Fermilab

Master Planning Task Force

April 19, 2013

*Members (**P**= Present, **A**=Absent)*

P	Pier Oddone	**P**	Jack Anderson	**A**	Steve Holmes	**P**	Greg Bock
P	Vicky White	**A**	Bob Kephart	**A**	Giorgio Apollinari	**P**	Mike Lindgren
A	Roger Dixon	**A**	Steve Wiesenthal	**P**	Randy Ortgiesen	**P**	Young-Kee Kim
A	Patricia McBride	**P**	Paul Czarapata	**P**	Stuart Henderson	**A**	Katie Yurkewicz
A	Carl Strawbridge	**P**	John Bakken	**P**	Rob Roser	**P**	Steve Dixon

Guests

A. Federowicz, G. VanZandbergen. W. Begner (DOE), E. Gottschalk

A. Master Plan Status

R. Ortgiesen (RO) provided an overview of the process to date and introduced G. Van Zandbergen (GV). The following observations/discussions were noted:

- RO noted that the PMP notable is the end of the fiscal year and that the plan is expected to be completed in June 2013;
- GV noted that the Mission Plan and Vision Statement are derived from the discussions and conversations with the Master Planning Task Force. Young-Kee Kim (YKK) felt that the verbiage could be sharpened. GV noted that he would work with K. Yurkewicz to refined this;
- GV discussed the Guiding Principles in the document. M. Lindgren (ML) noted that "universal design" should be included. V. White commented that if the Laboratory is serious about these principles, especially #4 (Sustainability), that there will be an initial cost associated with this goal. RO and J. Anderson (JA) noted that the guiding principles are recommendations that allow trade off using cost as part of the equation;
- There was discussion concerning the focus of the plan to "attracting and retaining the best current and future generation of researchers". VW noted that this should apply to all employees. S. Henderson (SH) and JA noted that it should be the "best staff" and therefore more reflective of the contributions of all;
- YKK noted that the future experiments should be shown in the regions;
- ML suggested that the title of "support facilities" be changed to reflect the nature of the buildings;
- Pier Oddone (PO) suggested that the Intensity Frontier Component Handling Facility be move up in the schedule to reflect the urgent need of this facility;
- JA proposed that the Guest House could be constructed with "other funding" and could be constructed sooner;
- VW would like to see if other funding could be used to construct the Cloud Computing Center. PO agreed, but suggested that the "other funding" list be kept short and focused;
- J. Bakken (JB) noted that the road network shown on the plan for the Integrated Engineering Research (IER) building did not provide for a smooth flow of pedestrian traffic. SH noted that the existing road layout (not moving the road) would provide for a better pedestrian experience at the ground level. GV agreed to review this area an modify in future revisions;

- VW suggested that the parking be placed underground and a plaza with green space b located at ground level.
- SH questioned if the size of the parking shown on the presentation was adequate to handle the existing requirements plus the new parking required for the consolidated workforce. GV responded that it was not. YKK noted that we may need remote parking and more frequent shuttles.
- It was suggested that the IER building seemed separated from the Tech space on the plan. In order to some the requirement for both, it was recommended that the IER be called "IER-West" and the Tech space be called "IER-East"
- YKK would like GV to present this plan to a number of different audiences including brown bag seminars, engineers meeting, etc..
- In general the plan was well received and it was agreed to continue with the development based on the modifications discussed.

B. Next Meeting

The next meeting is not scheduled

The Fermilab Campus Master Plan

April 19, 2013

“We shape our buildings: thereafter they shape us”
Winston Churchill

Objective

Creating a Master Plan that integrates the new vision for Intensity Frontier research facilities with a sound strategy for infrastructure and support facility investment, and facility stabilization and revitalization efforts.

Agenda

Update since last meeting

Vision statement

Guiding principles

Planning framework and objectives

IERC / Central campus design

What's next?

The document (time permitting)

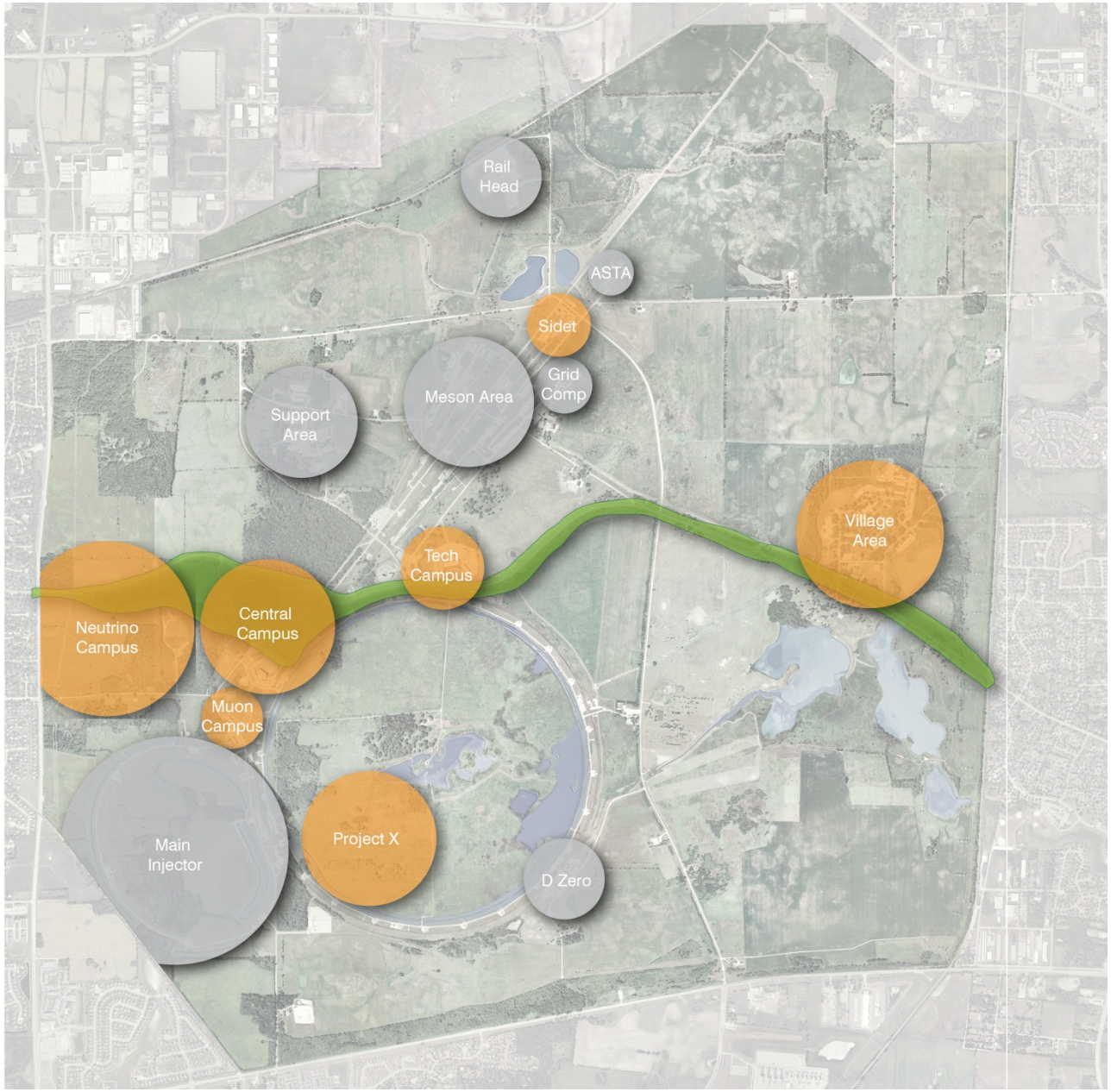
Master Plan Vision Statement

The Fermilab campus of the future will be a state of the art science laboratory positioned at the leading edge of the next generation of particle physics research and discovery.

It will be a place where its' global community of scientists, engineers, collaborators, visitors, and neighbors come together in community,

while experiencing a vibrant and dynamic campus, featuring sustainable facilities, in a setting that celebrates the beauty and diversity of its natural environment, while engaging the researcher, satisfying the curious, inspiring the creative, and attracting and accommodating the visitor.

Scope



Open Land
for future experiments

Master Planned Regions

Sufficient Regions
for forseeable future

Boulevard connection area

Guiding Principles

A set of principles has been developed to guide the laboratory in the development of the Fermilab Campus Master Plan. These principles were derived and refined collaboratively as part of the master planning process. The principles define the fundamental values necessary to support Fermilabs aspirations. They establish parameters for the master plan which, when followed, will assure the that physical environment provides the campus with the facilities, capabilities, experiences and outcomes embodied in the Master Plan Visions Statement. In combination, the Guiding Principles govern an integrated facility planning strategy that will guide the development of a:

GP-1 State of the Art Science Laboratory

- A 21st century laboratory for 21st century science.
- Support all laboratory programs with durable, flexible, adaptable, state of the art facilities, technology, site amenities and infrastructure.

GP-2 Collaborative and Connected Community

- Locate all new non-experimental facilities into centralized campuses fostering a vibrant and dynamic scientific community.
- Foster community through intentional design that facilitates both planned and unplanned interactions.
- Foster community and dynamic interaction via the development of meaningful interior and exterior gathering places.
- Develop Inviting and accessible, walkable and bike-able pathways connecting central campus regions and experimental facilities; paths that are distinct from, and separate from vehicular ways.

GP-3 Vibrant and Dynamic Campus Setting

- A campus that is an aesthetic, inviting, accessible, and safe place, allowing the laboratory to convey the status of its research excellence while attracting and retaining the best current and future generation of researchers, as well as the curious visitors.
- Develop architectural design guidelines and objectives that will achieve varied but cohesive architectural approaches that enhance the laboratory, while respecting its history and context.
- A Campus design and configuration that takes full advantage of, and sensibly integrates with, the inherent natural beauty of the Fermilab site

GP-4 A Model of Stewardship

- A campus that incorporates the pervasive principles and practice of sustainability into all site planning and building design efforts.
- A campus that fosters stewardship by using physical and financial assets and resources in the most efficient and effective manner.

21st century research laboratory

- Since the defining founding era of Fermilab, many sociological, technological and work style changes have occurred. As a result the research laboratory is changing—or needs to—to attract and retain talent.
- Many formative concepts have changed, or are changing since the founding era: the way researchers and staff work, technology, the confluence of generations, the priorities and approach to building design, and the stewardship of resources.

The gap

Viewing the current Fermilab physical facility through the lenses of the guiding principles and the 21st century research laboratory, gaps in the current facilities become evident. The gaps are most evidenced by the current large number of small, scattered, inadequate and obsolete facilities, that will not support the principles and strategic mission of Fermilab for the 21st century. Understanding this gap enables the development of the Planning Objectives for the master plan.

