



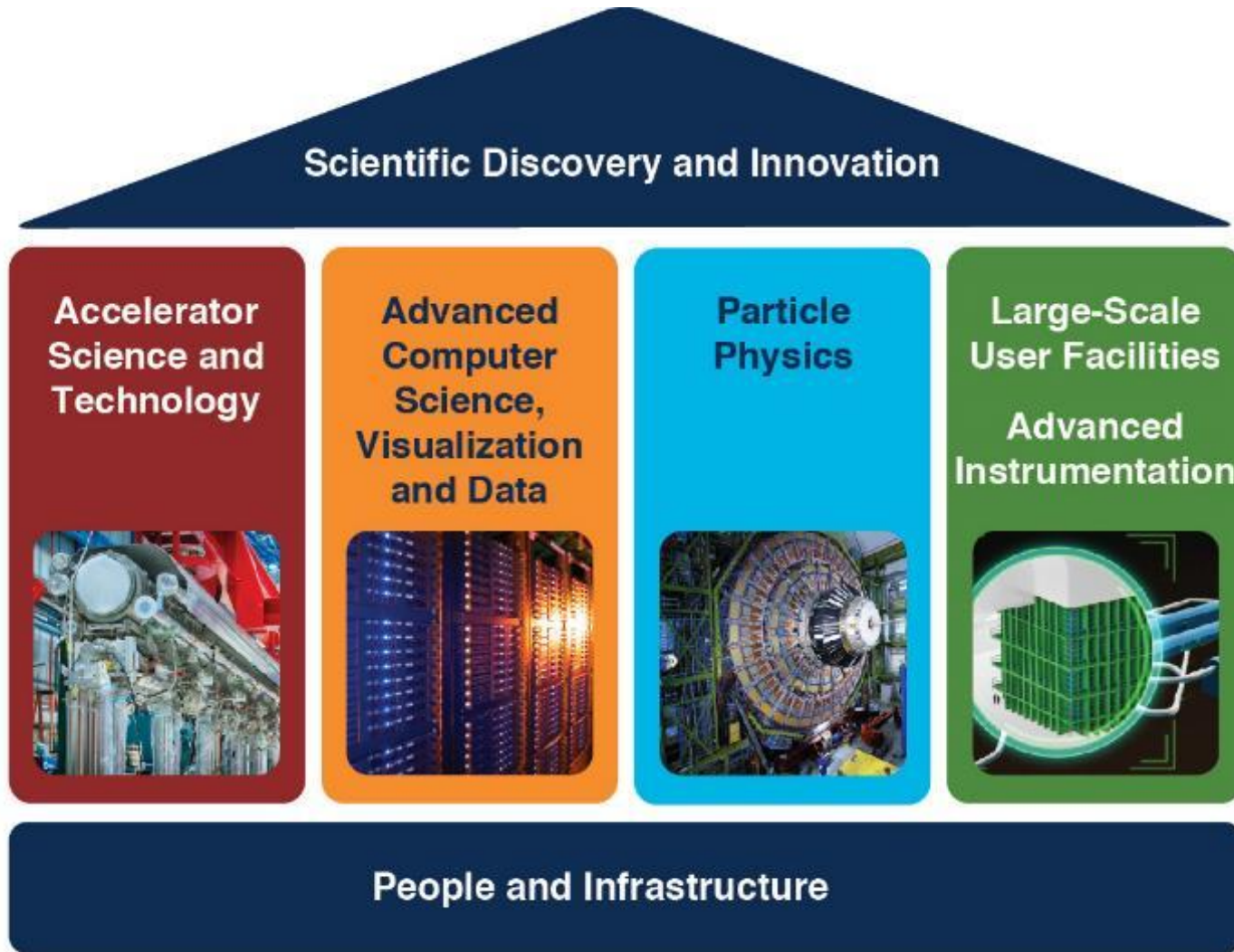
Integrated Engineering Research Center (IERC)

