

# WELCOME

TO THE PORTS SITE

# COMMUNITY OPEN HOUSE



PREPARING THE FUTURE  
**PORTS**  
D&D PROJECT



**PORTS**  
SSAB

**S O D I**

**OHIO**  
UNIVERSITY



# WHAT IS *PORTSFUTURE?*



# OHIO UNIVERSITY

# PARCEL 1 TRANSFERRED

Southern Ohio Diversification Initiative (SODI) received an 80-acre parcel on the east side of the reservation on July 20, 2018.



- Environmental Baseline Survey developed, reviewed by Ohio EPA
- Transfer required DOE-Headquarters and Congressional approval
- This transfer is a key component to future reindustrialization



# WHY REDEVELOP THE SITE?

Electrical grid • Roads • Water

Rail system • Proximity to transportation routes



# WHAT DOES THE FUTURE LOOK LIKE?

S  D I

# WHEN WILL SITE REUSE BEGIN?

Environmental Baseline Survey (EBS) for Parcel 1

This is a high level overview of key steps in the property transfer process as outlined by 10 CFR 770 – Transfer of Real Property at Defense Nuclear Facilities for Economic Development.

State of Ohio Concurrence on EBS

Completion of Environmental Assessment

PPPO Request for Review to DOE-EM

DOE-EM Request to Energy Secretary

EMCBC Executes Deed

Congressional Committee Notification Period

DOE Notification to Congressional Committees

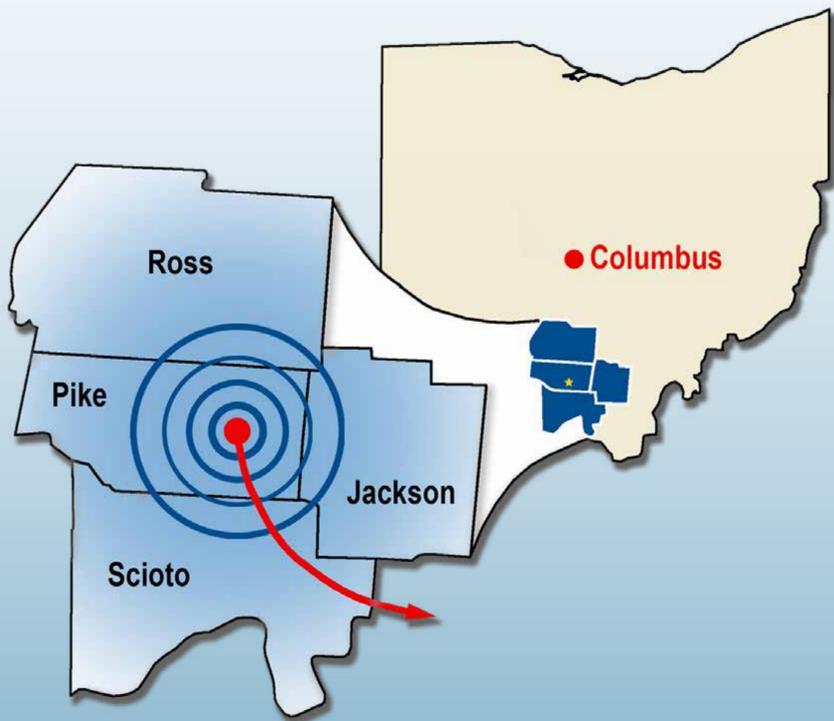
Reindustrialization will occur in phases as property is transferred to SODI.

# SODI

## SOUTHERN OHIO DIVERSIFICATION INITIATIVE

### Our Mission

To improve the quality of life for Jackson, Pike, Ross, and Scioto Counties through economic diversification, development of underutilized land and facilities on the Department Of Energy (DOE) Portsmouth Gaseous Diffusion Plant Site, and continued support of local industry.



### Our Vision

To be a permanent community partner, catalyzing economic development and promoting cooperation in the four-county region.



