

KB HALLEN KONSTRUKTIONER

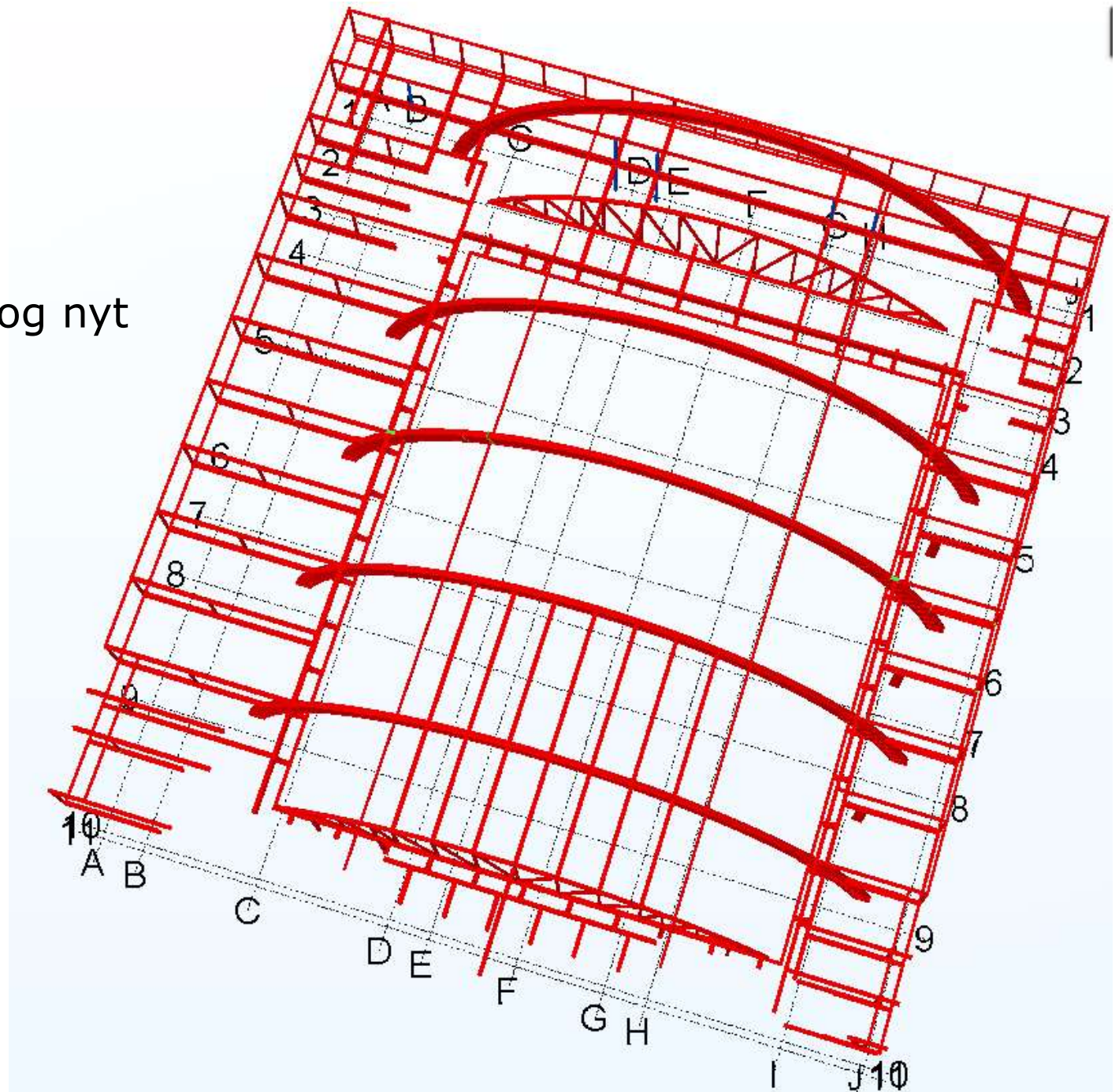
ARK.: CCO
ING.: RAMBØLL

HANS EXNER
RAMBØLL



DISPOSITION

- Historie. Gammelt og nyt
- Buetag
- Skiven
- Akustik
- Ventilation og el
- Foyer
- Udstyr
- Konklusion