Community Advisory Board Meeting

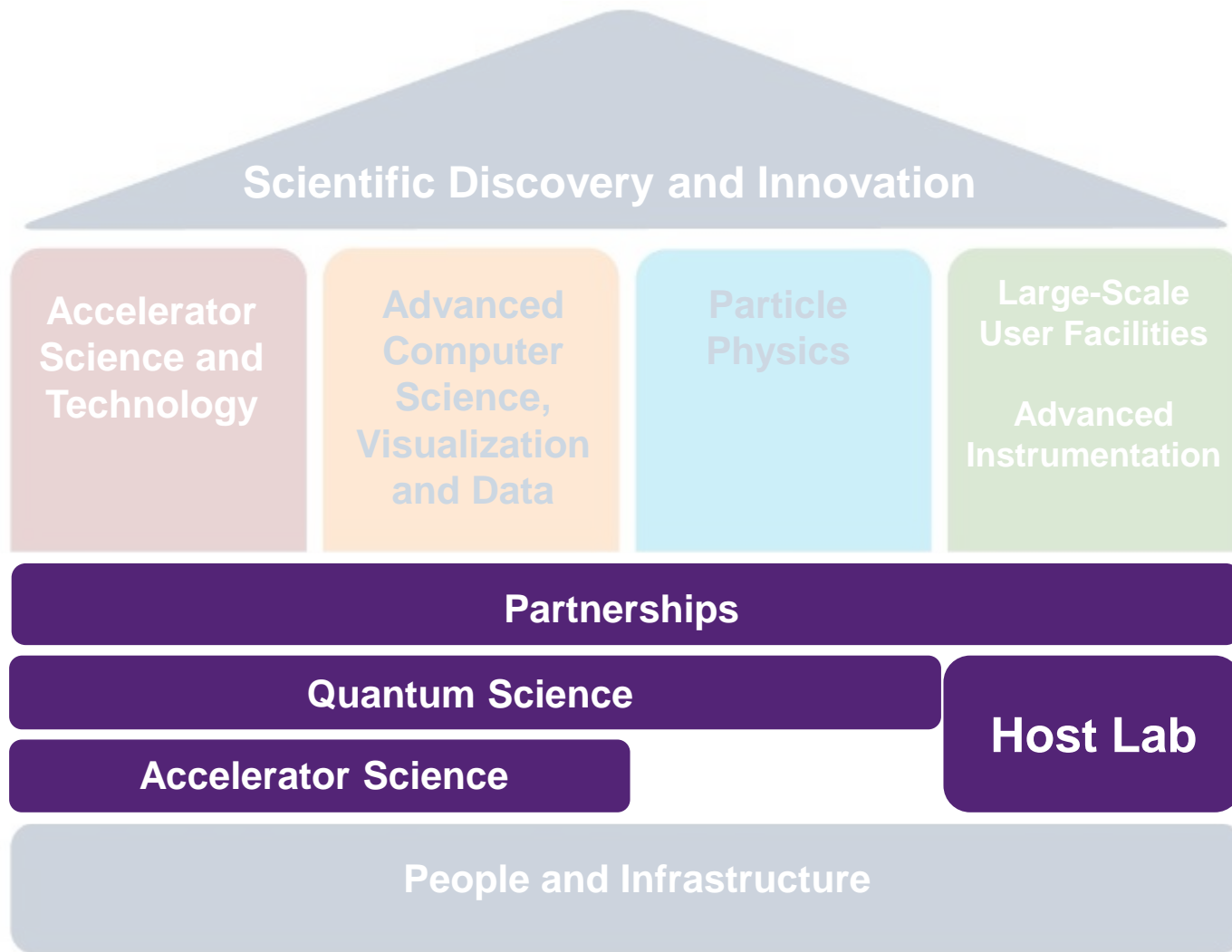
Kate Sienkiewicz, IERC Project Manager

29 November 2018

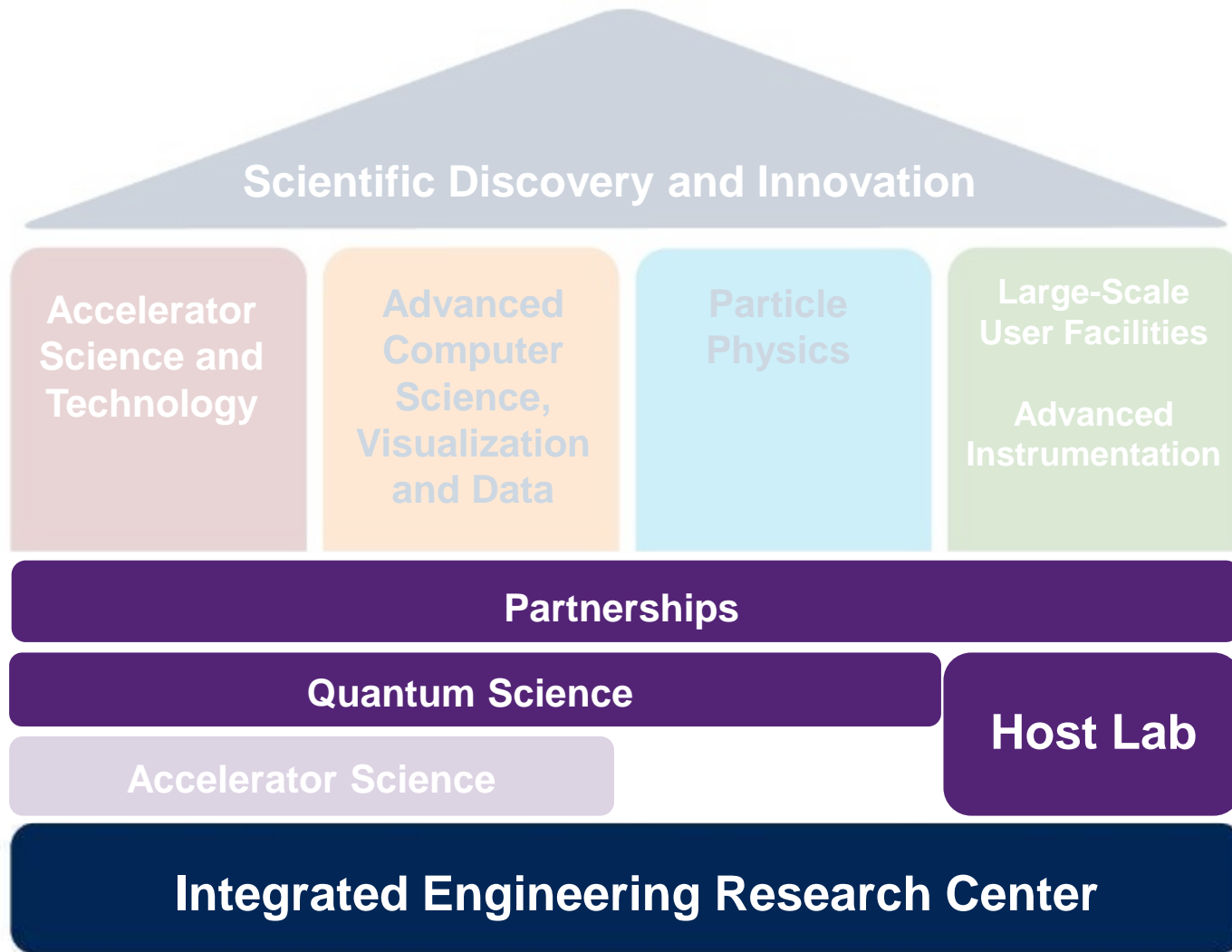
Fermilab Core Capabilities



Fermilab Major Initiatives



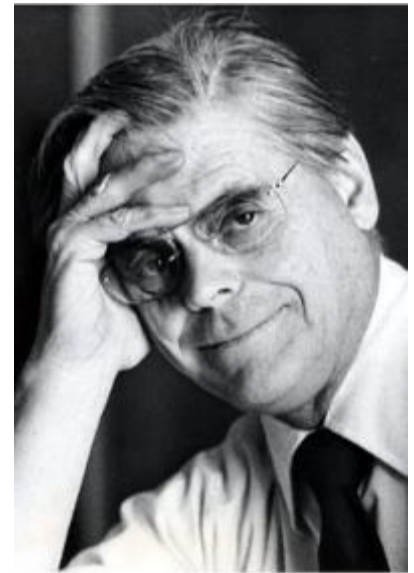
Mission Need



IERC Project Overview

“I envisaged the Laboratory as a utopian place where physicists ... would be doing their creative thing in an ambiance of well-functioning and yet beautiful ... structures and surroundings...” *Robert Wilson*

