Community Advisory Board

Investing in the Future of Science

Kate Gregory
Chief Operating Officer

Karen Kosky
Head, Facilities Engineering Services Section

Presenter Introductions

Kate Gregory

- **Fermilab Chief Operating Officer**
- Career Naval Officer with 33 years of experience leading project teams:
  - Commander of Naval Facilities Engineering Command and Chief of Civil Engineers: $12B, 19,000 person world-wide infrastructure organization
- Senior Vice President for Business Services – Iowa State University
  - Initiated Enterprise Resource Planning system
  - Implemented risk-based infrastructure planning
- Registered Professional Engineer
- BS in General Engineering; Masters in Construction Management and System Engineering Management

Karen Kosky

- **Head, Facilities Engineering Services Section**
- 20+ years experience managing facilities, environmental, sustainability programs
- 3 years Fermilab, 6 years Federal Contractor
- Former City of Batavia Plan Commissioner
- 13 years at Kane County (Environmental Management)
- BS in Civil & Environmental Engineering, MS in Agricultural & Biological Engineering

Fermilab at-a-glance

Physical Assets

6,800	acres (10 mi²)
366	Buildings
2.4M	GSF
$2.21B	Replacement Plant Value
22,155	GSF in Leased Facilities
15-30	Bison

Electrical

2	345 kV substations
101	mi electric cable

Underground Utilities

27	mi fire prot & ICW
20	mi domestic water
16	mi sanitary
20	mi natural gas

Surface Infrastructure

300	ac surface water in
15	cooling ponds
36	mi roads
130	ac parking

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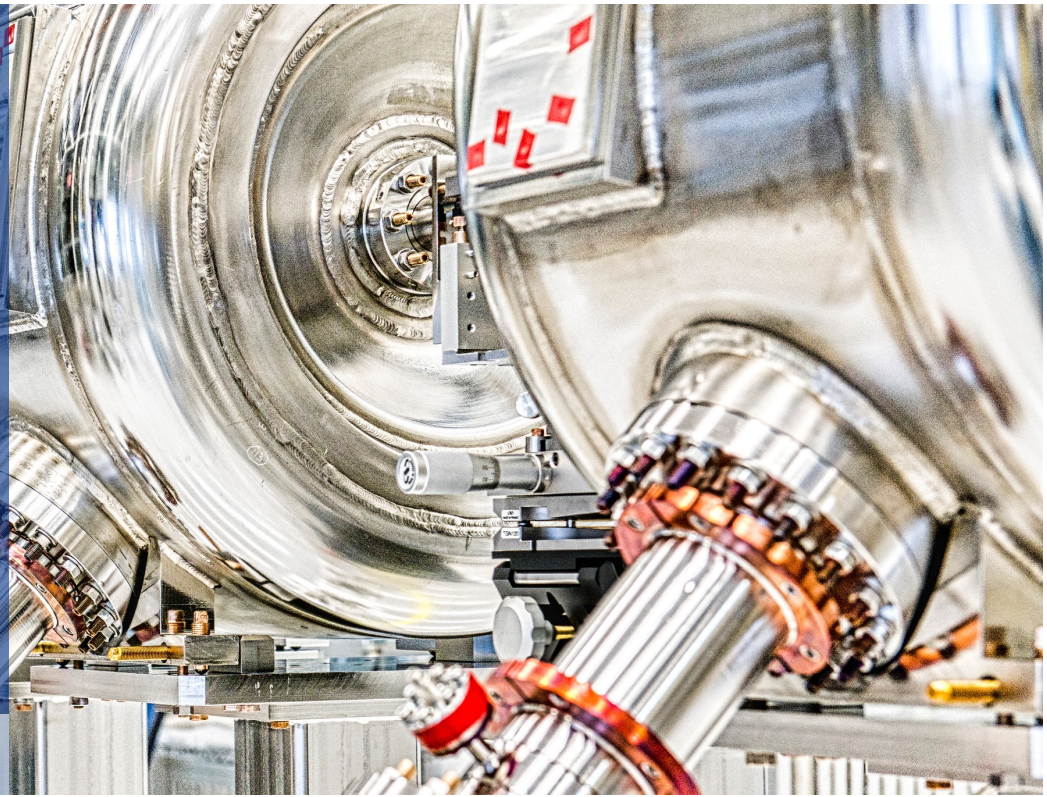
Fermilab – International Hub for Particle Physics

