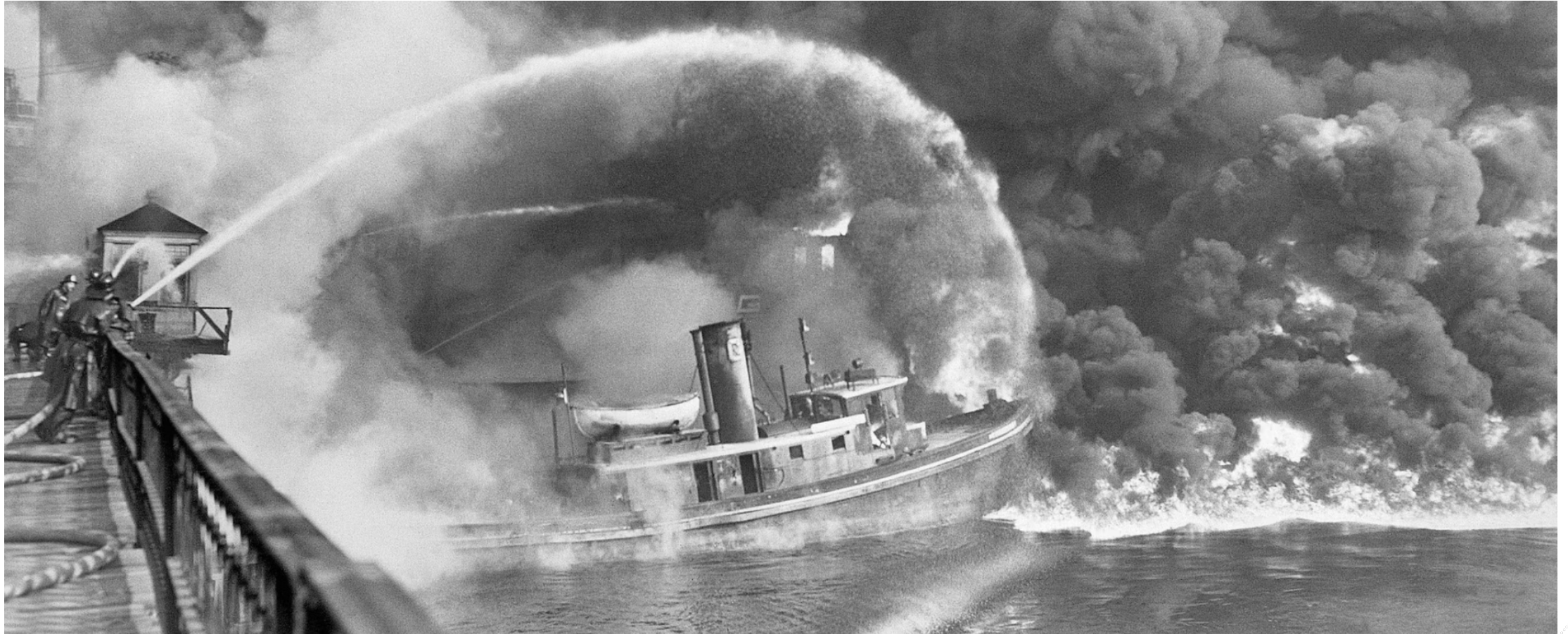
1942 – 1953 Hooker Chemical Company dumped over 19,000 metric tons of hazardous waste into the abandoned site.

Federal officials announced that this Superfund site cleanup was finished in 2004 – 21 years later and a cost of \$400 million



PennState
University Police
and Public Safety

Cuyahoga River Fire– 1952



PennState
University Police
and Public Safety



- October 21, 1976 – enacted to address growing problems with hazardous waste pollution and health concerns
- May 30, 2017 – Generator's Improvement Rule established



Laying the foundation for future Hazardous Materials Managers



1976

Resource Conservation
and Recovery Act (RCRA)



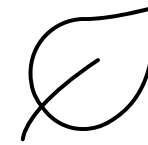
1980

Comprehensive
Environmental
Response, Compensation
and Liability Act – also
known as Superfund



1986

Superfund
Amendments
and
Reauthorization
Act (SARA)



1999

Superfund
Redevelopment
Initiative



PennState
University Police
and Public Safety

2020 Data – Approximately 4,000 brick and mortar colleges and universities in the United States

LARGEST UNIVERSITY BY ENROLLMENT IN EACH STATE



That's a lot of individual Waste Management programs!



PennState
University Police
and Public Safety

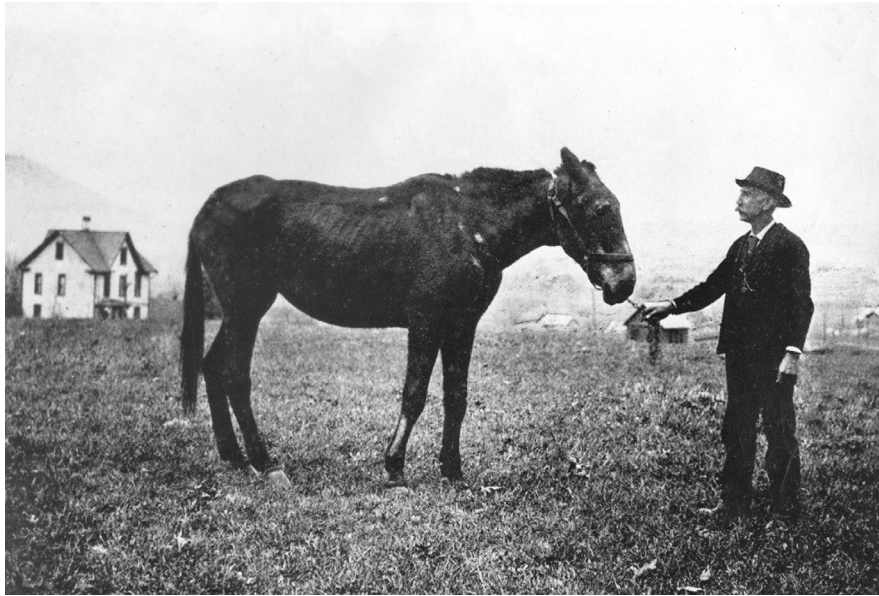
The Pennsylvania State University



- Students in front of Old Main 1860

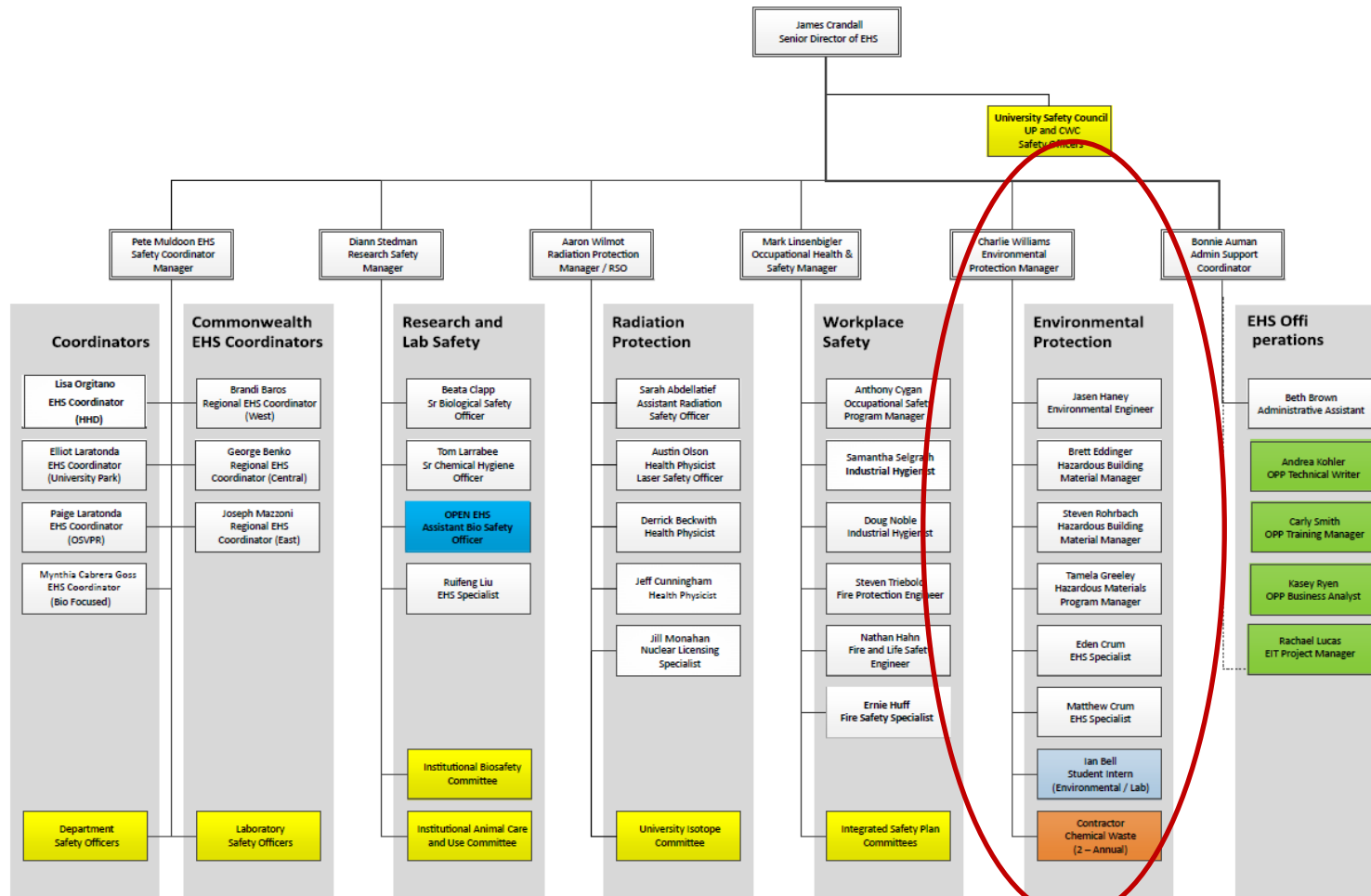
- Pennsylvania's only land-grant University, chartered in 1855
- Mission – Teaching, Research, and Public Service
- Impacts: The University provides unparalleled access to education and public service to support the citizens of the Commonwealth and beyond. We engage in collaborative activities with private sector, educational, and governmental partners worldwide to generate, integrate, apply, and disseminate knowledge that is valuable to society.
 - One University geographically dispersed; 24 locations across the Commonwealth
 - ~ 90,000 Students / ~ 31,000 Employees
 - Penn State Extension offices located in 67 Pennsylvania counties
 - Contributes \$15.8 billion to the state's economy (*FY23 data*)