Guiding principles through plan objectives process

Guiding Principles	21st century laboratory	The Gap Challenges / issues / hindrances	Plan Objectives Transition to 21st Century facilities for 21st Century Research
State of the Art Science Laboratory	**Technology**	Obsolete, antiquated inadequate facilities (north village, Sidet, Footprint Area) Facilities do not meet current and future needs.	**Create state of the art research and support space** while decommissioning and demolishing the network of inadequate and antiquated fabrication, assembly, machining and office facilities many dating back to the beginning of the laboratory.
Collaborative and Connected Community	**Collaborative workstyles**	A widely scattered network of small, separate facilities distant from co workers and other affiliated personnel. Existing and proposed experimental facilities isolated, not connected by alternative safe means of mobility (walking, biking). Not accessible to visitors.	**Co locate and consolidate** non-experiment facilities into the central region, into new multidisciplinary, multi-divisional, multi-functional, collaborative facilities that capitalize on shared resources and adjacencies. This will achieve greater interaction while reducing the overall development footprint. Develop a **facility framework** that integrates the planned intensity frontier facilities into experimental facilities planned for the next 20 years into the campus as a whole. Development of **concentrated campus cores** based on the university model, with integrated "pedestrianization" and gathering spaces.
Vibrant and Dynamic Campus Setting	**Attract next generation of researchers**	Site plan and design approaches rooted in founding era. Not responsive to 21st century user expectations to current user needs and expectations, attractive, collaborative, flexible, daylight and views, sustainability, third spaces	Develop planning and design guidelines that will create an integrated campus that is an aesthetic, inviting, accessible, and safe place, allowing the laboratory to convey the status of its research excellence while **attracting and retaining the best** current and future generation of researchers, as well as the curious visitors.
Model of Stewardship	**Sustainable Design Economic Constraints**	Transition from "my space" to "our space", for space efficiency. Sustainable building design	Energy Efficient / Sustainably Designed buildings **Stewardship through maximum space efficiency**: laboratory space that is flexible and adaptable and able to accommodate a range of design requirements, space that can provide rapid response the changing needs, space that can readily expand and contract to changing needs and staffing levels, along with our space concepts.

Planning objectives

- Modernization
- Consolidation/Centralization/Connectivity
- Attract and retain current and future research staff.
- Executed in the context of the pervasive goals of sustainability and resource stewardship.

Create state of the art research and support space while decommissioning and demolishing the network of inadequate and antiquated fabrication, assembly, machining and office facilities many dating back to the beginning of the laboratory.

Modernization

Co locate and consolidate non-experiment facilities into the central region, into new multidisciplinary, multi-divisional, multi-functional, collaborative facilities that capitalize on shared resources and adjacencies. This will achieve greater interaction while reducing the overall development footprint.

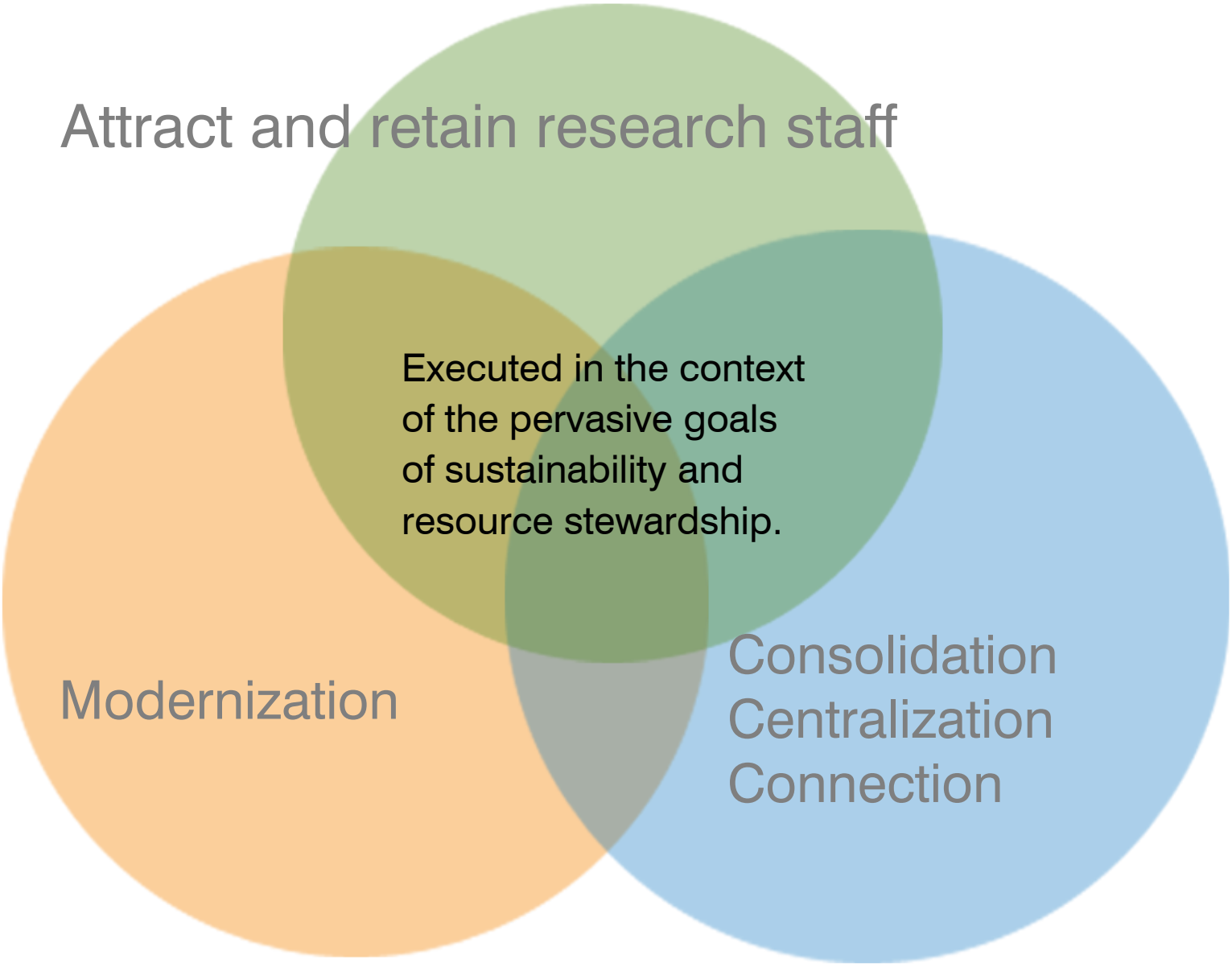
Develop a **facility framework** that integrates the planned intensity frontier facilities into experimental facilities planned for the next 20 years into the campus as a whole.

Development of **concentrated campus cores** based on the university model, with integrated “pedestrianization” and gathering spaces.

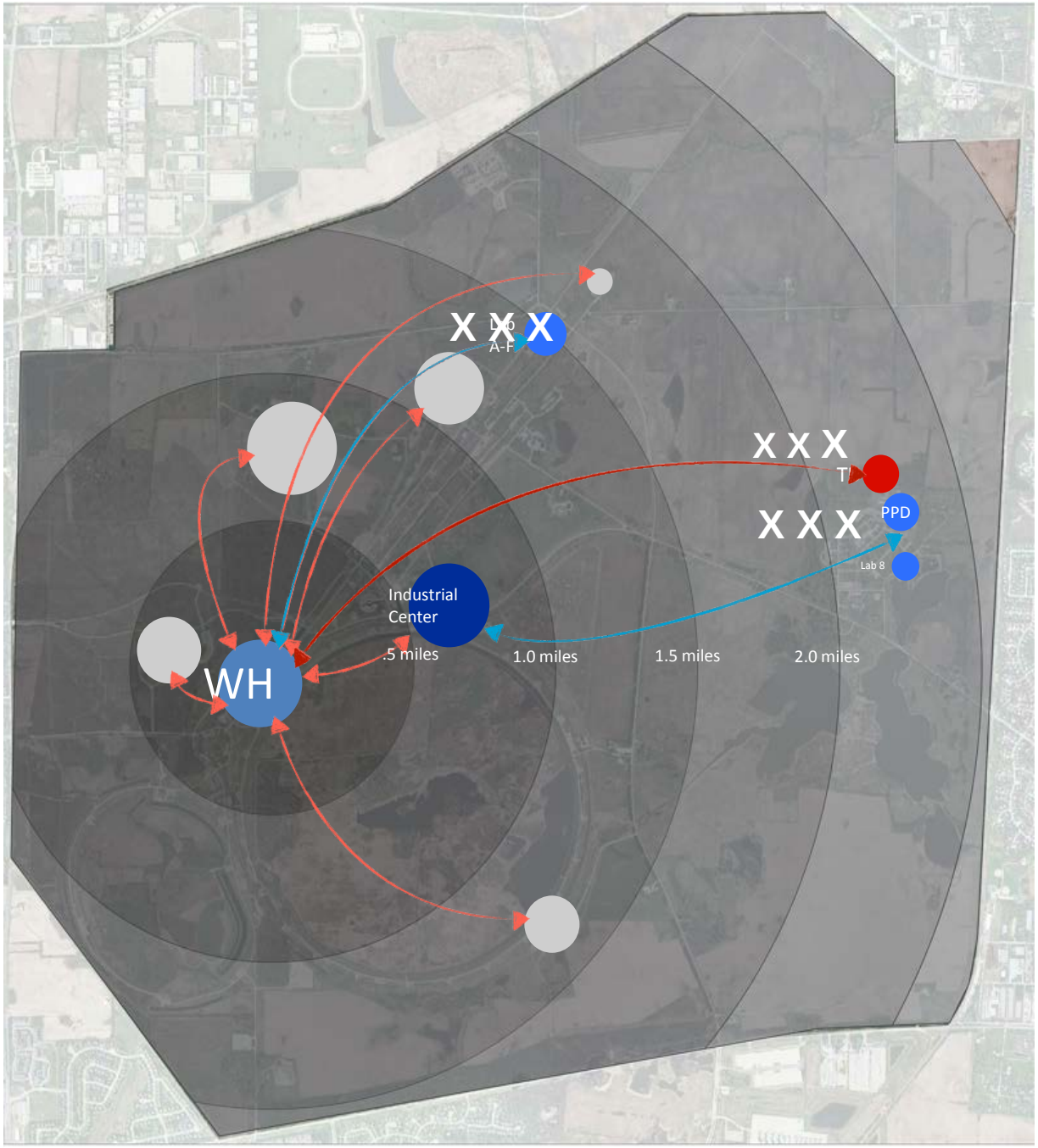
Consolidation
Centralization
Connection

Attract and retain research staff

Develop planning and design guidelines that will create an integrated campus that is an aesthetic, inviting, accessible, and safe place, allowing the laboratory to convey the status of its research excellence while **attracting and retaining the best** current and future generation of researchers, as well as the curious visitors.