Fermilab's employees and users drive discovery in particle physics by building and operating world-leading accelerator and detector facilities, performing pioneering research with national and global partners, and developing new technologies for science that support U.S. industrial competitiveness.

Fermilab Science Strategy *Aligned With the P5 Plan*

The ten-year goal of Fermilab's science strategy is a **world-leading neutrino science program** anchored by the **Long-Baseline Neutrino Facility** (LBNF) and **Deep Underground Neutrino Experiment** (DUNE), powered by megawatt beams from an upgraded and modernized accelerator complex made possible by the **Proton Improvement Plan II** (PIP-II).



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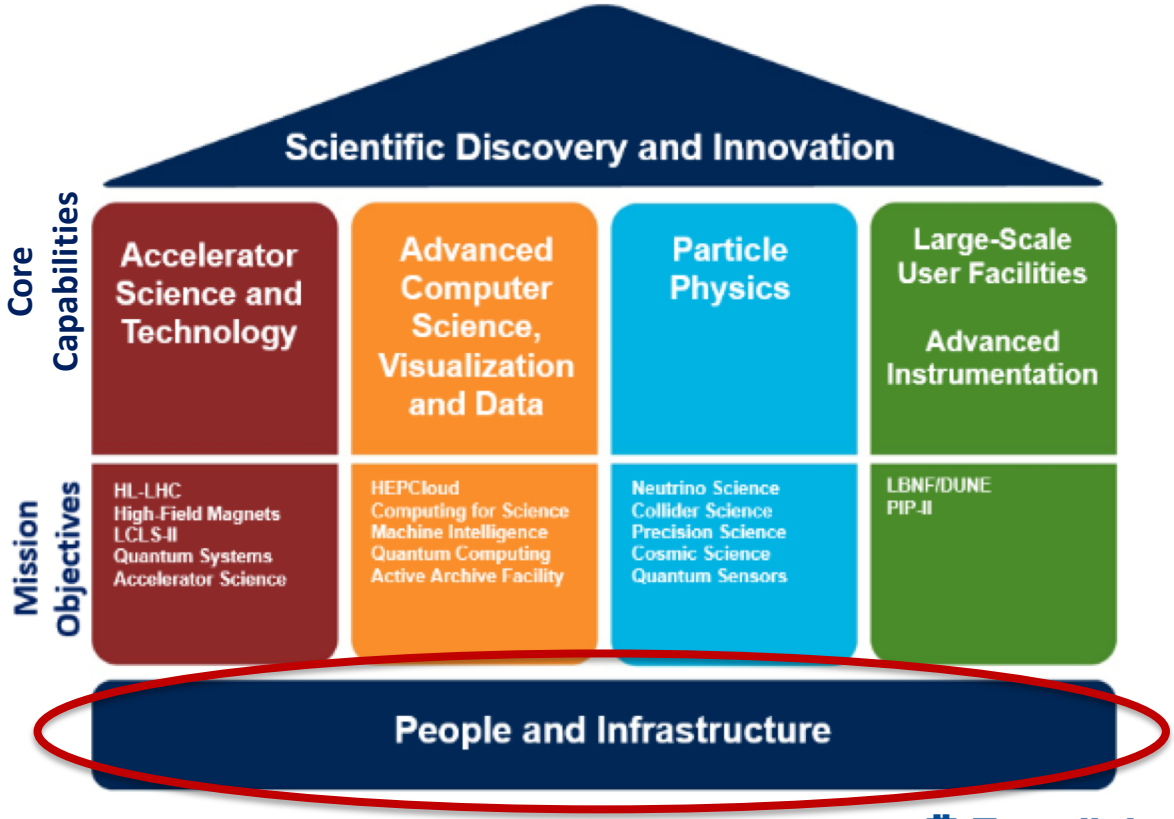
Fermilab Core Capabilities, Foundational Infrastructure