### Who We Are

The Southern Ohio Diversification Initiative (SODI) has been established to successfully transition four southern Ohio counties: Pike, Ross, Scioto and Jackson from dependence on the Department of Energy facility to greater long-term economic stability. SODI was incorporated as a nonprofit corporation in 1997 and serves as the Community Reuse Organization (CRO) for DOE. DOE's former uranium enrichment plant was closed in 2001 and is undergoing Decontamination & Decommissioning. DOE has provided technical and financial assistance to SODI. In 2009, DOE signed an Asset Transition Agreement for Economic Development to transfer excess equipment, scrap materials, facilities, etc. to SODI to promote economic development initiatives.

# COORDINATED COMMUNITY BASED REINDUSTRIALIZATION



## SCIOTO COUNTY

Electric Improvements @ Robert  
Walton Sr. Industrial Park



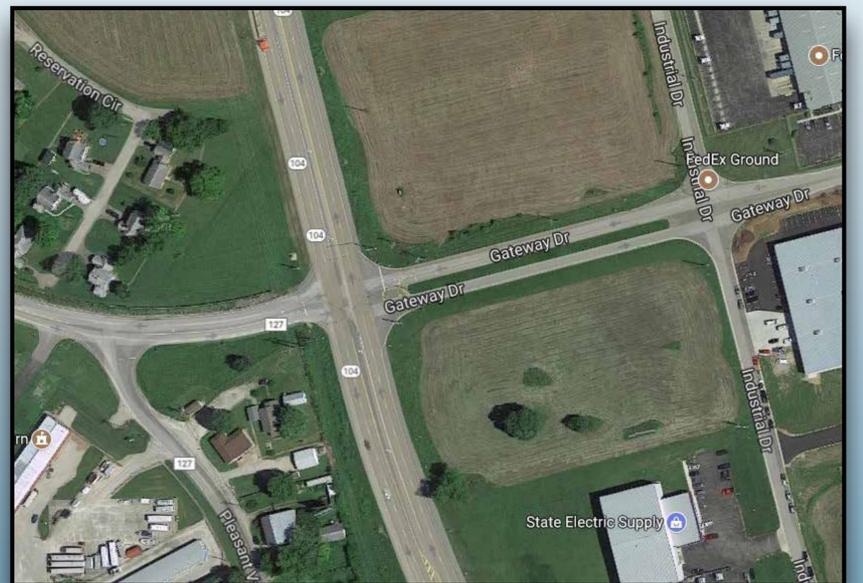
## PIKE COUNTY

North Gate Sewer Extension, Rural King



## JACKSON COUNTY

Airport Terminal



## ROSS COUNTY

Road improvements @ Gateway  
Industrial Park

# SODI's OUTREACH DEVELOPMENTS

## The Four County Industrial Parks

- Jackson: Sarah James
- Pike: Zahn's Corner
- Ross: Gateway Interchange
- Scioto: Ohio River