Evolution of Penn State's Mascot



Environmental Health & Safety Department

Penn State University Environmental Health and Safety Community



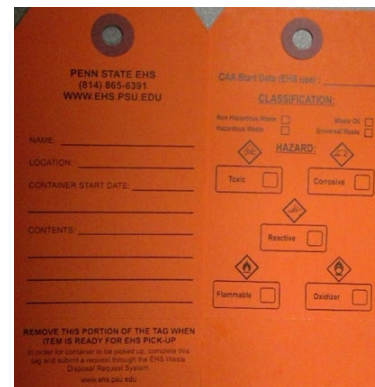
Environmental Protection Team
formerly stood up in January
2021 – dedicated to
safeguarding the environment,
promoting sustainable practices
and providing crucial resources
to Penn State University
community



PennState
University Police
and Public Safety

Hazardous Materials Management Program

- Hazardous Materials Management team Includes:
 - Environmental Protection Team Manager
 - Hazardous Materials Program Manager
 - 2 Full time colleagues– EHS Specialists
- Two programs have been developed as part of the Generators Improvement Rule to facilitate employee compliance with federal and state regulations
 - Laboratory Waste Management Plan – 12 months to store unwanted material
 - Penn State opts into Subpart K
 - Chemical and Waste Management Plan
 - 90 days to store haz waste
 - Generator must complete waste determination



UNWANTED MATERIAL
PENN STATE EHS
(814) 865-6391
WWW.EHS.PSU.EDU

CAA Start Date (EHS use): _____

CLASSIFICATION:

Non-Hazardous Waste ☐ Hazardous Waste ☐

HAZARD:

Flammable ☐ Corrosive ☐

Reactive ☐

Toxic ☐ Oxidizer ☐

Poison ☐

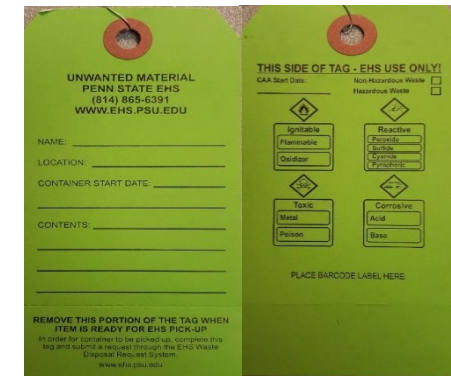
NAME: _____

LOCATION: _____

CONTAINER START DATE: _____

CONTENTS: _____

REMOVE THIS PORTION OF THE TAG WHEN
ITEM IS READY FOR EHS PICK-UP
In order for container to be picked up, complete this
tag and submit a request through the EHS Waste
Disposal Request System.
www.ehs.psu.edu



UNWANTED MATERIAL
PENN STATE EHS
(814) 865-6391
WWW.EHS.PSU.EDU

NAME: _____

LOCATION: _____

CONTAINER START DATE: _____

CONTENTS: _____

REMOVE THIS PORTION OF THE TAG WHEN
ITEM IS READY FOR EHS PICK-UP
In order for container to be picked up, complete this
tag and submit a request through the EHS Waste
Disposal Request System.
www.ehs.psu.edu

THIS SIDE OF TAG - EHS USE ONLY!

CAA Start Date: _____

Non-Hazardous Waste ☐ Hazardous Waste ☐

HAZARD:

Flammable ☐ Corrosive ☐

Reactive ☐

Toxic ☐ Oxidizer ☐

Poison ☐

NAME: _____

LOCATION: _____

CONTAINER START DATE: _____

CONTENTS: _____

REMOVE THIS PORTION OF THE TAG WHEN
ITEM IS READY FOR EHS PICK-UP
In order for container to be picked up, complete this
tag and submit a request through the EHS Waste
Disposal Request System.
www.ehs.psu.edu



PennState
University Police
and Public Safety

Hazardous Materials Management Program

- Program Highlights – University Park Campus
 - Weekday waste pickups (M-F) in 5 different mapped zones
 - Offsite locations picked up every 3 months
 - Main Campus only location that is LQG
 - Lab Cleanouts are scheduled
- Services
 - Third party waste contractor full time– 2 Chemists onsite M-F
 - Properly packs all wastes per specs and DOT – labels all containers and uses PSU tracking system – LionSafe
 - Complete the bulking process at EMF

LionSafe

Hazardous Materials Management Program

- The Pennsylvania State University research expenditures has seen continued growth over the last decade (*currently* > \$1.4 B)



- The University Park Chemical Accumulation Facility was constructed in the mid-70's and expanded through 2005
- A feasibility study was initiated in 2017 and a Capital Project for a new facility was approved
 - Combined facility: ~ 9,700 ft²
 - Cost est.: \$ 12.5 MM
 - Design: Architect / Engineer Firm Selection
 - Construction: November 2023
 - Occupancy: July 2025

University Leadership Business Case



- Research growth in last 10 years
- Change in new, unique waste streams
- Improved waste management efficiency under one roof
- Potentially lower operations cost – less shipments with more space for storage
- Enhanced environmental protection – building design and equipment layout will lower environmental risks