Attract and retain research staff
Executed in the context of the pervasive goals of sustainability and resource stewardship.
Modernization
Consolidation
Centralization
Connection

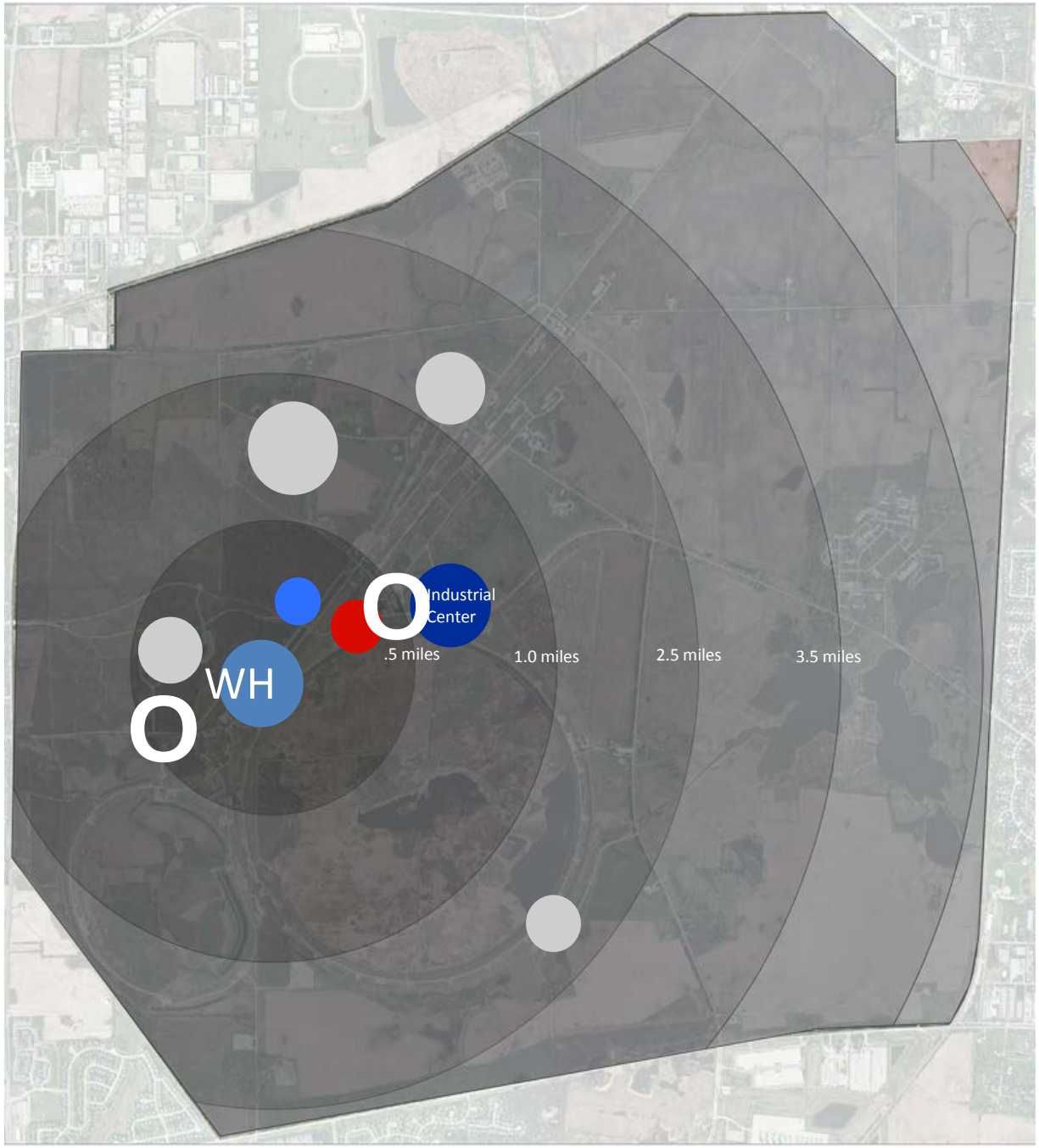
FCMP



X

X = Removal of obsolete scattered facilities

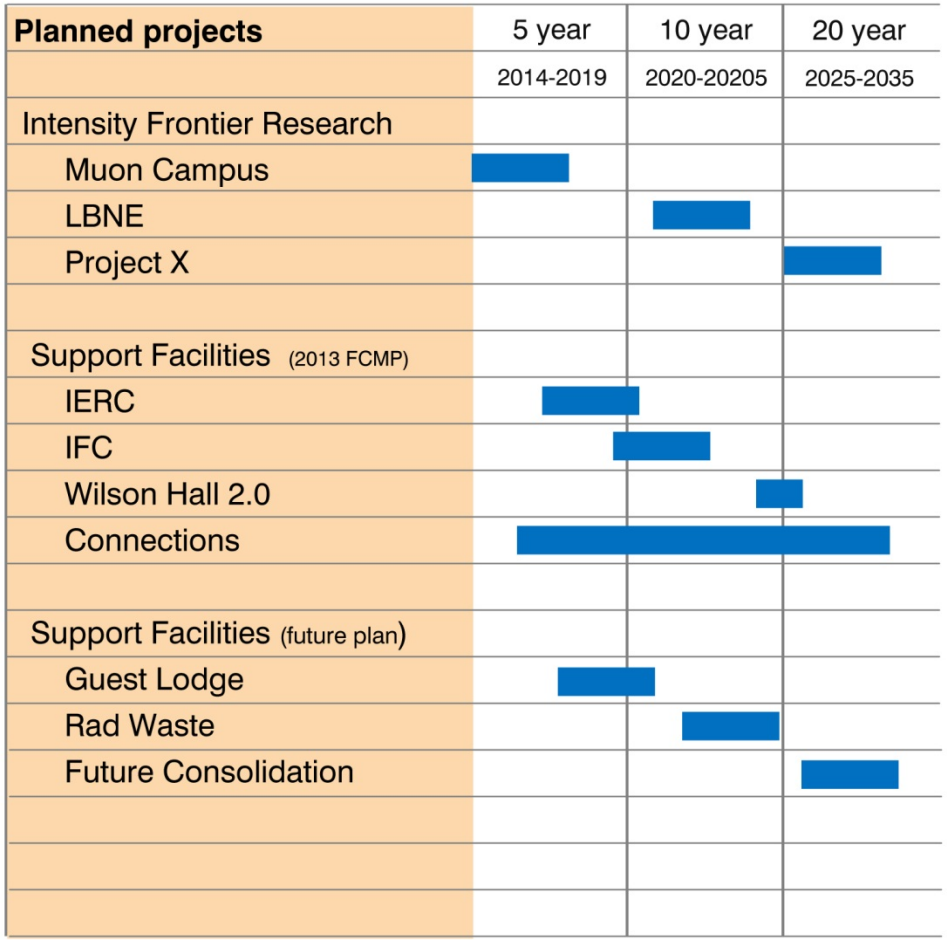
Village PD	22
Village TD	17
SiDet PD	11
Total	50



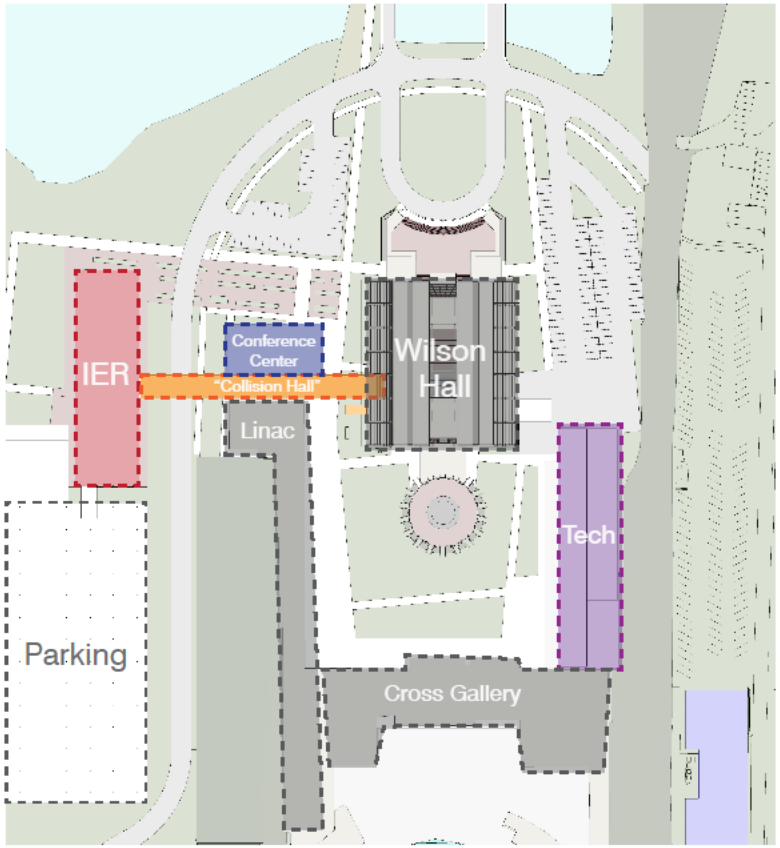
O = New Centralized Consolidated Buildings

1. Industrial Facilities Consolidation (IFC)
2. Integrated Engineering Research Center(IERC)

Plan implementation and elements



The Integrated Engineering Research Center



Legend

IER
-PPD Offices

Conference Center
- Conference Rooms
- New One West
- Work Cafe
- New Main Control Room

"Collision Hall"
- Collaboration Walkway
- Informal meeting seating
- Information Displays

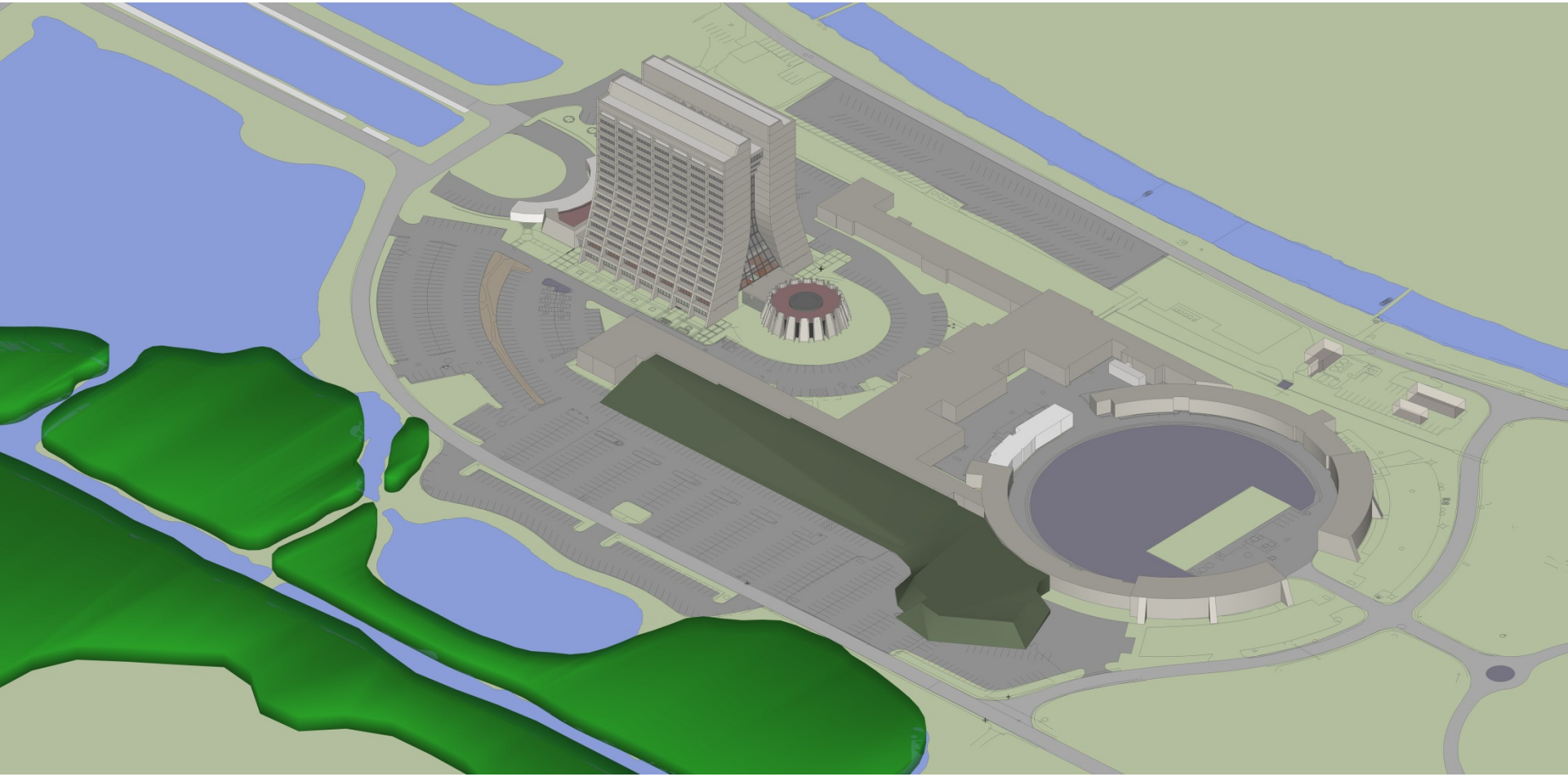
Tech
- PPD and AD tech spaces
- Clean Rooms
- Shops
- Highbay

