SEEIIST Drawings
Next Steps

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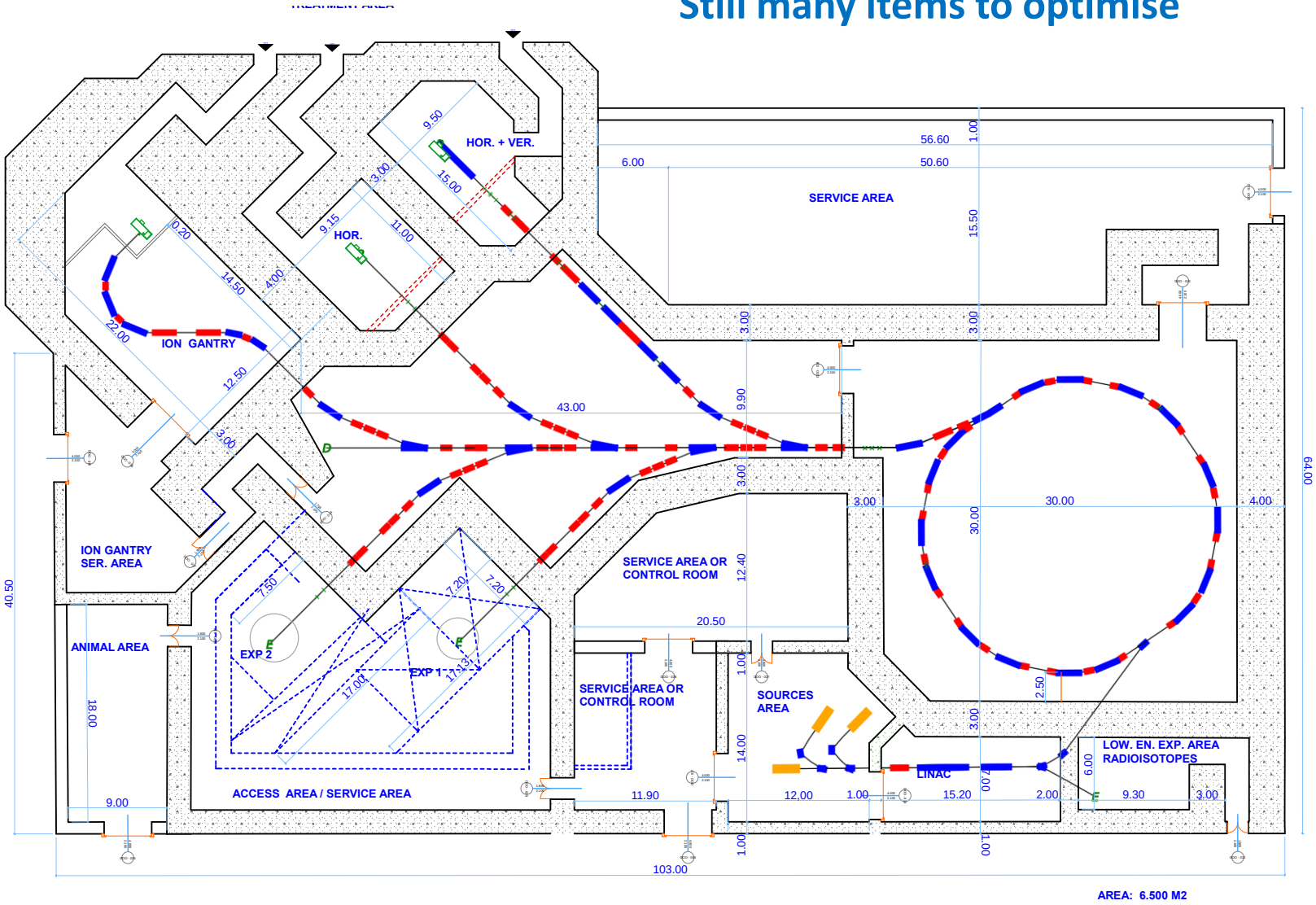
SEEIIST 2D Drawings Starting Point for Modifications

A lot of work and iterations on 2D
Still many items to optimise



SEEIIST 3D Drawings Starting Point for Modifications

The rest of the buildings/layout were done hastily **for the ESFRI application,** with the guidance of HP and SD, having in mind the “Medical CERN” and the ENLIGHT Virtual Therapy centre (“do something that looks nice”).