Outdated Chemical Accumulation Facility



COMPARE FACILITY FOOTPRINTS

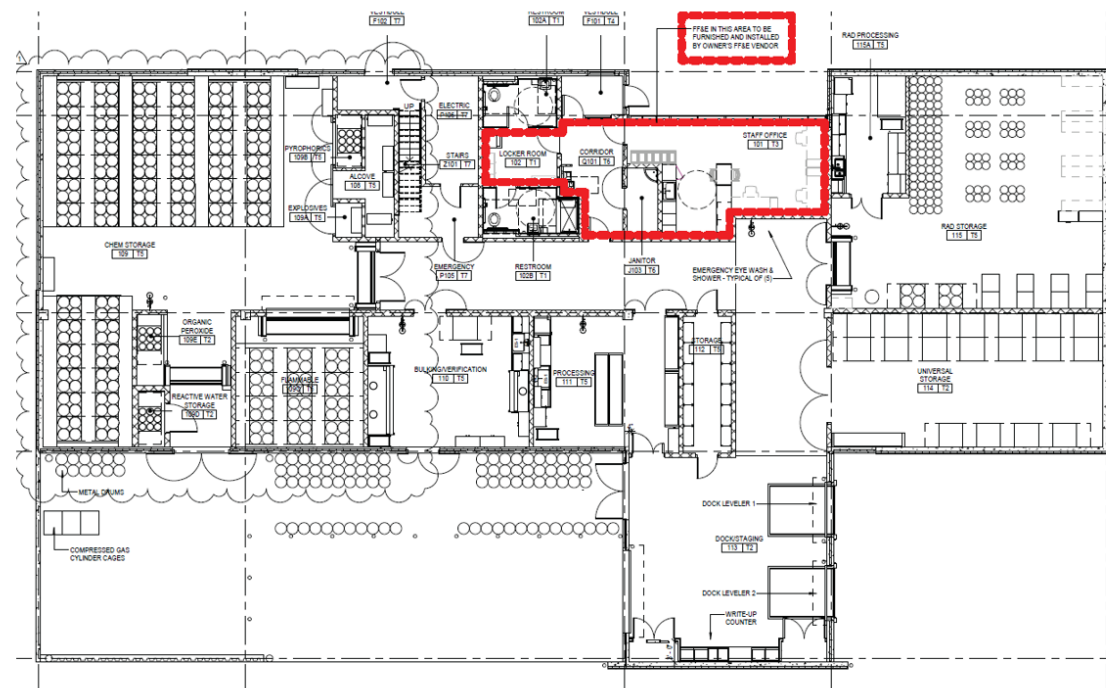
Old Chemical Accumulation Facility

- ~1,600 sq feet
- 3 separate pole buildings
- Some outside waste storage
- No restroom or office areas

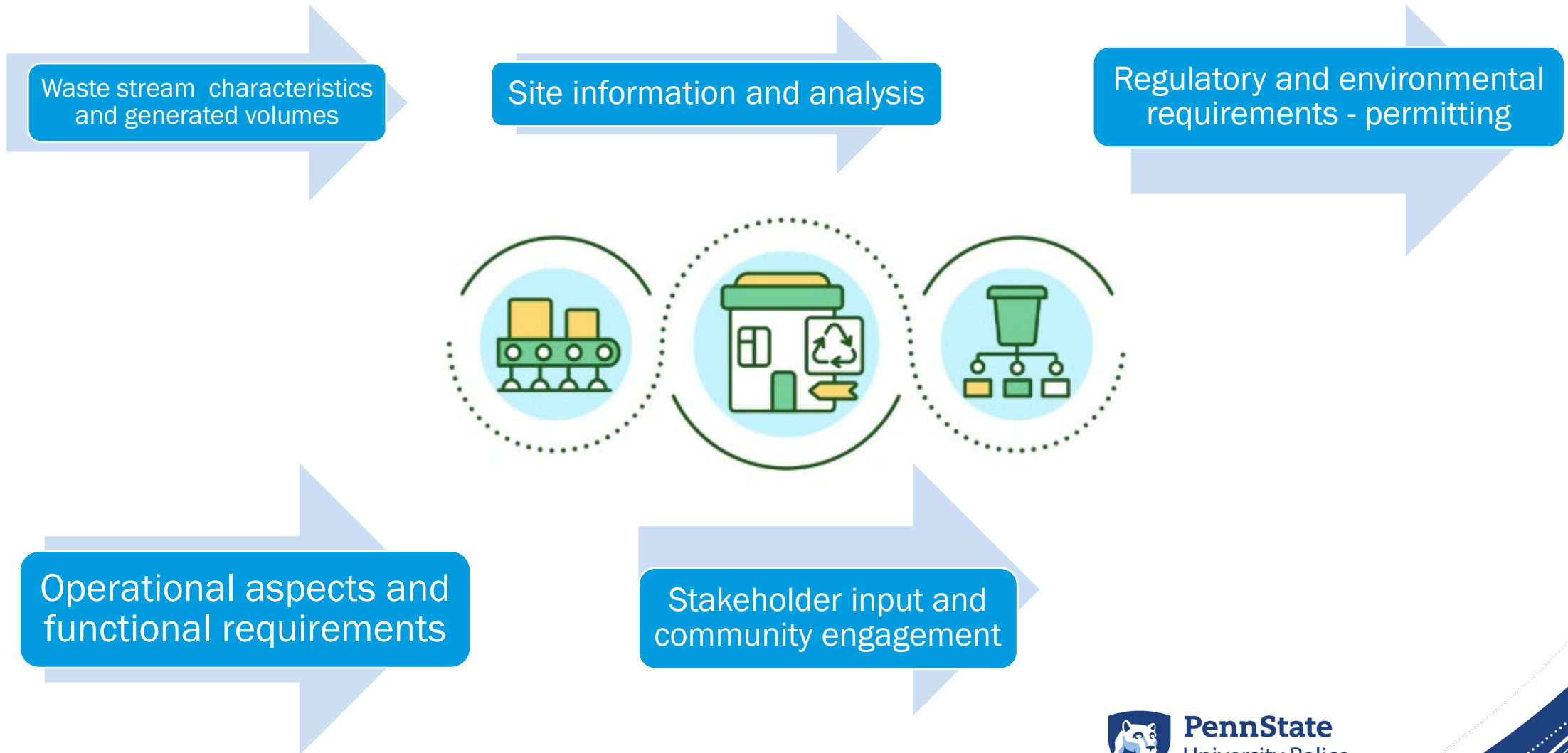


New Environmental Management Facility

- 9,700 sq feet
- 1 building storing all types of waste materials
- No outside waste storage areas
- Locker room and office areas