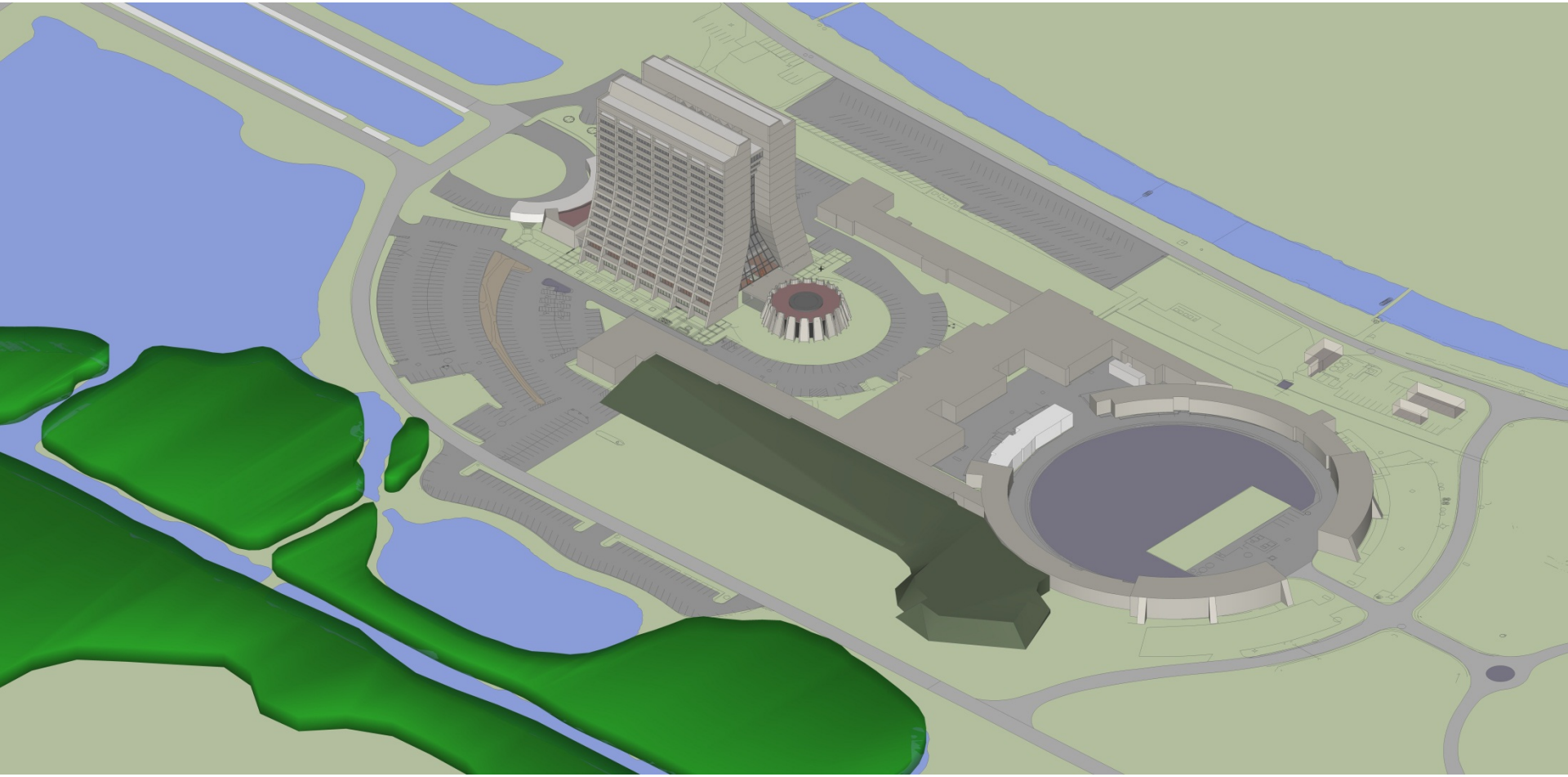
Existing

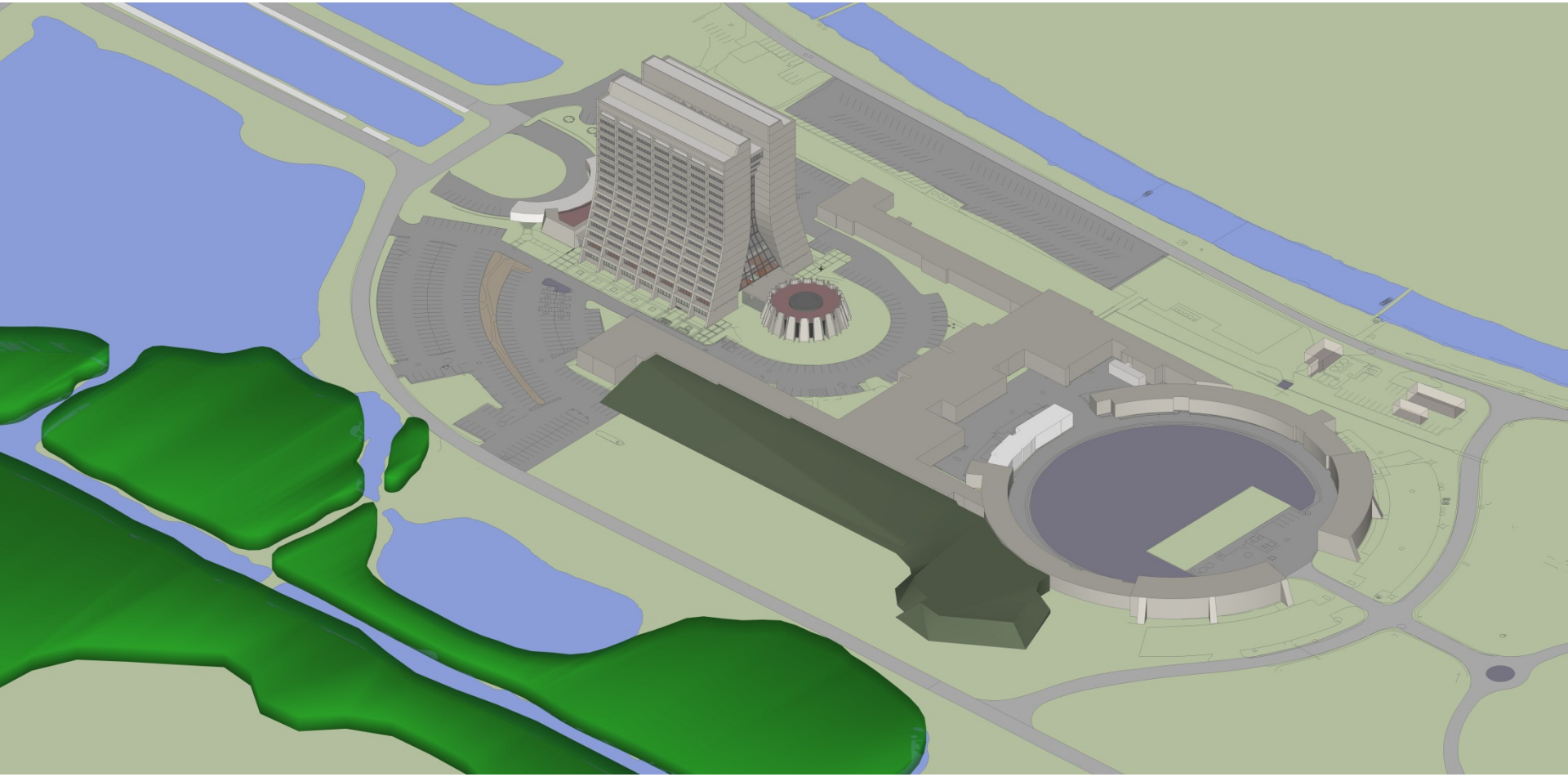
Central Campus

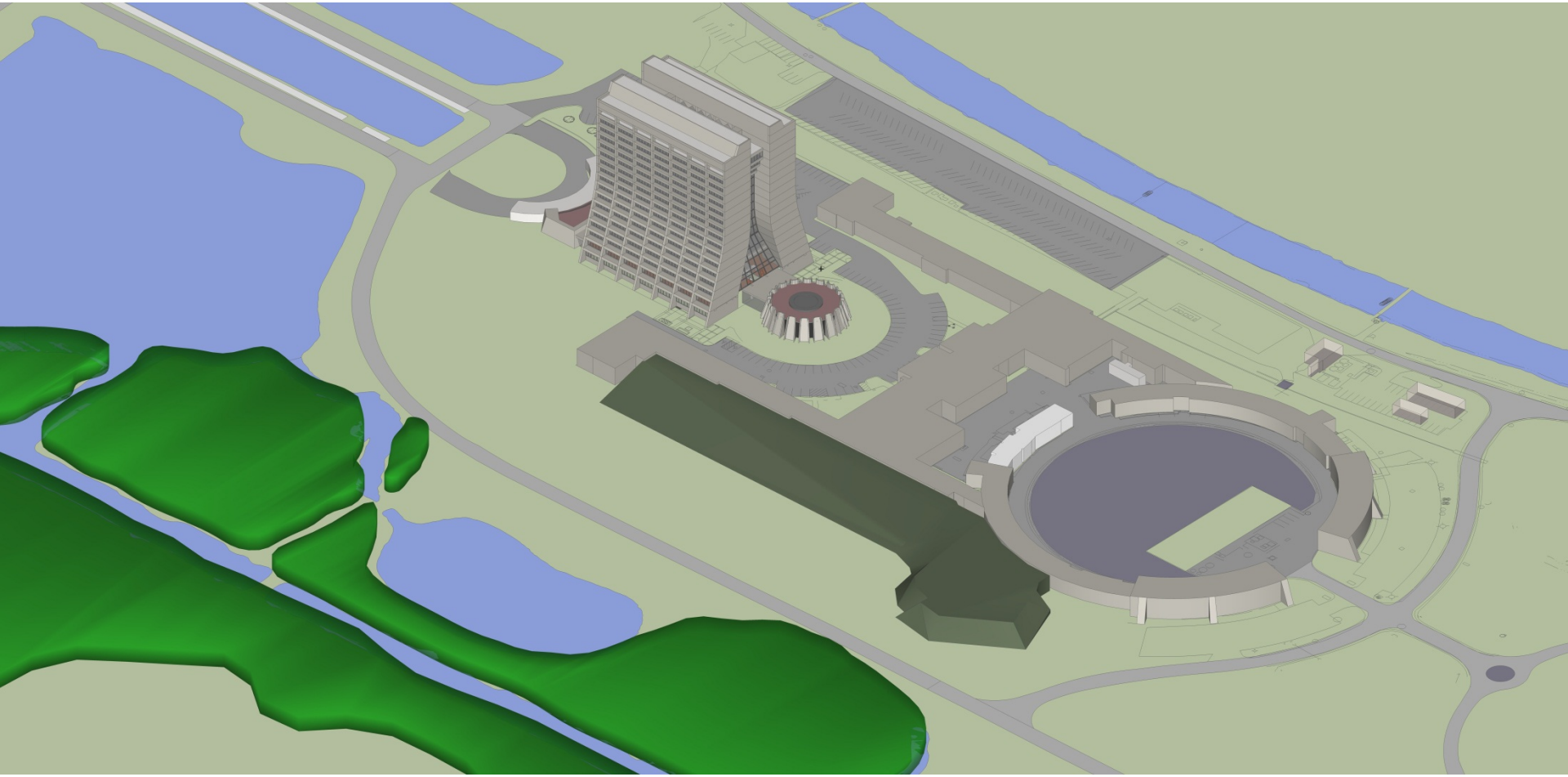
Conceptual Scheme 2