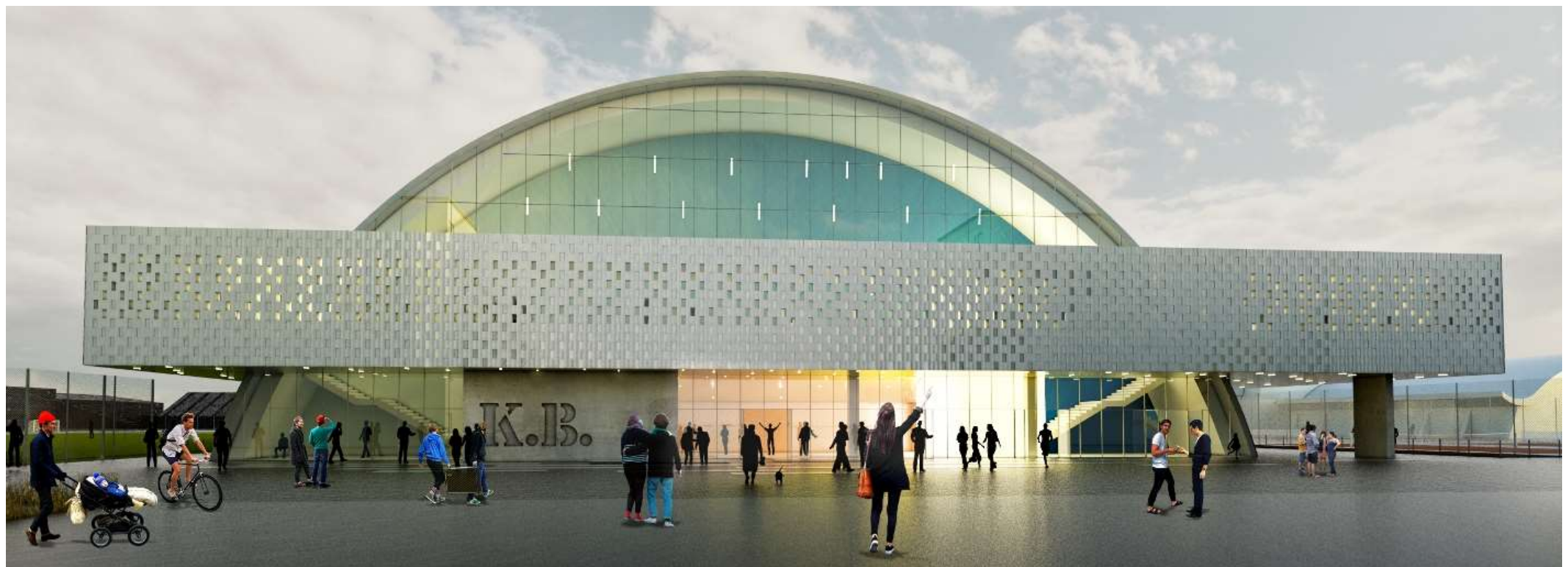


BRAND
2011-09-28



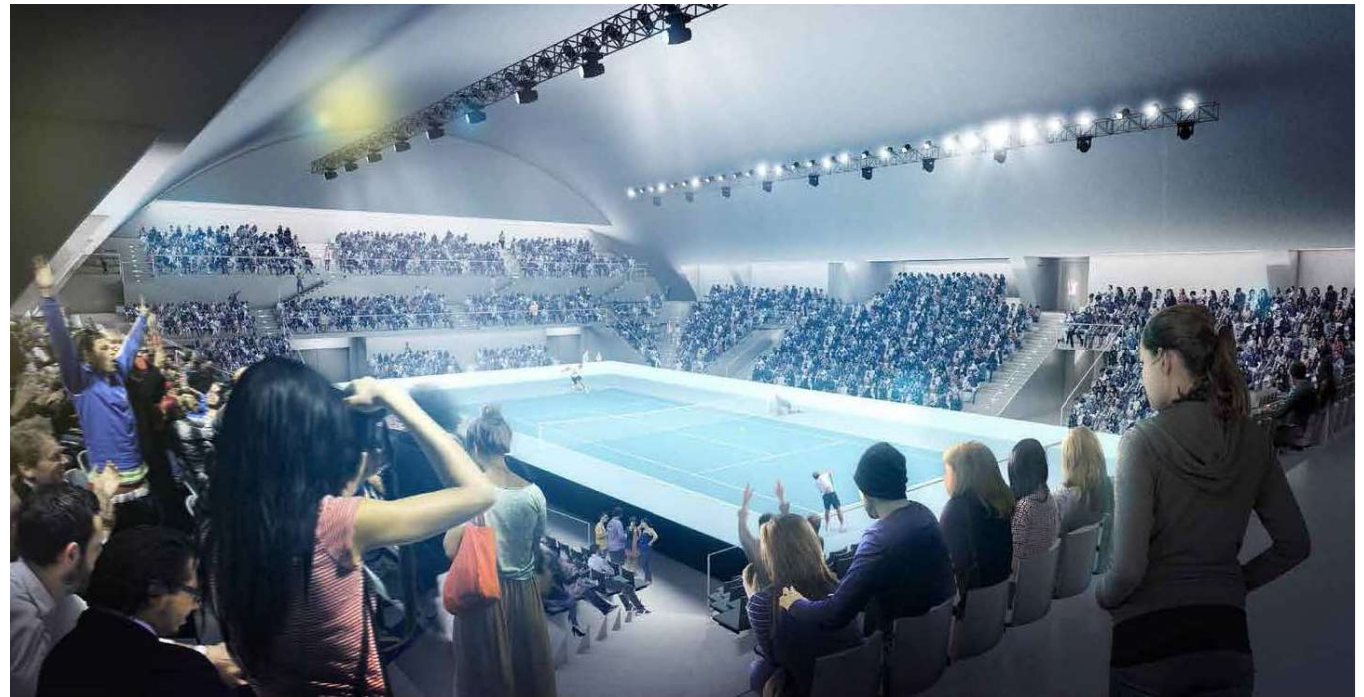
KB HALLEN LIGE NU



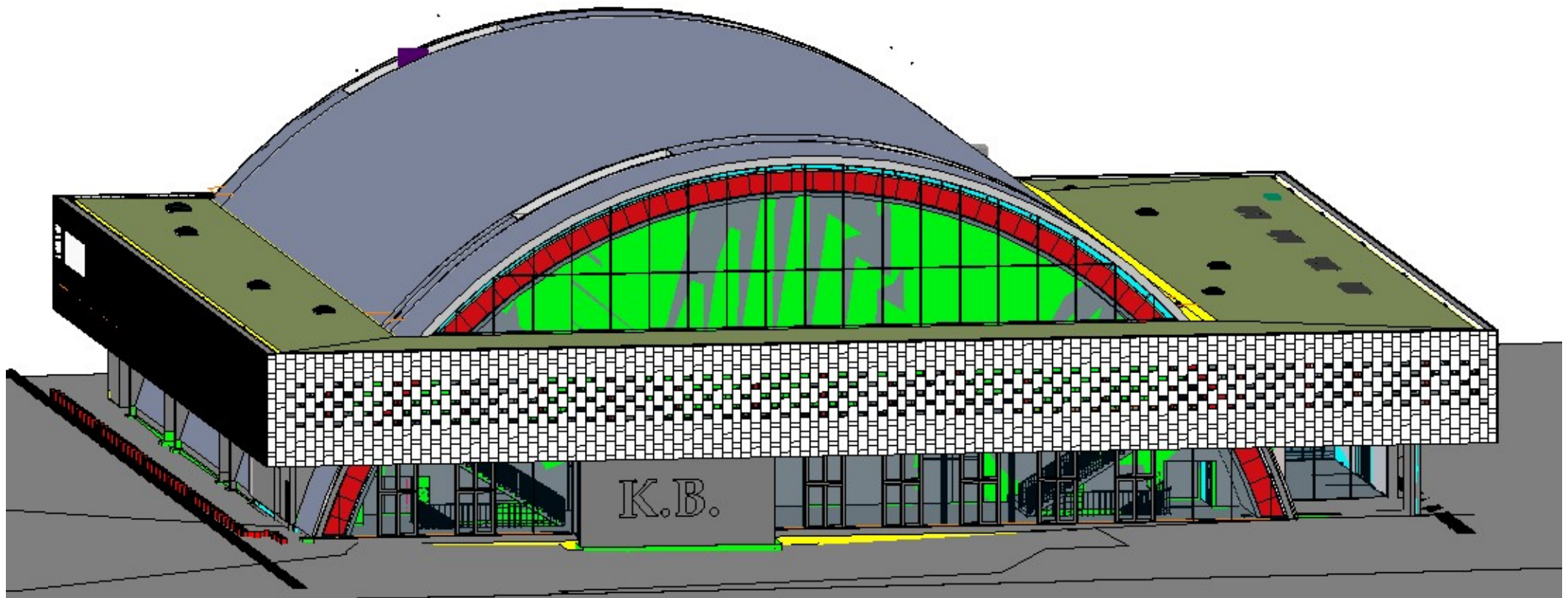


FLEKSIBLE ANVENDELSER

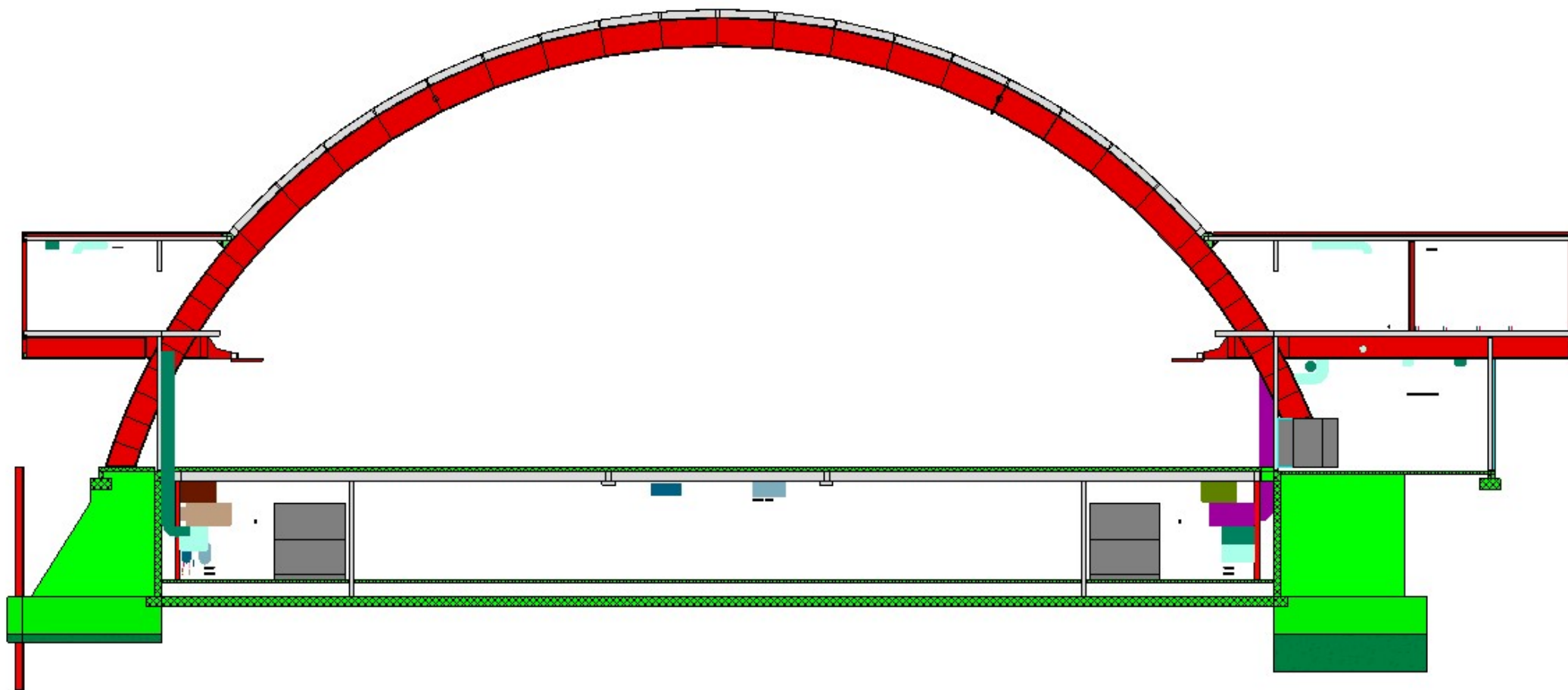
- Sport
- Koncerter
- Udstillinger
- Konferencer



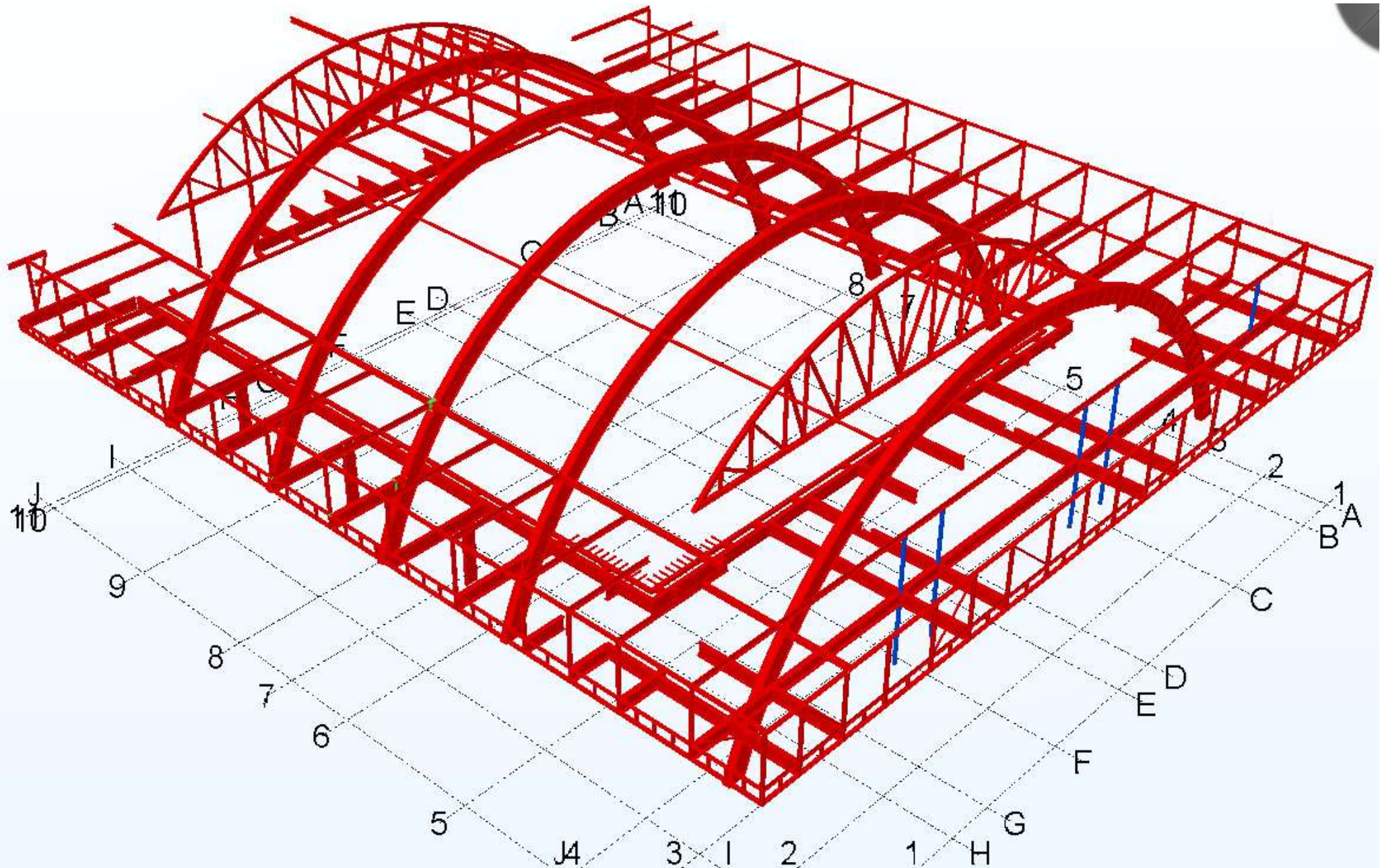
DET CIRKULÆRE BUETAG



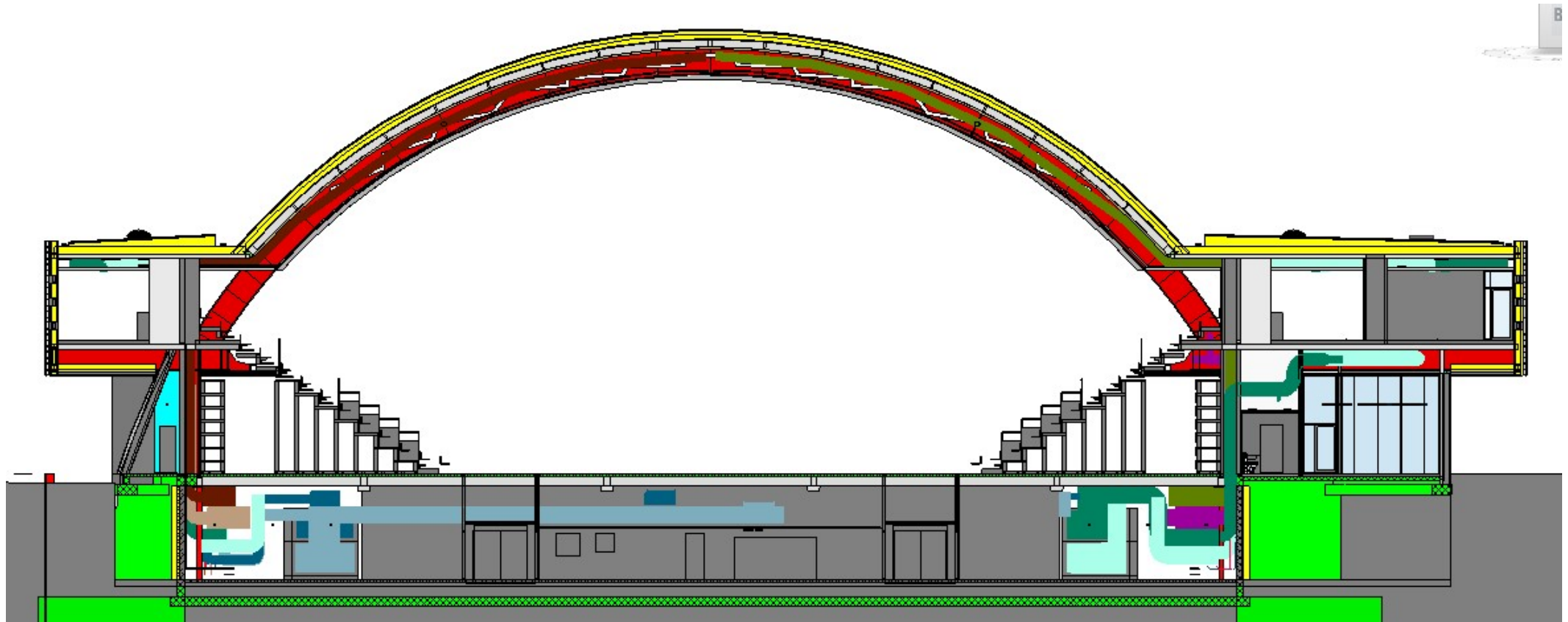
BUER. BETONDÆKELEMENTER LYDISOLATION SKIVEN



STÅLBUER OG -RAMMER



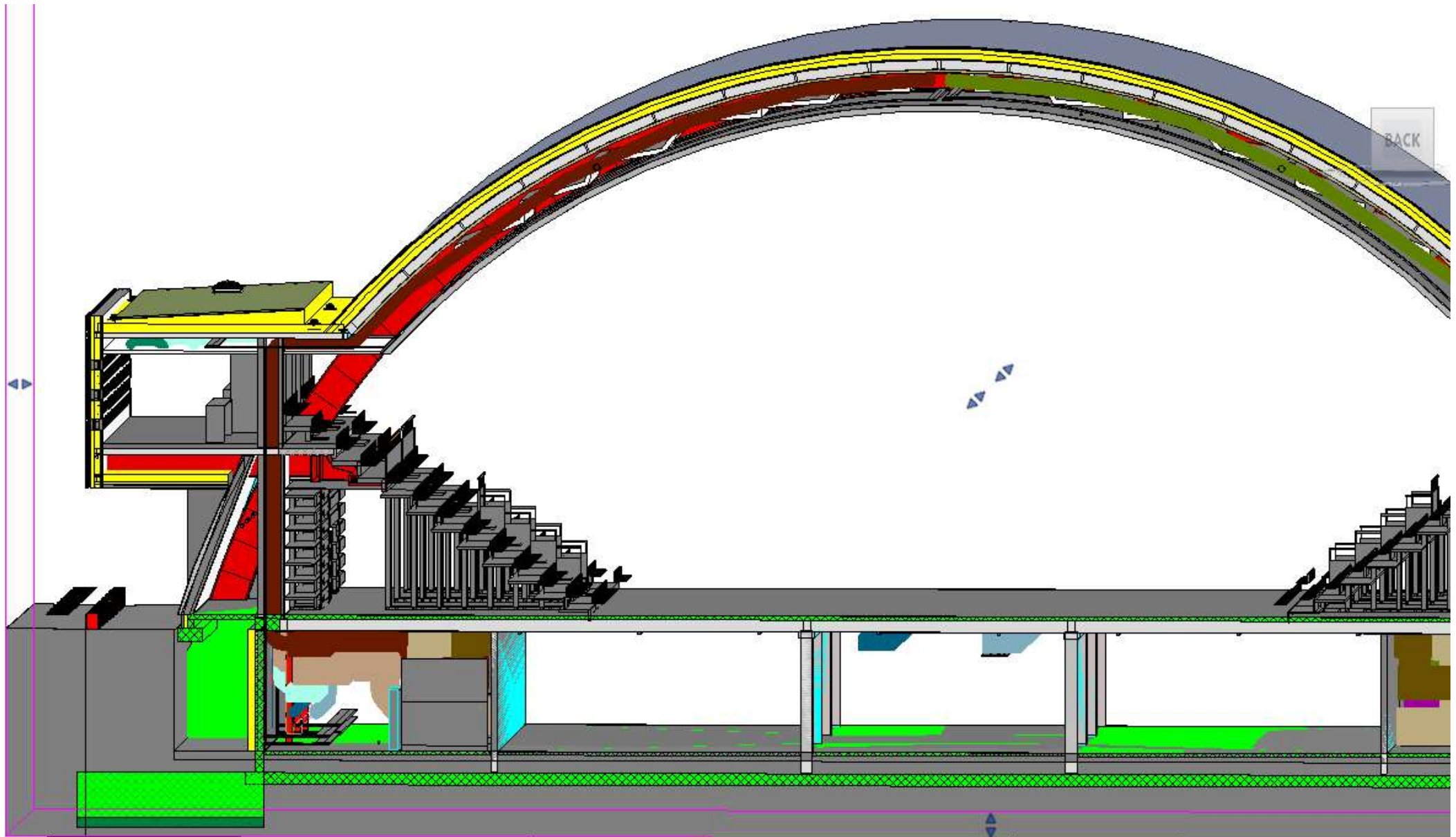
MOBILE TRIBUNER. VENTILATION OG EL. AKUSTIK



