

2014

fermilab campus master plan

## Directors' statement



The Fermilab Campus Master Plan presents a vision for how to centralize, consolidate and modernize, with the goal of hosting a world-leading accelerator-based neutrino program. The Plan's implementation will position Fermilab as one of the top research destinations of choice for present and future generations of particle physicists.

Fermilab will be a place where researchers and staff easily connect, work collaboratively and exchange ideas in their quest to lead, inspire and enable the world's scientists. Just as we look to our long-term goals for planning the laboratory's scientific program, we look to the Campus Master Plan for providing a place to make the scientific program possible.

A handwritten signature in blue ink that reads "Nigel Lockyer". The signature is written in a cursive, flowing style.

**Nigel Lockyer**  
Laboratory Director

## DOE perspective



**Jim Siegrist**  
DOE Office of Science  
Associate Director for High Energy  
Physics

**Michael Weis**  
DOE Fermi Site Office Manager

The implementation of this Plan will solidify Fermilab's position as the dedicated United States particle physics laboratory and ensure its capability to remain a vital national asset and one of the leading laboratories worldwide. The Plan connects the land, equipment, facilities and resource planning to DOE's scientific mission fulfilling the Department of Energy Office of Science stewardship role, while integrating the vision for the future of high energy physics into a Master Plan for the Campus.

A handwritten signature in blue ink that reads "Michael Weis". The signature is written in a cursive, flowing style.

**Michael Weis**  
DOE Fermi Site Office Manager

# Master Plan vision statement

The Fermilab Campus of the future will be a state-of-the-art particle physics laboratory hosting a vibrant, international community of employees and users on a safe, accessible site that celebrates and protects the natural environment.

Master Planning Task Force  
June 2013

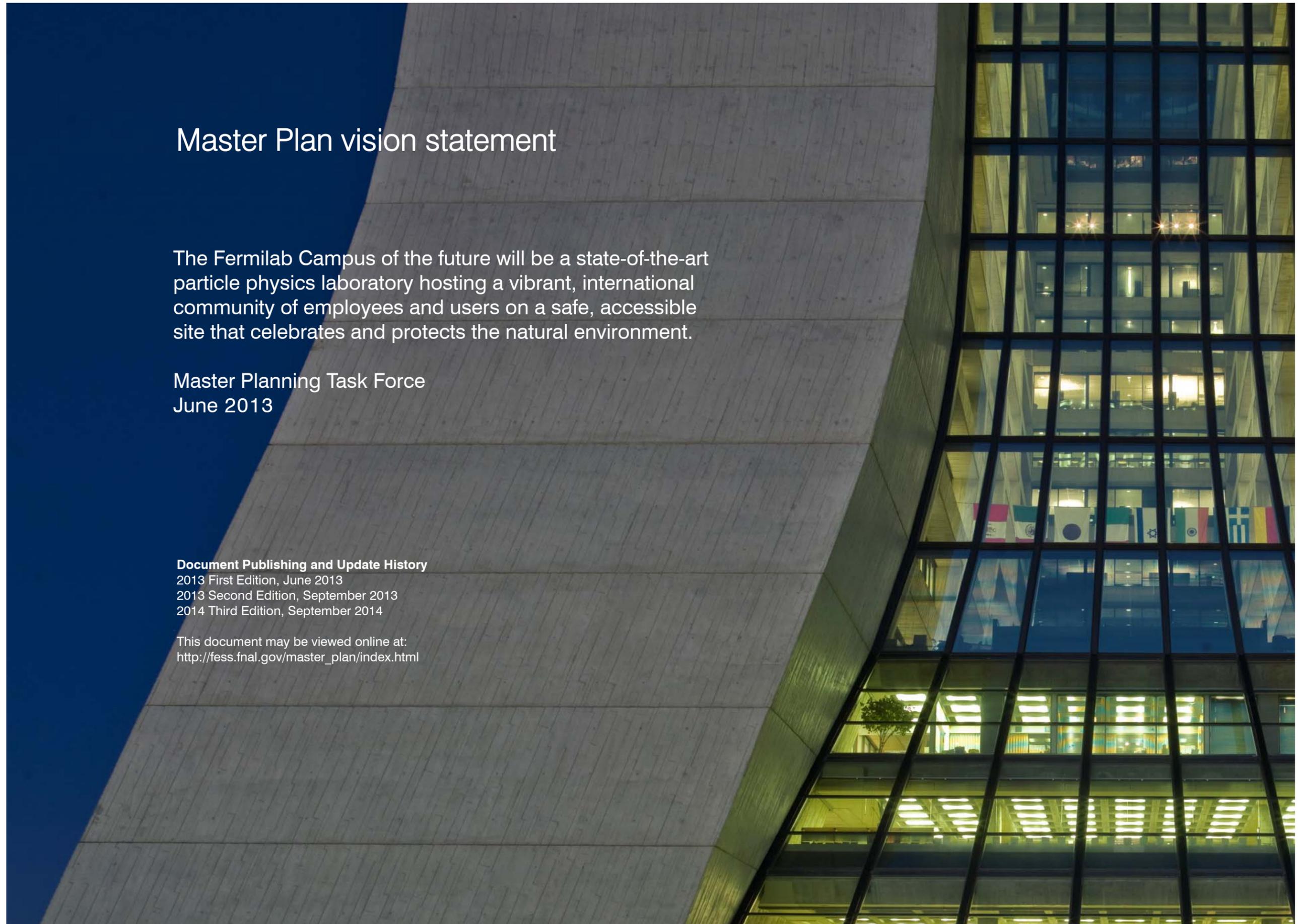
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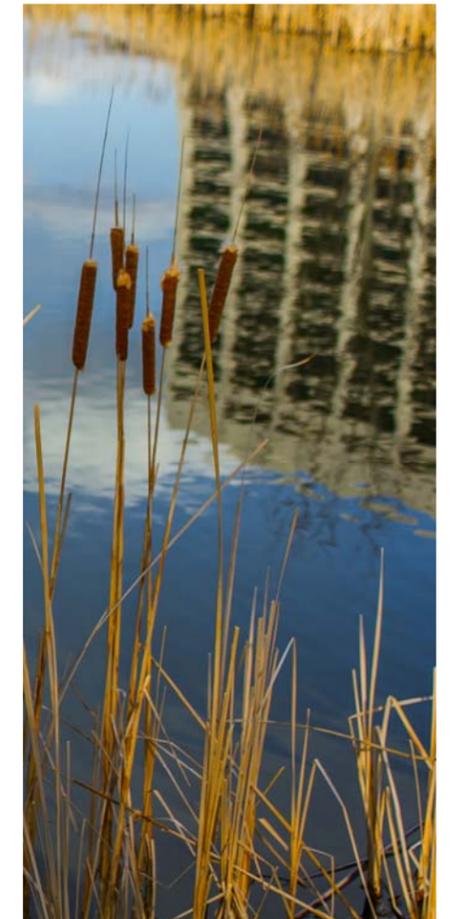
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## guiding principles