## The SODI Energy Park Initiative



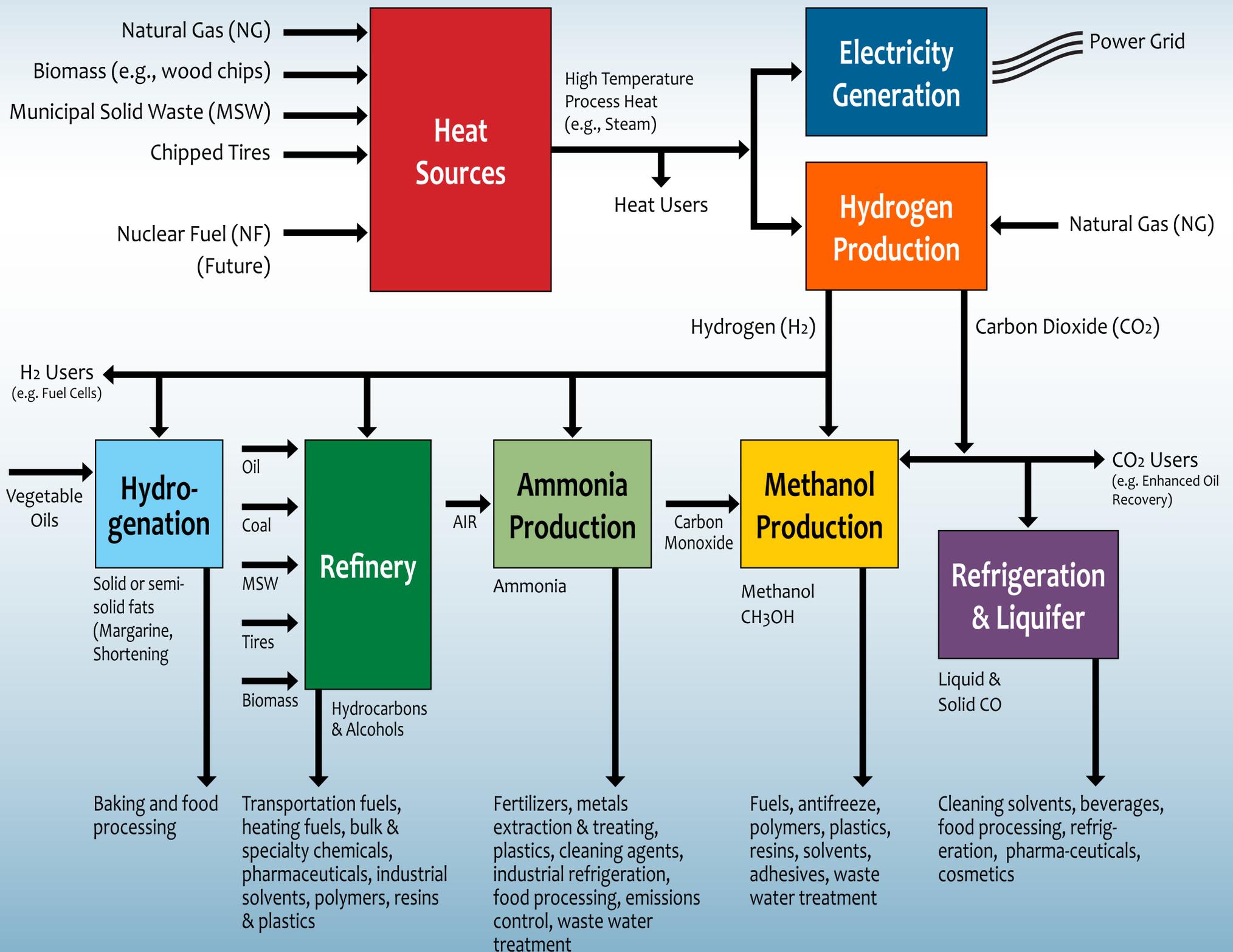
## The DOE Asset Transition Initiative



## The Piketon Endeavor Center Business Incubator and Training Facility

# INTEGRATED ENERGY SYSTEM

## CONCEPTUAL OVERVIEW



# PREPARING FOR DEMOLITION

## X-326 Process Building



The **X-326** worked in conjunction with the two other process buildings at Portsmouth. It was considered the **high end of the cascade.**

The **X-326** is the **First Process Building** at PORTS to undergo deactivation in preparation for demolition.



### 2019 Goal - 'Cold & Dark' and Ready for Demolition

- Downgrade facility from a Cat 2 Nuclear Facility
- Downgrade security
- Utility isolation and relocation

Since 2012, more than

**7,000 process components**

have been carefully removed.

### The **X-326 Process Building**

originally produced highly enriched uranium for use in the nation's defense program and nuclear Naval vessels.

# PREPARING FOR DEMOLITION

## X-333 Process Building

### The **X-333 Process Building**

contains the largest of the process gas equipment including the massive '000' converters that weigh as much as **66,000 pounds**.



The **X-333** is the largest of the three process buildings with **66 acres** of floor space under roof.

