

NSS Infrastructure project

Utilities Inside Bunker

Ramesh Kumar & Talal Osman
Pipe Design Engineer, Plant & Process Section
European Spallation Source ERIC
19-Feb-2020

NSS Infrastructure – Bunker Utilities

Current scope of project:

- Vacuum
 - Vacuum manifold instrument specific design
- Cable trays
 - Cable trays and supports
- Cooling
 - Water cooling for Choppers

New confluence page for NSS infrastructure

- One General page for all instruments
 - General news
 - General discussions
- One page for each instrument
 - Instrument specific updates
 - Instrument specific discussions

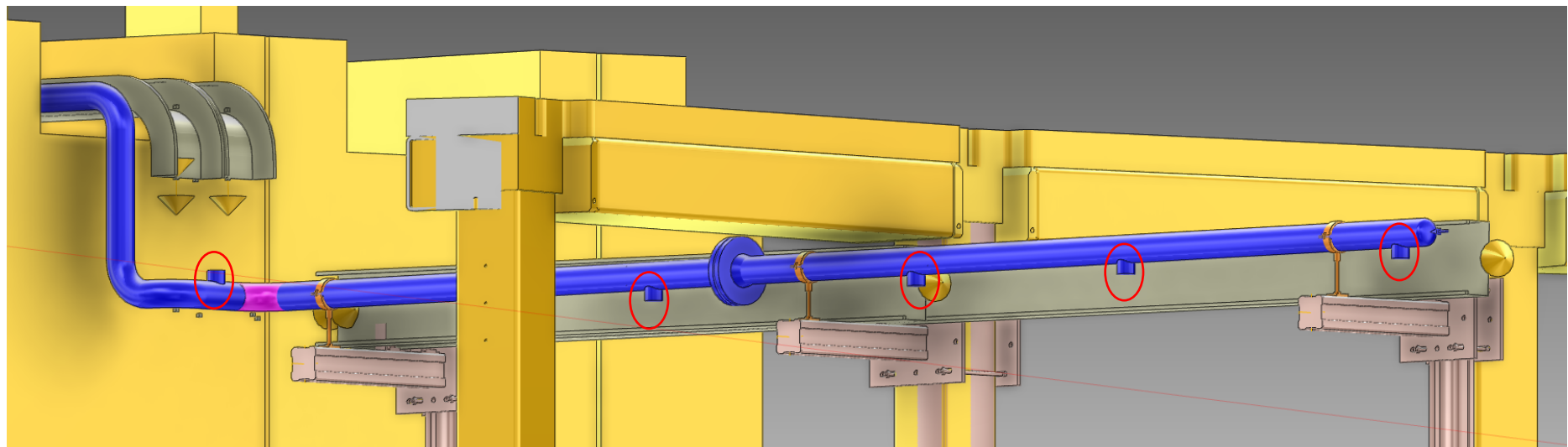
- ▼ **NSS Infrastructure**
 - ▼ BEER
 - BEER - Cable tray
 - BEER - Cooling
 - BEER - Vacuum
 - > BIFROST
 - > C-SPEC
 - > DREAM
 - > ESTIA
 - > FREIA
 - > HEIMDAL
 - > LOKI
 - > MAGIC
 - > MIRACLES
 - > NMX
 - > ODIN
 - > SKADI
 - > Test beamline
 - > T-REX
 - > VESPA

<https://confluence.esss.lu.se/display/SPD/NSS+Infrastructure>

Vacuum detail information exchange

In order to update the design of the vacuum manifold inside the bunker, we request:

- Position of ports on vacuum manifold
- Design of snorkels (if possible)