CRITICAL DATA – Design Architect



Environmental Management Facility University Park Campus

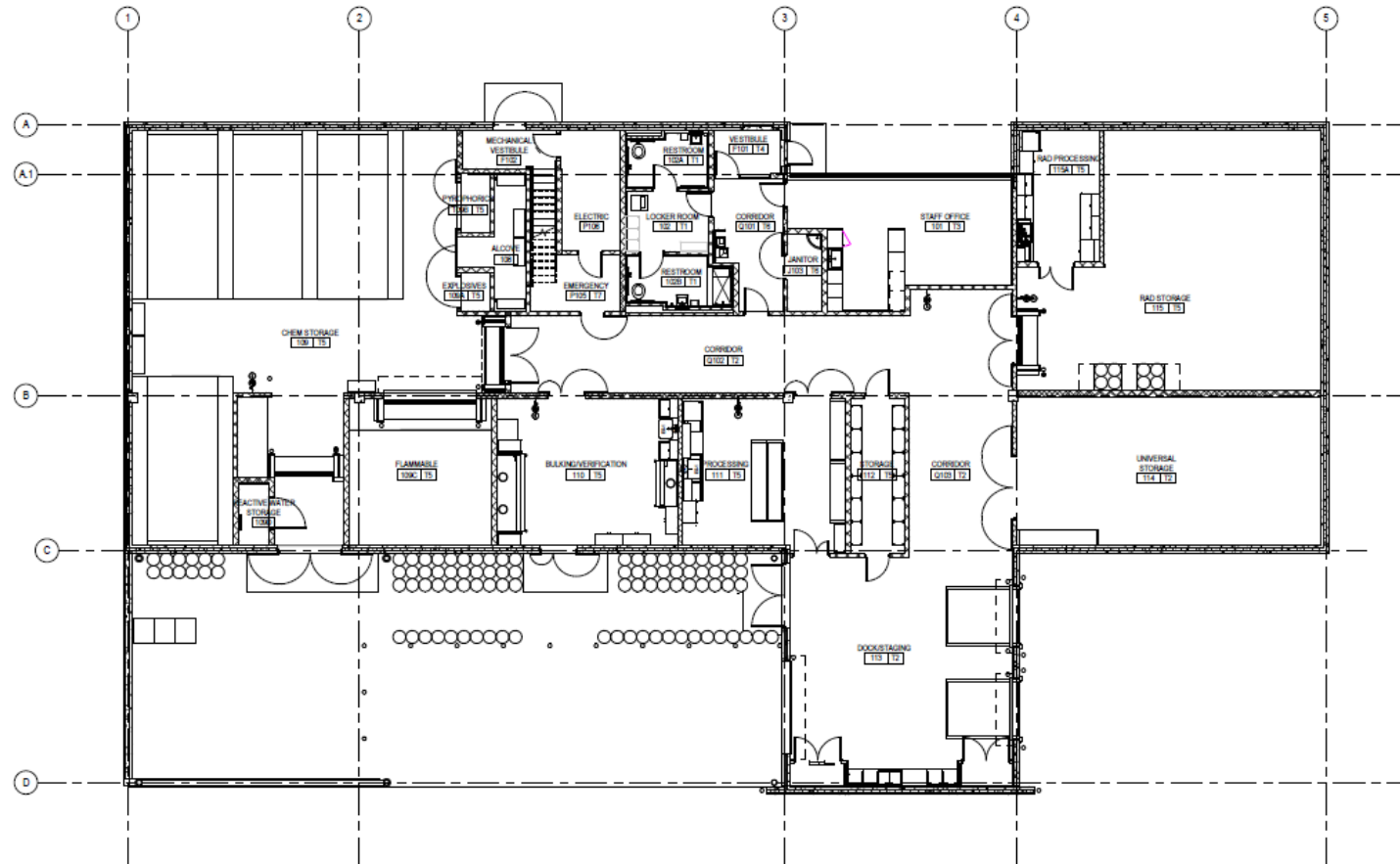


PennState
University Police
and Public Safety

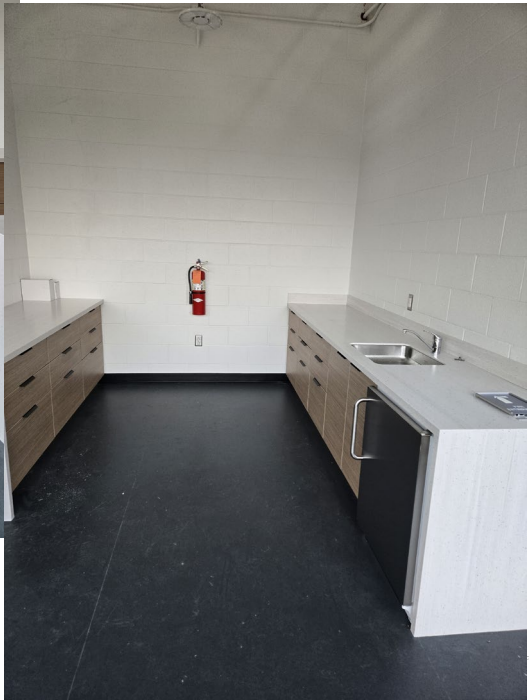
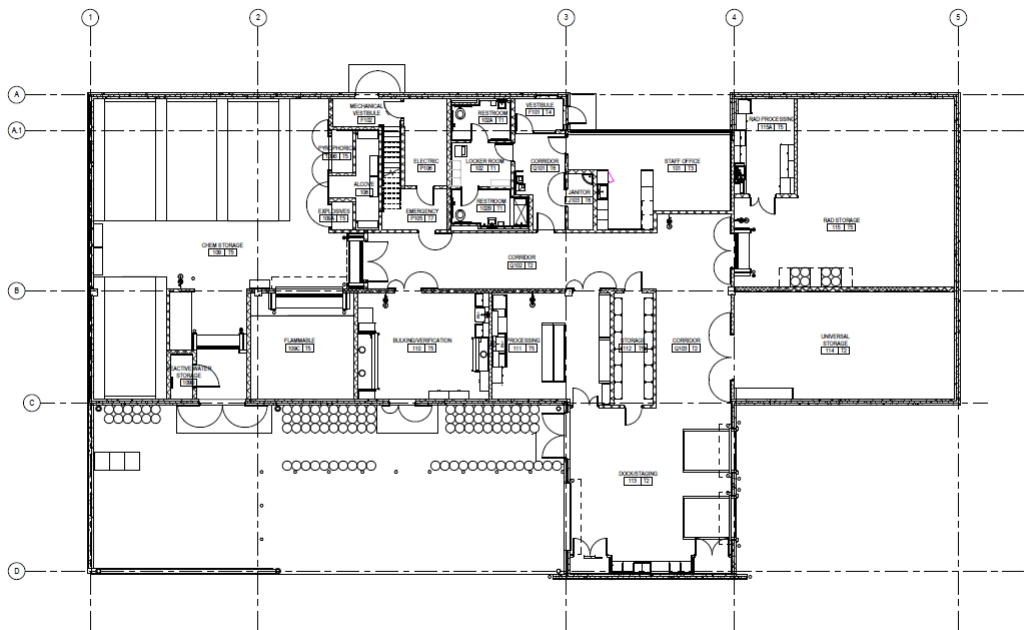
Environmental Management Facility University Park Campus



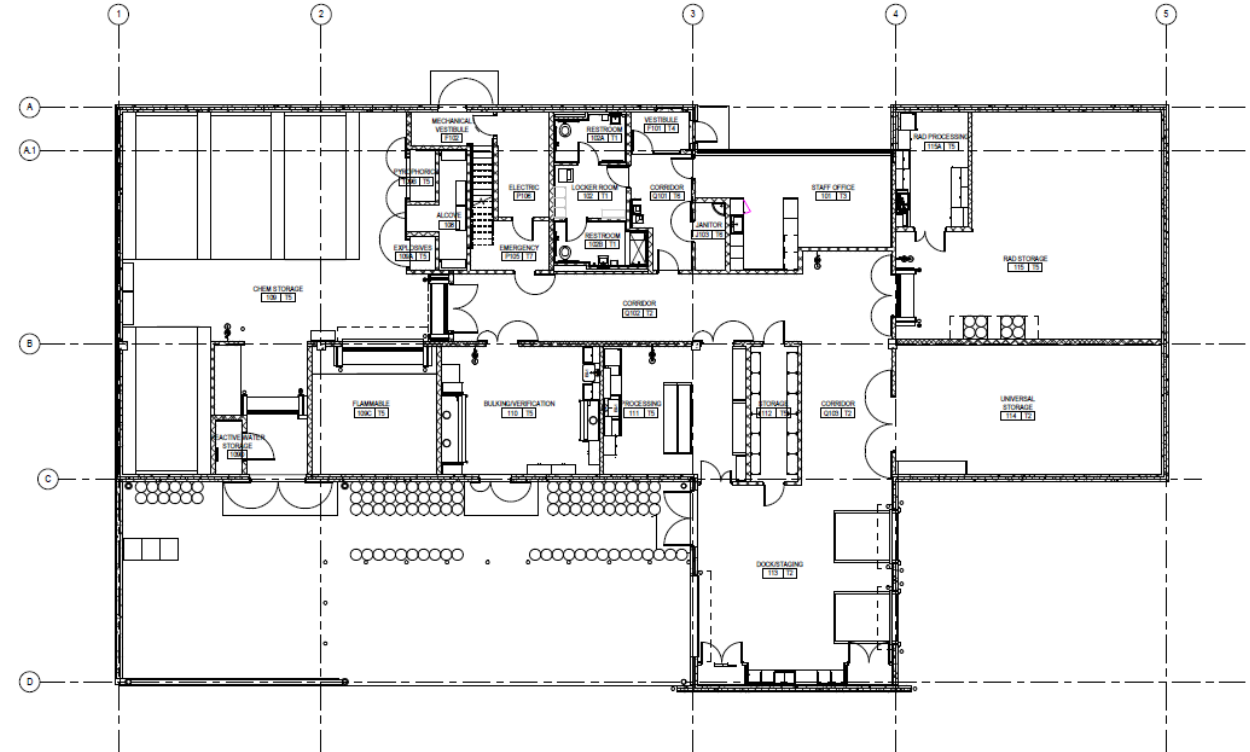
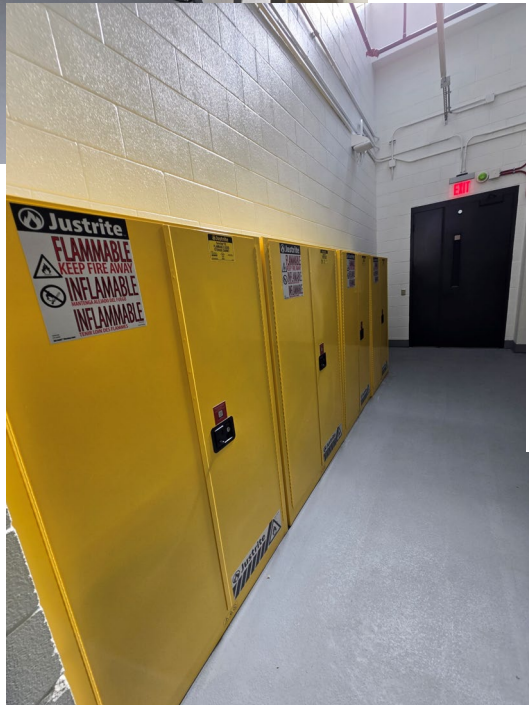
Environmental Management Facility



