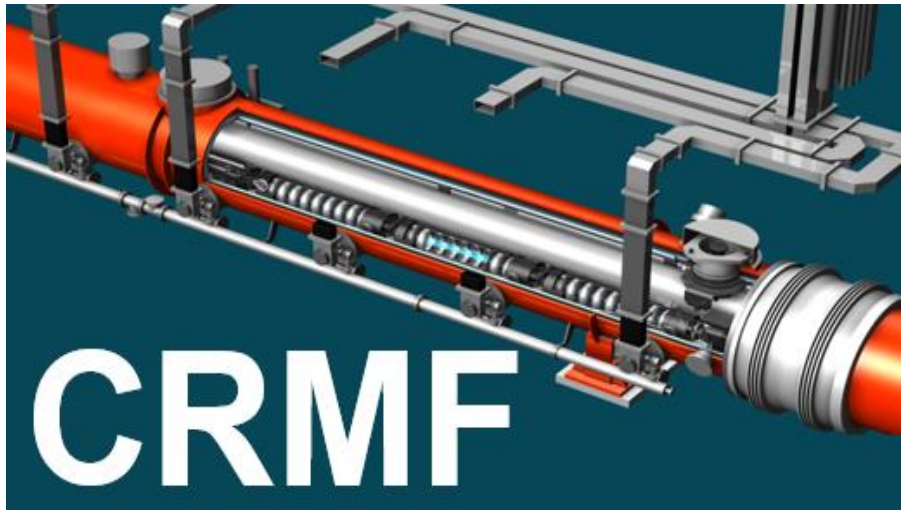

CRMF Overview

Industry day

Martina Martinello | Project Director

January 30, 2025

Outline

- Mission of CRMF
- Project scope & facility workflow
- Schedule
- Success Factors

Outline

- **Mission of CRMF**
- Project scope & facility workflow
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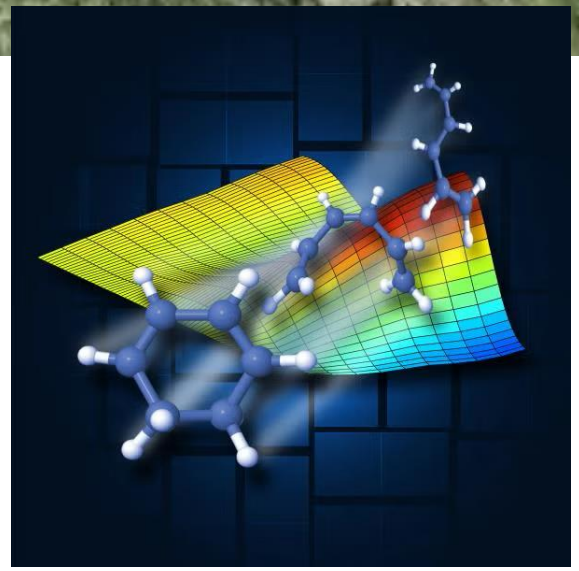
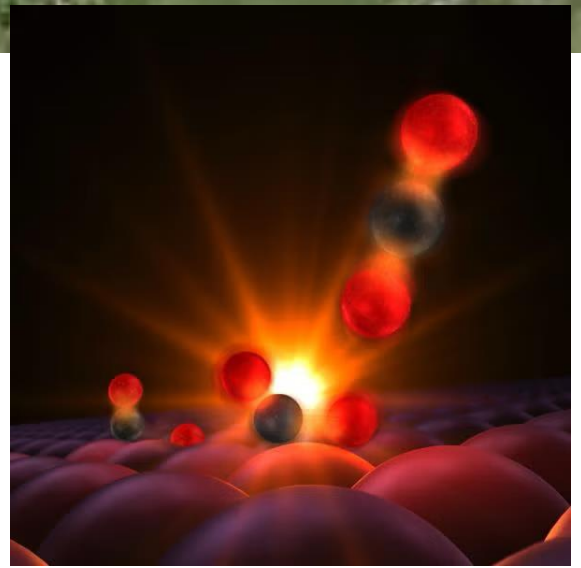
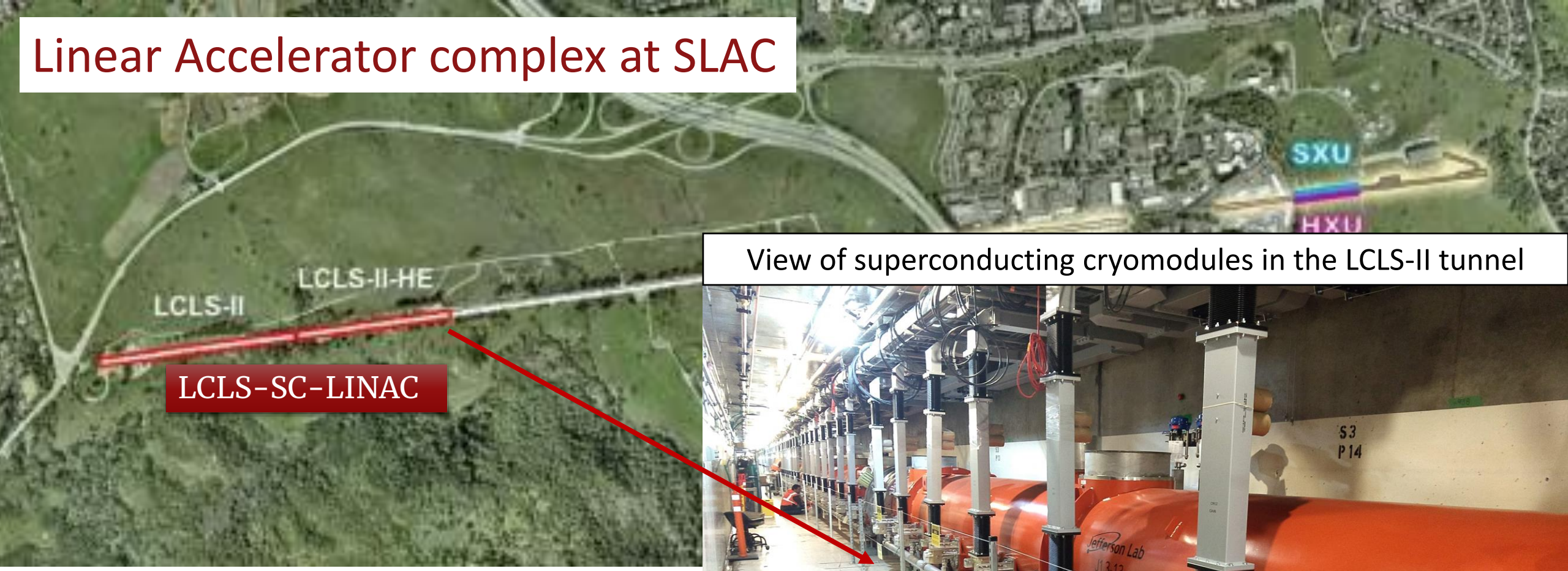
Linear Accelerator complex at SLAC