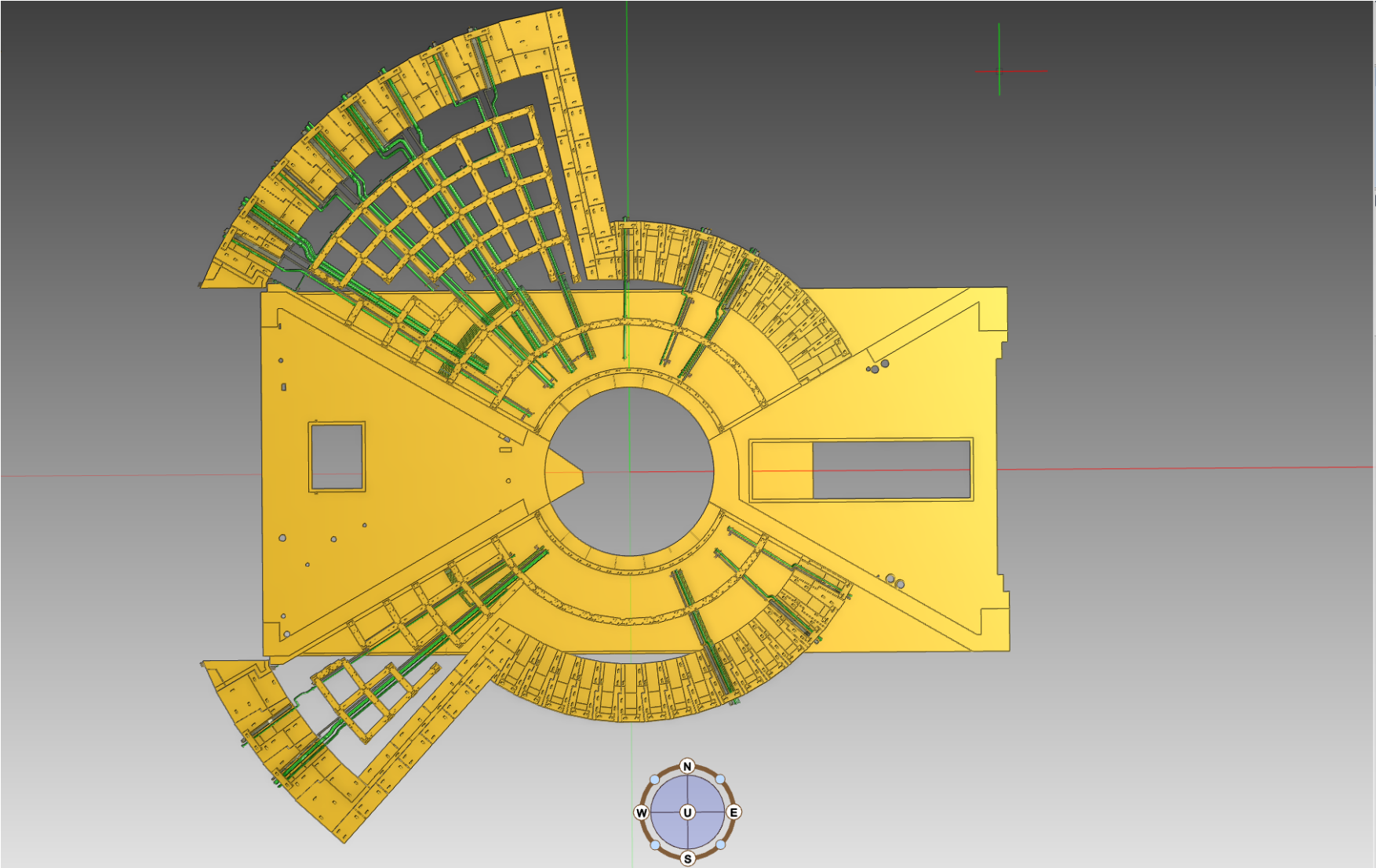
Cable trays

We request cables detail information In order to design enough cable trays for each instrument.

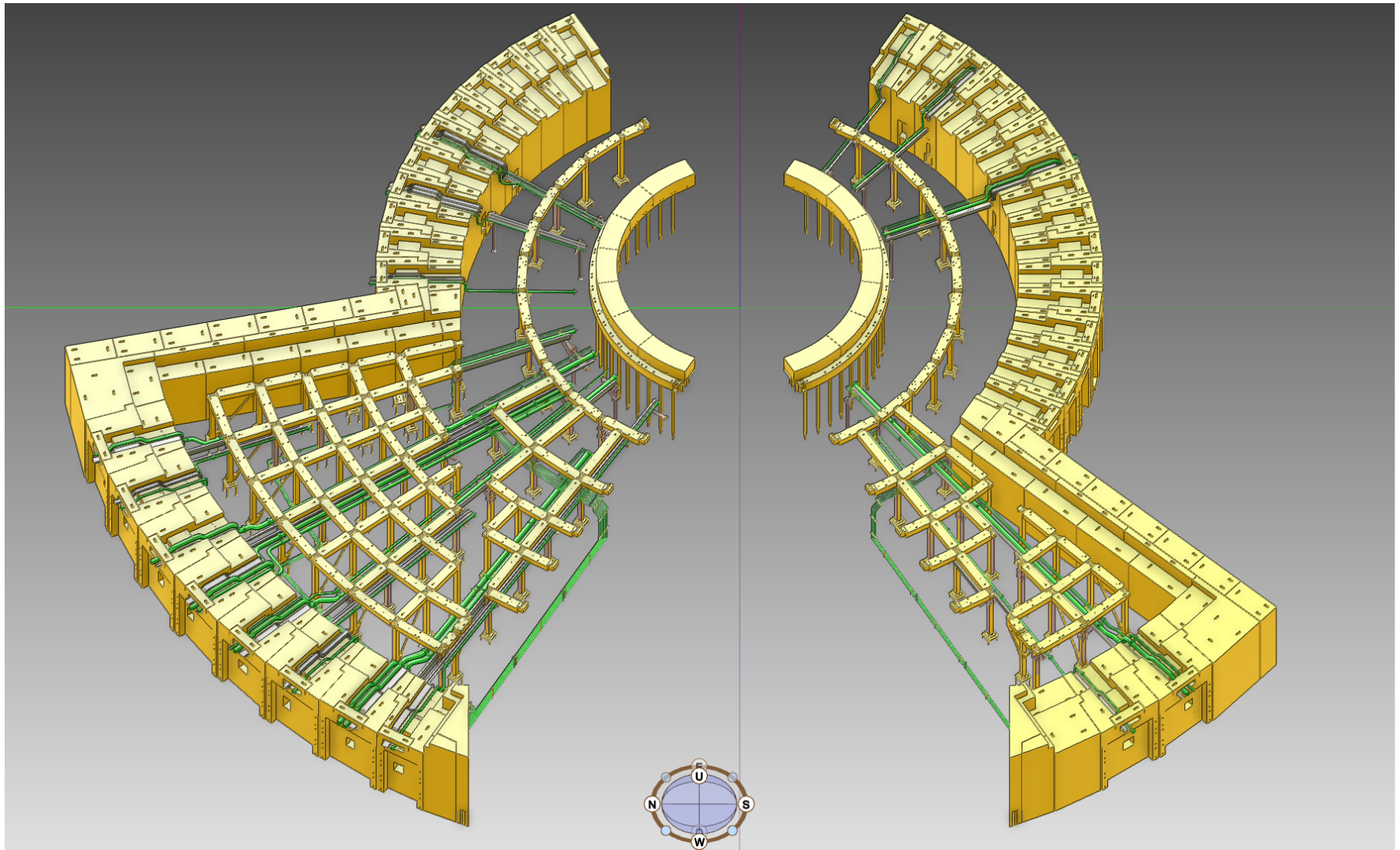
A temple will be placed on confluence for the instrument to fill in.