SEEIIST Drawings Material in indico

Indico Fri 9 oct 2020 https://indico.cern.ch/event/963348/

- **HIT Visit**

  https://indico.cern.ch/event/963348/contributions/4052419/attachments/2119449/3566621/YF-HDvisit-8oct2020.pdf

Indico Fri 25 sep 2020 https://indico.cern.ch/event/958330/

- **SEEIIST 3D Drawings Collection**

  https://indico.cern.ch/event/958330/contributions/4028497/attachments/2109455/3548146/SEEIST_Presentation1.pdf

- **SEEIIST 3D Drawings Next Steps**

  https://indico.cern.ch/event/958330/contributions/4028497/attachments/2109455/3548235/Drawings_NEXT_STEPS.pdf

SEEIIST Drawings Summary of Modifications

Link google doc : to insert comments
https://docs.google.com/document/d/1dtZSWsF3NBSggOt71e2a3tKTYBd2Ymt2k3Dquev9bvk/edit?usp=sharing

Link google folders : SEEIIST Drawings and PHOTOS
https://drive.google.com/drive/folders/1ESrfc1o8YZPPv5tVxwnLXwF7TmyD5DsY?usp=sharing

Aims: all in one….

- To add some “users requirements” and “reality”
- To prepare the document for governments of SEEIIST member/countries
- To prepare for the SEEIIST Brochure

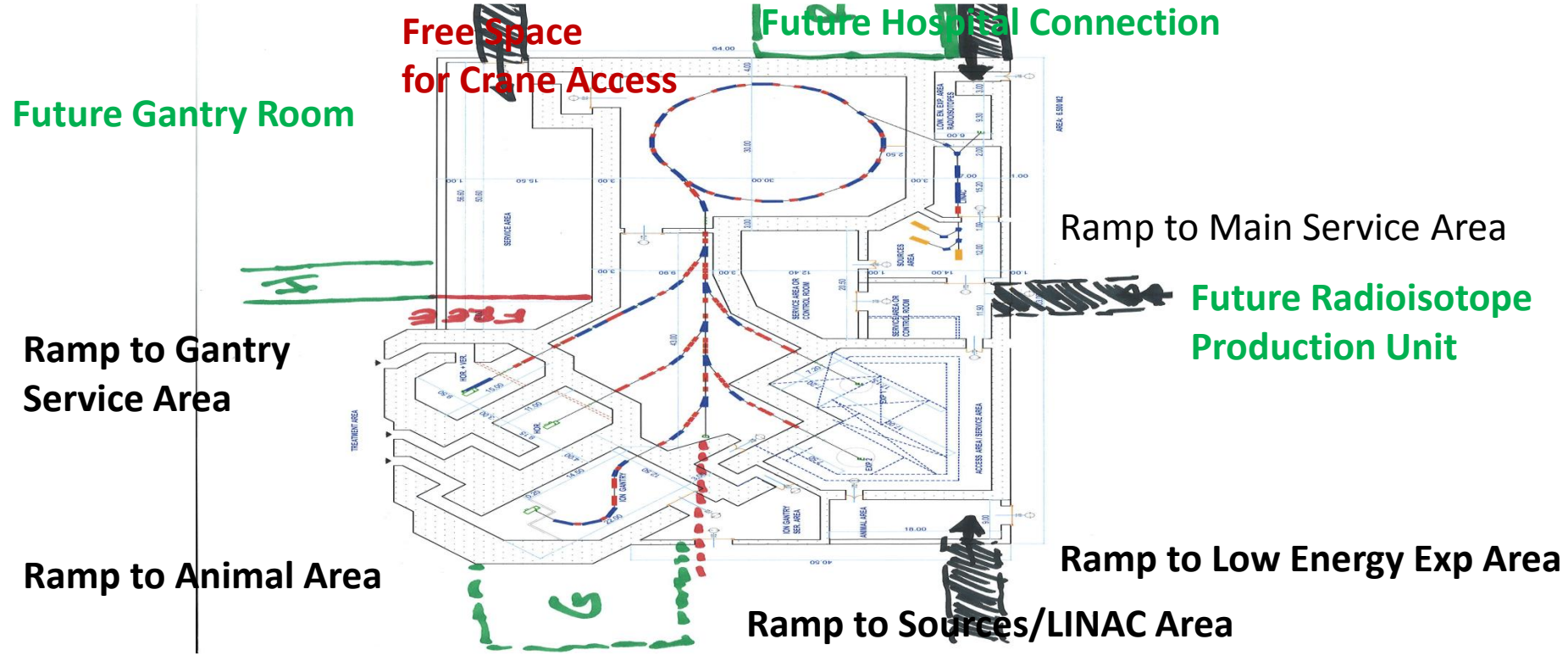
Priorities:

Deadlines:

SEEIIST Drawings Summary of Modifications

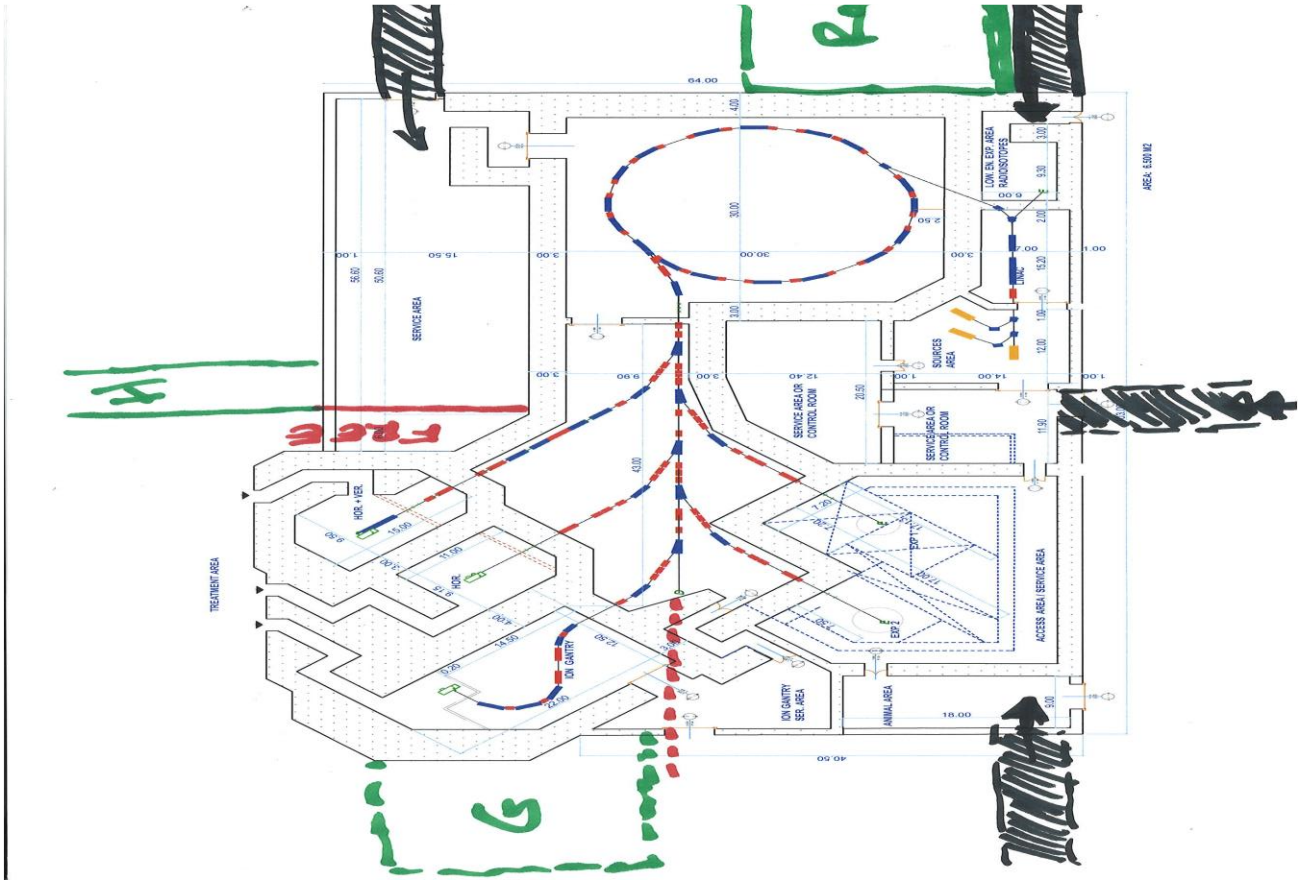
Some Considerations:

- Free space next to gantry room, extension of beam line and dump
  for future addition of 4rth room, possibly with gantry
- Free space at the extension of Linac/LEExp
  for future addition of radioisotope production unit
- Free space for future connection to Hospital
- Free space next to V/H room for crane operations through the roof
- Easy access via direct/straight ramps to main entrance/service areas



SEEIIST Drawings Summary of Modifications

Transfer lines: extra 2-3 meters between H and V/H lines
In order to make an access corridor between the H and H/V rooms
for accessing H room at the level of bean entrance to the room (as in MIT)
Storage Area: for cooling down of material
Accelerator Control Room
Technical rooms for equipment, workshops: extra floor over synchrotron and HEBT?



SEEIIST Drawings Summary of Modifications

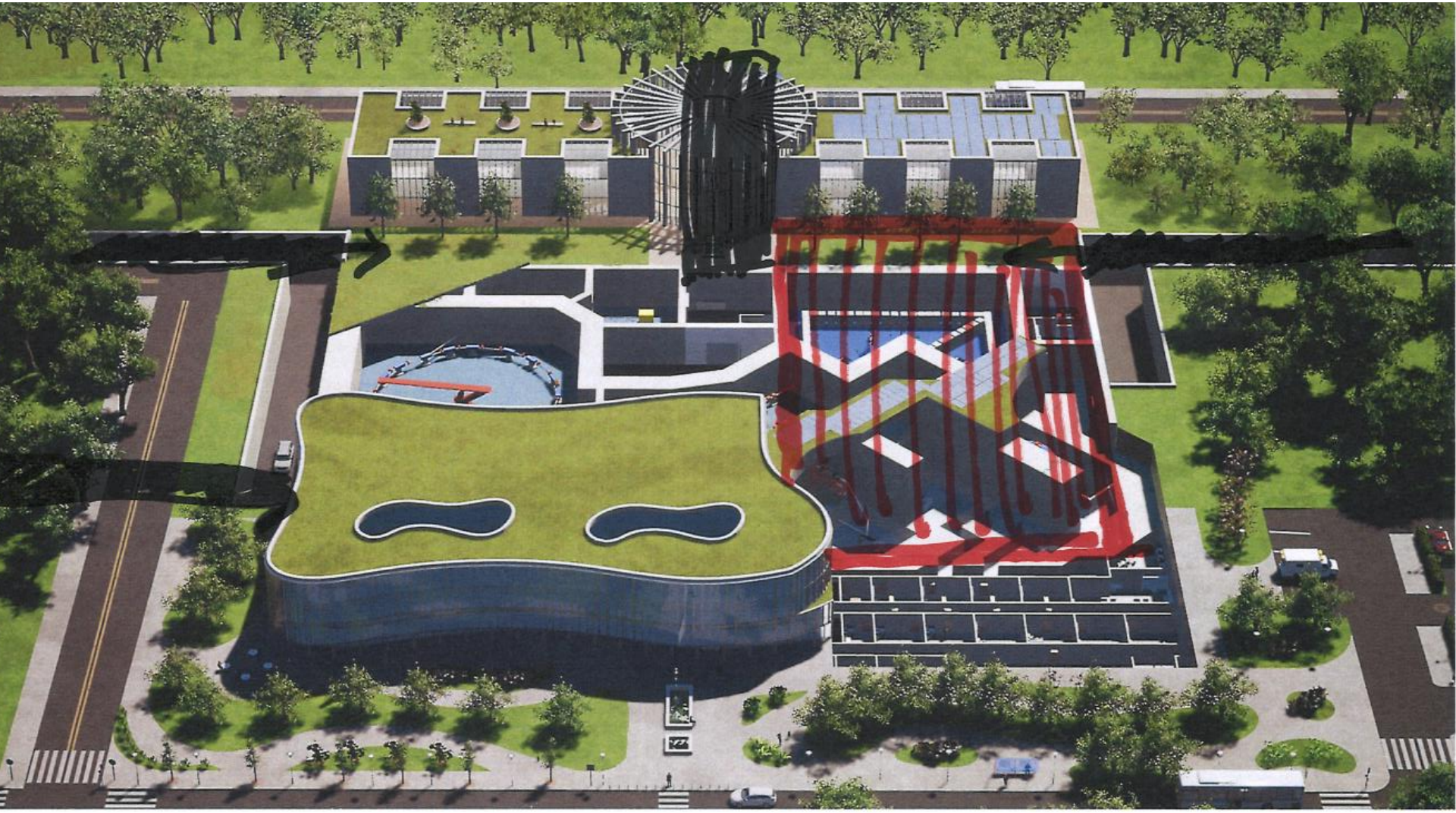
Heights:

- The gantry and H/V rooms are almost of same height (order 10 m)
  there is a common roof on the whole complex of treatment rooms
- The Experimental Hall will be configurable and therefore enough height is necessary
  for crane to be able to more concrete blocks for the walls and the ceiling
  of the experimental rooms

Suggestion:

For uniformity reasons the suggestion is to have a complete block of high buildings from the scientists building corner to the treatment rooms corner of the same height (10-15 m)

SEEIIST Drawings Summary of Modifications



SEEIIST Drawings Summary of Modifications

Scientists Building: see CERN building 40

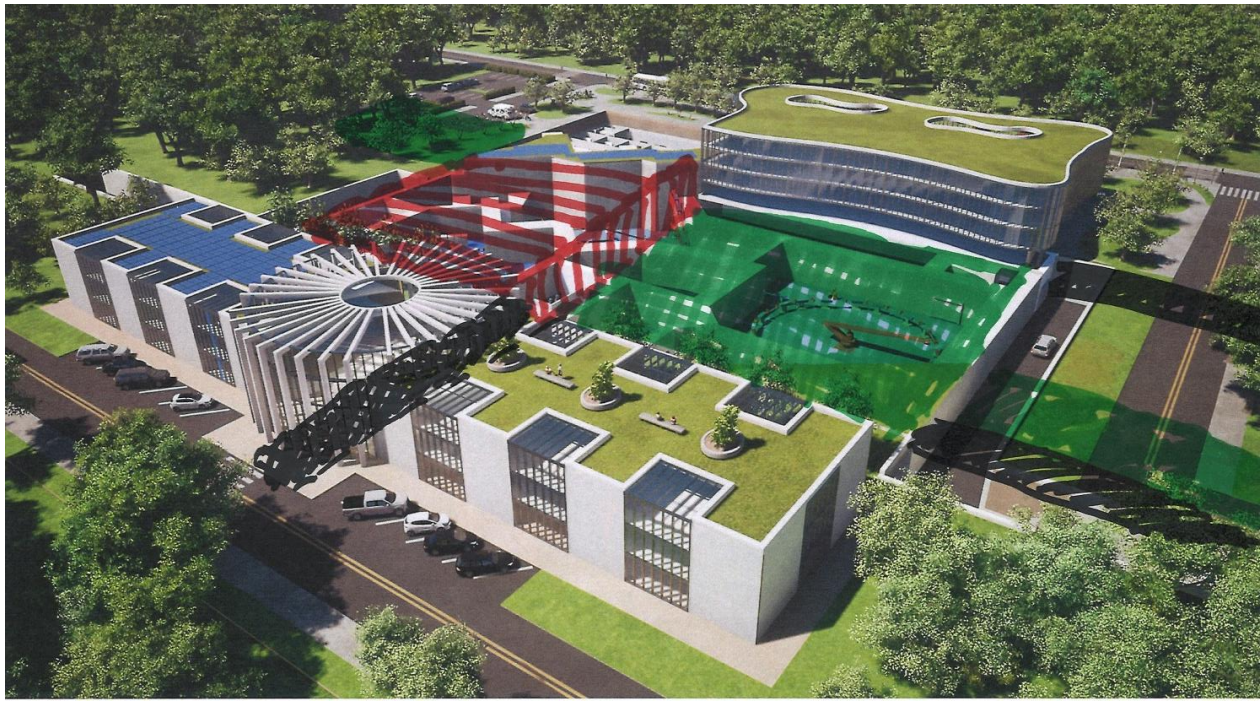
- It is on the way to the entrance ramp to the sources/linac area
- It is too big, 100 m long (building 40 is 60 m long)