Make the best use of lab core capabilities + people + infrastructure to strengthen the field of particle physics in the U.S. and host the world to advance scientific discovery and innovation



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Infrastructure Planning *Fermilab Campus Master Plan*

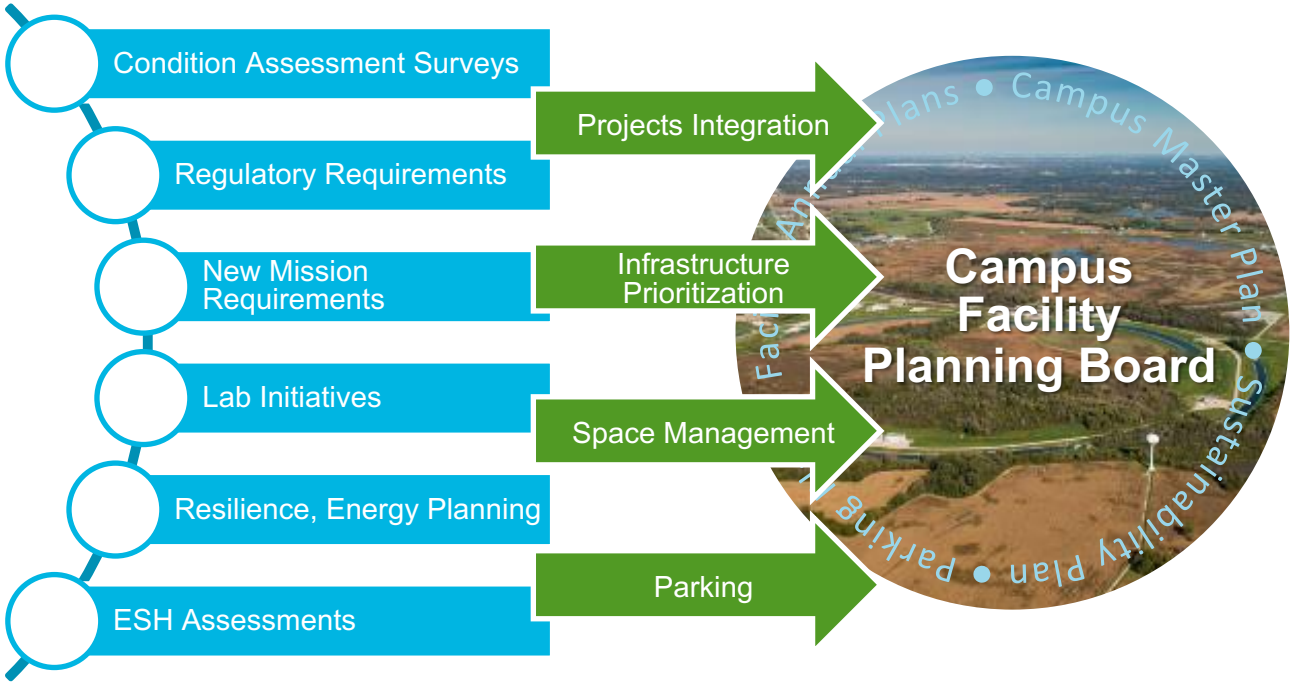
- Fermilab's plan to support DOE's science mission though the built environment
- Sets a vision for infrastructure initiatives

Infrastructure Planning *Fermilab Campus Master Plan*

Guiding Principles

- Support cutting-edge research
- Enhance the campus experience
- Reinforce community
- Ensure the campus is welcoming to visitors & collaborators
- Promote stewardship
- Ensure integrative planning and design
- Uphold the unique character of Fermilab

Fermilab Campus Infrastructure Planning



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Fermilab Campus Infrastructure Investments

"Building for Science"