LCLS takes X-ray snapshots of atoms and molecules at work, providing atomic resolution detail on ultrafast timescales to reveal fundamental processes in materials, technology and living things.





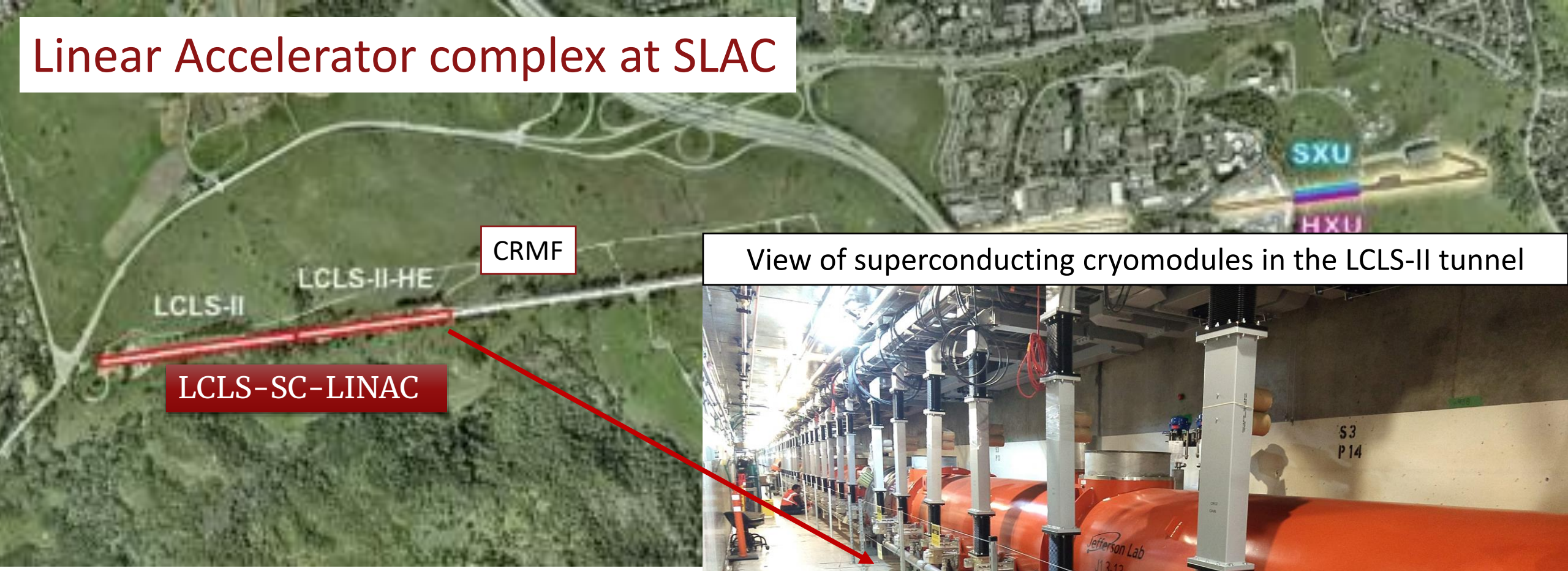
Linear Accelerator complex at SLAC



View of superconducting cryomodules in the LCLS-II tunnel

Superconducting Cryomodules are the building blocks of the LCLS-SC-LINAC

Linear Accelerator complex at SLAC



View of superconducting cryomodules in the LCLS-II tunnel

Superconducting Cryomodules are the building blocks of the LCLS-SC-LINAC

Mission of CRMF

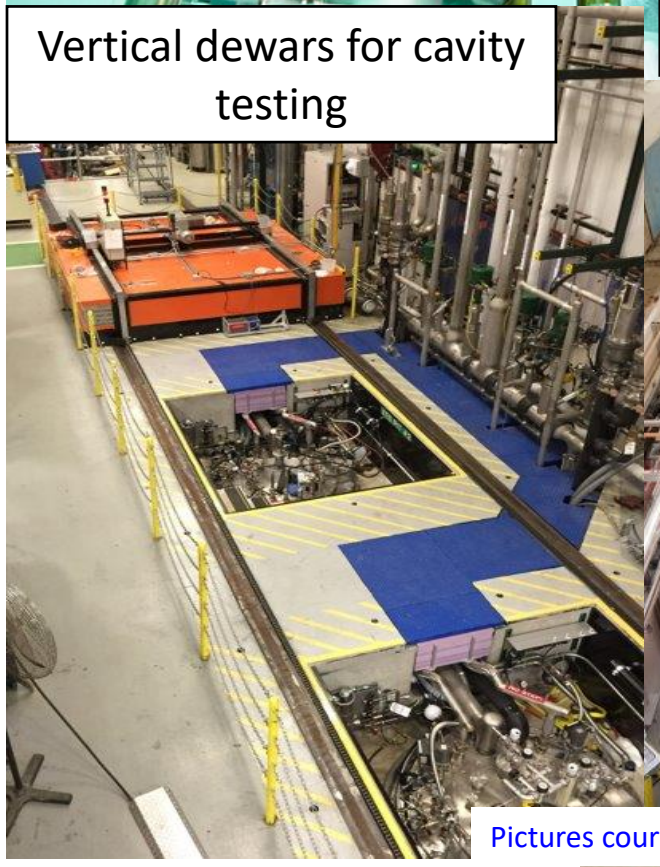
CRMF: Cryomodule Repair and Maintenance Facility

- ~ 2-3 CMs/year expected to need to be repaired based on current data
- CRMF is needed to repair, test and maintain superconducting cryomodules at SLAC

CRMF needed at SLAC to ensure the performances of cryomodules are preserved over the lifetime of the accelerator