Social Building: see CERN main building

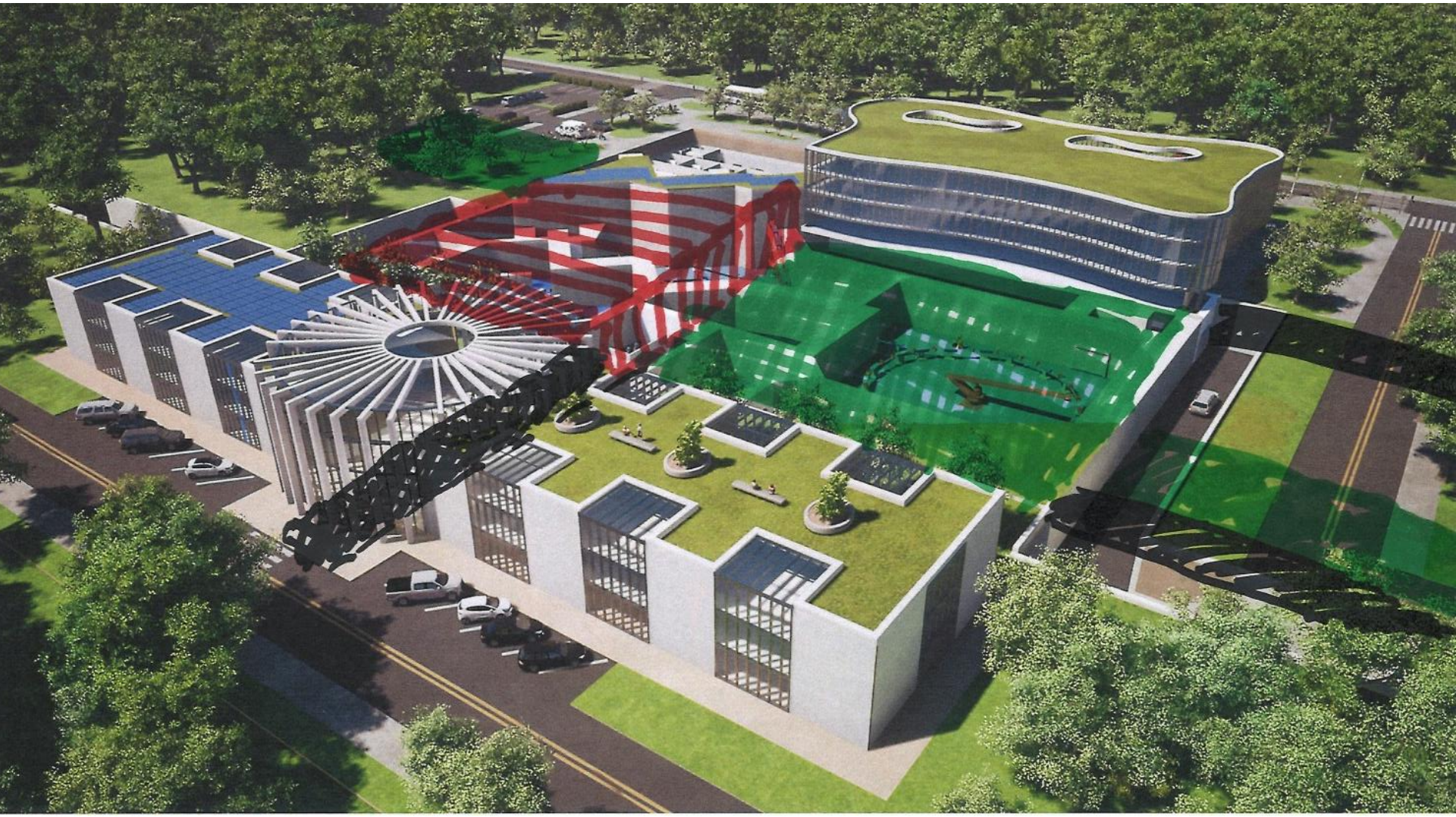
It can start with wings
and complement later according to needs