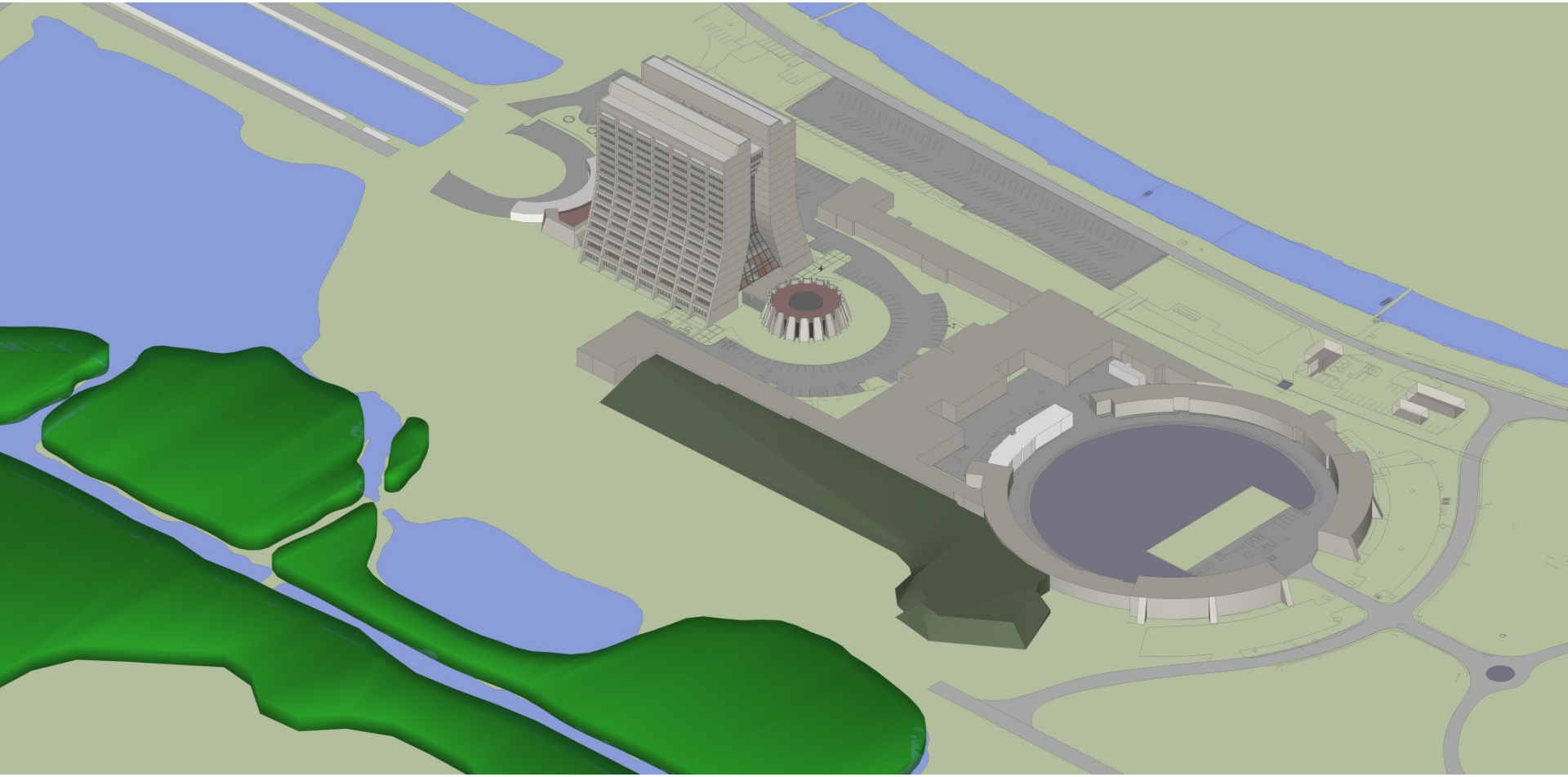
Existing Central Campus - 2013

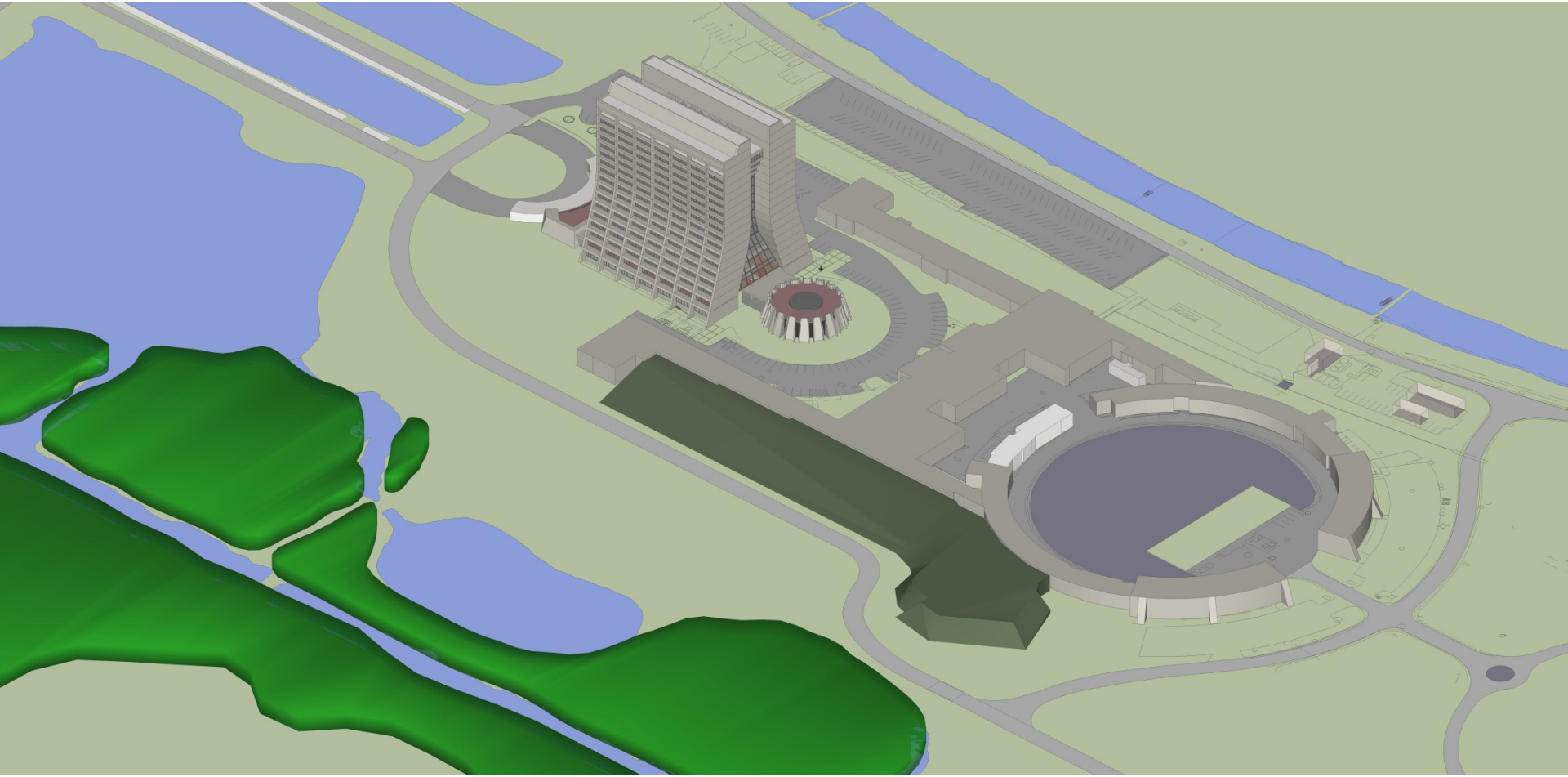


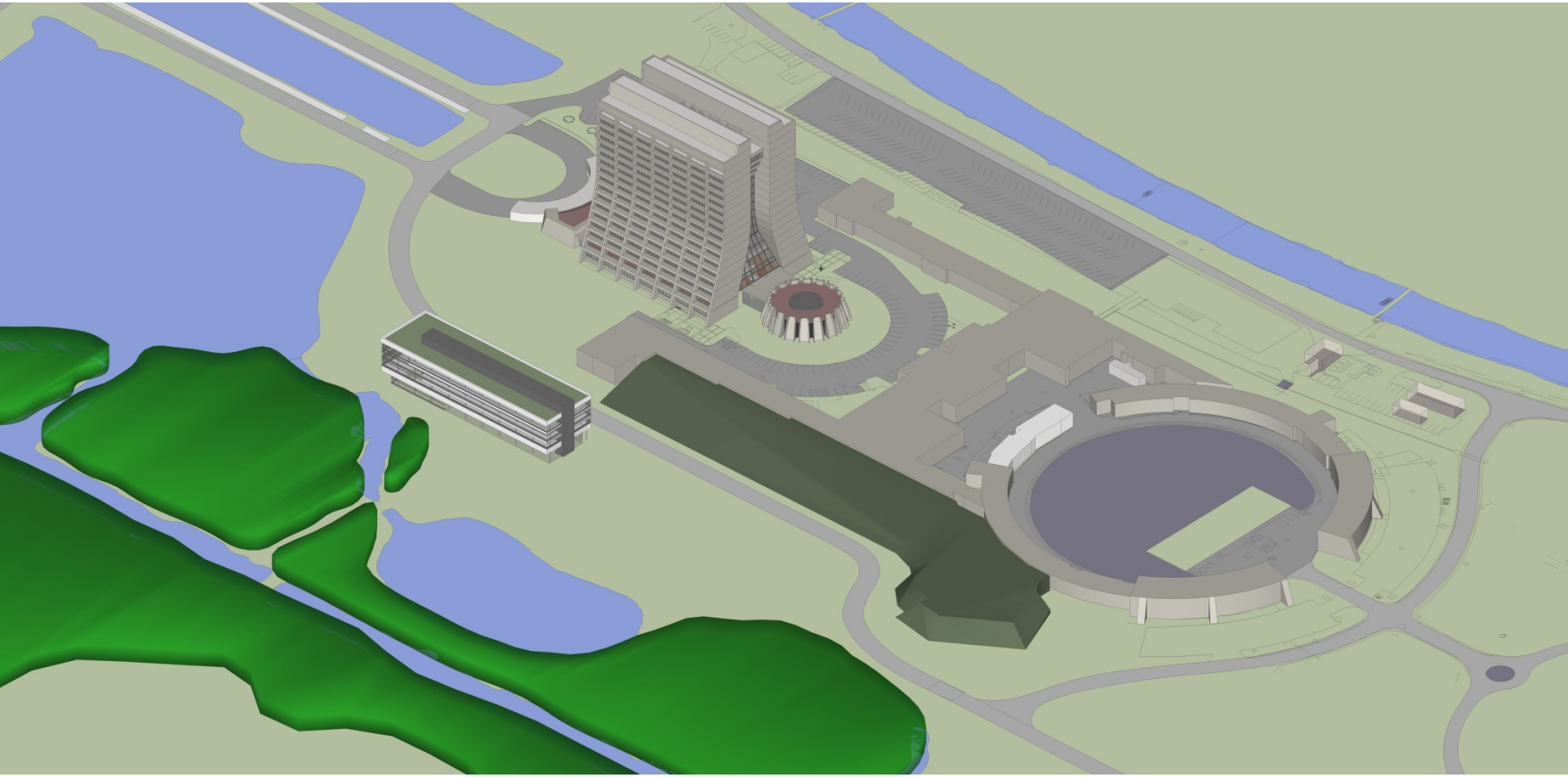


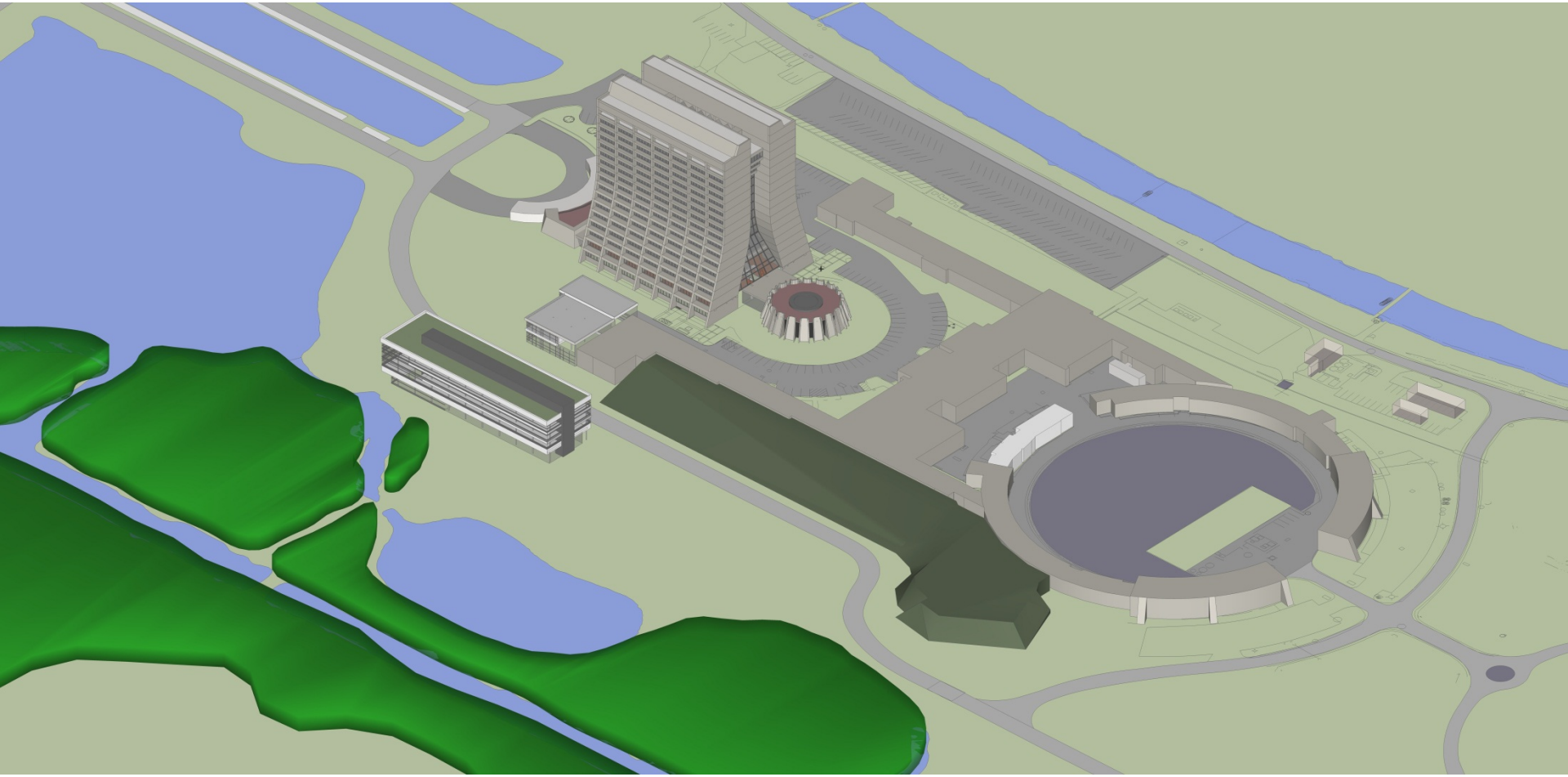