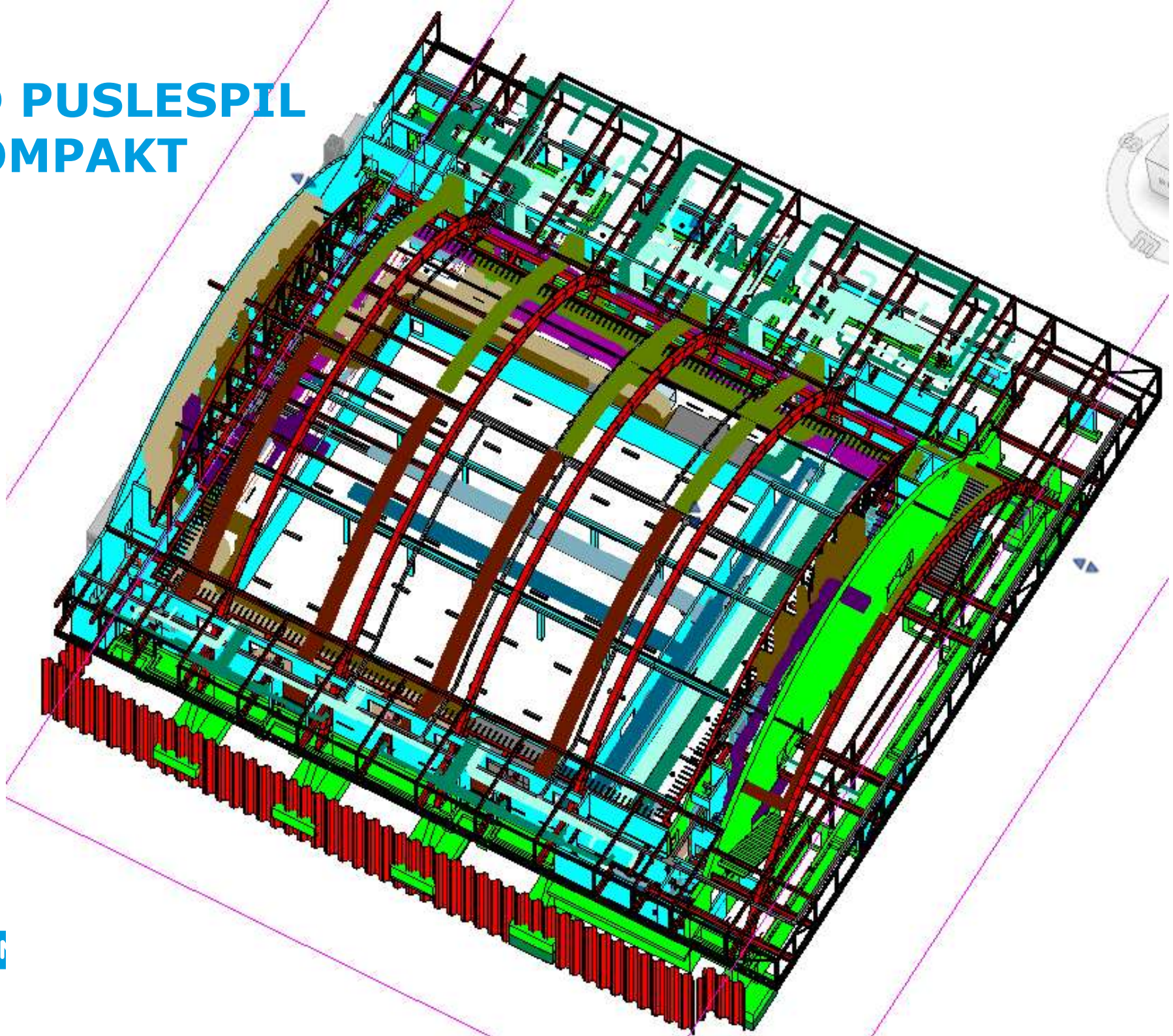
B

BOLDSPILRUM I KÆLDEREN

DYNAMISK LAST PÅ GULVET M/U TRIBUNE



3D PUSLESPIL KOMPAKT

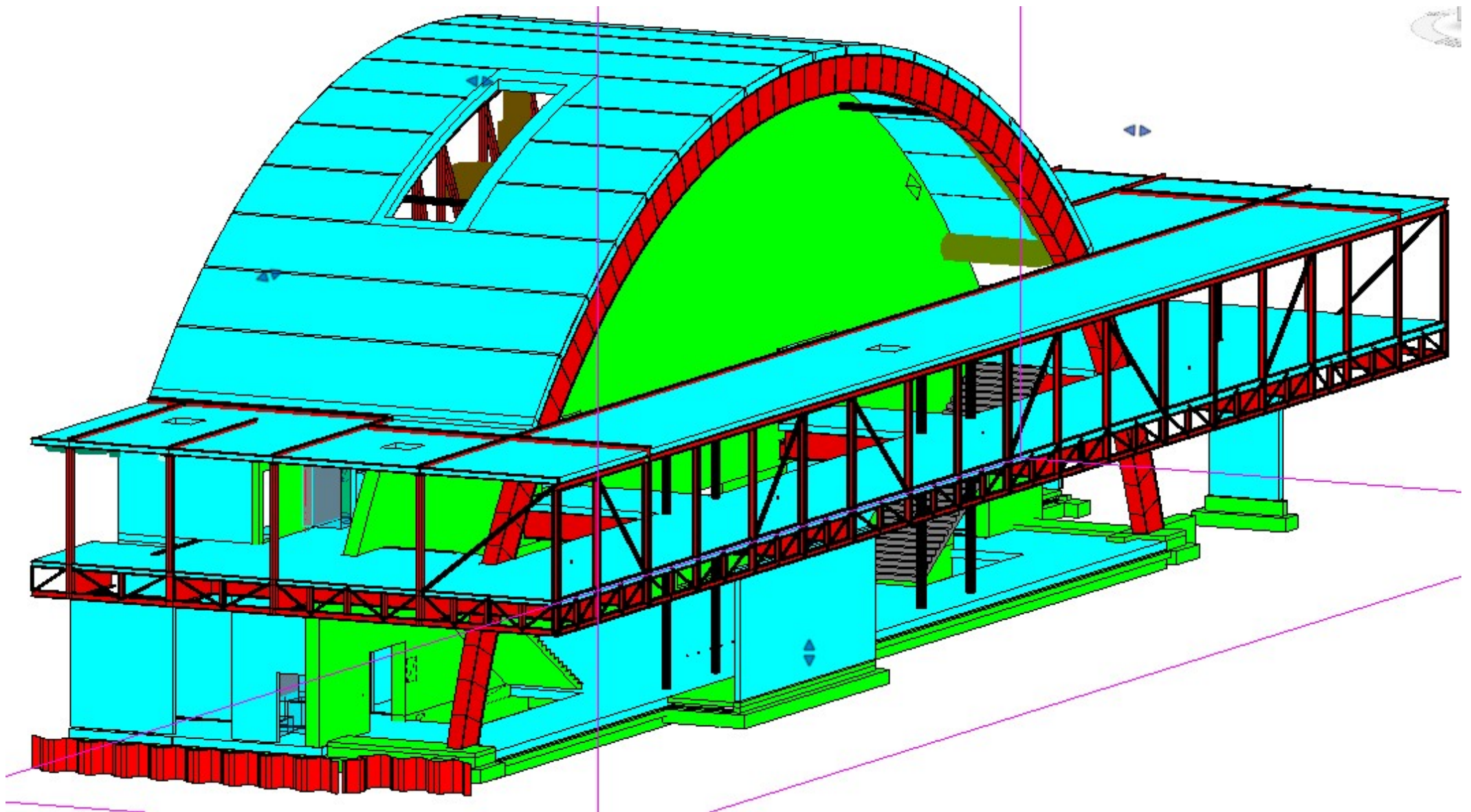


RAM

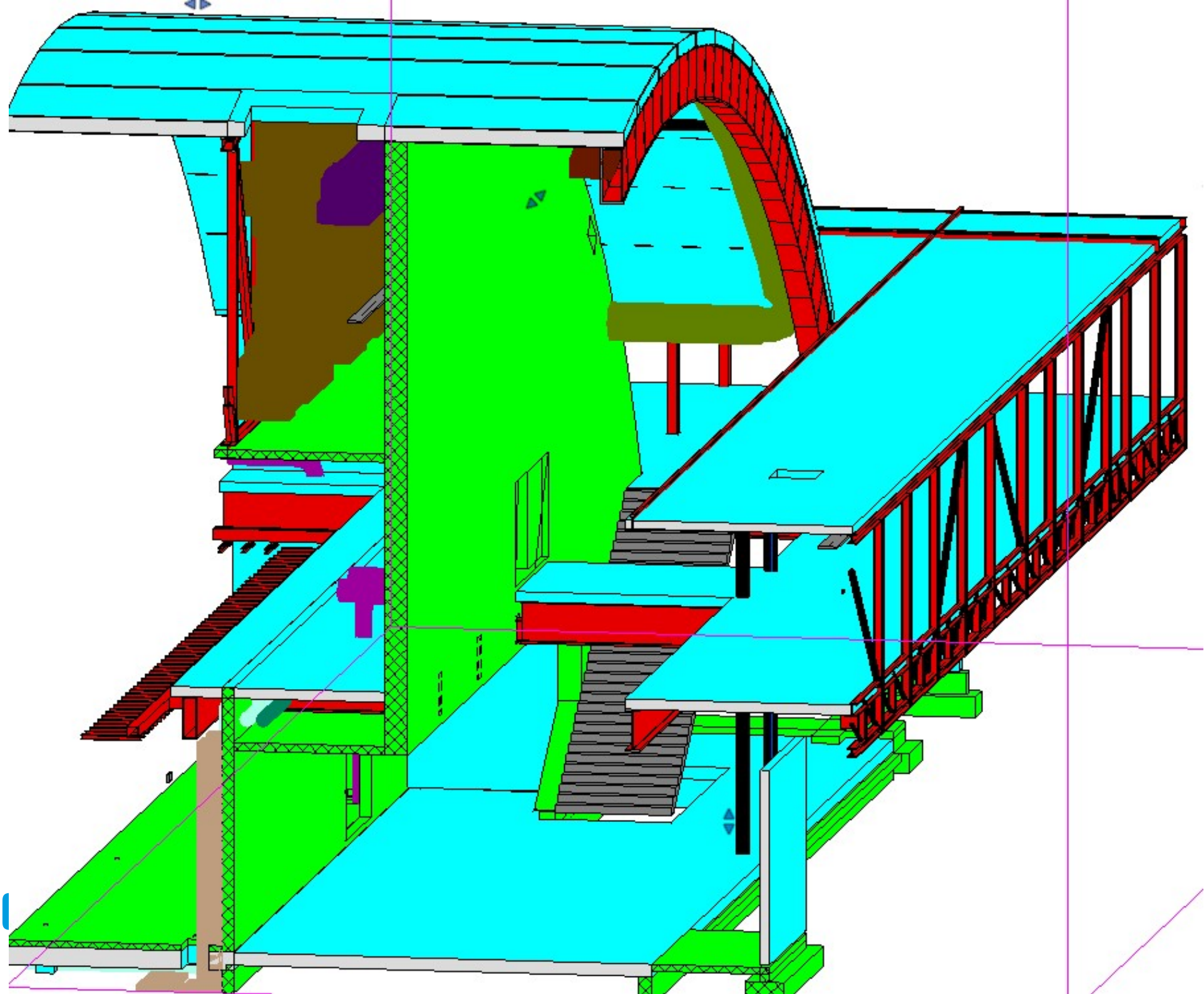
INDGANG OG FOYER



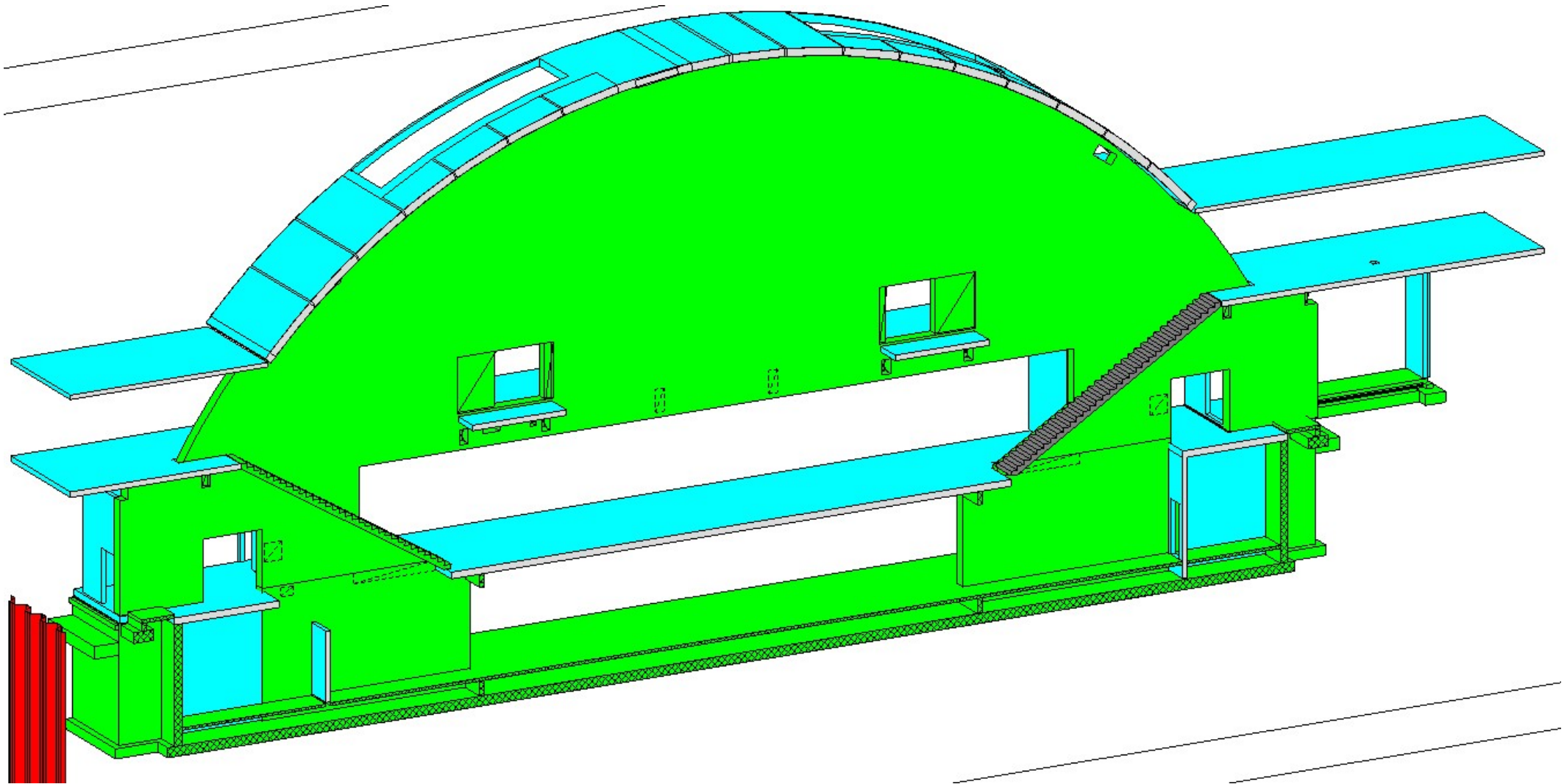
FOYER. SKIVEN MOD NORD

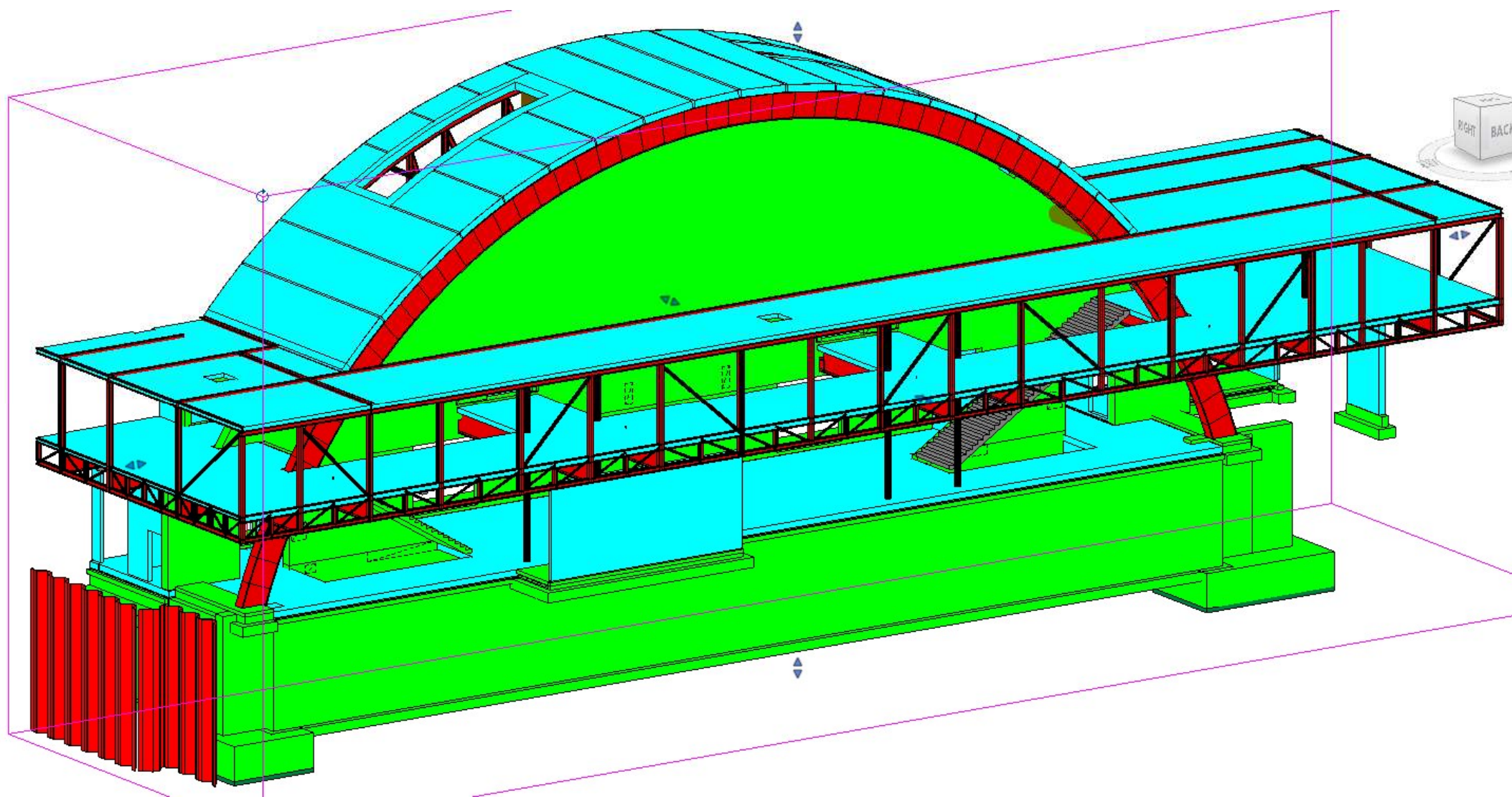