Cleanroom cavity assembly

Vertical dewars for cavity testing



Cryomodule test cave

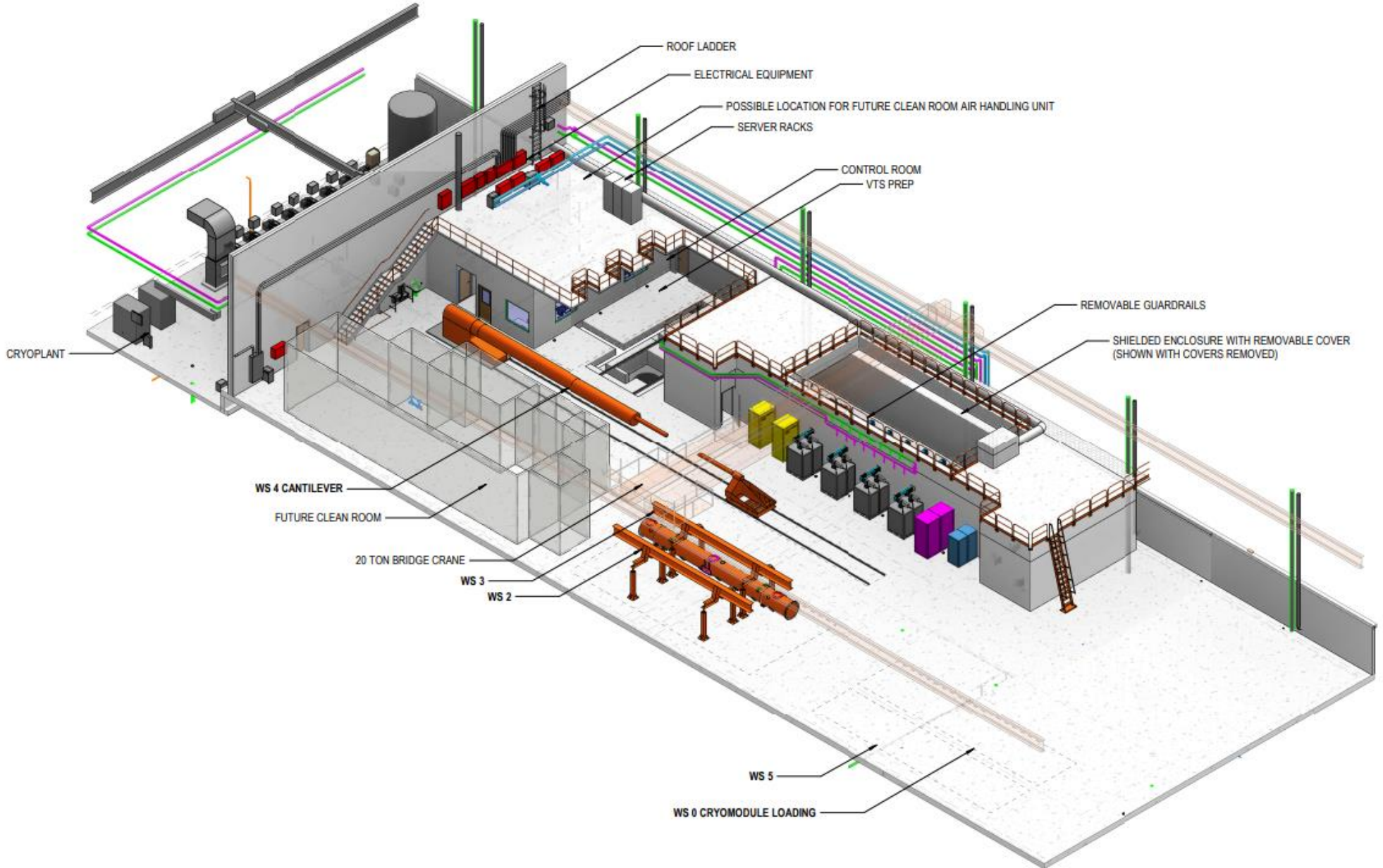
Pictures courtesy of FNAL

Outline

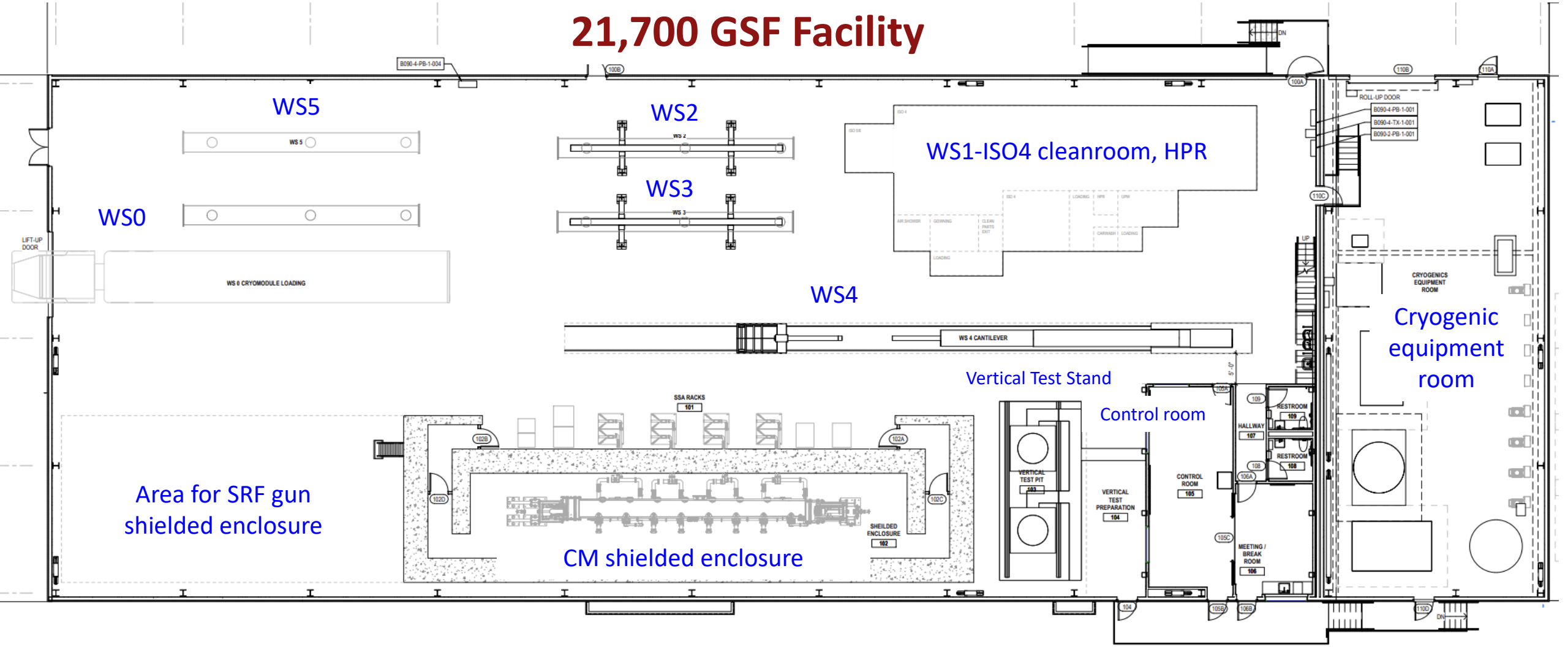
- Mission of CRMF
- **Project scope**
- Schedule
- Success Factors

Project Scope: New 21,000 GSF Building at SLAC

Isometric view of the facility (90% Detailed design)