Infrastructure Investments - Complete

1. Neutrino Detector Buildings
2. Muon Detector Buildings
3. Utilities Upgrade Project (1.0)
4. Wilson Hall Floor 13
5. Industrial Center Building-Addition

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Fermilab Campus Infrastructure Investments - Complete

SBN-Near

- Scientific Facility
- Completed 2016

SBN-Far

- Scientific Facility
- Completed 2016

MC-1

- Scientific Facility
- Completed 2014

Mu2e

- Scientific Facility
- Completed 2016

1. **Short Baseline Neutrino Buildings (SBN-N, SBN-F)**
2. **Muon Campus Detector Buildings**

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Fermilab Campus Infrastructure Investments - Complete

Master Substation

- Site Utility
- Complete 2017

ICW Backbone

- Site Utility
- Complete 2018

Wilson Hall Floor 13

- Office & collaboration space
- Complete 2018

Wilson Hall Grnd Fl.

- Office & services spaces
- Complete 2020

3. **Utilities Upgrade Project (UUP) (1.0)**
4. **Wilson Hall Modernization (Floor 13, Ground Floor)**

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Fermilab Campus Infrastructure Investments - Complete

Industrial Center Building - Addition

ICB-A

- Scientific Facility
- Completed 2019

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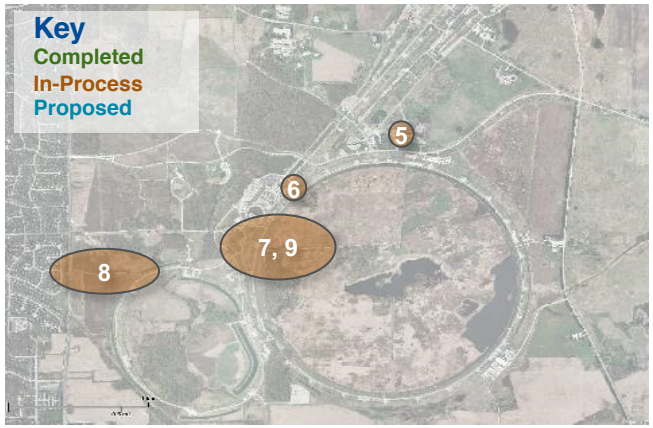
Fermilab Campus Infrastructure Investments

"Building for Science"

Infrastructure Investments – In-Process

6. Integrated Engineering Research Center
7. PIP II
8. Long Baseline Neutrino Facility (Near Site)
9. Utility Corridor to Accelerator Campus



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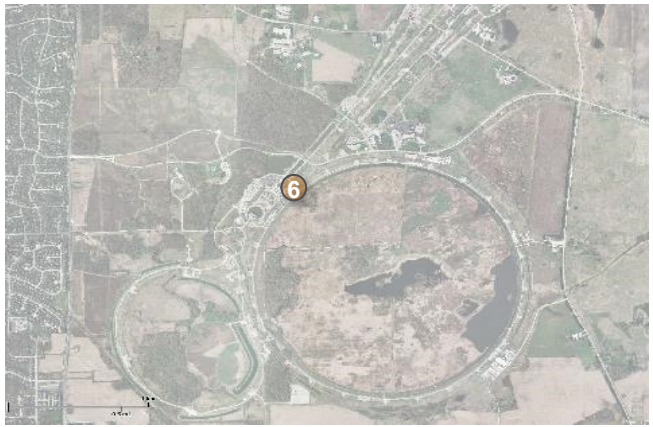
Fermilab Campus Infrastructure Investments – In Process

Integrated Engineering Research Center

- Site Prep underway
- New traffic pattern around Wilson Hall
- Building construction to commence summer 2020

A physical manifestation of Fermilab's next 50 years, IERC provides state-of-the-art laboratory and scientific collaboration spaces for key priorities



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Fermilab Campus Infrastructure Investments – In Process

PIP-II

- Site Prep complete
- Construction to begin 2020

The Proton Improvement Plan-II (PIP-II) is an essential upgrade to the Fermilab accelerator complex to provide powerful, high-intensity proton beams to the laboratory's experiments.