“One of the problems of a scientific laboratory is communication and cross-fertilization of ideas.” *Don Getz, former Assistant Director*



- Mission need exists for a new state-of-the-art building
- Collaboration and conferencing spaces to promote interaction
- Connection to Wilson Hall
- Attract and retain best and brightest
- Funding source from Science Laboratories Infrastructure (SLI) program
 - Does not take funding away from HEP-funded scientific research

IERC Connection to Fermilab Science

LBNF/DUNE:

- Under Secretary Paul Dabbar recently testified that LBNF/DUNE is one of the two highest priority items in the Office of Science
- International project milestones have been established
- International partners such as CERN, the U.K., India, and Italy, have made commitments to support Fermilab's flagship neutrino program.

IERC Connection to LBNF/DUNE:

- Critical element to support Fermilab's role as host laboratory
- Provides space for significantly increased collaboration required by LBNF/DUNE

High Luminosity LHC (HL-LHC):

- The LHC upgrades constitute the highest-priority near-term large project in the P5 plan

IERC Connection to HL-LHC:

- Design and engineering technical space
- Lab space for assembly, testing, and integration of HL-LHC CMS detector components

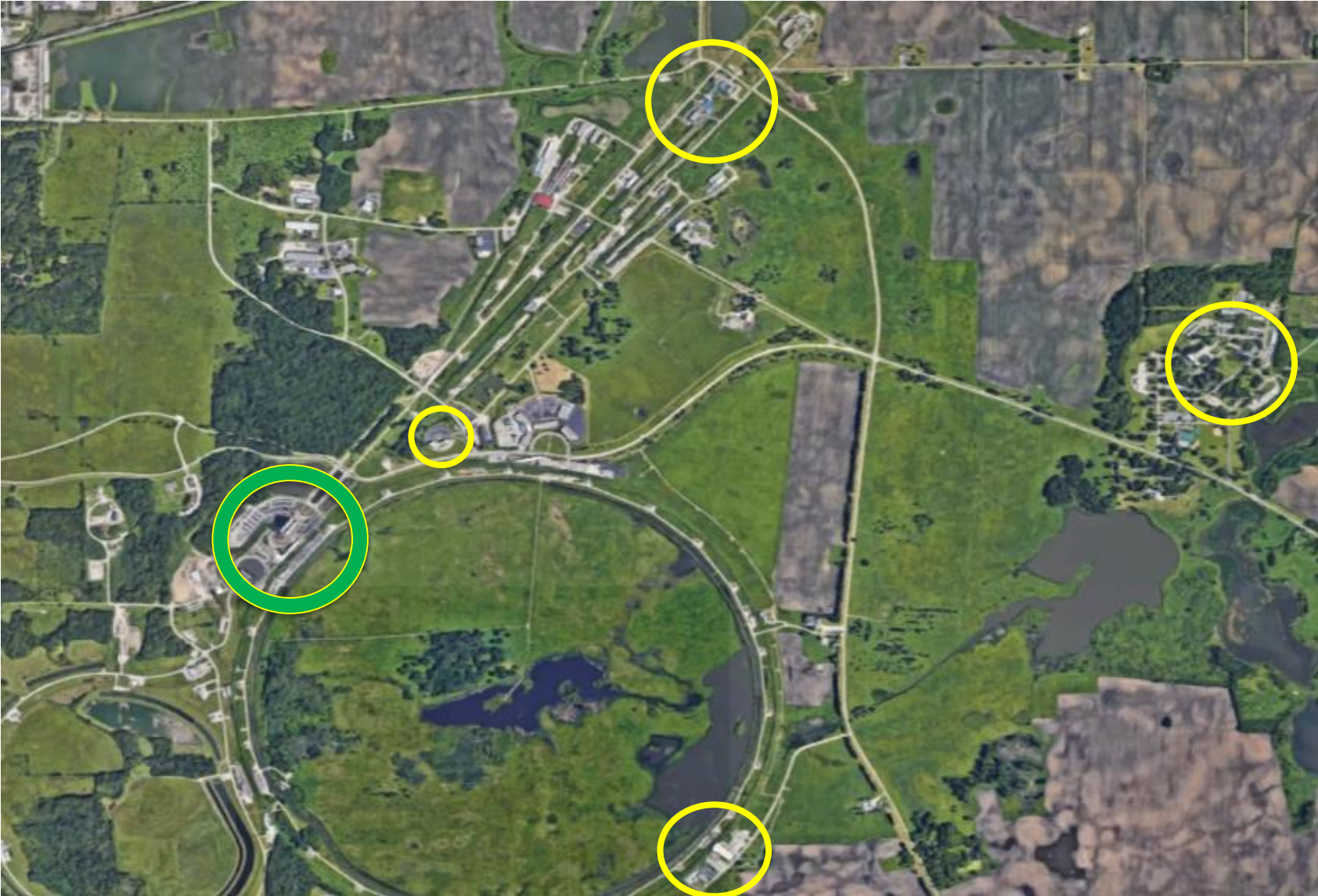
Quantum Information Science (QIS):