The Campus Master Plan and subsequent planning processes at Fermilab are guided by seven interrelated and mutually supportive principles. These principles were formed in response to the issues and opportunities that have emerged in the planning process. They embody the main objectives of the Plan.

# The Guiding Principles

## Support cutting-edge research

The 20-year scientific plan, which is outlined in the publication titled *A Plan for Discovery*, uses the laboratory's existing world-class accelerators and infrastructure and builds new capabilities that support groundbreaking particle physics and accelerator science research.

## Enhance the Campus Experience

Fermilab's Campus shall contain a diversity of inviting, accessible and safe places for the enjoyment and interaction of staff and visitors. Improvements will be made to pedestrian walkways and bicycle paths to increase safety, improve functionality and enhance opportunities for cultural and social engagement.

## Reinforce community

Central to the scientific mission is the desire to foster a sense of community. The Campus Plan shall enhance the community building aspects of the laboratory by designing buildings and open spaces that bring together researchers and staff. This should result in the creation of vibrant centers of laboratory life, fostering the free exchange of ideas and enabling teamwork and collaboration.

## Ensure the Campus is welcoming to visitors

An enriching experience for visitors is an important element of Fermilab's mission. The Campus Plan should provide a welcoming entrance and clear designation of visitor areas. Displays should promote the unique qualities of the site and explain what it has to offer in terms of science, nature and wildlife.

## Promote stewardship

Fermilab shall respect and manage the physical environment of its Campus facilities and lands for the health and well-being of the laboratory, its staff, users, neighbors and visitors, and the ecosystems that the laboratory supports. Facilities should be designed and built in accordance with applicable guidelines for sustainable design and energy conservation.

## Ensure integrative planning and design

The planning and design of the Campus shall integrate disciplines, connect communities, and coordinate scientific and supporting development, with mobility, way finding, landscape and infrastructure initiatives.