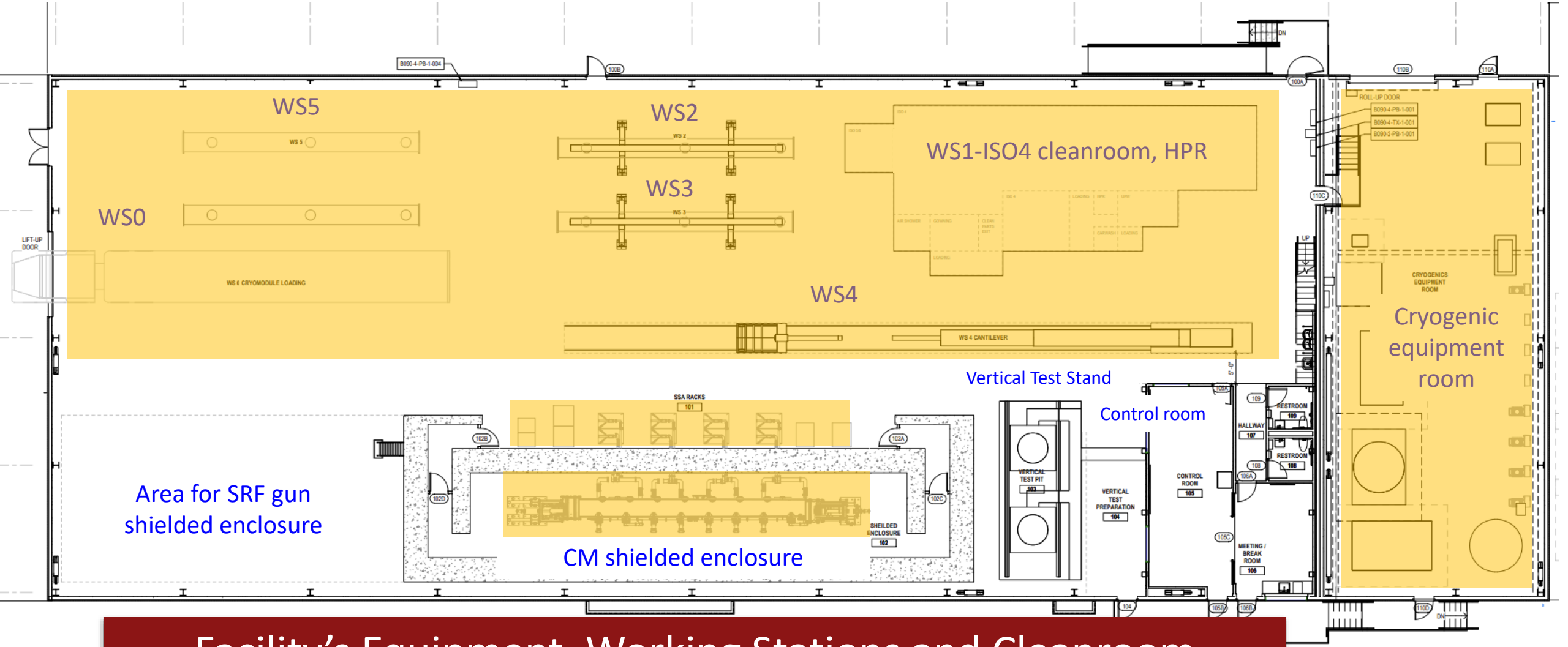


Project Scope: Buildouts for CM Repair and Testing



Optimized layout for complete set of SRF facilities for X-FELs under one roof

Project Scope: Buildouts for CM Repair and Testing

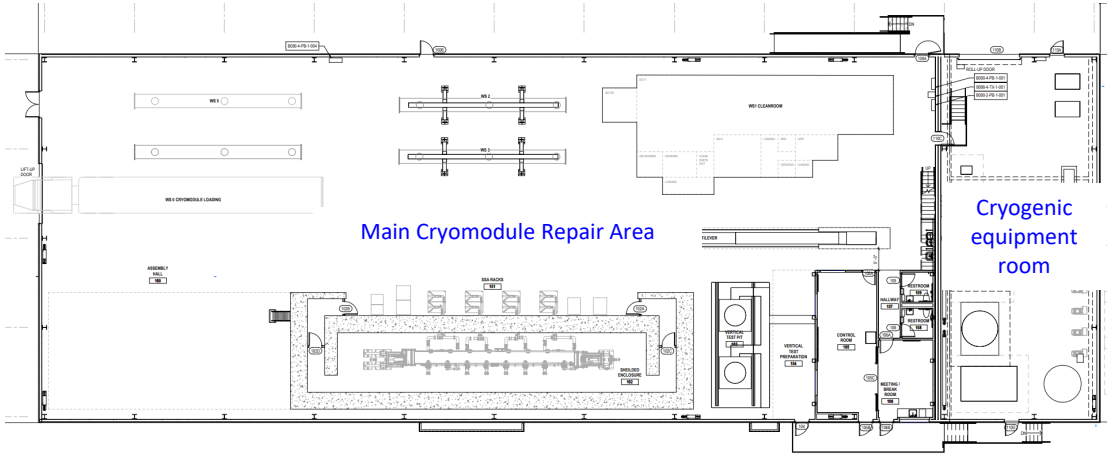


Facility's Equipment, Working Stations and Cleanroom Construction are not part of the GC Contract

GC Contract Scope of Work

Conventional Building and Site Infrastructure Construction Project

- 21,000 SF building divided in main cryomodule repair area and cryogenic equipment area through isolation walls