- Rapidly developing interdisciplinary field recognized by DOE/SC
- Top priority that will revolutionize global innovation

IERC Connection to QIS:

- Space for collaboration, interaction, and algorithm development
- Lab space for cryogenic detector R&D and superconducting detector development

Colocation and Collaboration



“...if we produced a dowdy site with shabby buildings, then the technical people we wanted to work with us would not come and the statesmen, who might judge us in part by appearance, would not, in the long run, give us the funds we would need for our physics.”

“I hate the clutter and bad communication that result from having a multitude of small buildings”

Robert Wilson

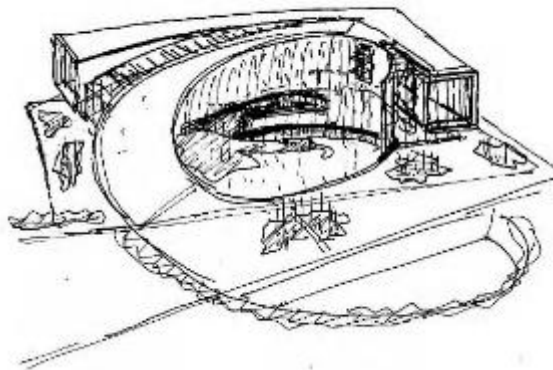


Top Global Design and Engineering Firm

- Numerous awards – Design, Lab of the Year, Facility of the Year
- Design competition technical evaluation criteria:
 - Past record of distinctive design solutions comprised of an addition to, or companion to, a prominent and historic existing building; artfully complementing existing built environment and context.



William Jones College Preparatory High School



Shanghai Natural History Museum



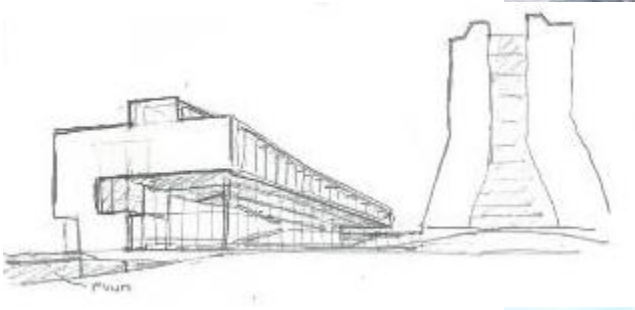
Rush University Medical Center

Designs by Ralph Johnson, notable Chicago architect, design principal at Perkins+Will, the IERC design architecture firm