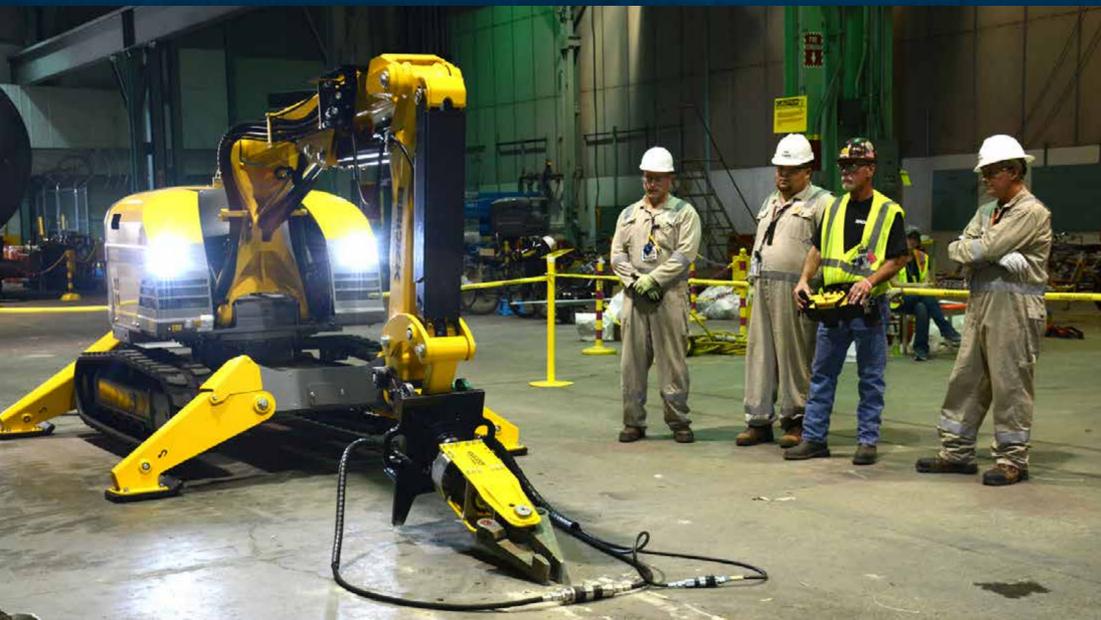
The **X-333** worked in conjunction with the two other process buildings at Portsmouth. It was considered the **low end of the cascade**.

- There are **80 cells** within the X-333, each cell has 8 stages and each stage consists of a 3300 HP electric motor, a compressor and a converter.

# TECHNOLOGY/ROBOT INTEGRATION

## X-333 Deactivation and In-Pipe NDA Measurement System

Deactivation work in the X-333 will require **handling, cutting and disassembling the massive '000' converters** and associated process components. Robotic technology will provide increased efficiency and safety for workers.



- X-333 has 15.3 miles of piping (up to 54")
- Current NDA method is manual exterior scan
- Worked with Carnegie Mellon University (CMU) to develop an in-pipe crawler system to directly measure uranium deposits from inside the pipe.

- Projected cost savings ~ \$20M and 250,000 labor hours over current methods for X-333 alone with even greater savings in X-330.



# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

- Sets Limits**
  - By regulation
  - Based on design and geological conditions
  
- Sets Waste Evaluation and Characterization Standards**
  
- Defines Prohibitions**
  - By regulation
  - By choice
  
- Defines Path Forward - Implementation**

# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## Component 1: What is Prohibited?

- ✓ Waste generated off site
- ✓ Liquids, oils, refrigerants from equipment
- ✓ Bulk liquid hazardous waste
- ✓ Hazardous waste above treatment standards
- ✓ Explosive or reactive wastes
- ✓ Transuranic and high level wastes
- ✓ Pyrophoric waste
- ✓ Building X-326 converters, compressors and coolers
- ✓ Containerized nuclear compounds greater than 20% enrichment
- ✓ DUF6 waste



# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## Component 2: Waste Activity and Concentration Limits



Like a fast race car that is designed to go 150 mph, the waste cell is designed to accept waste from the site with few exceptions. The race car can run faster than necessary to carry wastes at PORTS.



However, there are regulations and administrative decisions that prohibit certain types of waste to be placed in the waste cells. That is like having a regular 60 mph speed limit on the race car.



Once the prohibited items are sent off-site, only wastes with relatively lower activity/concentration will be placed in the waste cell. At this point DOE basically will be driving the race car at only 20 mph.



# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## Component 3: Waste Evaluation and Characterization Standards

- ✓ Process knowledge
- ✓ Analytical sampling results
- ✓ Field characterization sampling results
- ✓ Nuclear material control and accountability inventory

## Component 4: Waste Segregation for specific placement approaches

### Waste is segregated into 5 types

1. Soil and soil-like material.
2. Debris less than 10 feet long and 18 inches thick and pipes no greater than 12 inches in diameter.
3. Large debris requiring individual handling but less than 4 feet high.
4. Wood or other decomposable material.
5. Other wastes requiring special handling.

# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## Component 5: Waste Packaging Requirements

- ✓ Meets Department of Transportation (DOT) standards.
- ✓ Properly packaged for safe handling.

## Component 6: Waste Safe Handling Standards

- ✓ All waste streams containing Uranium-235 must comply with requirements for establishing “criticality incredible”.
- ✓ DOE also elected to prohibit:
  - DUF6 cylinders
  - All uranium residues from process gas equipment in containers
  - Nickel barriers from converters in buildings 333 and 330 where most of the uranium was concentrated.

## Component 7: Waste Transportation

- ✓ Meets Department of Transportation (DOT) standards.
- ✓ Prevent emission during transportation

# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## Safe Waste Management from Deactivation to Disposal

### DEACTIVATION

- ✓ Remove hazardous materials and ship off-site
- ✓ Characterize remaining materials
  - To date, 1.3 million tests conducted in X-326
  - To date, 770,000 feet of tubing tested in X-326
- ✓ Removal of:
  - Free liquids
  - Mercury
  - Hazardous (RCRA) wastes
- ✓ Building sweep several times for prohibited items
- ✓ Achieve Criticality Incredible

### DEMOLITION

- ✓ Continuous air monitoring
- ✓ Continuous dust suppression
- ✓ Continuous water management
- ✓ Size reduction of large debris

### DISPOSAL

- ✓ Independent inspection of final waste stream before placement
- ✓ Waste placement in cell per engineering design

# WHAT DOES THE WASTE ACCEPTANCE CRITERIA (WAC) DO?

## What may be placed in the OSWDF?

- ✓ Building debris, including piping, wiring, structural steel
- ✓ Process gas equipment from lower enriched operations
- ✓ Soil from groundwater plumes and landfills
- ✓ Acceptable debris from landfills

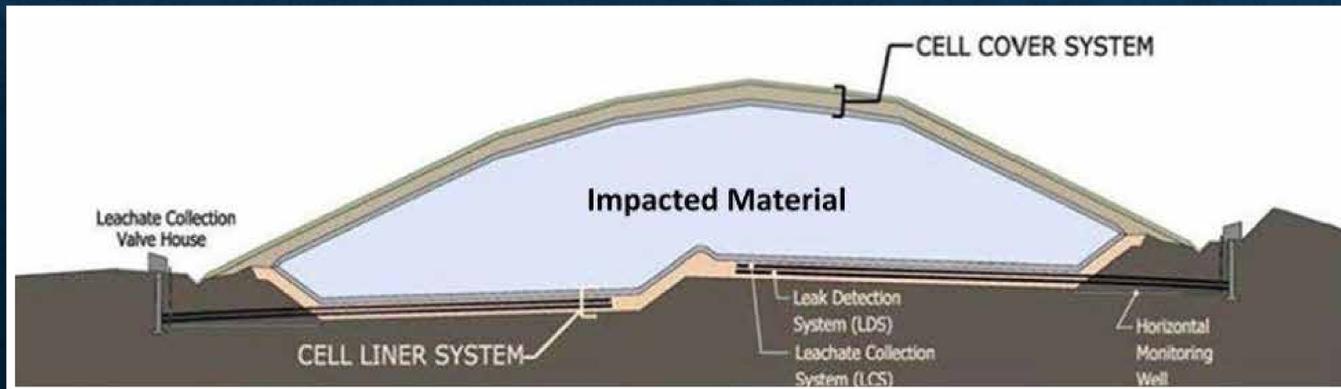
**Only Waste from  
PORTS Site can be placed  
in the OSWDF**