		COMPONENTS	Cable diameter	# cables	Location of component From TCS (X:Y:Z)
CABLES	POWER	Component 1			
		Component 2			
		Component n			
	SIGNALS	Component 1			
		Component 2			
		Component n			
	BEAM MONITORS	Beam monitor 1			
		Beam monitor 2			
		Beam monitor 2			
	PSS	Component 1			
		Component 2			
		Component n			
	CHOPPERS **	Component 1			
		Component 2			
		Component n			

Overall layout – Plan View

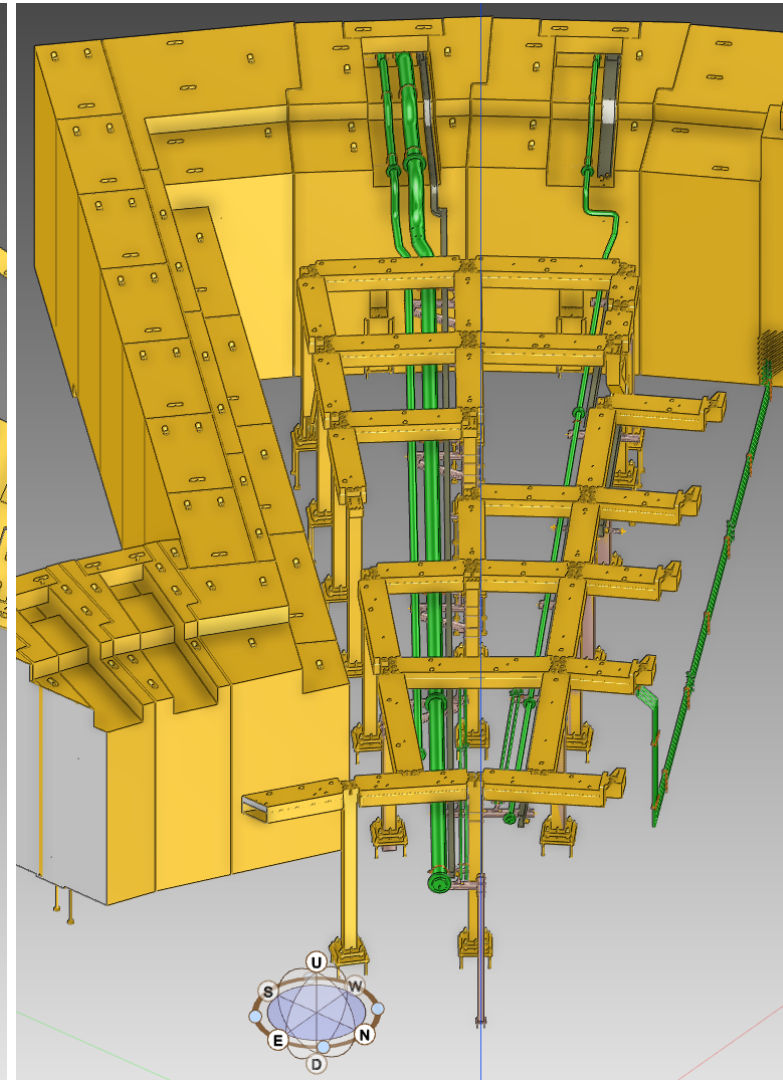
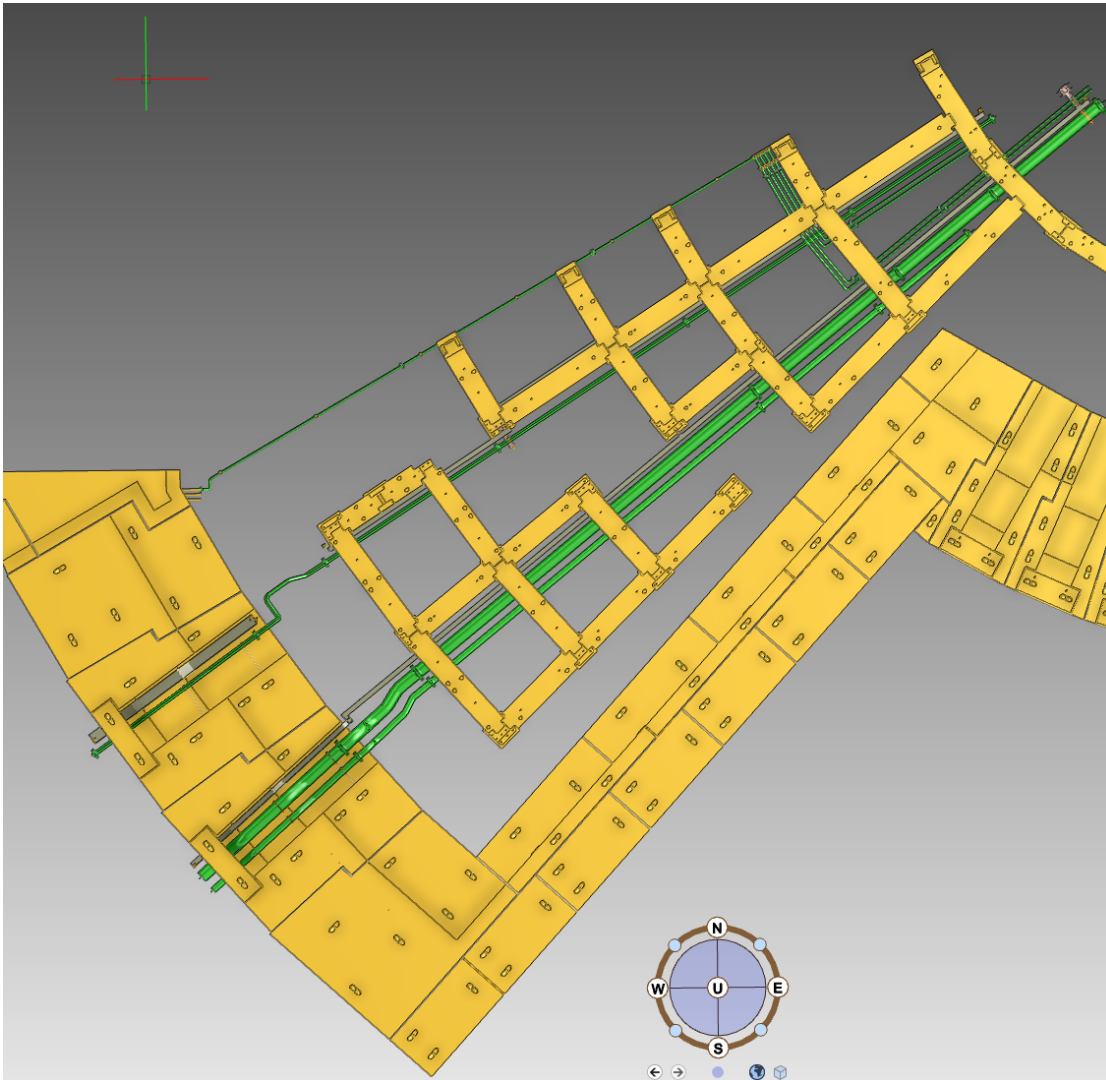