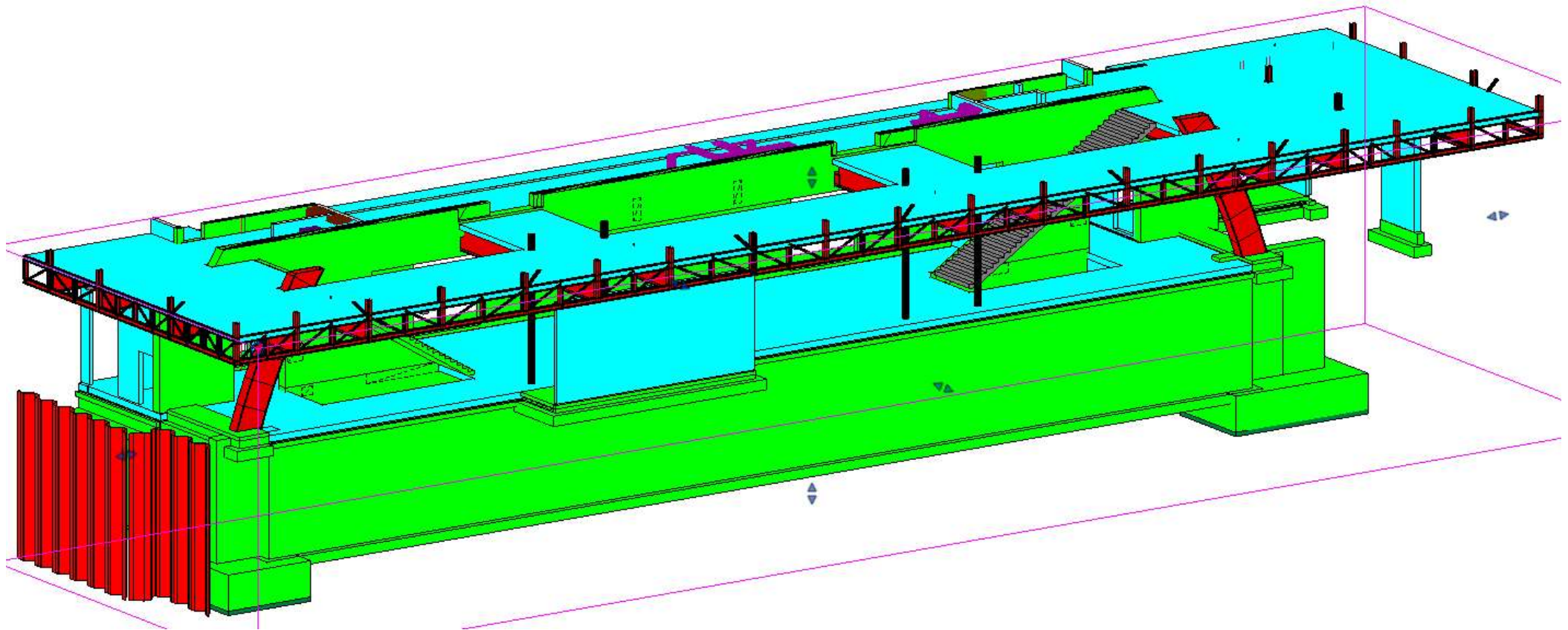




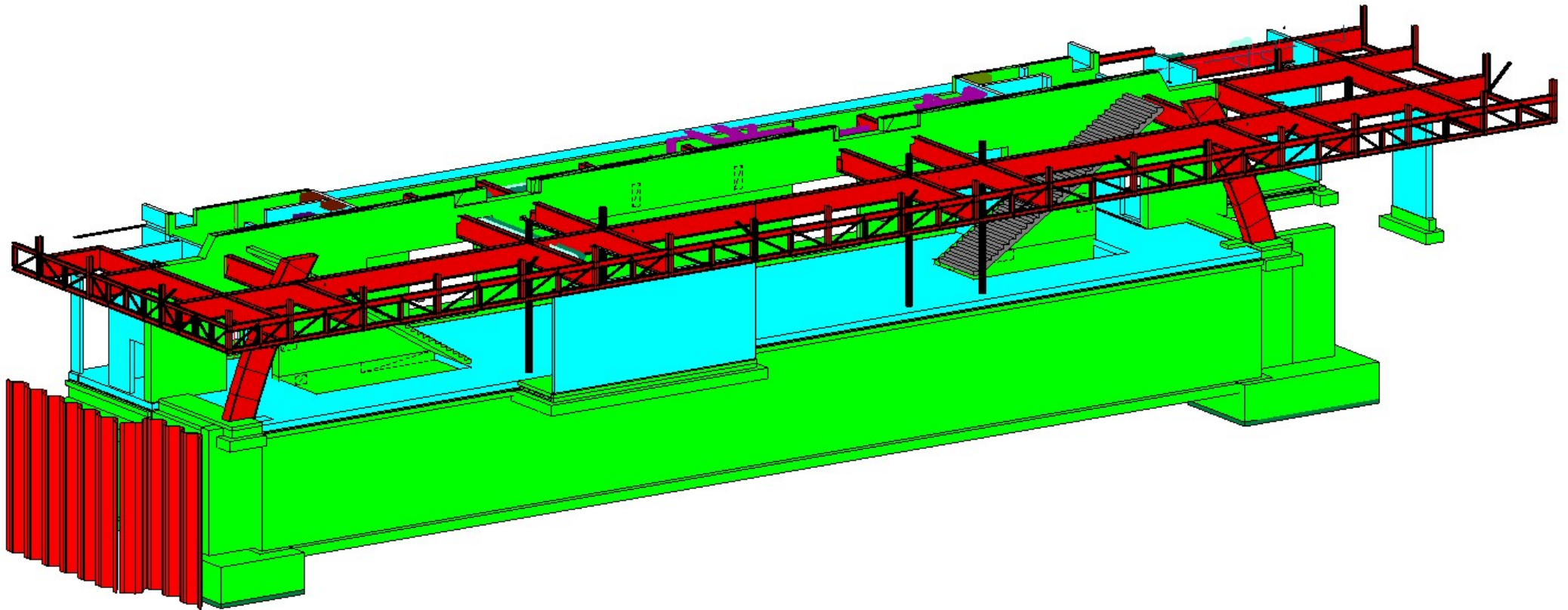
PLADSSTØBT VÆGSKIVE







BJÆLKER. UDKRAGNING. VIBRATIONER

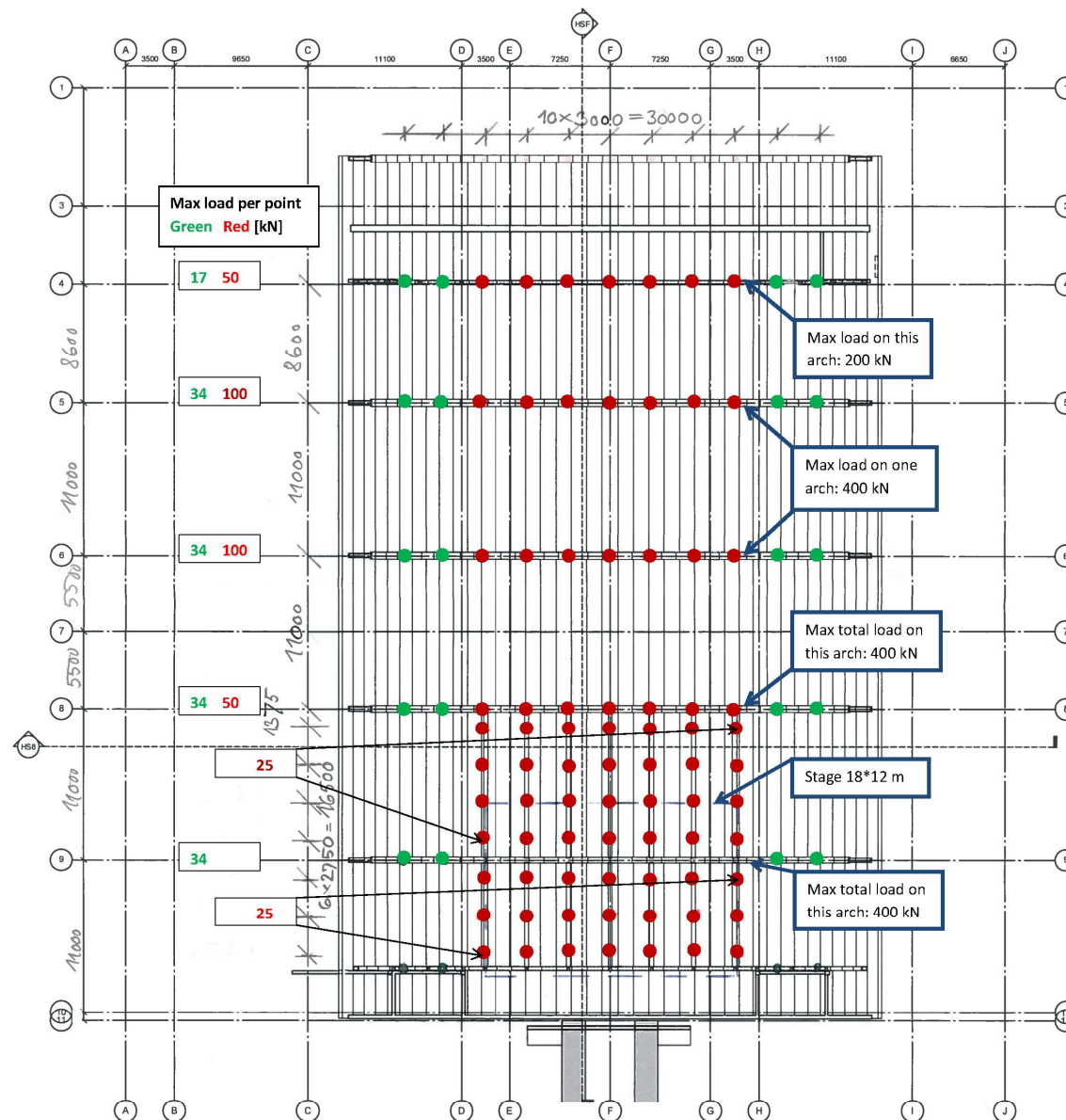




KB HALLEN
2016-11-10



UDSTYR OPHÆNGES I TAGET



Equipment hanging from thre roof

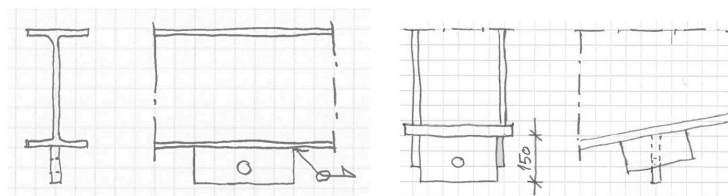
The load at each load point is vertical.