(No off site waste accepted)

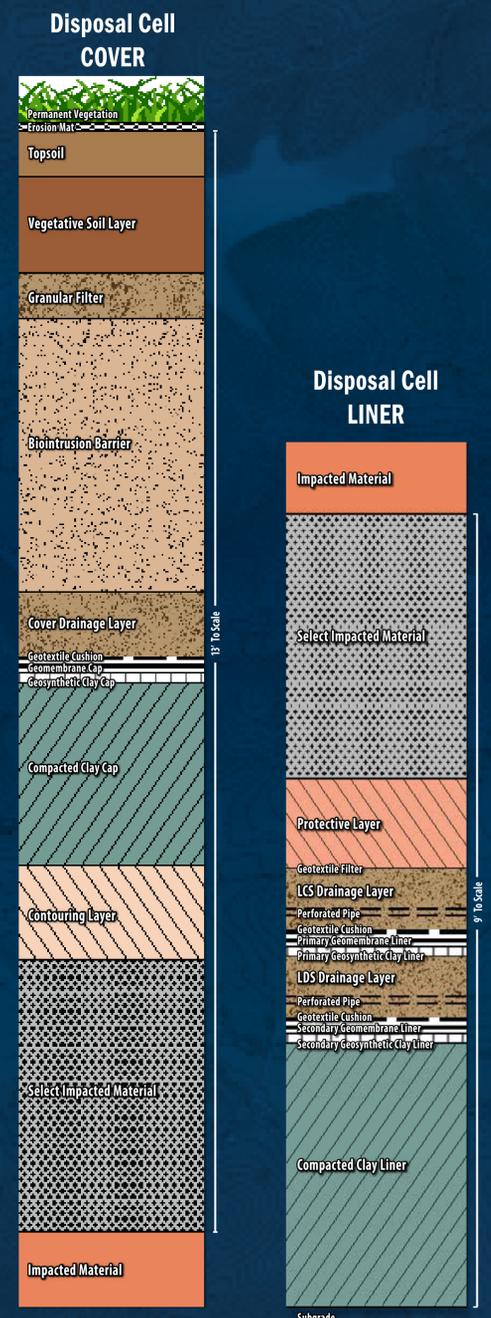
# PREPARING FOR DEMOLITION

## OSWDF Construction

The **OSWDF** graphic cross-section.