GC Contract Scope of Work

Conventional Building and Site Infrastructure Construction Project

- 21,000 SF building divided in main cryomodule repair area and cryogenic equipment area through isolation walls
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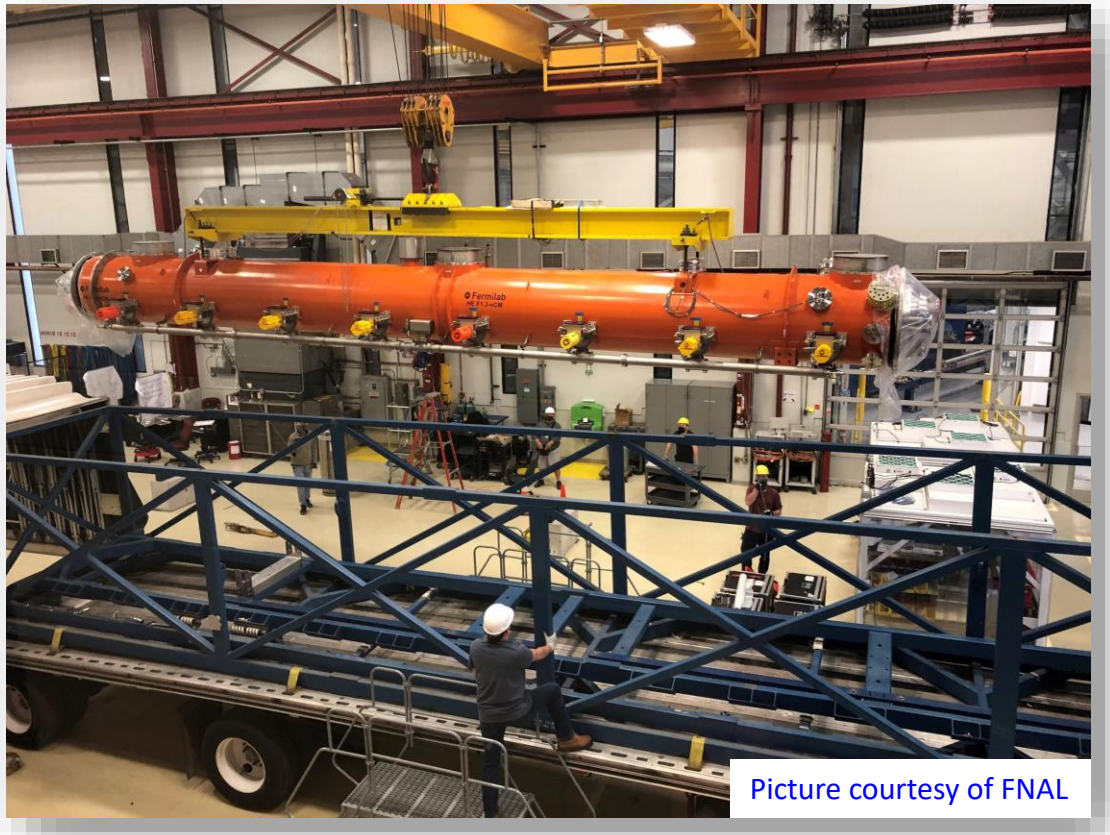
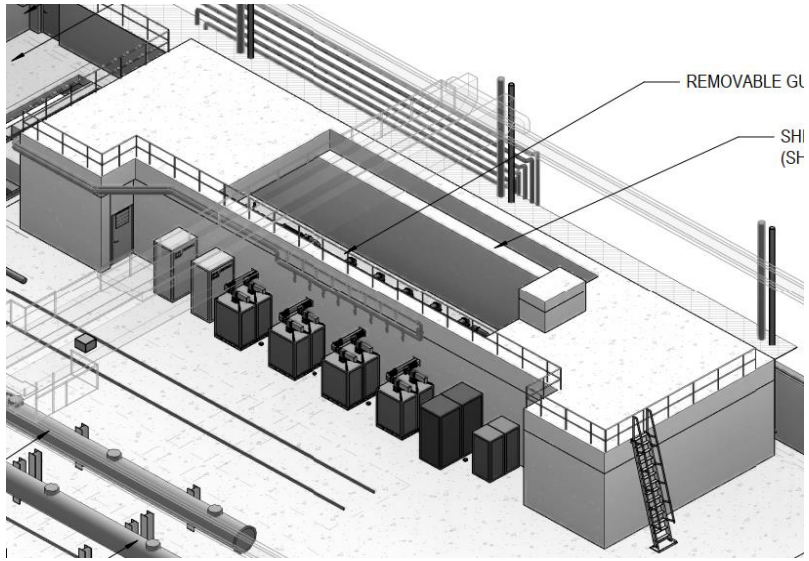


Picture courtesy of FNAL

GC Contract Scope of Work

Conventional Building and Site Infrastructure Construction Project

- 21,000 SF building divided in main cryomodule repair area and cryogenic equipment area through isolation walls