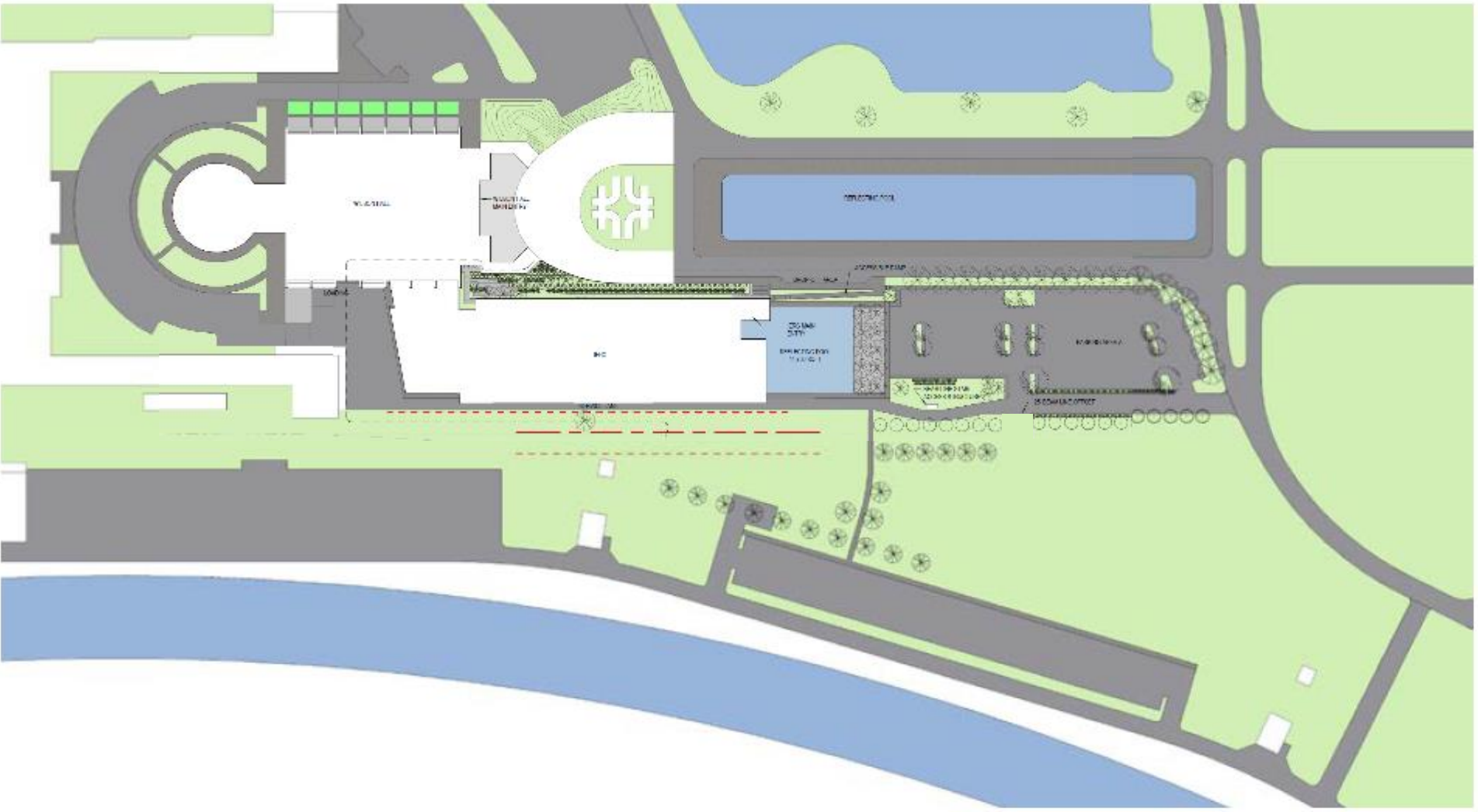
Site Selection



Design Evolution is in Progress



Central Campus Site Changes



IERC Project Summary

- Embodies Fermilab's next 50 years
- Attract and retain the best and brightest to the Midwest
- Science-on-Display highlights STEM field in partnership with Fermilab's community outreach
- Employ approximately 300 people total over the construction period at different points in time and durations
 - Construction jobs include, but are not limited to, concrete, metals, plumbing, HVAC, electrical, fire protection, communications, utilities, exteriors, finishes, and furnishings

IERC Project Status

- Strong DOE support – receipt and approval for over half of our total project cost to-date
- Funding from Science Laboratories Infrastructure (SLI) program
 - Does not take funding away from HEP-funded scientific research and projects
- Preliminary design started in July