Max total load: 500 kN (50 tonnes).

Max load directly on one arch: 400 kN or 200 kN. See above.

Central 18 m: Red points. Outer areas: Green points.

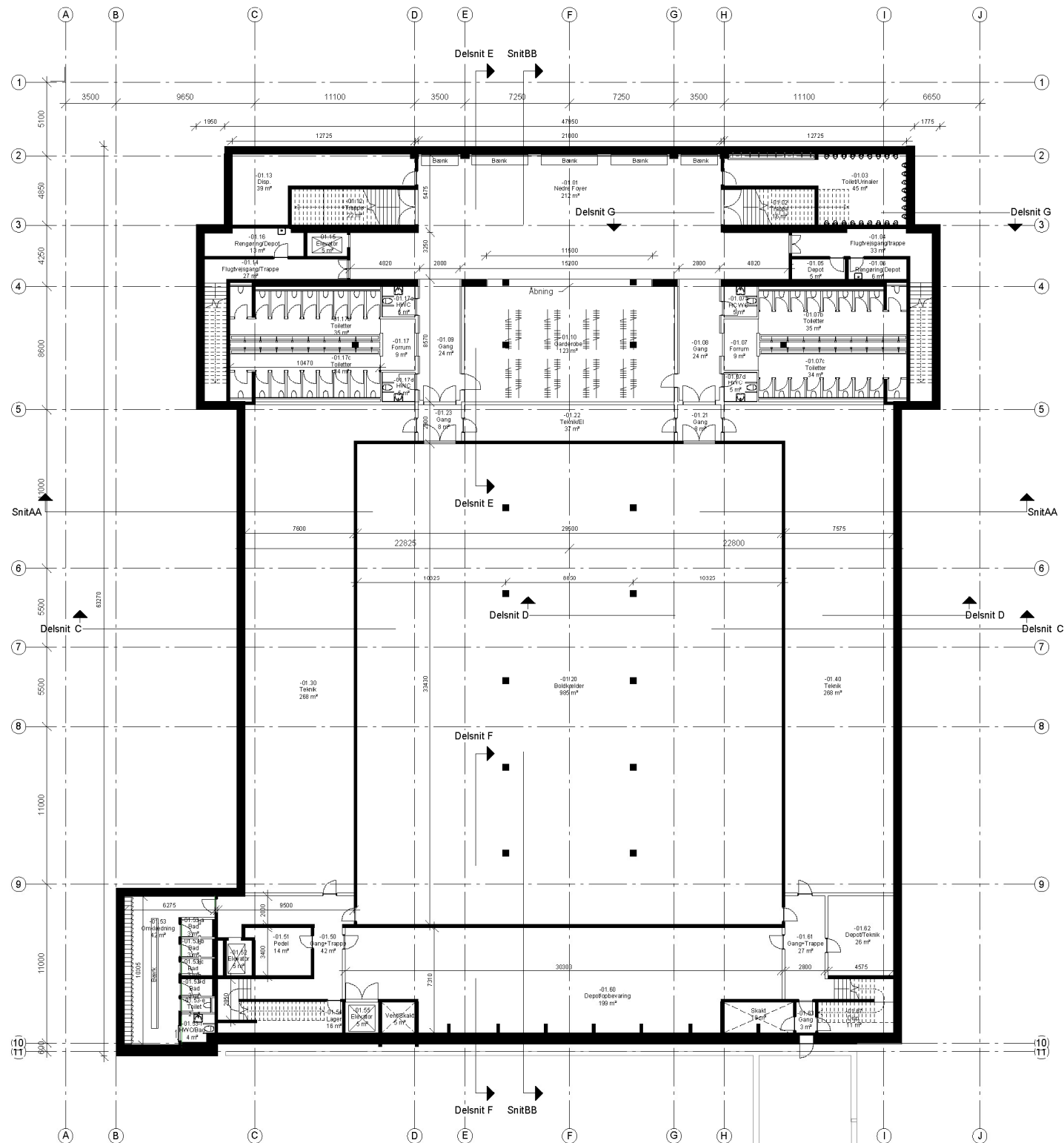
Prepared rig points are shown at details 1 and 2, beside.



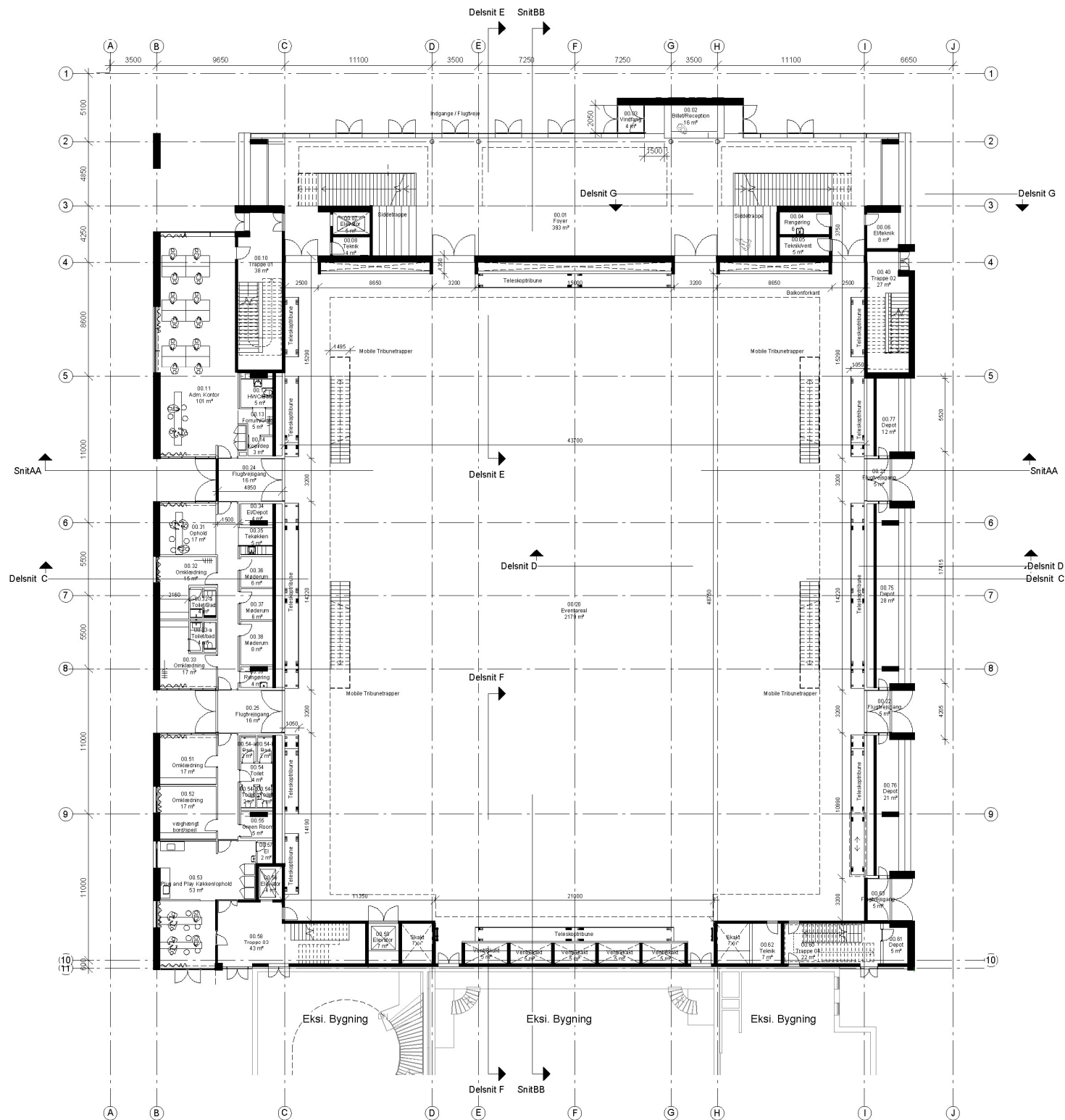
Detail 1. Principle of 25 kN rig point at I-girders between grid line 8 and 10.