Office Area

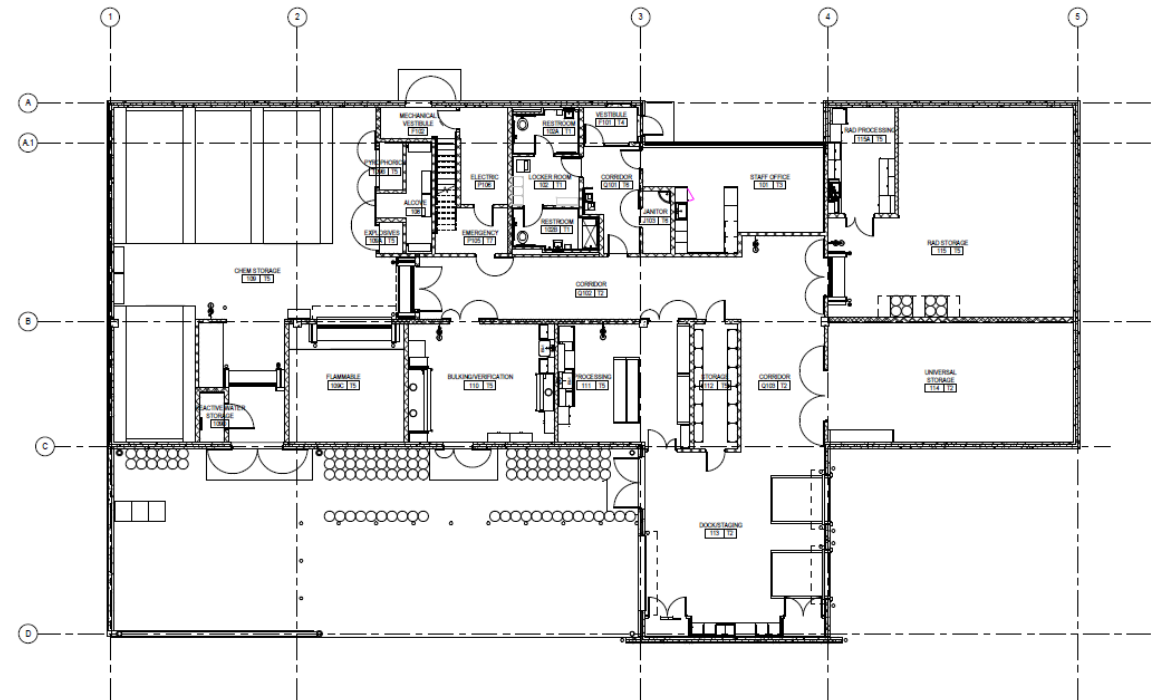


Processing

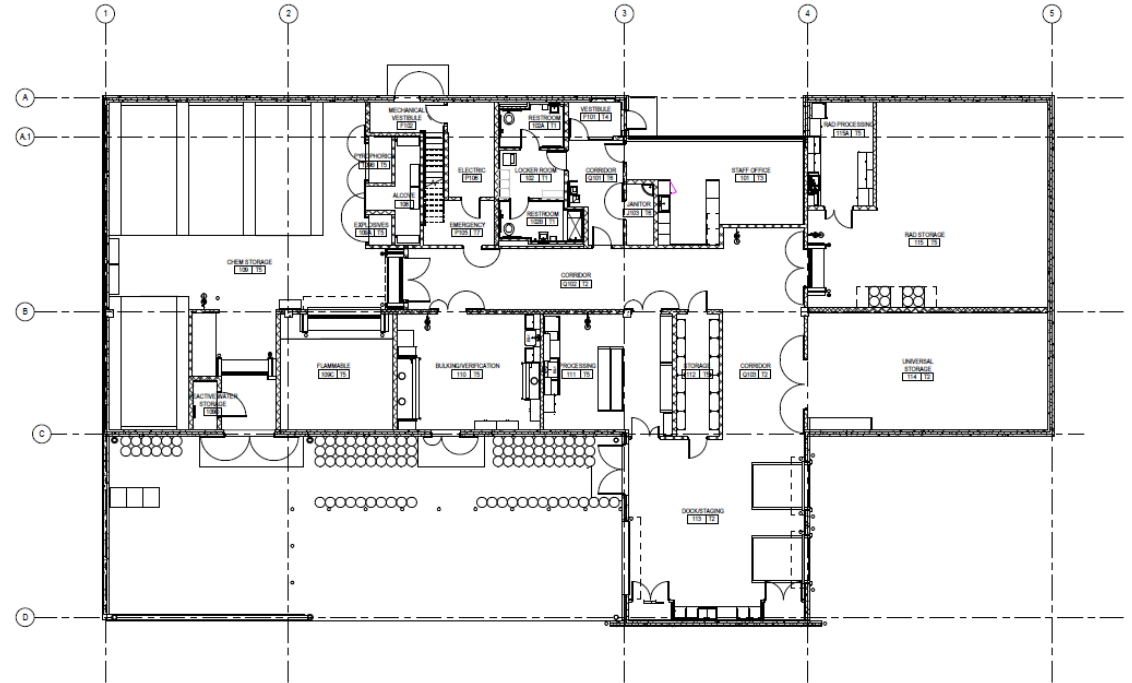
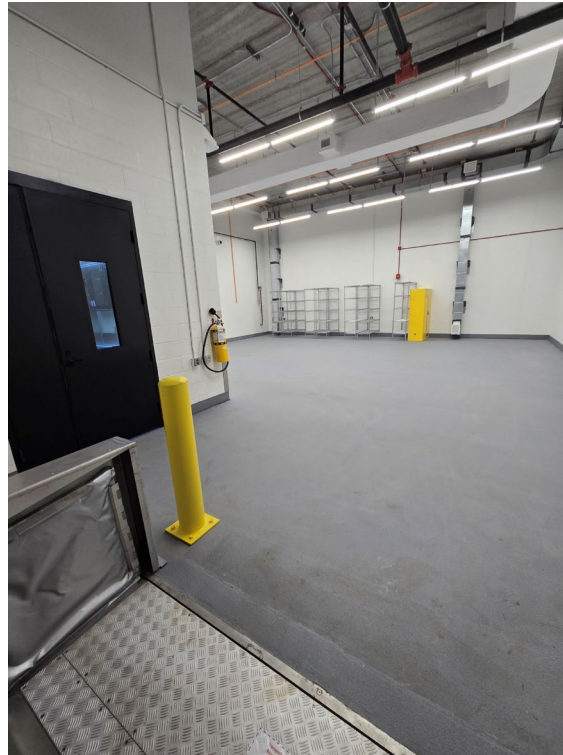