Overall layout – Isometric View without bunker side walls



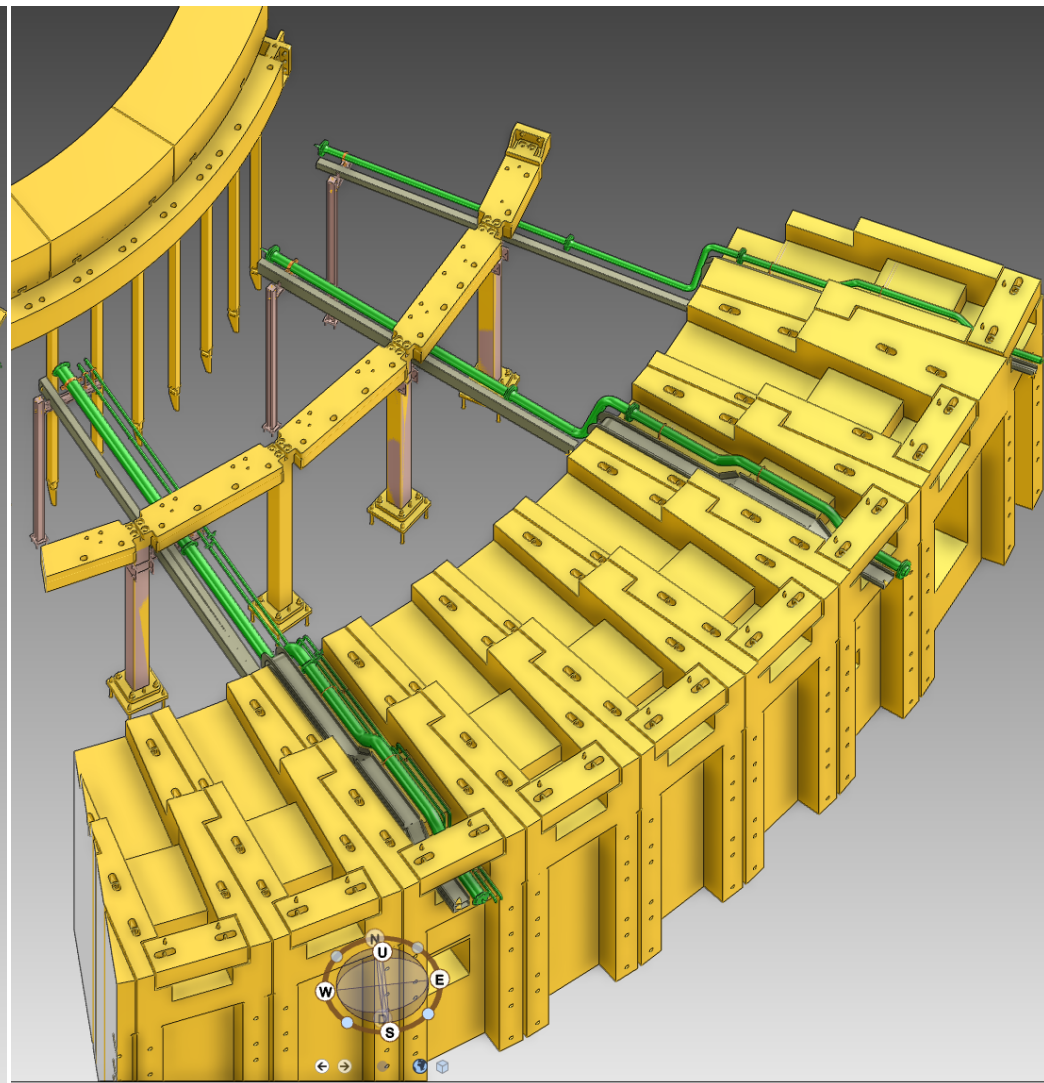
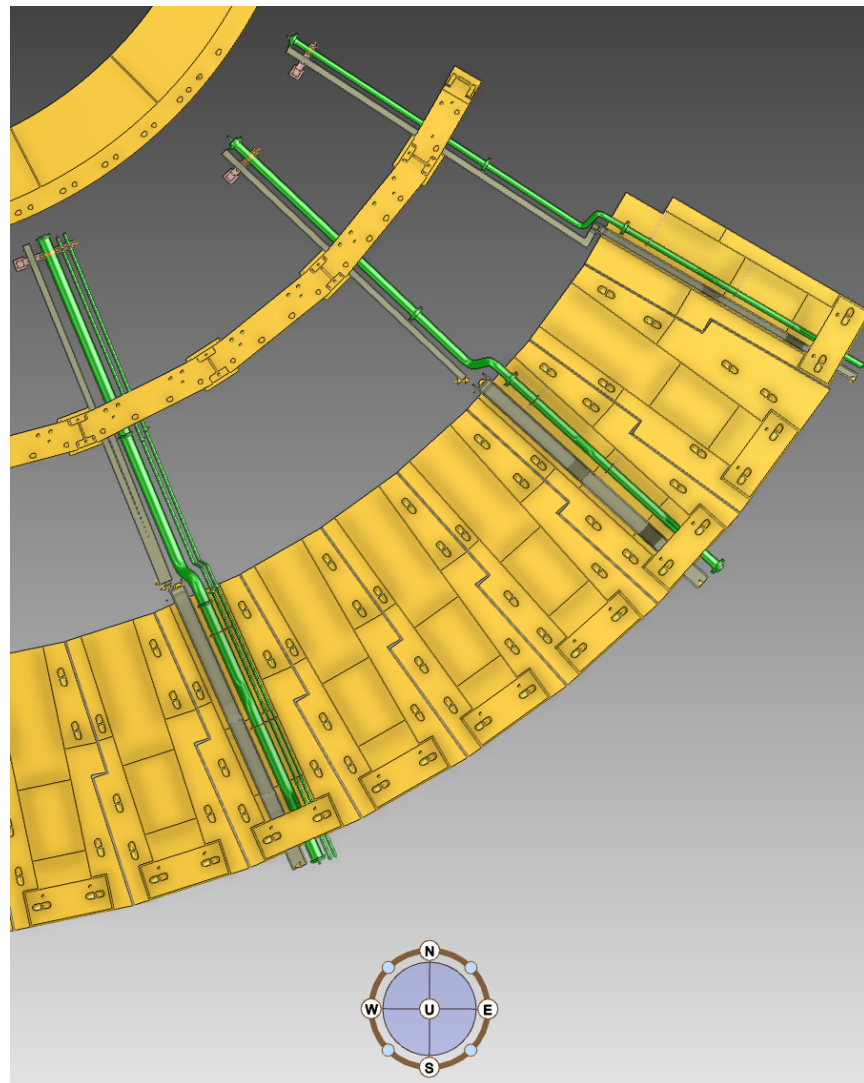
D01:South Long Sector