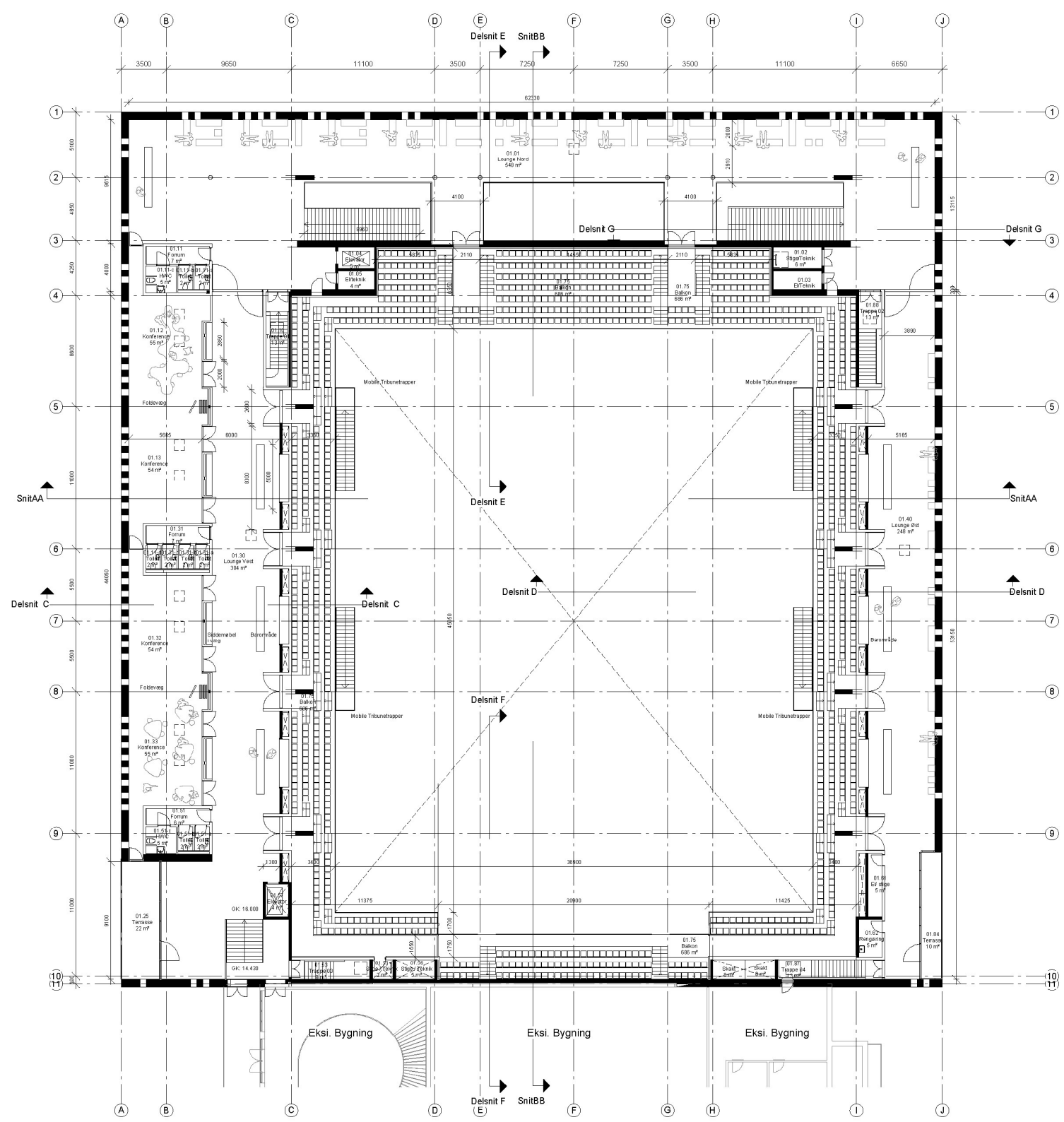
Detail 2. Principle of 100 kN and 50 kN rig point at box-girders between grid line 5 and 8. A different detail will be needed at grid line 4.

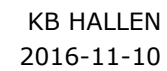
KÆLDER TEKNIK OG BOLDSPIL



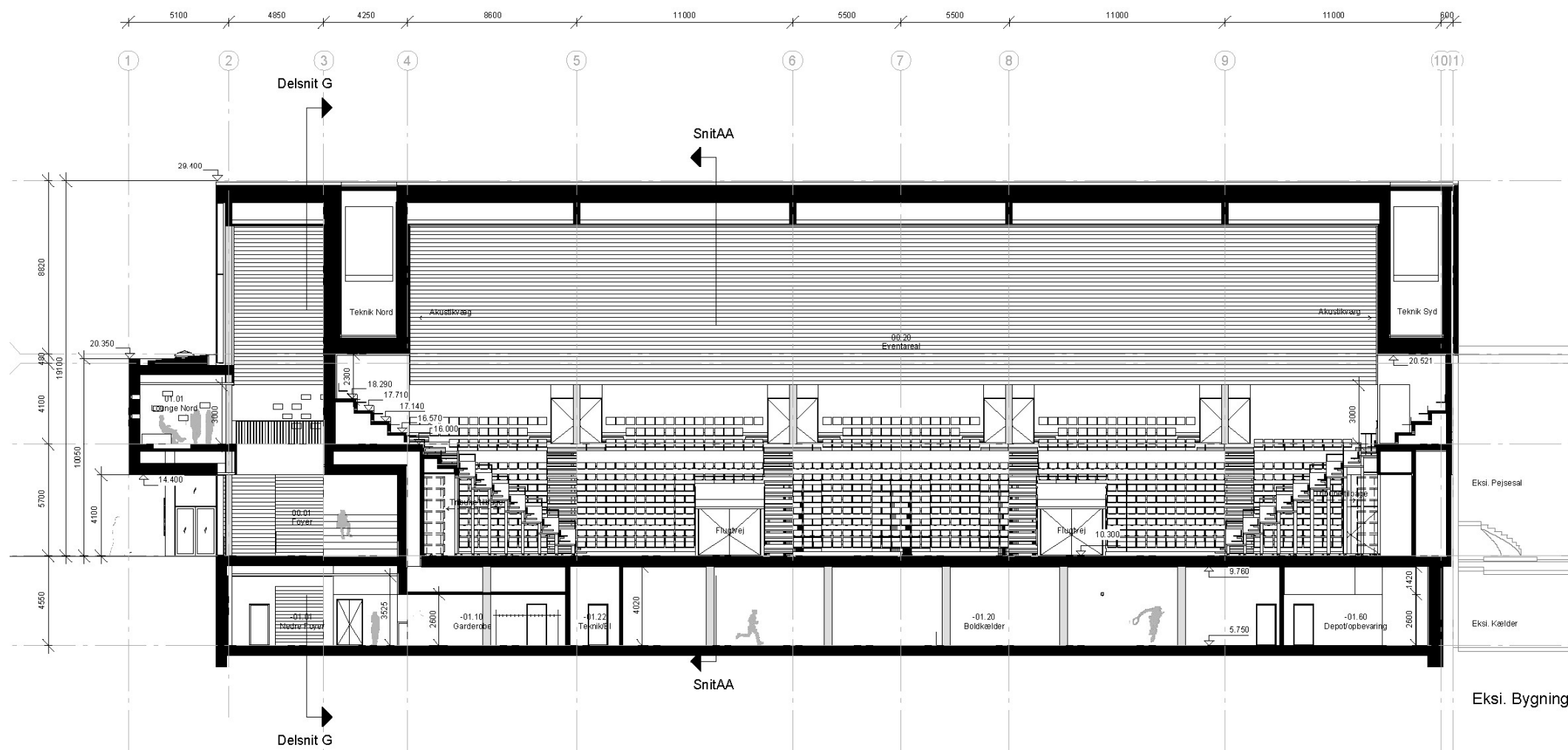
LEVEL 0 HALLEN







LÆNGDESNIIT



KONKLUSION

- DNA. Traditioner og image
- Ny bygning
- Nye funktionskrav
- Nye rum
- Nye normer og byggetraditioner
- Hallen åbner april 2018



Tak

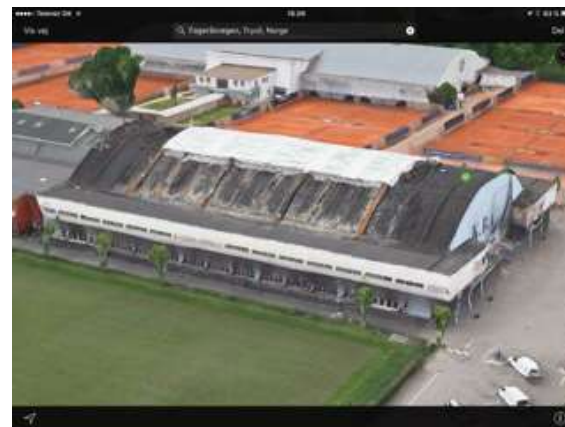
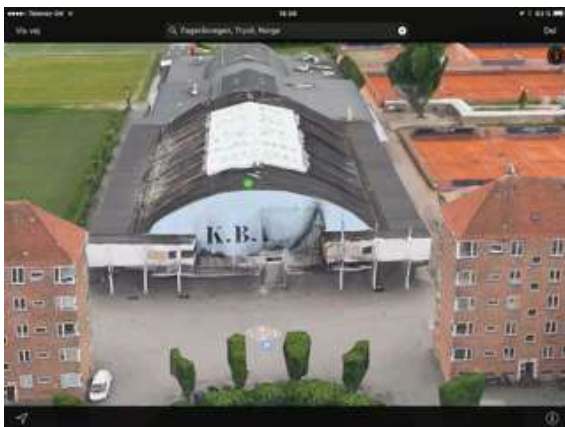
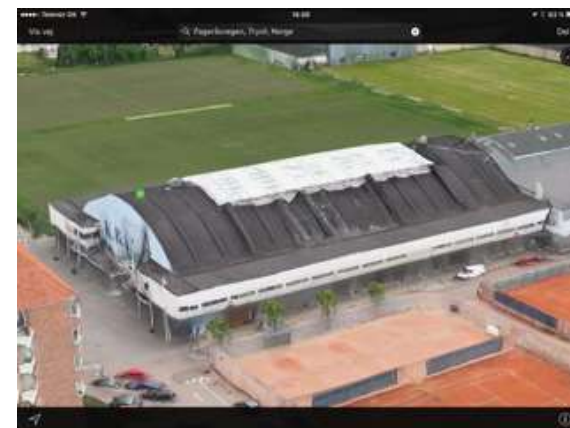
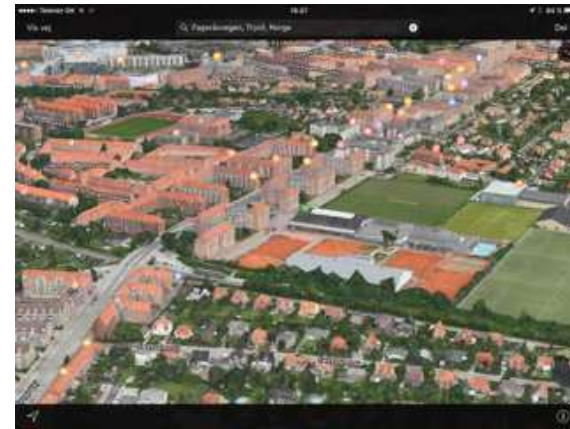
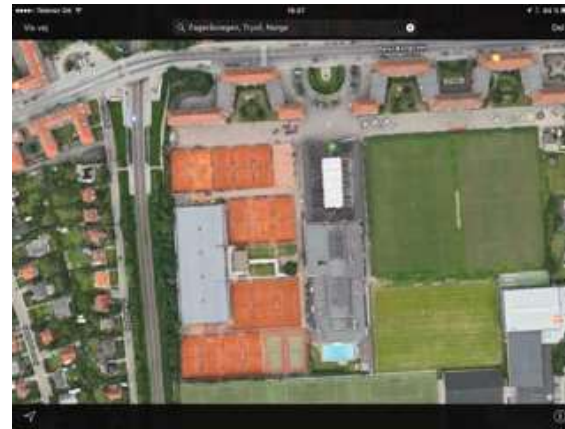
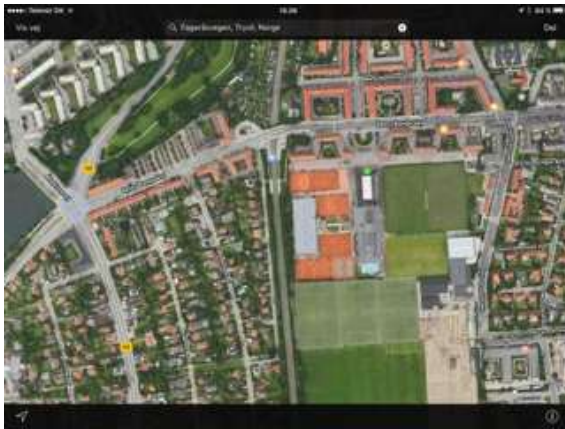
DISPOSITION