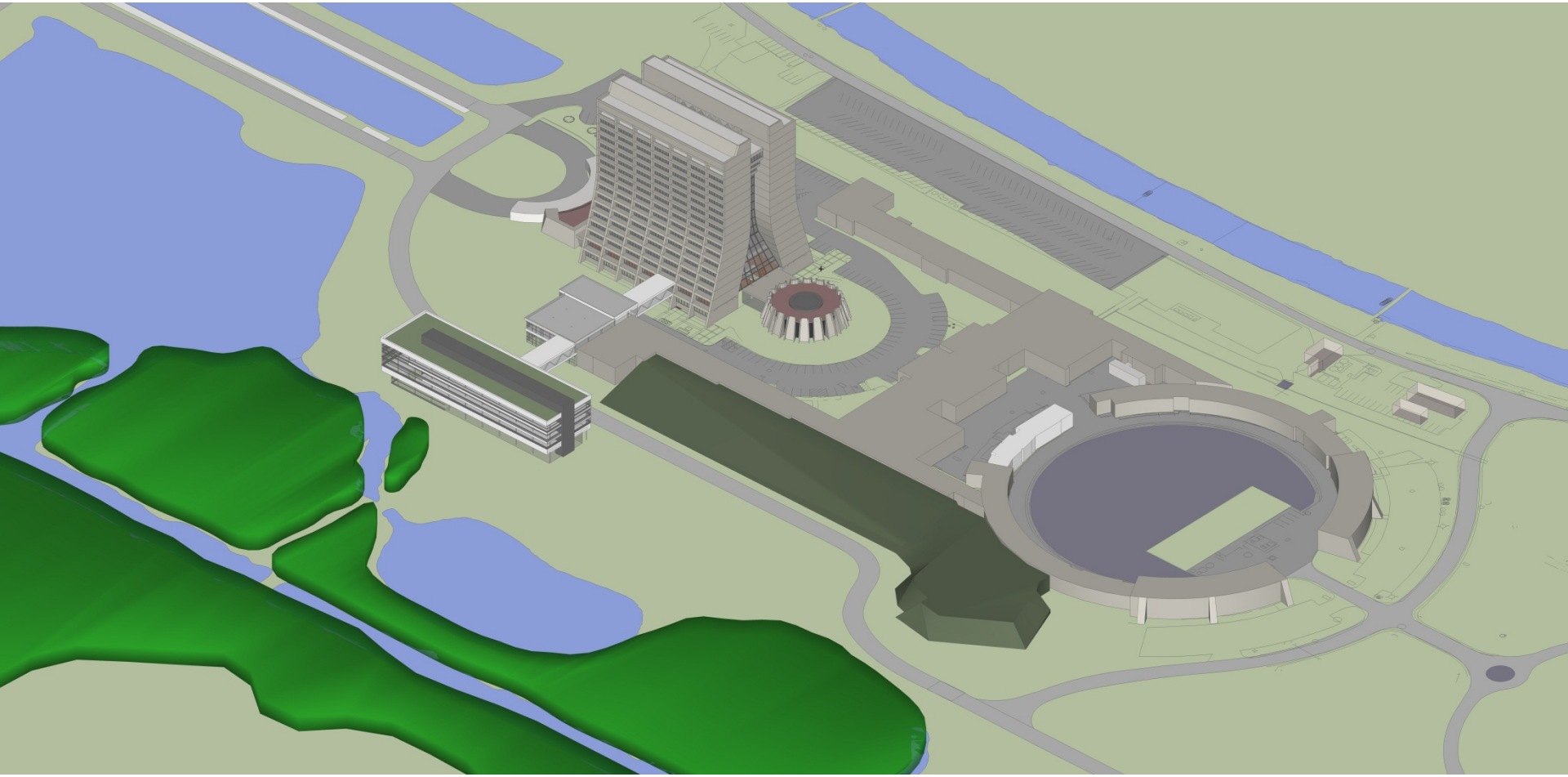


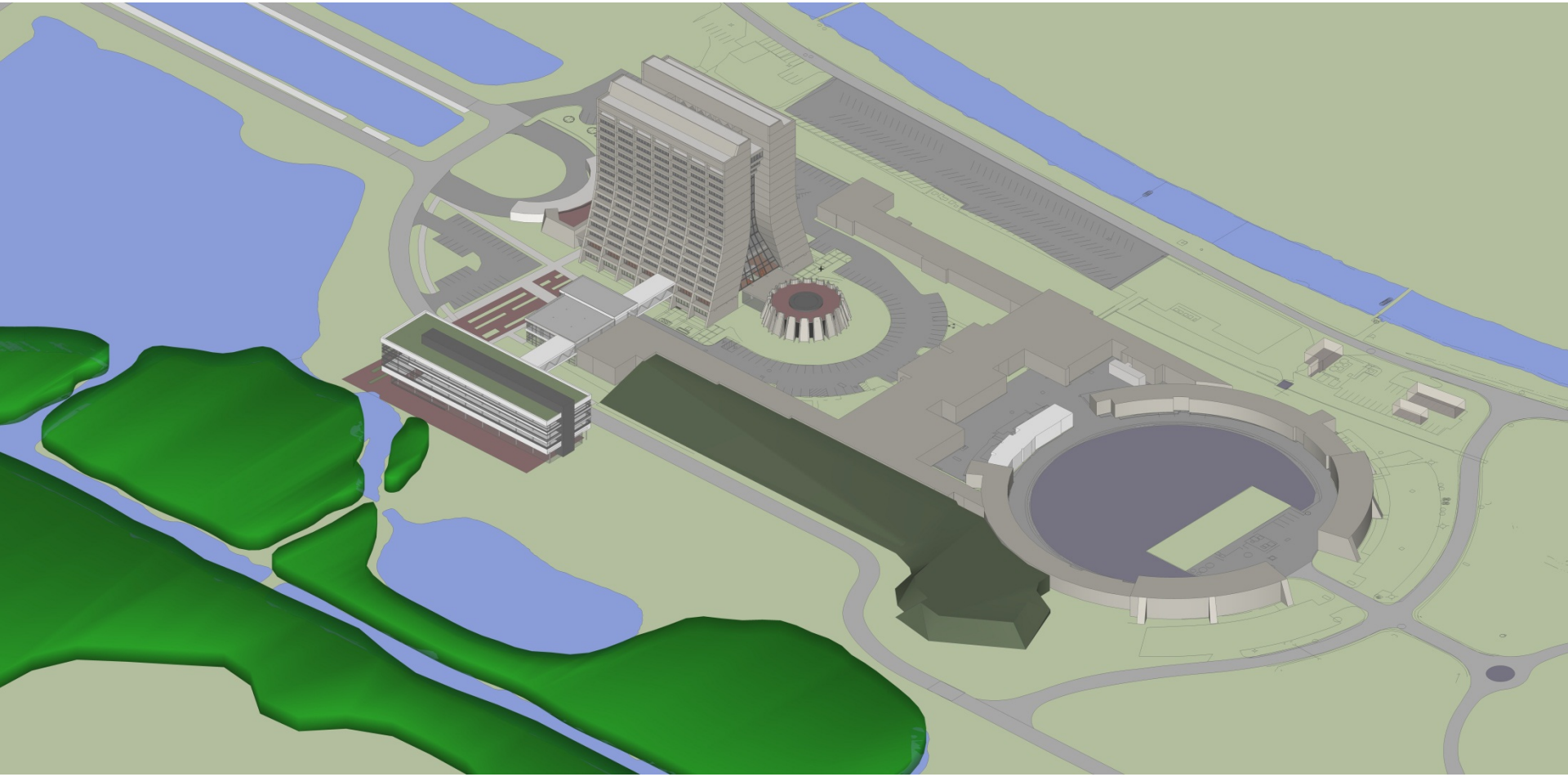


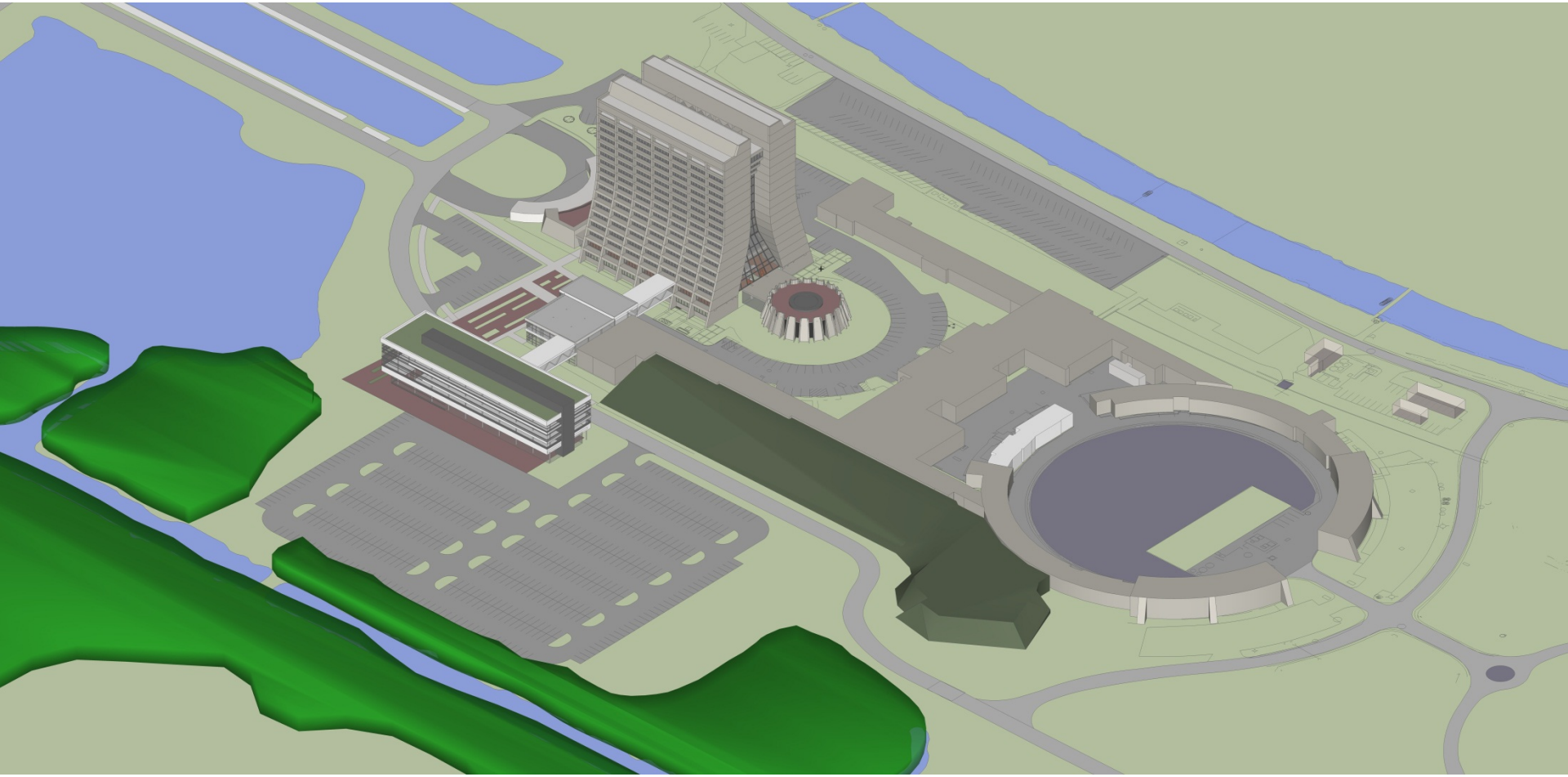


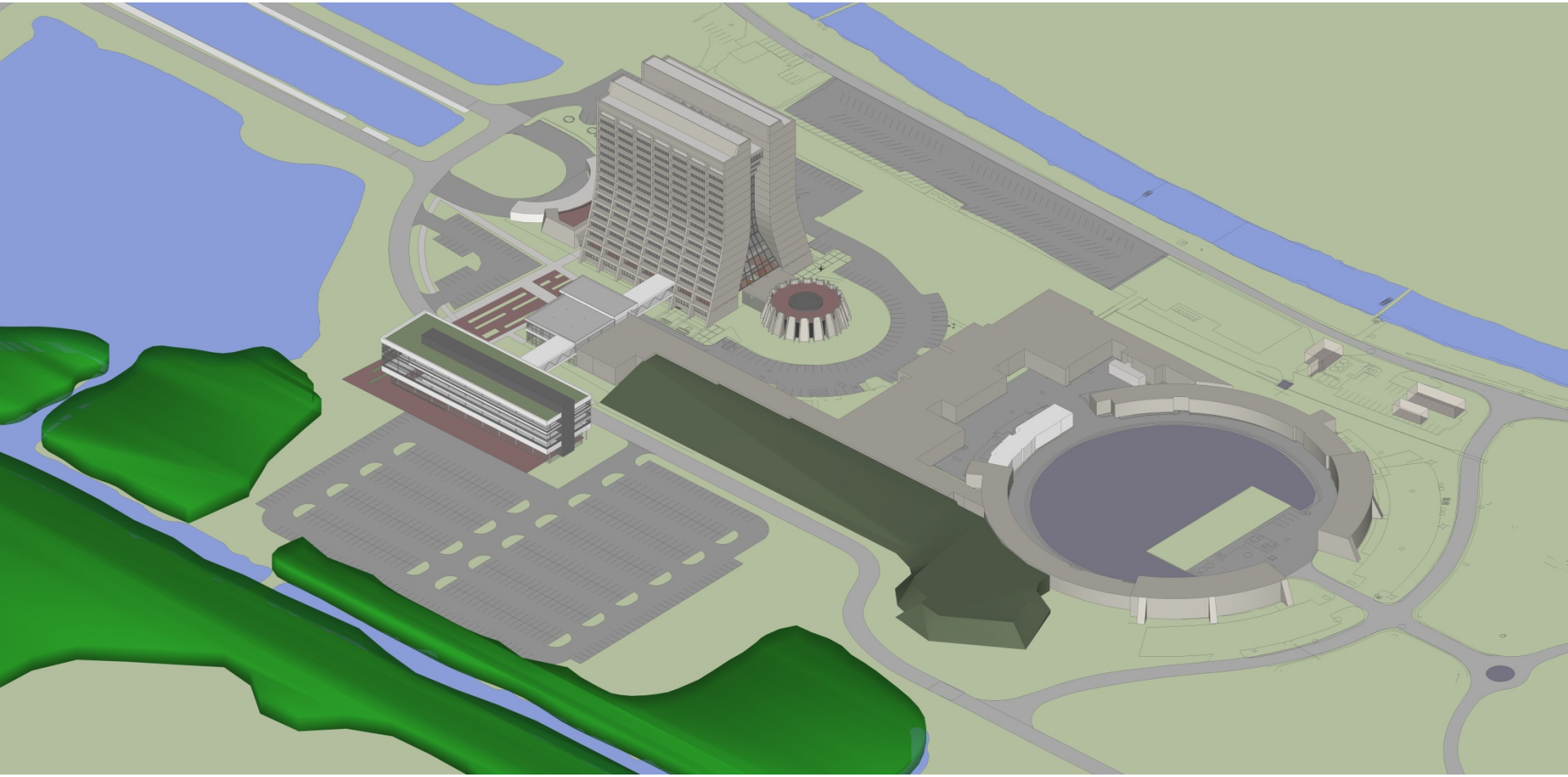