PennState
University Police
and Public Safety

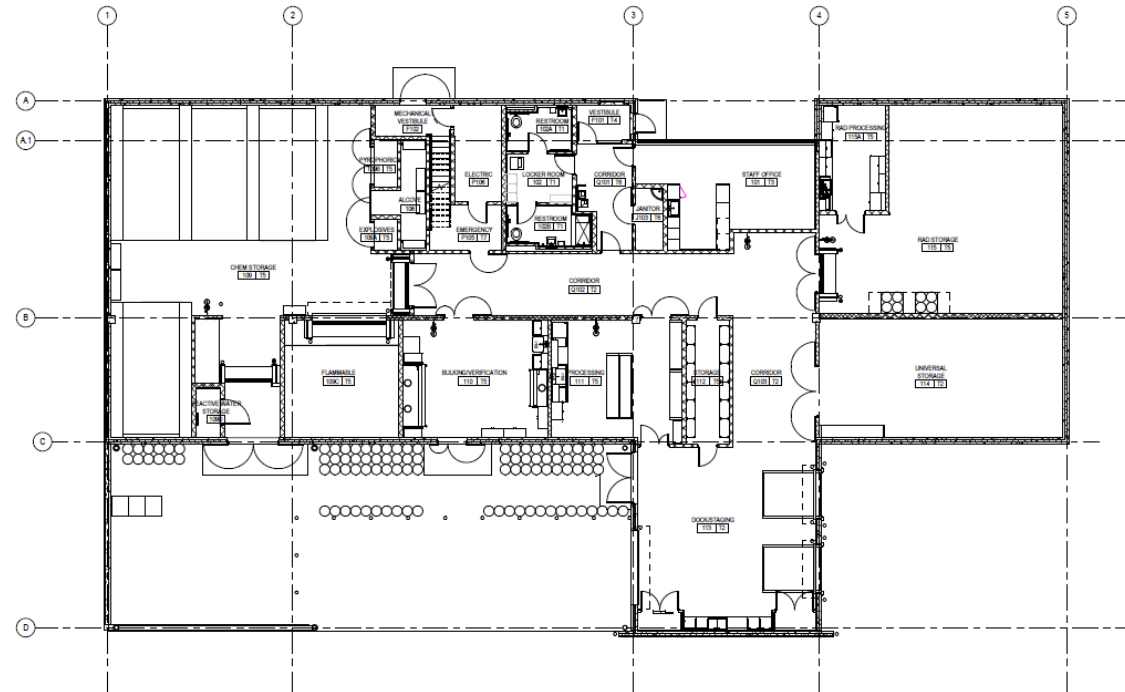
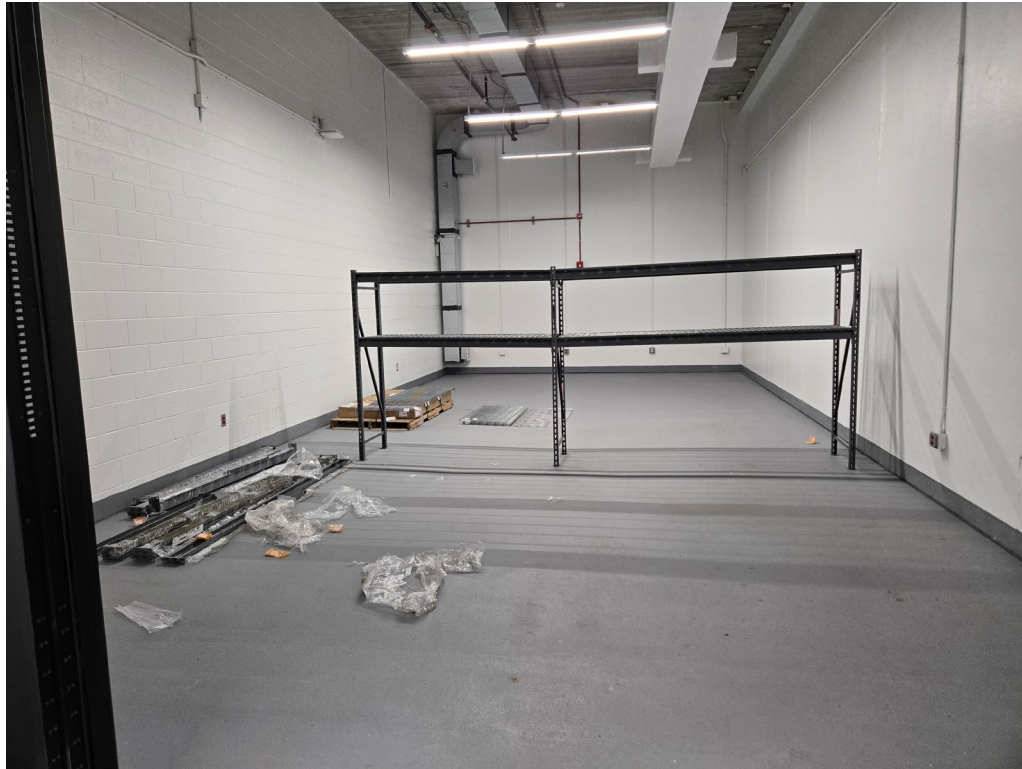
Bulking



Radiation

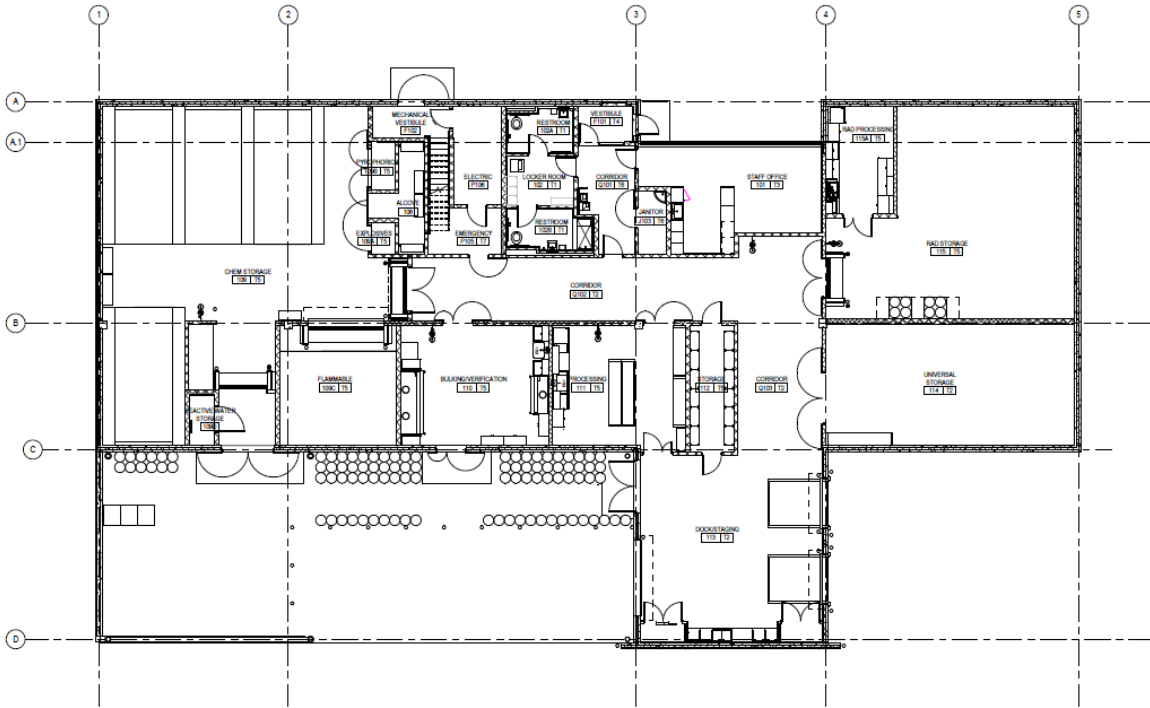


Universal Waste

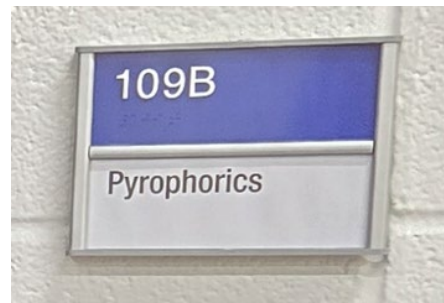
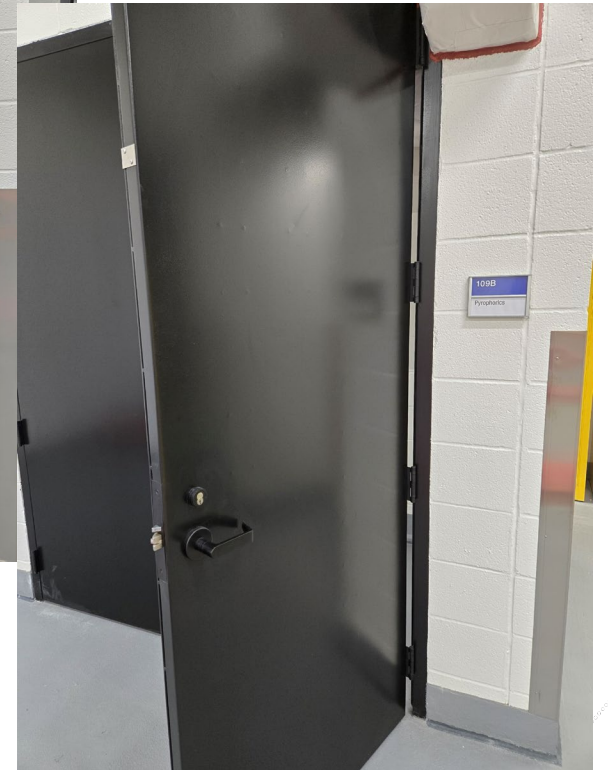
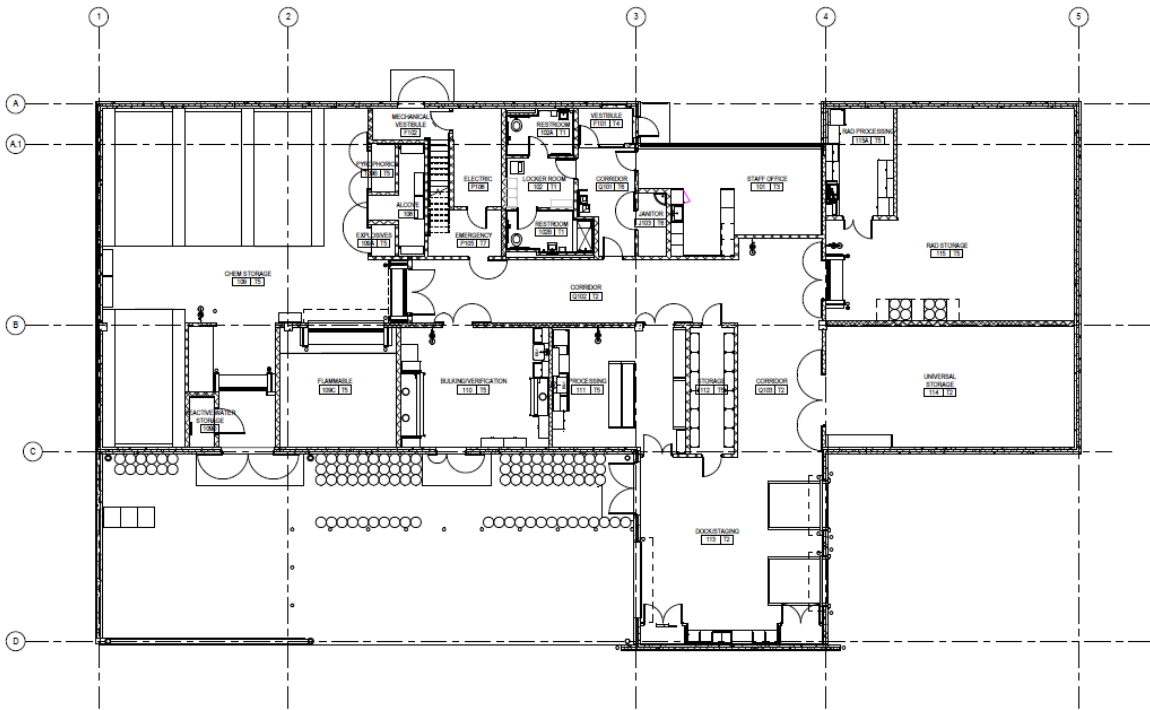