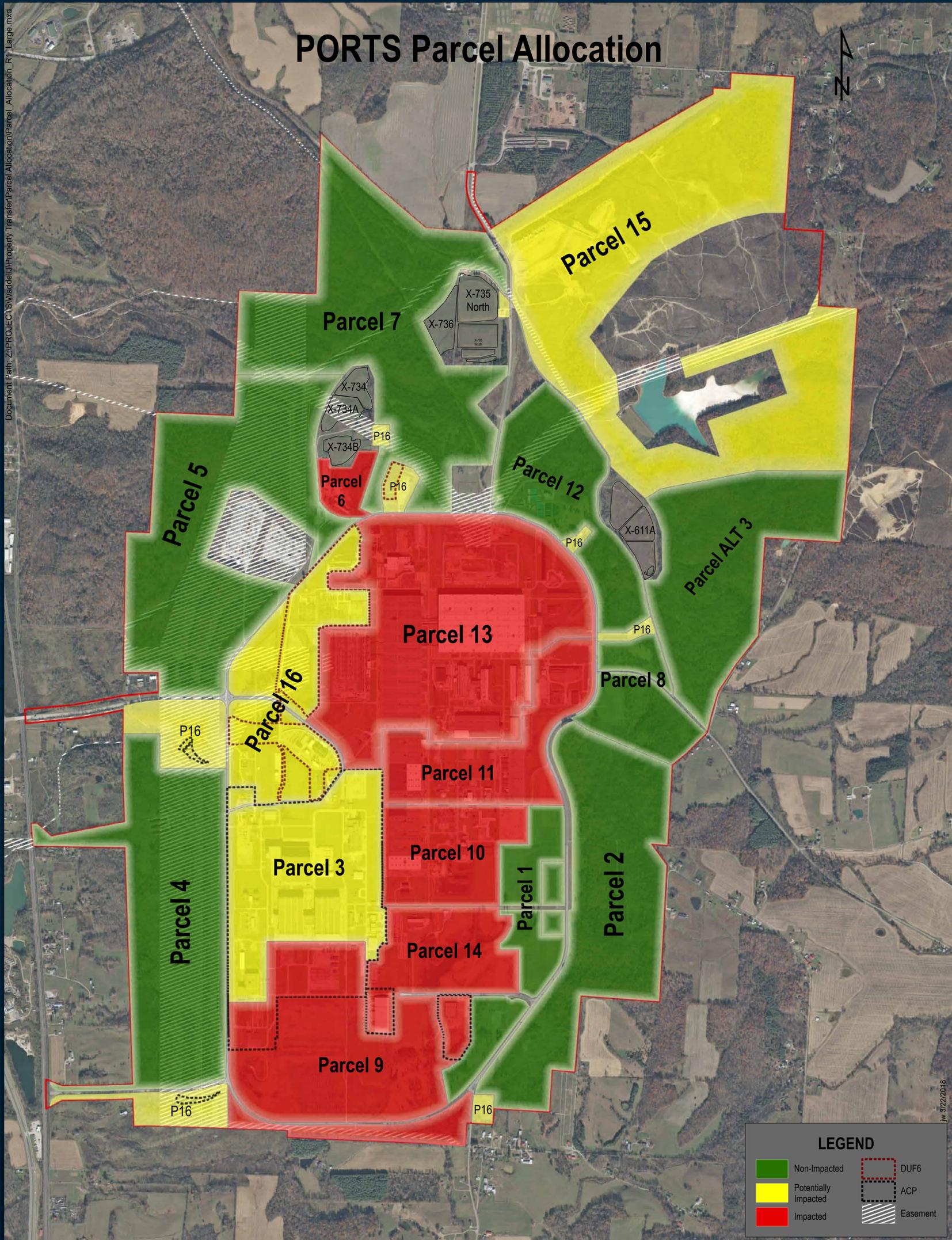


The On-Site Waste Disposal Facility, **OSWDF**, will provide for timely future redevelopment with the safe onsite disposal of acceptable demolition waste and debris along with consolidation of landfills and plumes from the central plant area.



The final impacted material disposal area footprint of the **OSWDF** will occupy about **100 acres** in the northeast portion of the DOE reservation.