Top & Isometric view



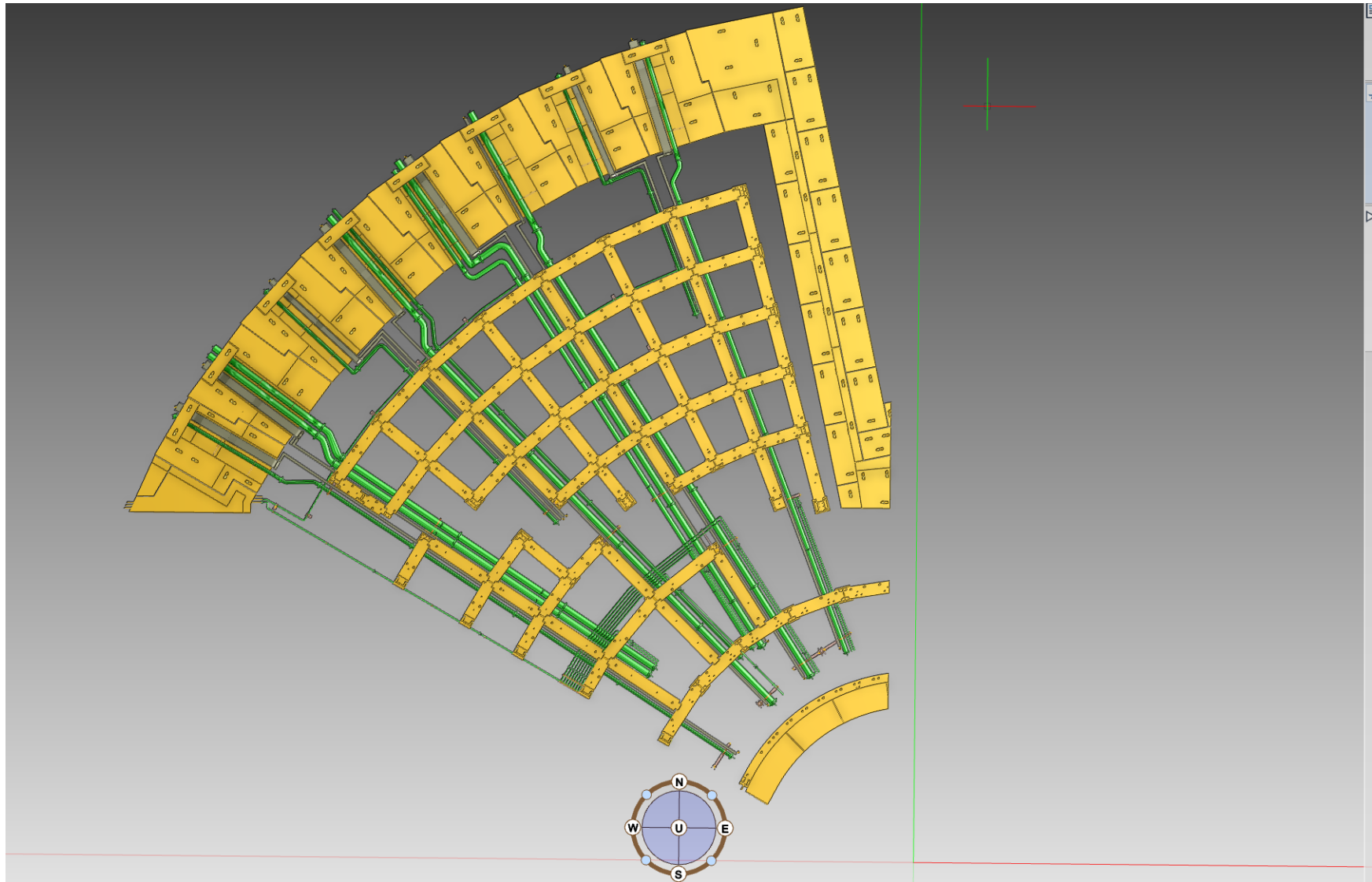
D01:East Short Sector