FOKUSPUNKTER FOR INGENIØREN

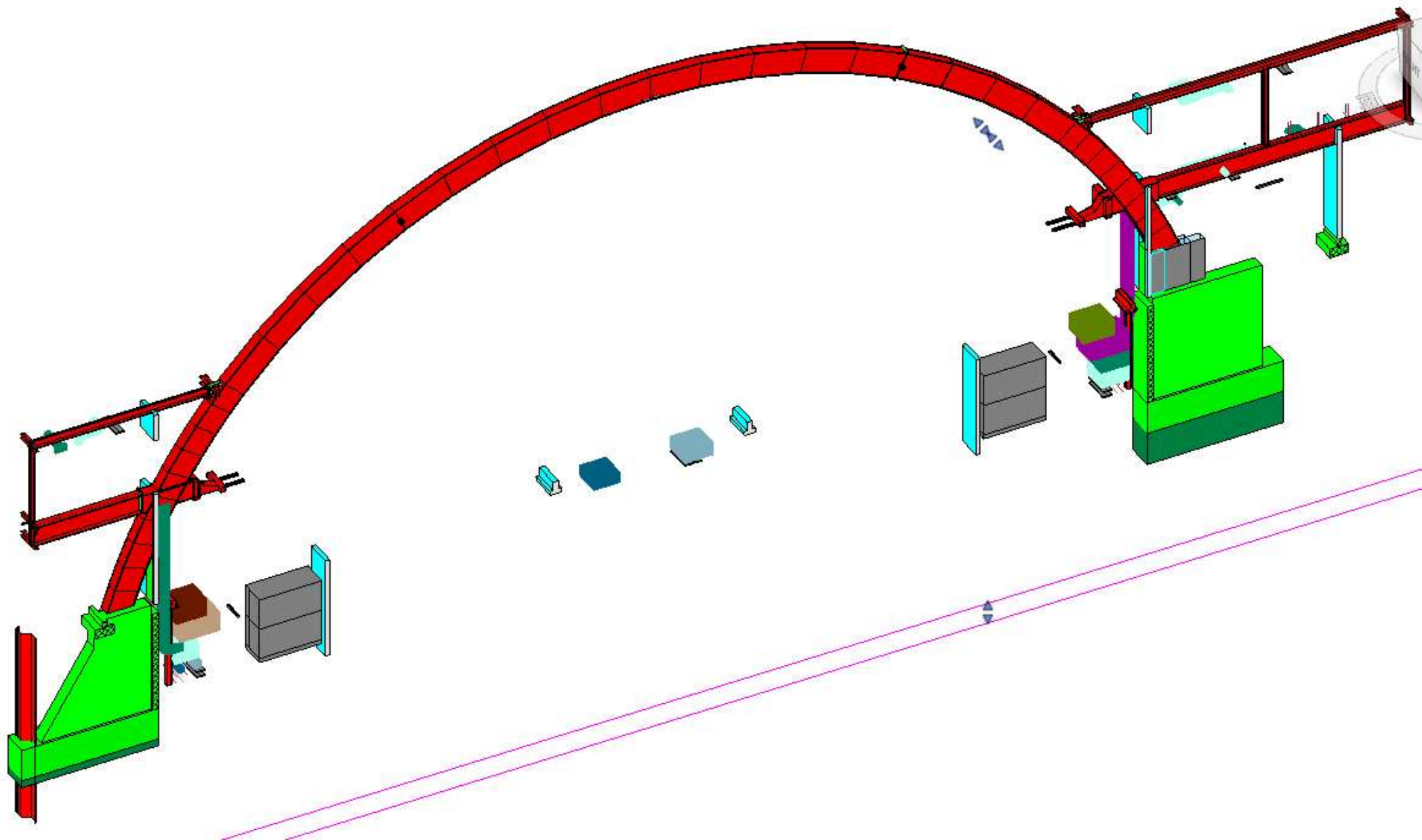
- Inspiration fra den brændte hal. K. B.
- Det er et nyt projekt
- Størrelse og anvendelse
- Det cirkulære buetag
Lydisolation. Akustik
Ophængt udstyr
Last på buerne
- Skiven
Ingen søjler langs østsiden aht. kørsel.
Søjler i vestsiden
Skiven er delvis ophængt i buerne.
Dynamik

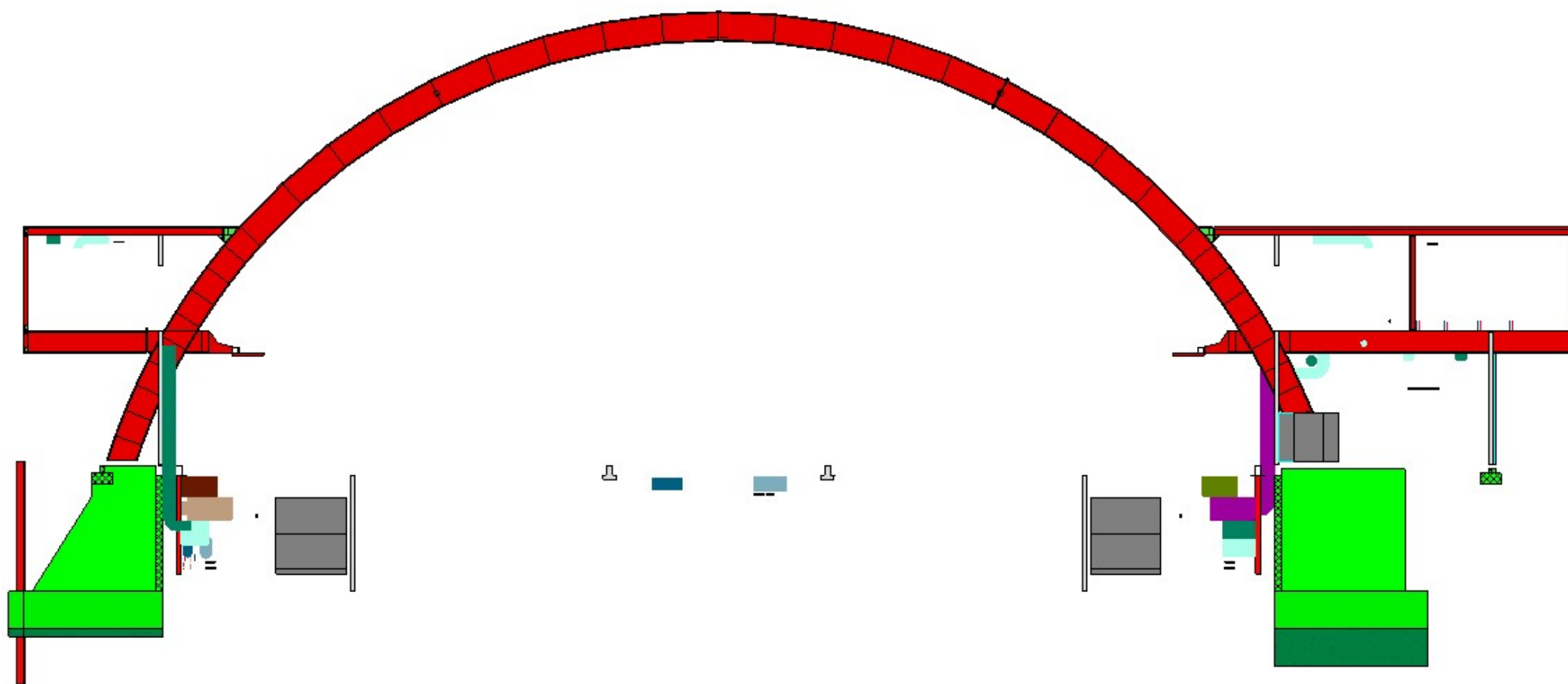
- Dynamisk sammenhæng. Buerne er tunge, skiven lettere.
- Flexibilitet i brug
Koncert. Sport. Konferencer
Tilskuerantal og gulvareal kan varieres. Mobile tribuner.
Scene kan opstilles over hele gulvet.
God akustik inde, også til rockkoncerter
Dæmpet støj ude.
Ophæng af 50 t udstyr i taget
- Faste tribuner ophængt på buer mm.
- Foyeren er ny.
In situ beton, mindre normalt i DK end udenfor
Væggen i foyeren

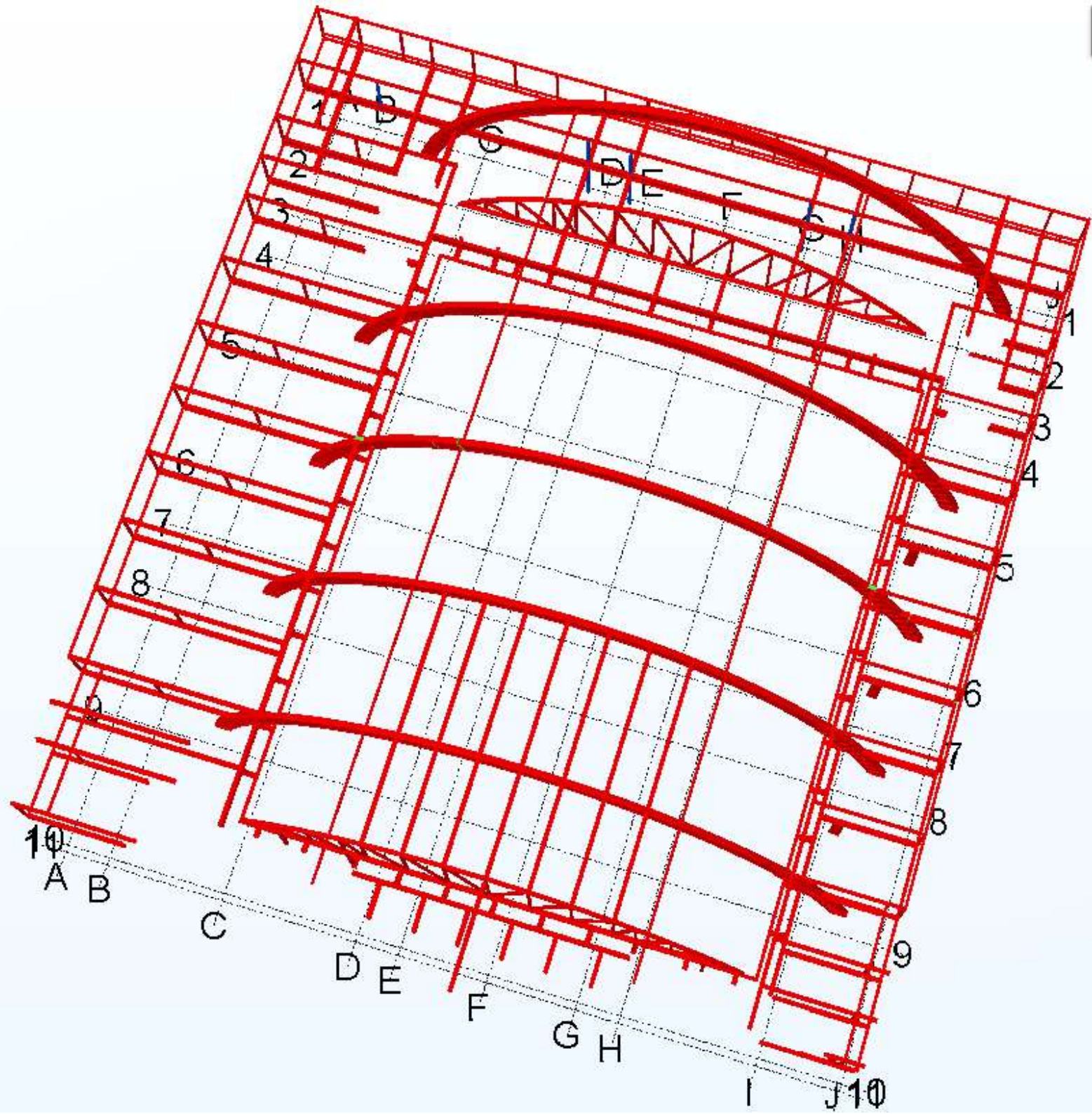
- Boldspilrum i kælderen
- Installationer fylder godt op.
- 3D projektering
- Krav til konstruktioner
 - Uafhængig tredjepartskontrol
 - Robusthed dokumenteres.
 - Bevægeligt publikum. Dynamisk last på gulvet og tribunerne
 - Tæt publikum. Fri personbevægelse. Høj frekvens.
 - Arkitektur og funktion med udkragede konstruktioner
-