# DEVELOPMENT PARCELS



# PREPARING FOR SITE DEVELOPMENT

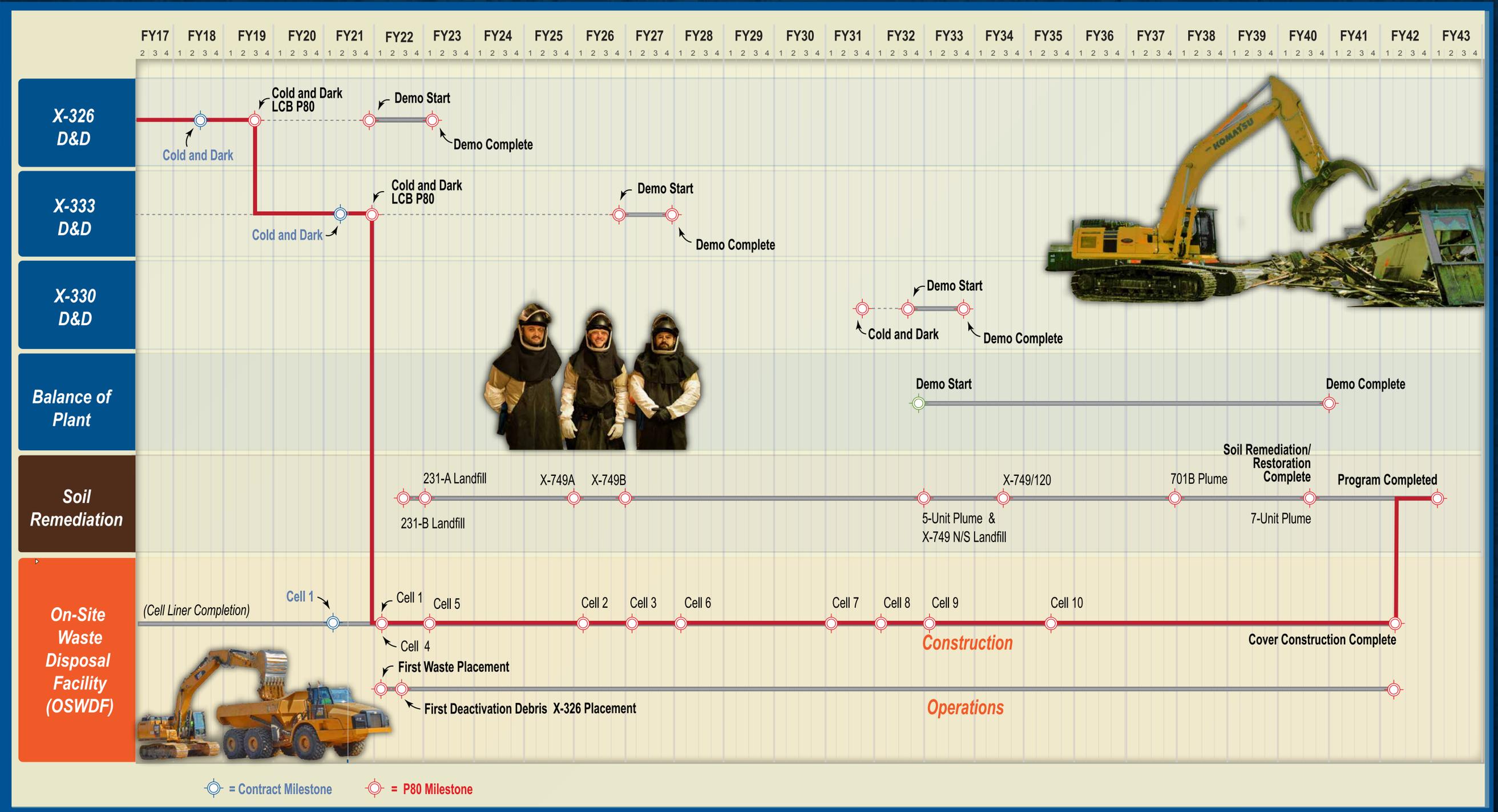
## Landfill & Plume Consolidation



# OSWDF CONSTRUCTION



# HOW LONG WILL PROJECT TAKE?



# PORTSMOUTH GASEOUS DIFFUSION PLANT



# TOUR THE SITE



The Portsmouth site played an important role in the defense and energy security of our nation.



For decades, the site was closed for security reasons, but now bus tours are open to the public on a periodic basis in the spring, summer and fall.

- Third Saturday of each month
- Free to the public
- Must be 18 years of age
- Must be a U.S. citizen
- Pre-registration required



Call 740-897-2811 or 740-897-2432 to learn more.



# WHO ARE THE SITE EMPLOYERS?



[www.fbportsmouth.com](http://www.fbportsmouth.com)

**Mission: Safely perform Deactivation and Decommissioning (D&D) work at the Portsmouth site including process building deactivation, support building demolition, uranium processing, environmental remediation, waste disposition, and asset recovery and recycling.**



# WHO ARE THE SITE EMPLOYERS?



[www.duf6-mcs.com](http://www.duf6-mcs.com)

Our mission is to safely and compliantly operate the conversion facilities at Portsmouth, OH and Paducah, KY, converting DOE's Depleted Uranium Hexafluoride inventory to uranium oxide, a more stable compound for storage, reuse and disposal, and to produce Aqueous Hydrofluoric Acid for other beneficial uses.



# WHO ARE THE SITE EMPLOYERS?



[www.pma-iss.com](http://www.pma-iss.com)

## Scope of Work/Mission:

Providing infrastructure, security, telecommunications, training, fleet and records management services at the Portsmouth Site.