PennState
University Police
and Public Safety

Flammable Storage



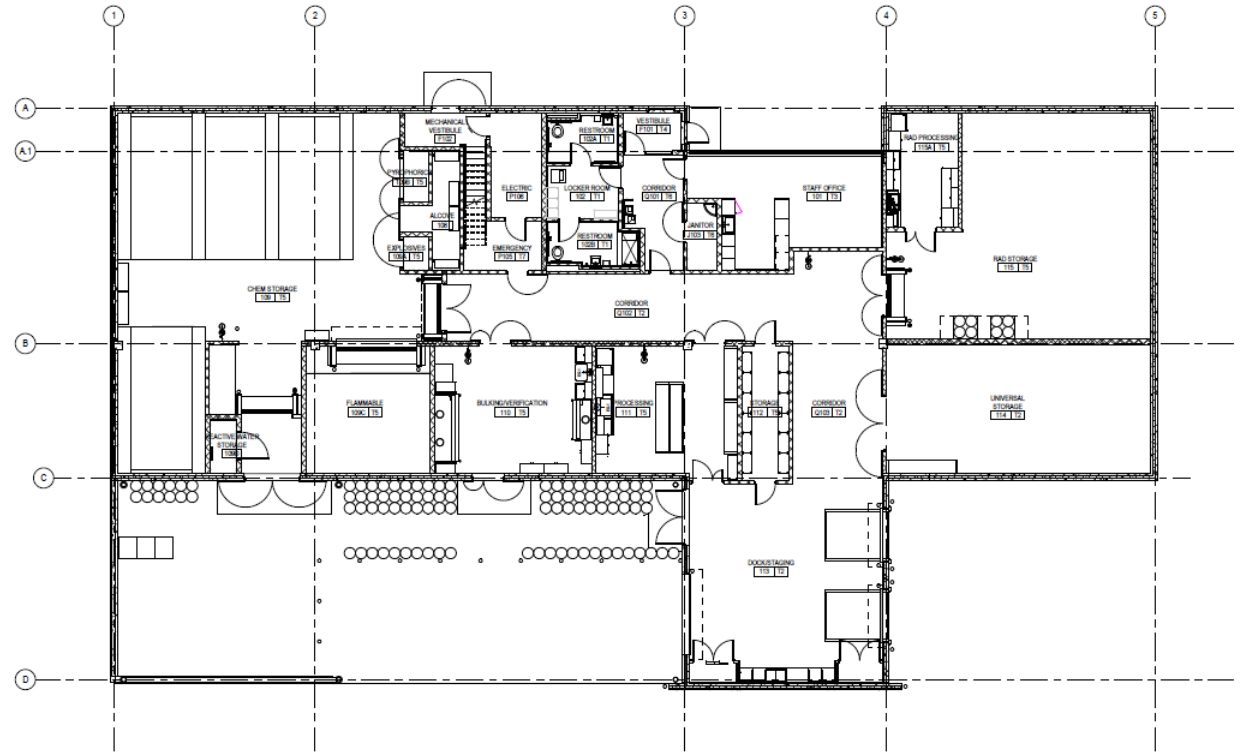
Explosive and Pyrophoric Storage



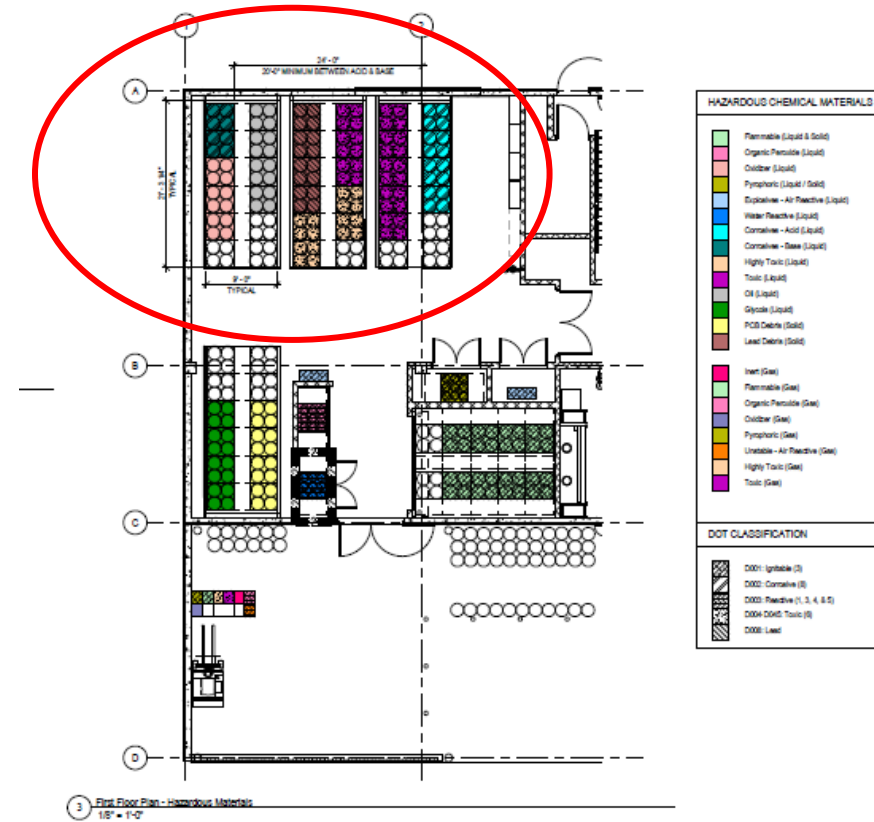
Spill Containment



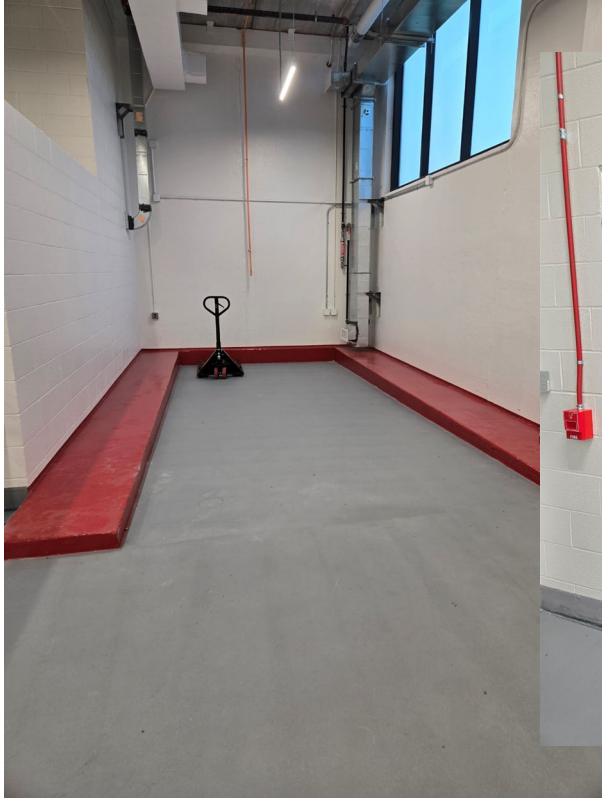
- Denios Pop-Up Barriers
 - Passively Powered
 - Self-Contained
 - 4 built-in EMF