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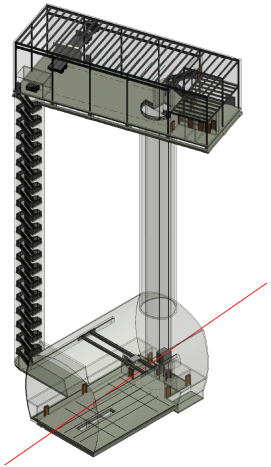
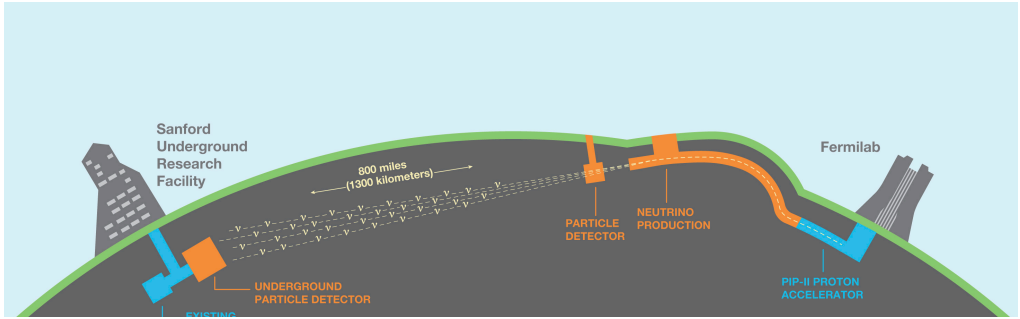
Fermilab Campus Infrastructure Investments – In Process

Long Baseline Neutrino Facility – Near Site

- Neutrino beamline preliminary design underway
- Site Prep contract awarded



The Long-Baseline Neutrino Facility (LBNF), once completed, will comprise the world's highest-intensity neutrino beam, at Fermilab, and the infrastructure necessary to support massive, cryogenic far detectors installed deep underground at the Sanford Underground Research Facility (SURF), 800 miles (1,300 km) downstream, in Lead, SD.



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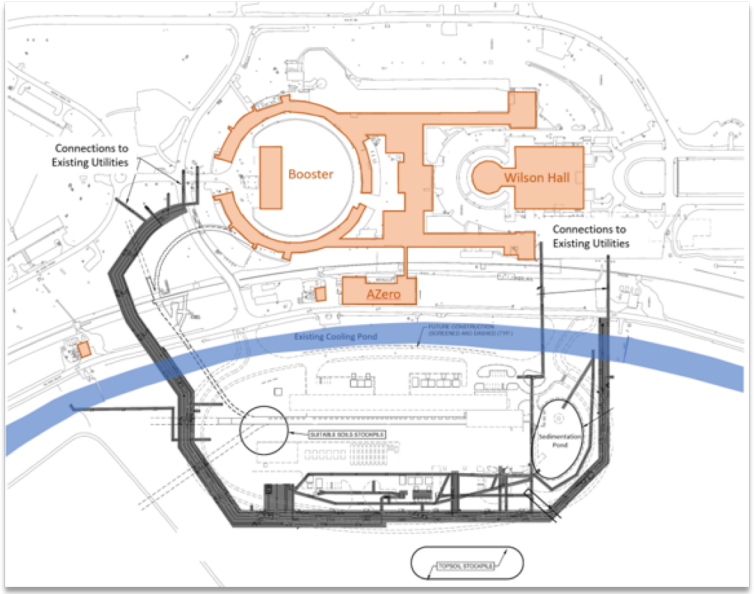
Fermilab Campus Infrastructure Investments – In Process

Utility Corridor to Accelerator Campus

Coordinated corridor for carrying utilities into the new accelerator campus; extension of water, industrial cooling water, sanitary sewer, chilled water, communications and electrical duct banks.

- Project funded in 2019
- Project in final design
- Construction to begin 2020



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