Top & Isometric view



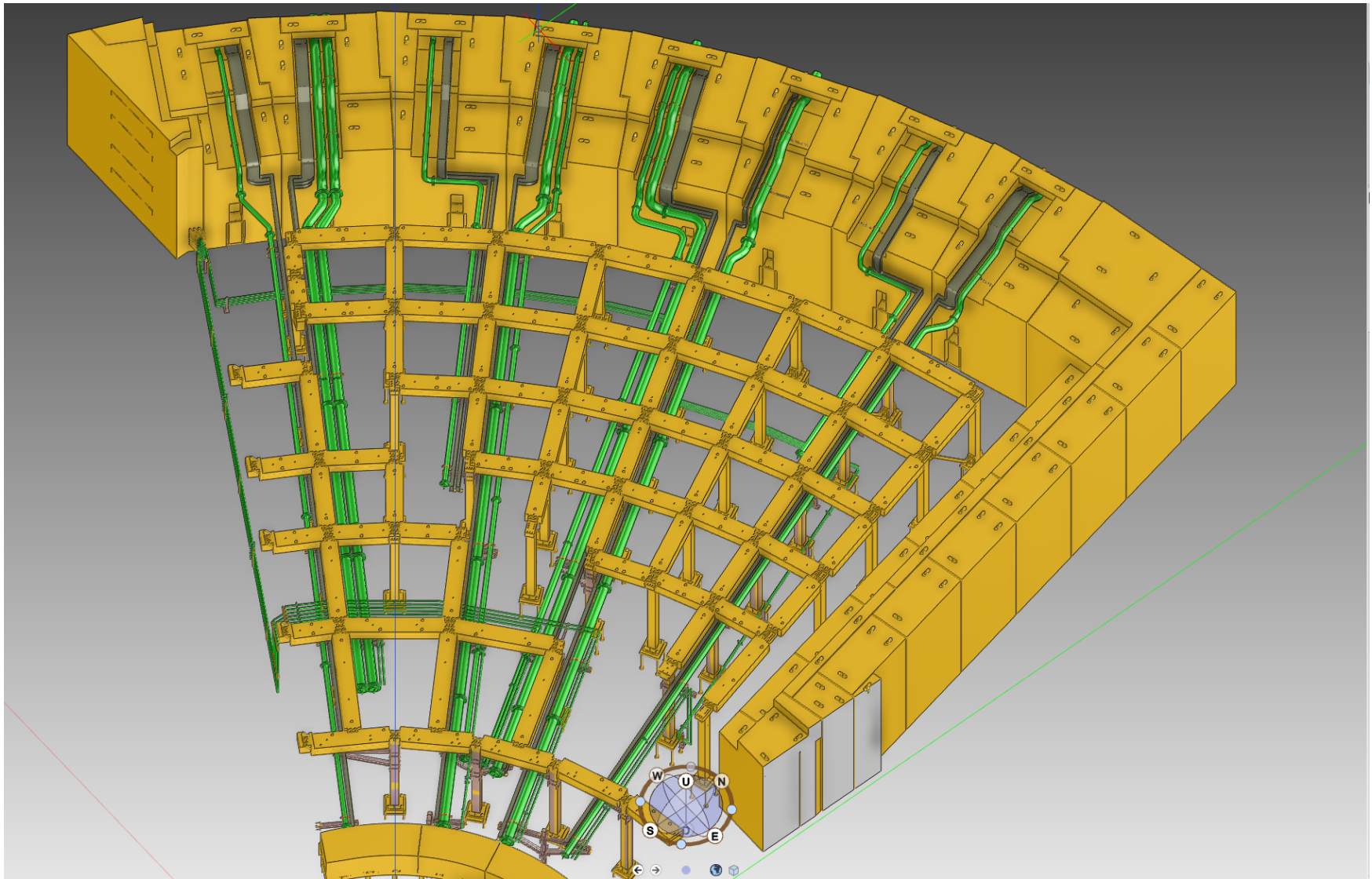
D03:West Long Sector

Top view