- Overhead bridge cranes: 20-ton in main repair area and 3-ton in cryogenic equipment area
- Concrete shielded enclosure for cryomodule testing, with 4 ft. thick poured-in-place concrete walls, 3ft thick concrete removeable roof blocks, and penetrations for a cryogenic feed line and waveguides



Picture courtesy of FNAL

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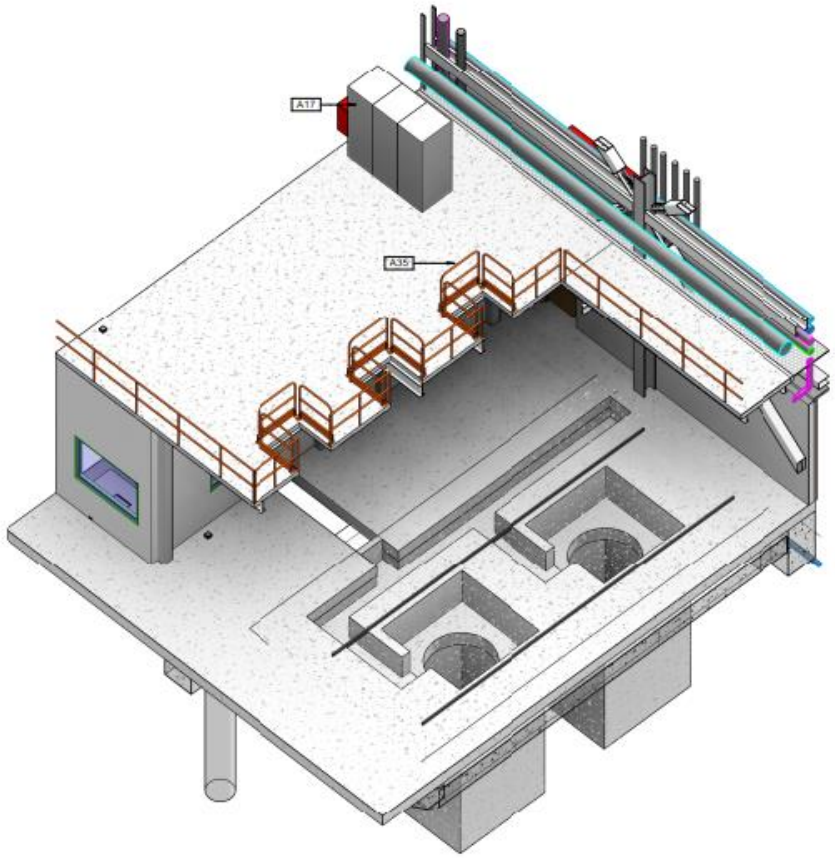
- Two 16’ deep, 60" diameter shafts will be pre-cast adjacent to the shielded enclosure