- Reception
- Offices for Personnel
- Administration
- Directorate
- Auditorium, Library etc
- PR and Conferences Space
- Events/Restaurant Area and Roof Garden
- Restaurant/Terrasse at ground level **(where ?)**

Area over synchrotron?
Flat ? Floor over it ?
Block it
(no people sitting there?)



SEEIIST Drawings Summary of Modifications



SEEIIST Drawings Summary of Modifications

Treatment Preparation Area: To be optimised for best patient flow

- Paediatrics preparation area including anaesthesia (see MedAustron)
- Dedicated preparation areas in front of each individual treatment room

SEEIIST Drawings: Topics for Discussion

- **Heights of ceilings:** to be optimized
  - H = 6 m net plus 2 m roof shielding for Linac, Sources, Synchrotron (transfer lines)
  - H = 10 m net plus 2 m or 3 m roof shielding for Experimental Hall

    (at GSI 10 m at North Hall 15-20 m)
  - EXP Hall same height with Gantry/VH rooms

    does it make sense to have same height for the HEBT lines also ?

SEEIIST Drawings: Topics for Discussion

Experimental Hall

- Configurable EXP walls and ceiling: see P2 and North Area

- External walls of EXP as for the Linac (to add concrete blocks inside according to the needs (at GSI cleaning personnel goes for cleaning with dosimeter even in the caves)

Technical Rooms

- Extra floor over synchrotron (for power converters etc) ?
- Extra rooms over the HEBT (for workshops, exp rooms as at GSI ?)

Storage Rooms: cooling down of equipment

Cranes

SEEIIST Drawings: Topics for Discussion

Control room for whole accelerator complex

- MV in the bunker, at same level (use service area)
- MS et al NOT in the bunker (noise etc)

  Better at the scientists building

  (at the edge closer to main entrance of the bunker

SEEIIST Drawings: Topics for Discussion

Connection to Hospital

PR, Exhibitions/Projections, Visitors path…
School Visits…. “teaching rooms”

SEEIIST Drawings: Measurements

Measurements
Ramps: 30m length 10.00m wide from elevation 0.00 to -2.50m at the entrance

Building 40 rectangles : 60.00m x 12.00m = 720m2 x 2 rectangles = 1440m2
area of the circle = radius 20.00m = 1256.00m
area of the building footprint 1440.00m2 + 1256.00 m2 (circle) = 2696.00 m2
Office area: 1440.00m2 x 5 floors
Offices space : about 15m2

Science building: 100.00m2 x 20.00m2 = 2156.00m2 (including the circle)
area for offices : 1720.00m2 x 2 floors = 3440.00m2 (excluding the circle)
Total area : 5596.00m2