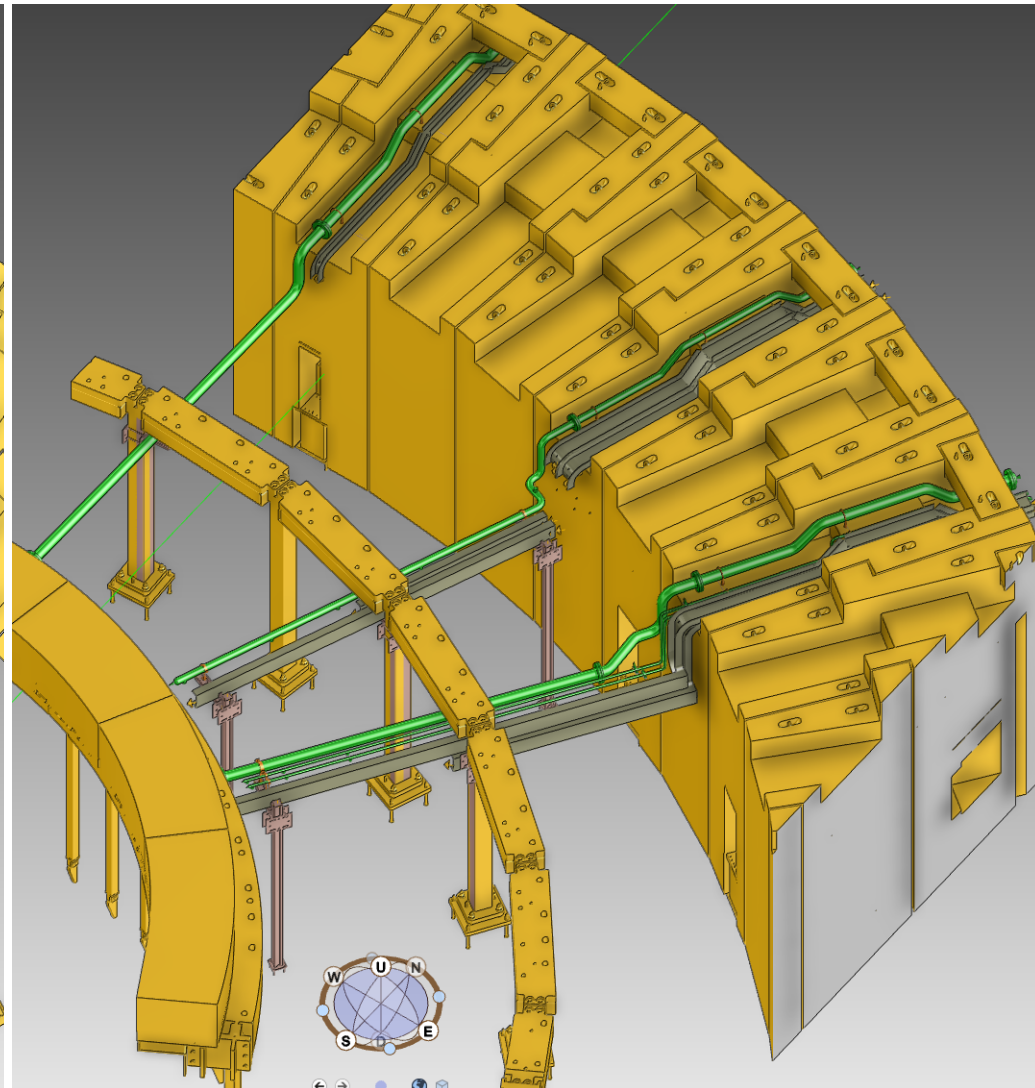
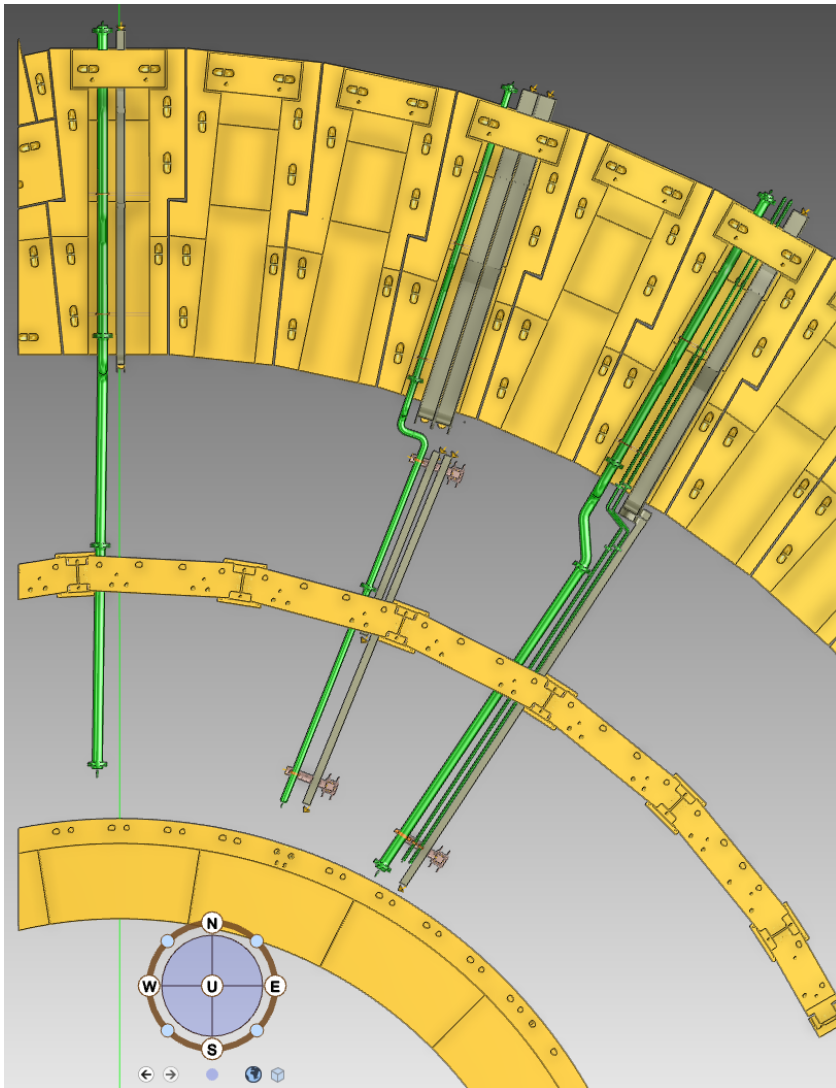
D03:West Long Sector