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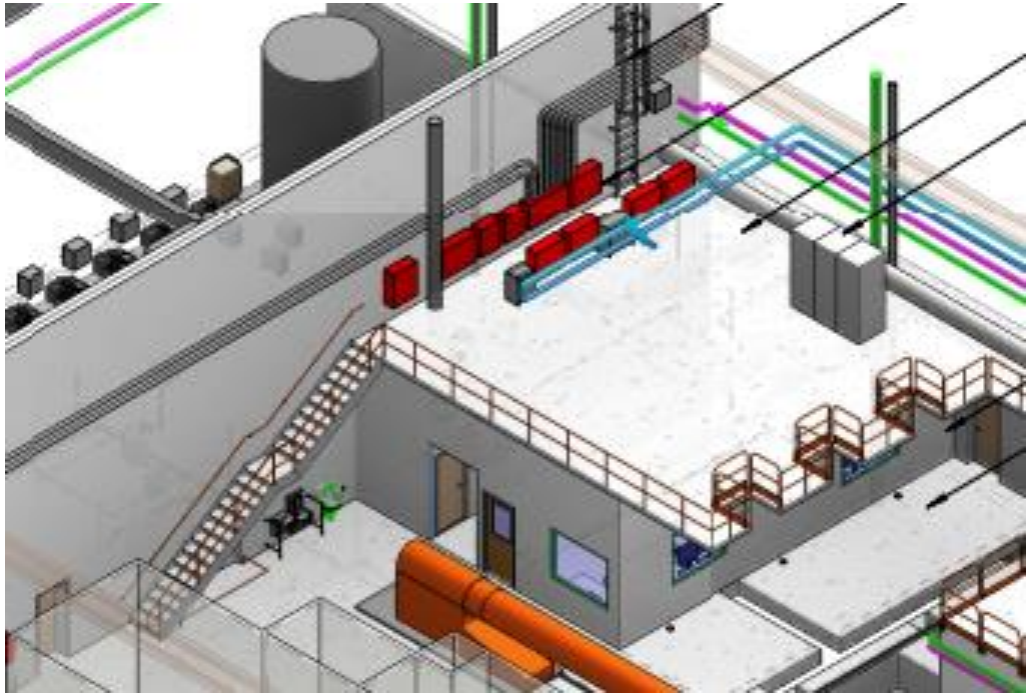

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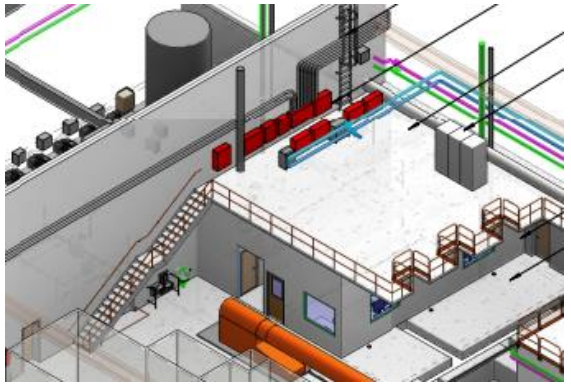
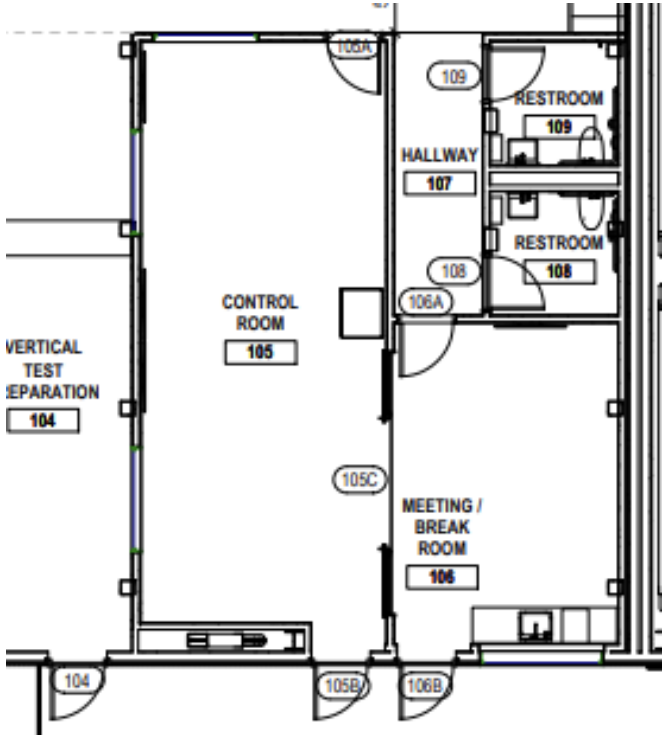
- Equipment platform, above the control room, supports key electrical and mechanical equipment
- Control room area, meeting/break room and restrooms