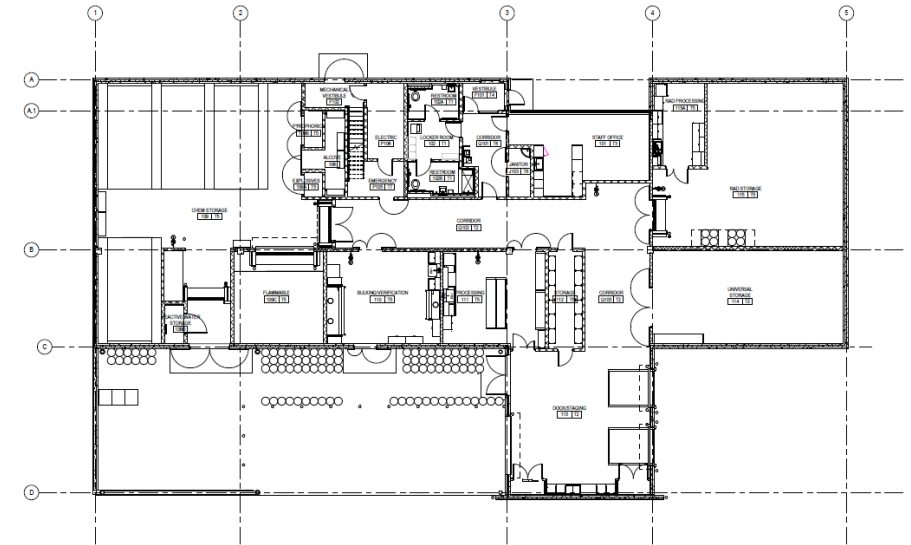
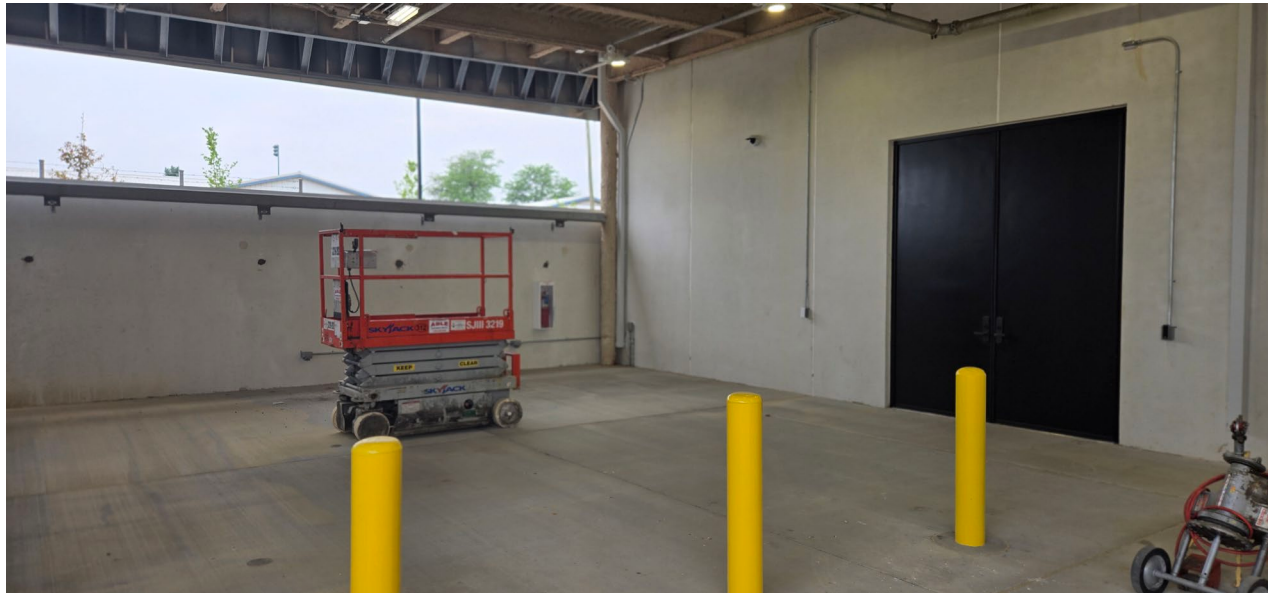
Main “Hot Zone” Waste Storage Area



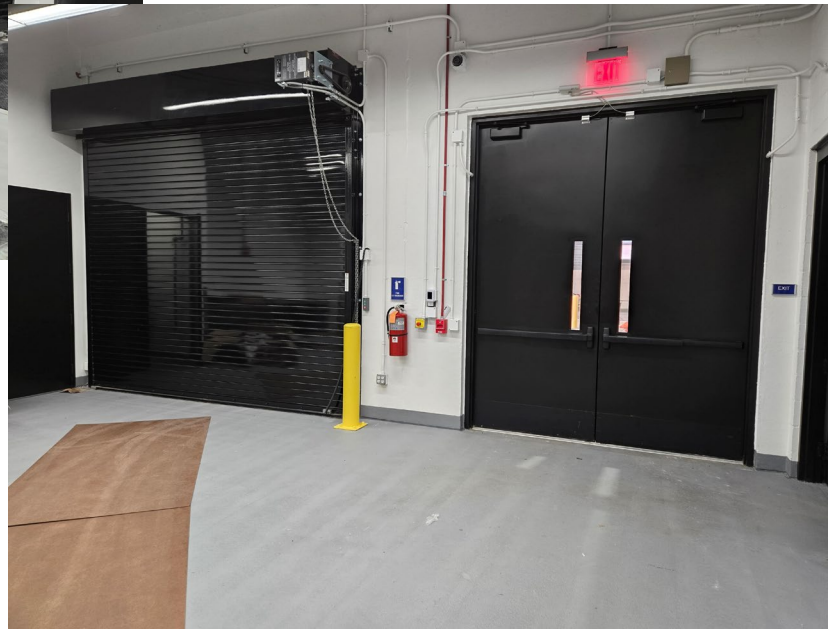
Main “Hot Zone” Waste Storage Area



Pressurized Cylinder and Empty Drum Storage



Loading Docks and Storage



PRE-MOVE PREPARATION – First things First!



- Communicate the plans to move and who will this be communicated to?
- Create a detailed relocation plan – develop this plan with a clear timeline, assigned responsibilities, and contingency measures for potential delays or unforeseen circumstances
- Organize existing waste streams at current facility to make move the most efficient and safe, especially with energetic/high haz waste materials

DURING THE MOVE

- Daily waste management operations –
 - Pause them?
 - Set baseline for wastes to enter new facility
 - Move wastes from old facility to new facility?
 - Segregation and transporting concerns
- Safety Procedures
 - Documented and appropriate for all waste streams
 - Proper PPE
 - Training



POST MOVE

Verification

- Equipment operations – all running like it should?
- Chemicals integrity – no leaks or spills
- New facility security systems cooperating properly

Training

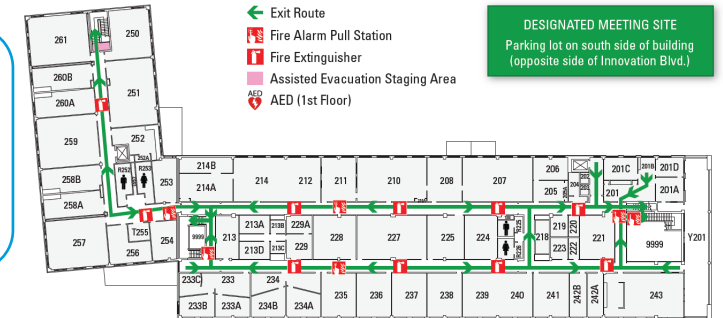
- Evacuation and Emergency Response
- Updated DOT HazMat Plan
- Security systems

Records and Documentation

- Document move in detail
 - Lessons Learned
 - What could we have done better?



EVACUATION ROUTE



Technology Center - 2nd Floor

ENVIRONMENTAL HAZARDS EMERGENCY RESPONSE PLAN

The Pennsylvania State University
University Park, PA



PennState
University Police
and Public Safety

Questions

Does your university or college thinking of building or updating your waste facility?

Come travel to Happy Valley to tour our new waste facility – we would be happy to see you!

Tamela Greeley
Hazardous Materials Program Manager
The Pennsylvania State University
814-863-3890
tmg252@psu.edu