Isometric view



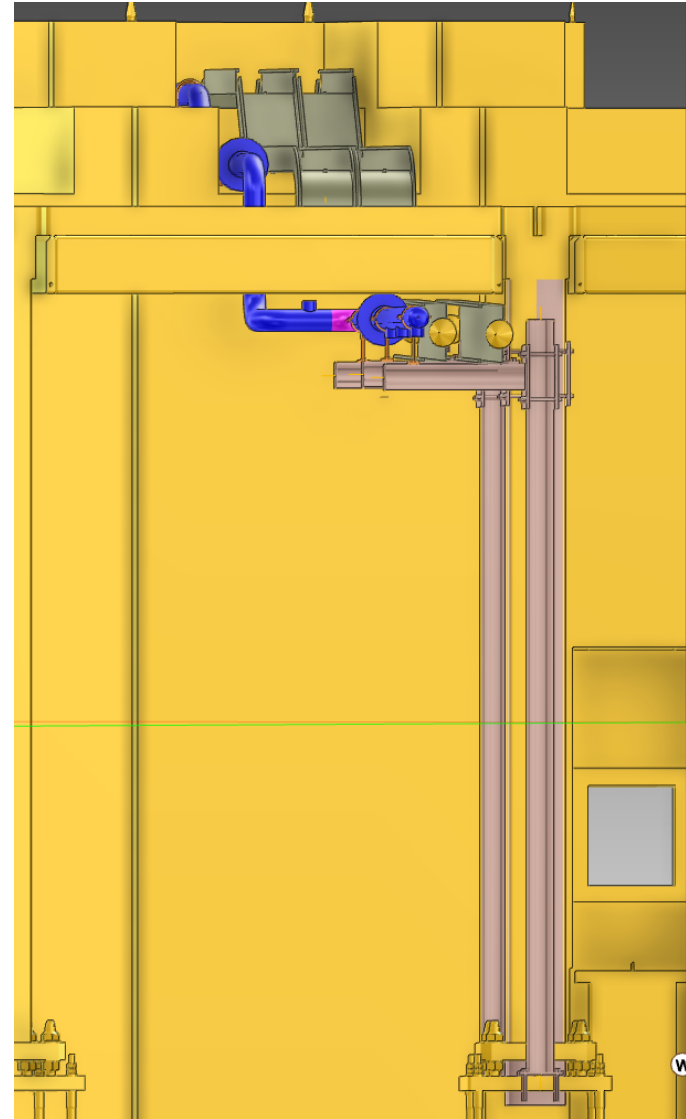
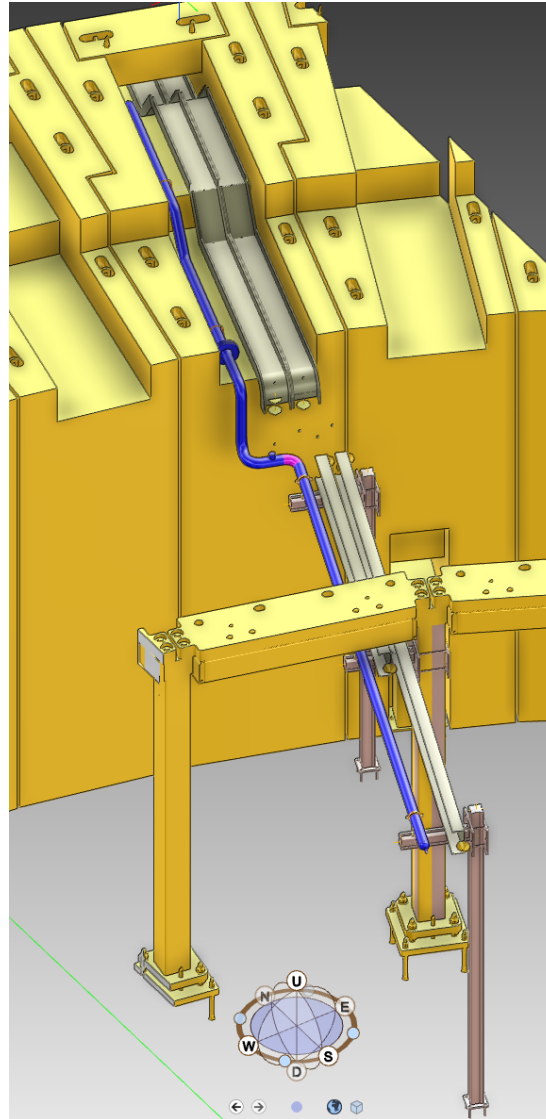
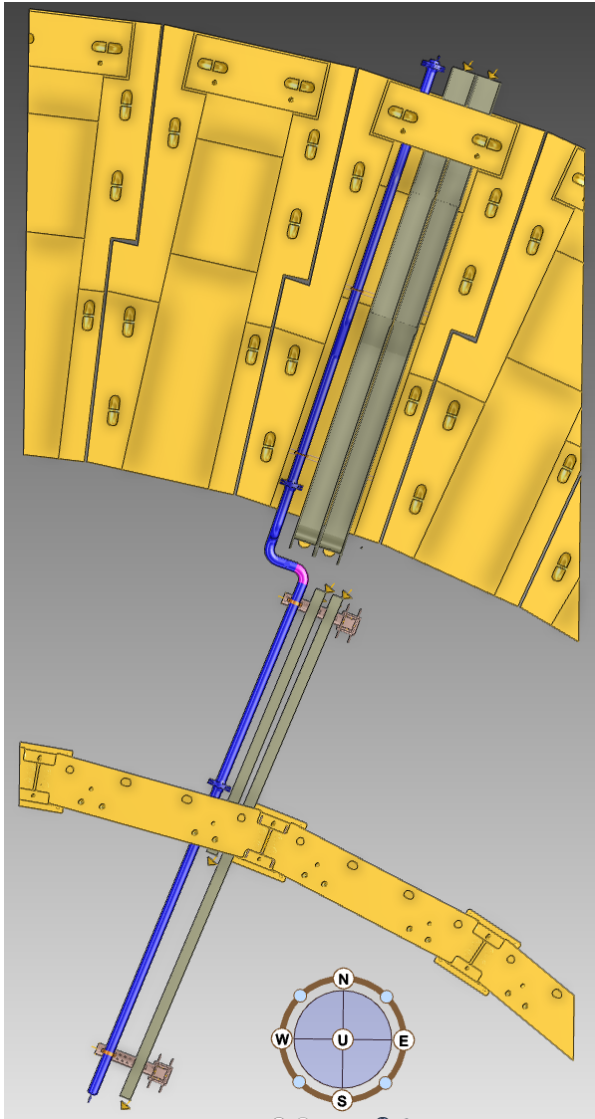
D03:North Short Sector

Top & Isometric view



D03: LOKI Model

Top & Isometric views



Questions?

Thank you !