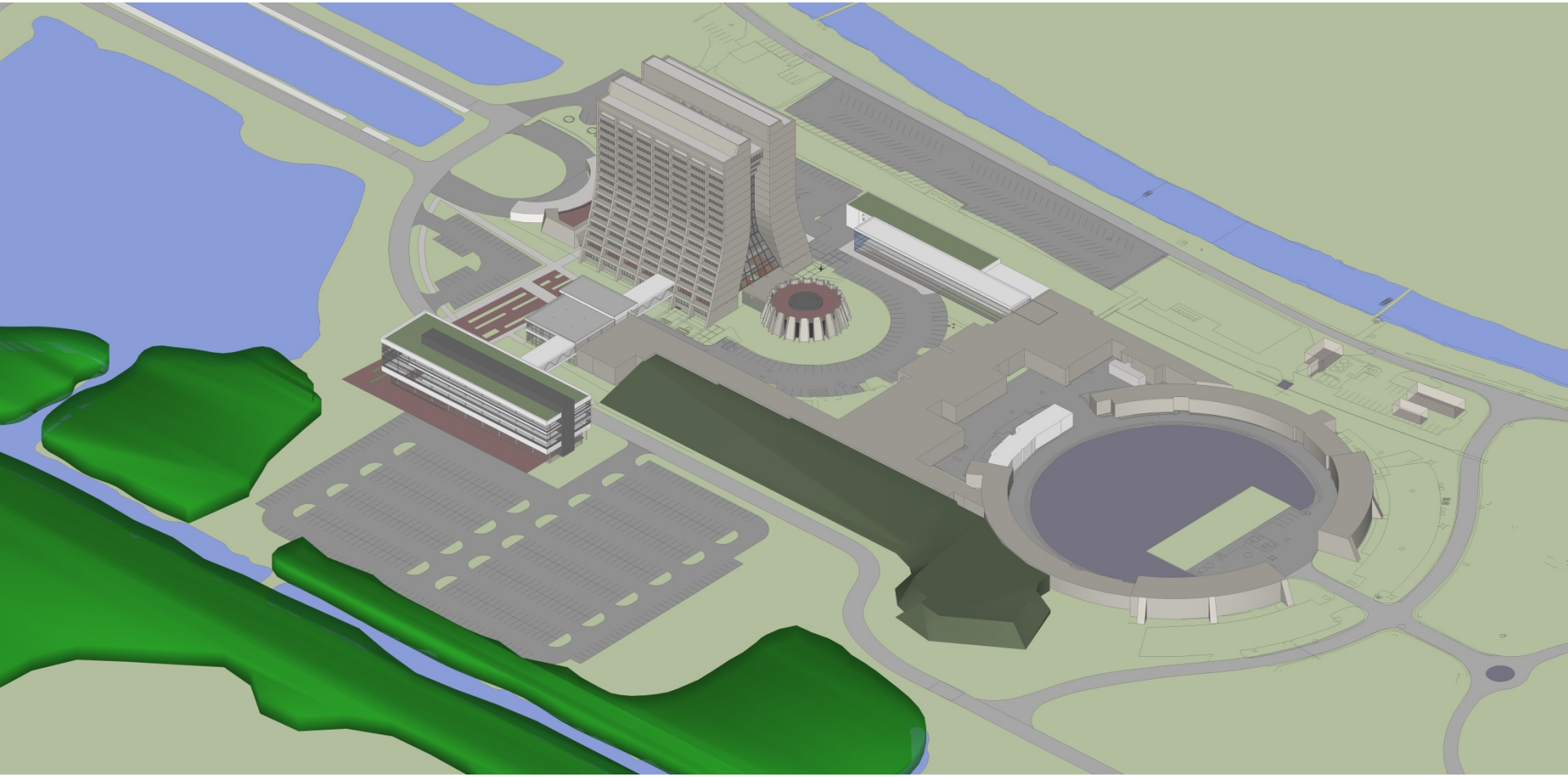


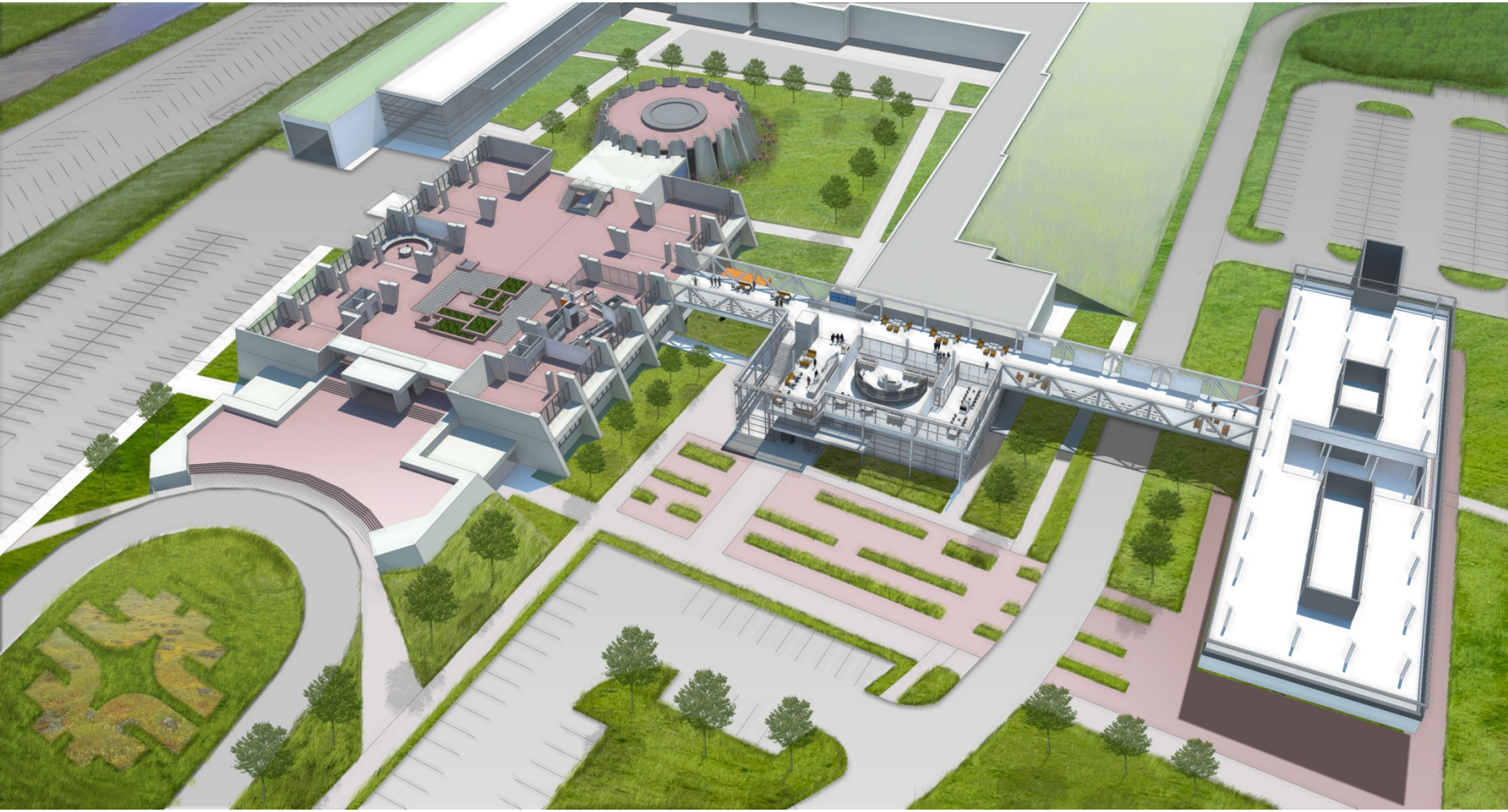


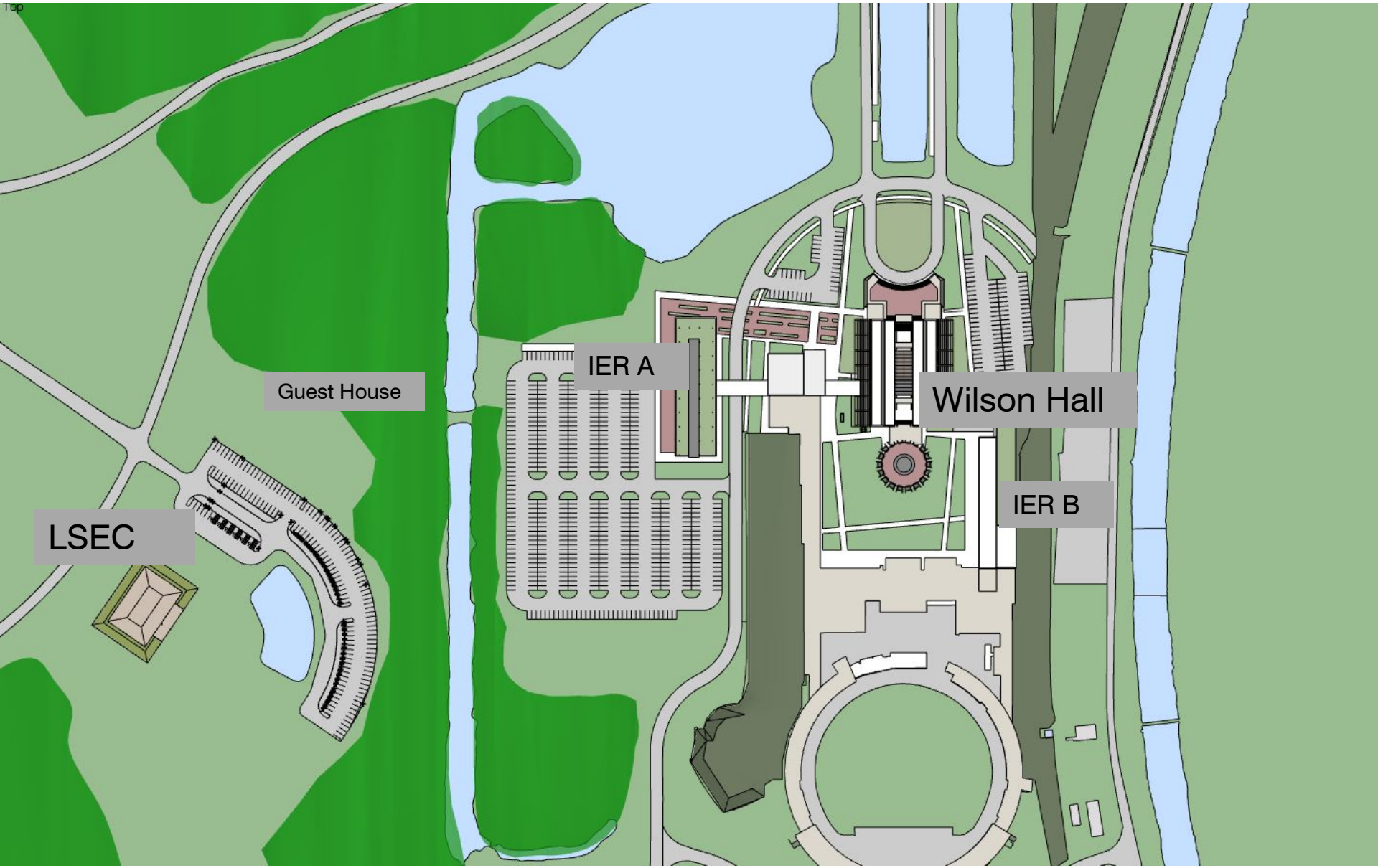











Top
IER A
Guest House
Wilson Hall
IER B
LSEC

What's next

Approve or modify IERC direction

Develop concepts for IFC and WH 2.0

Proof and edit FCMP chapters 0-4

Distribute document for internal review

Present IFC and WH 2.0 and 90% document in late May