GC Contract Scope of Work

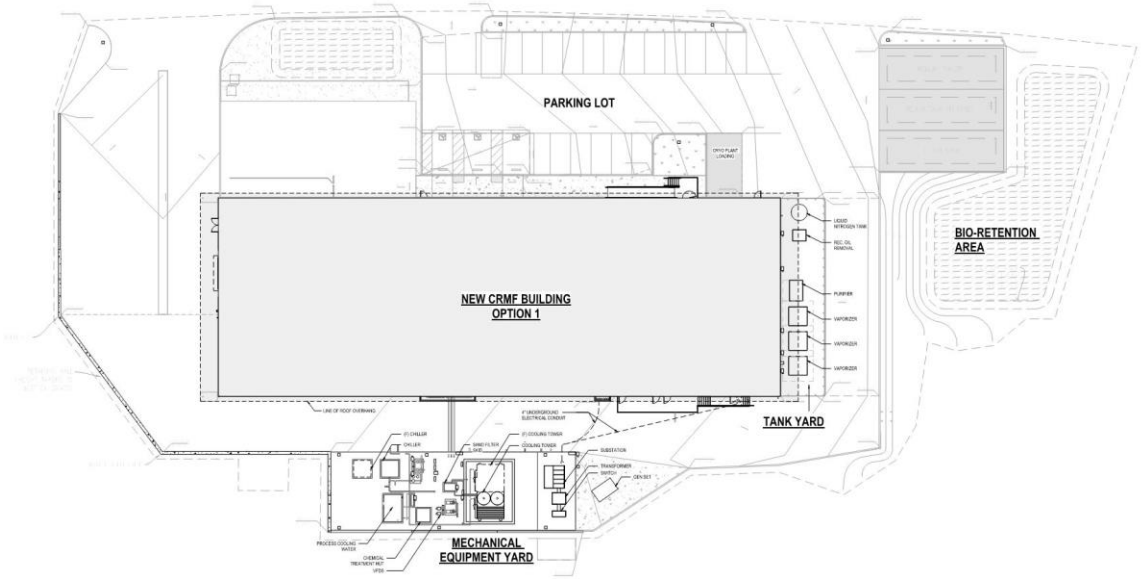
Conventional Building and Site Infrastructure Construction Project

- Outdoor concrete pad areas to accommodate cryogenic system Helium storage tanks and other cryogenic equipment

GC Contract Scope of Work

Conventional Building and Site Infrastructure Construction Project

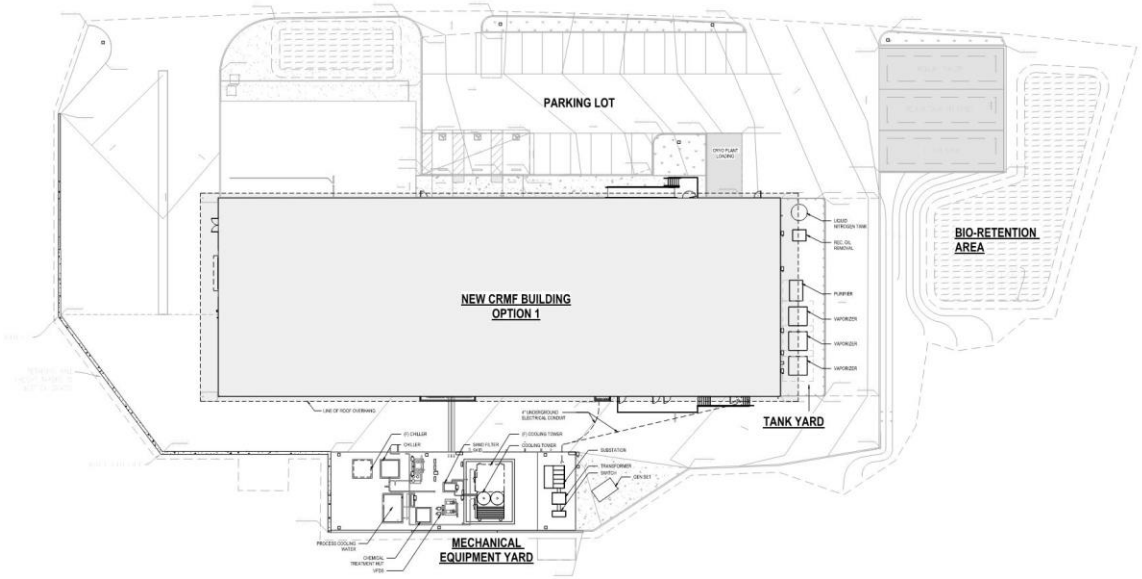
- Outdoor concrete pad areas to accommodate cryogenic system Helium storage tanks and other cryogenic equipment
- Exterior Central Utility Plant (CUP)



GC Contract Scope of Work

Conventional Building and Site Infrastructure Construction Project

- Outdoor concrete pad areas to accommodate cryogenic system Helium storage tanks and other cryogenic equipment
- Exterior Central Utility Plant (CUP)
- Exterior improvements (asphalt, parking, etc)



Outline

- Mission of CRMF
- Project scope
- **Schedule**
- Success Factors

Timeline Overview

Activity Name	Finish Date
DRAFT RFP	8-Nov-24
Vendor Outreach Day	30-Jan-25
A/E Detailed Design Completed	Apr-25
RFP Documents Prep and Approval	Jun-25
Release RFP	Jun-25
General Contractor Proposal Effort	Aug-25
Director's Review - CD-2/3	Aug-25
IPR Review - CD-2/3	Sep-25
Award Documents Prep and Approval	Nov-25
AWARD	Nov-25

Project's reviews needed for construction approval

Outline

- Mission of CRMF
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Success Factors

- ***Safety***
  - ***Safety is the priority at SLAC – only safe work is acceptable***
  - ***Safety considerations must be part of work planning and schedule development***
  - ***Safety cannot be compromised to meet schedule***
- ***Schedule***
  - ***Complete construction activities as per the performance period defined in the RFP, in the most expedience manner and in compliance with SLAC safety requirements***
  - ***Schedule should be realistic and take into account safety considerations***
- ***Teamwork***
  - ***Construction activities should minimize impact to on-going SLAC operations and other construction projects***
  - ***Honest and transparent communication among team members***
  - ***Achieving success together!***

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