## Uphold the unique character of Fermilab

Fermilab has a tradition of architectural innovation and excellence defined by the founder's vision of "a utopian place" where physicists from around the globe could work in functional surroundings that reflect the magnificence of their discoveries and theories. This is evident in the design of many of its founding era buildings and structures that represent architectural innovations for their time. The Campus Plan should perpetuate the founding vision while acknowledging what has changed in terms of science, values and performance since the founding of the laboratory.

# introduction

# 1

## Vision, Mission and Purpose

Fermilab's vision is to "lead, inspire and enable the world's scientists to solve the mysteries of matter, energy, space and time for the benefit of current and future generations."

Fermilab's mission is to advance particle physics in partnership with universities and laboratories worldwide by: 1) driving discovery through theory and experiment; 2) building and operating world-leading scientific facilities; and 3) developing innovative technologies for science and industry.

Integral to Fermilab's far-reaching mission, in its singular role as America's Particle Physics laboratory, is the building and operation of world-leading scientific facilities. Fermilab is currently undergoing a transition from a science laboratory that operated the world's highest-energy proton-antiproton collider (e.g. the Tevatron) to one that is managing and delivering a growing portfolio of new projects focused on neutrino and muon research, among other areas.

The purpose of the Fermilab Campus Master Plan (hereafter referred to as the Campus Plan) is to provide a set of guidelines to ensure the Fermilab Campus evolves in a way that supports the laboratory's vision and mission over the next 20 years while adhering to a set of guiding principles. As such, the Campus Plan articulates a "roadmap" through this transition to an envisioned end-state.

The Campus Plan design team worked closely with the Master Planning Task Force (MPTF) in the development of the Plan. The MPTF includes representatives from Fermilab (Directorate and Division and Section Heads), the Department of Energy, the University of Chicago and the Illinois Institute of Technology.

The Plan should be updated annually.

## Document organization

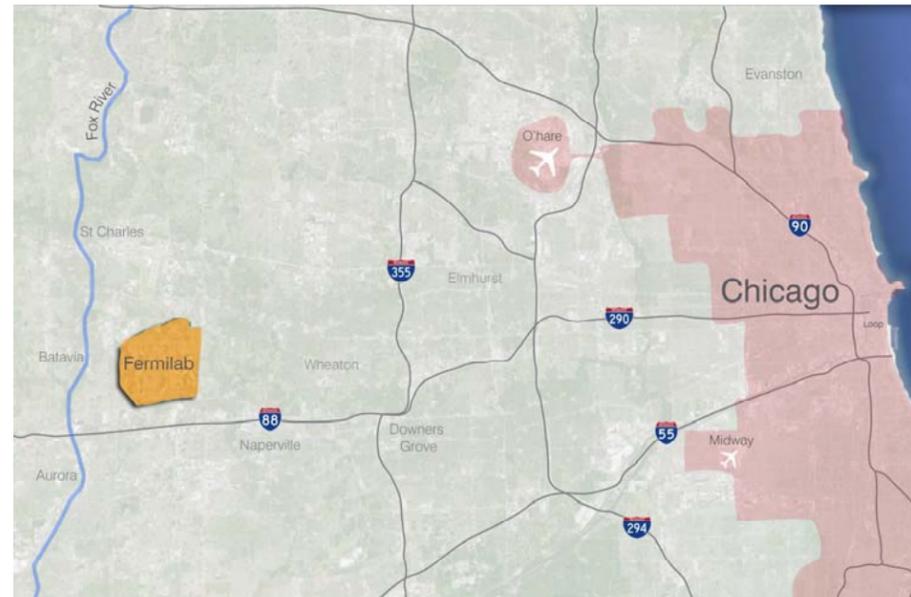
*Chapter 2: Context* sets the stage for the Campus Plan by laying out basic facts about the laboratory, giving a brief history of Campus development and highlighting what people value most about Fermilab. The chapter concludes with perspectives on the current Campus and the key challenges looking ahead.

*Chapter 3: Vision* imagines what Fermilab could look like in 20 years.

*Chapter 4: The Campus Plan* begins by describing the essential features of the Plan. It then looks at the Campus from a site-wide perspective in terms of “the Campus layers”, which define the physical structure and organization of the Campus. The chapter concludes with details about planned future projects.

*Chapter 5: Plan Implementation* imagines one possible scenario for implementing the laboratory development projects and the Campus Plan initiatives. It then describes and illustrates the Plan outcome and benefits and concludes by suggesting study topics for future annual Campus Plan updates.

## Campus location



Fermilab is located 42 miles west of Chicago, Illinois. Since the laboratory's founding, suburban development has flourished around it, reaching the borders of the Fermilab site.