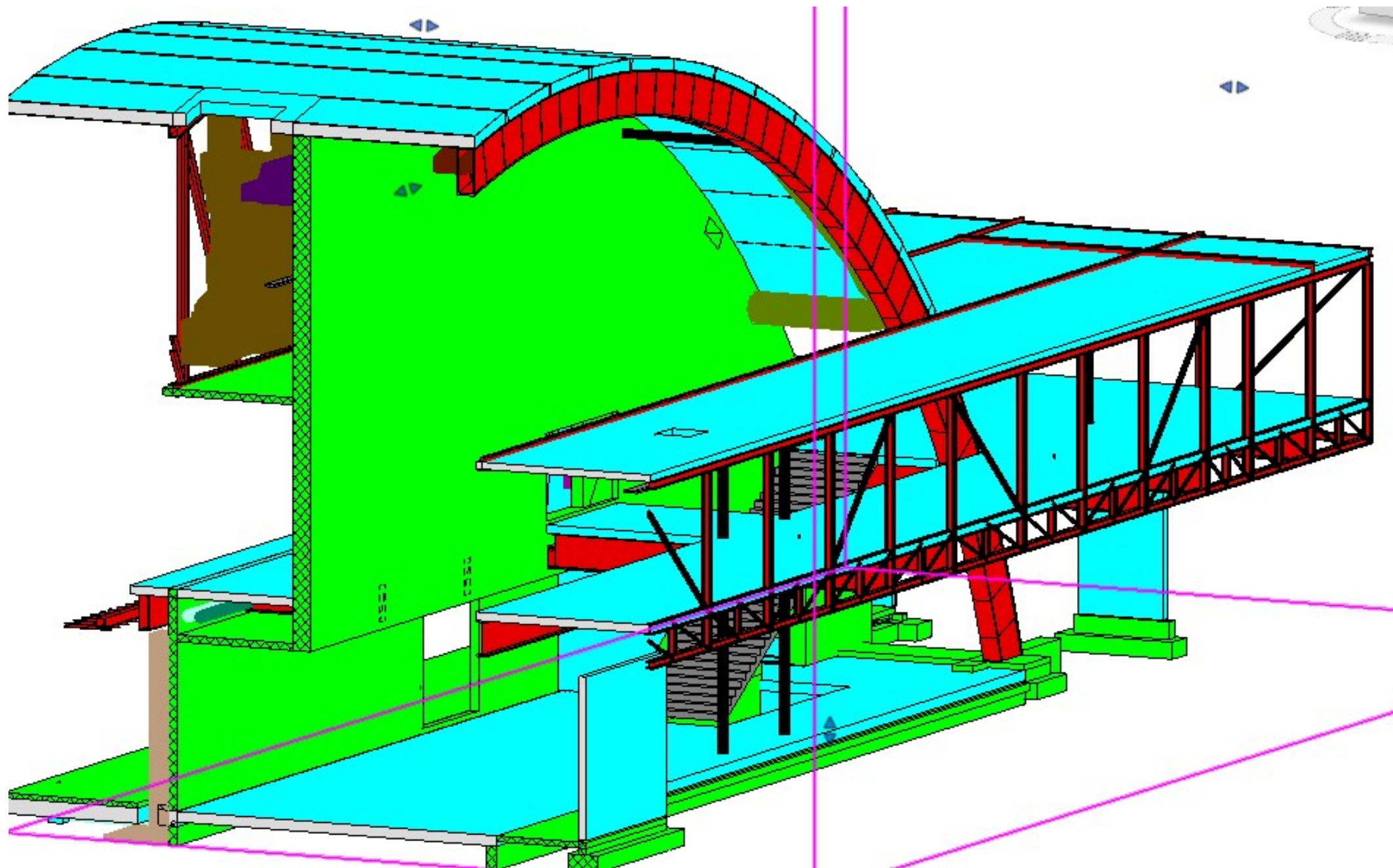


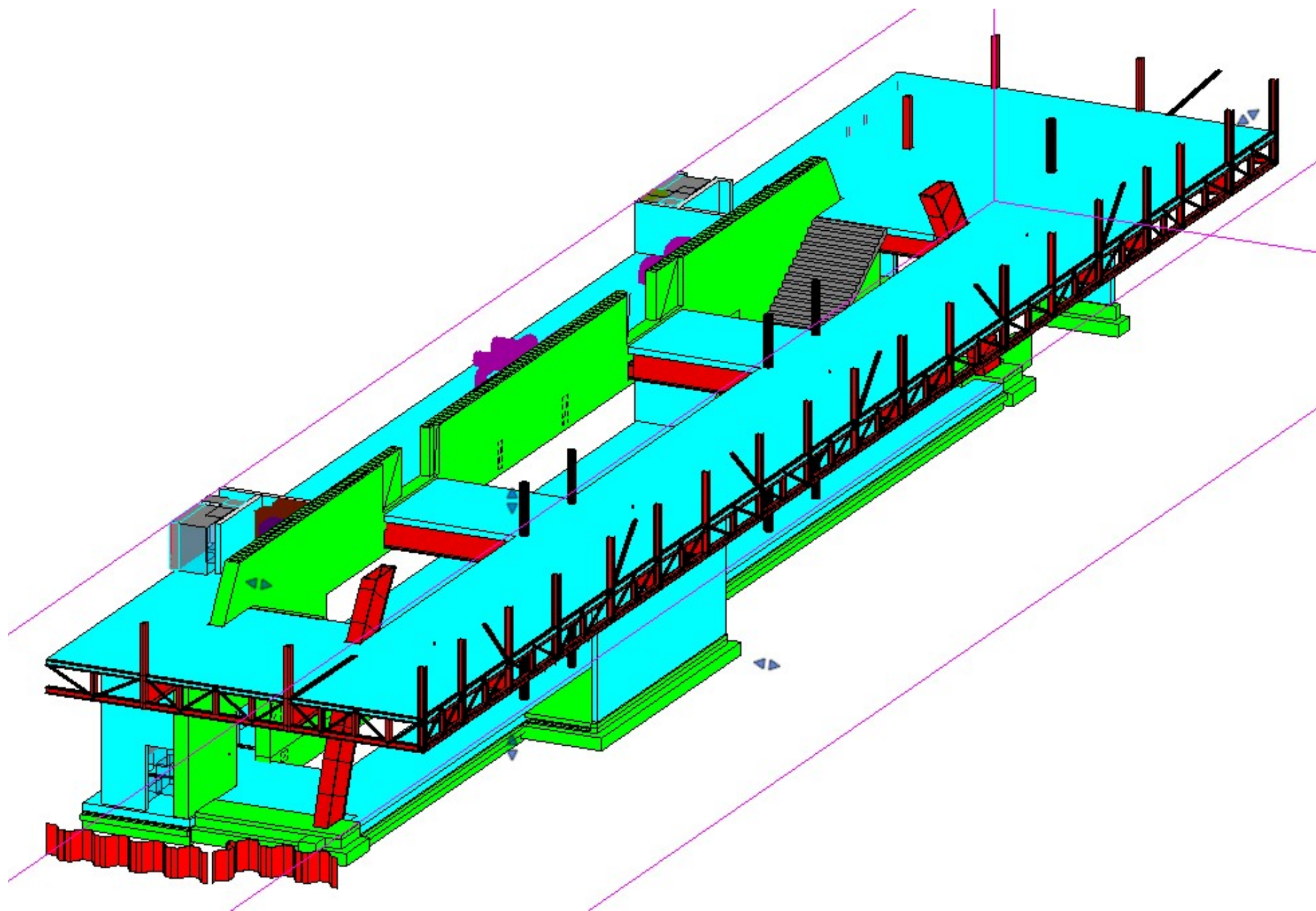


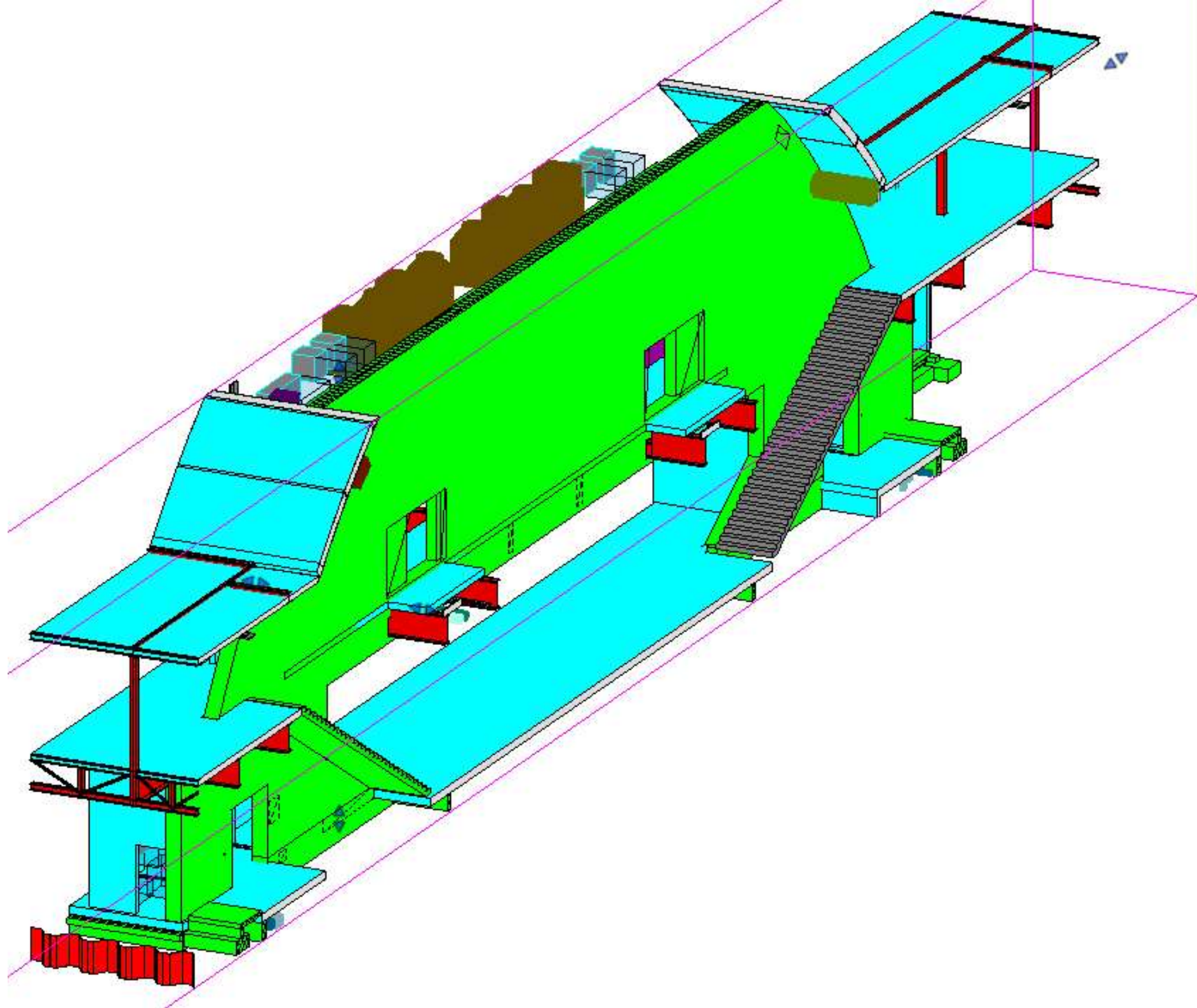


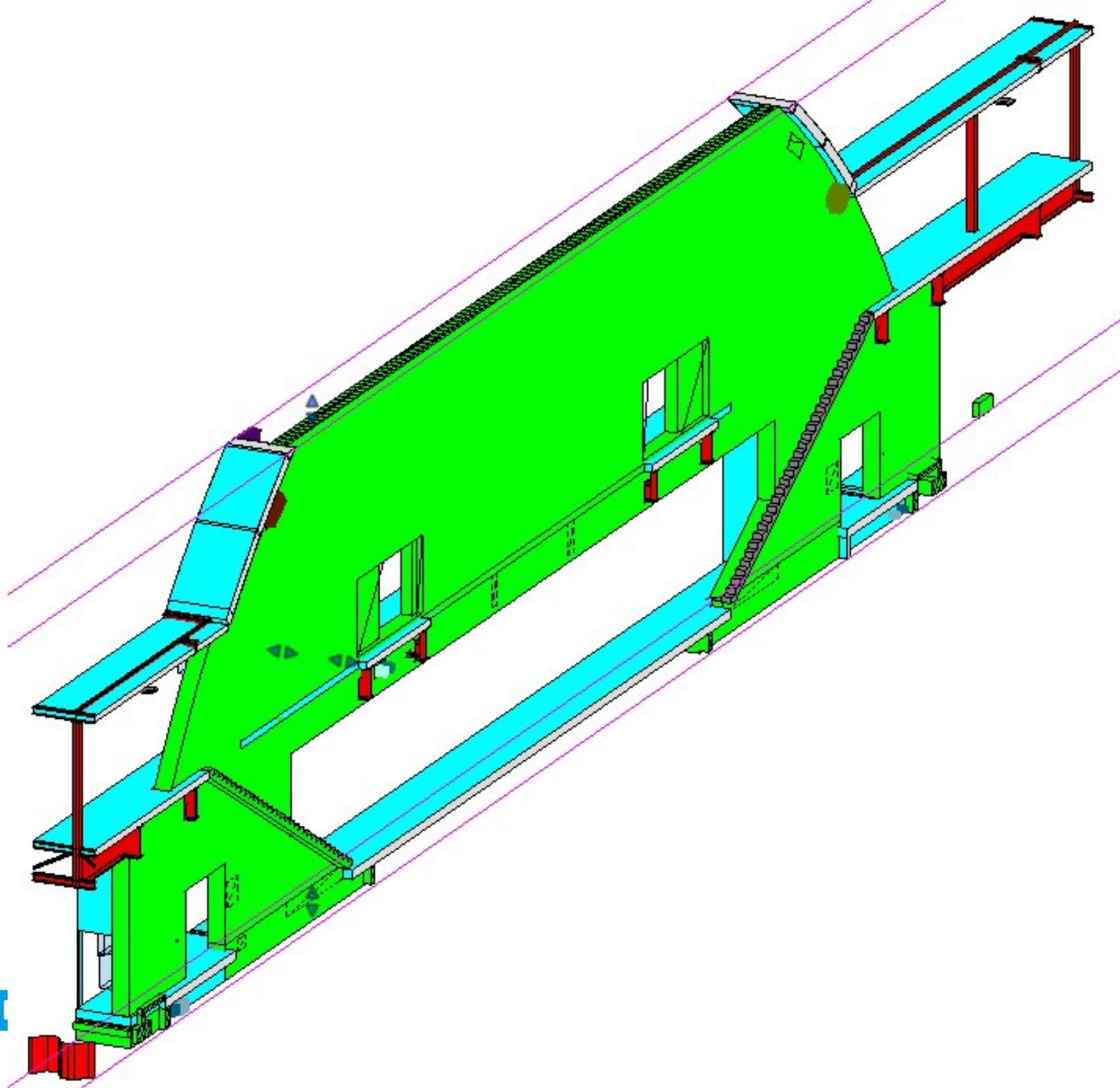


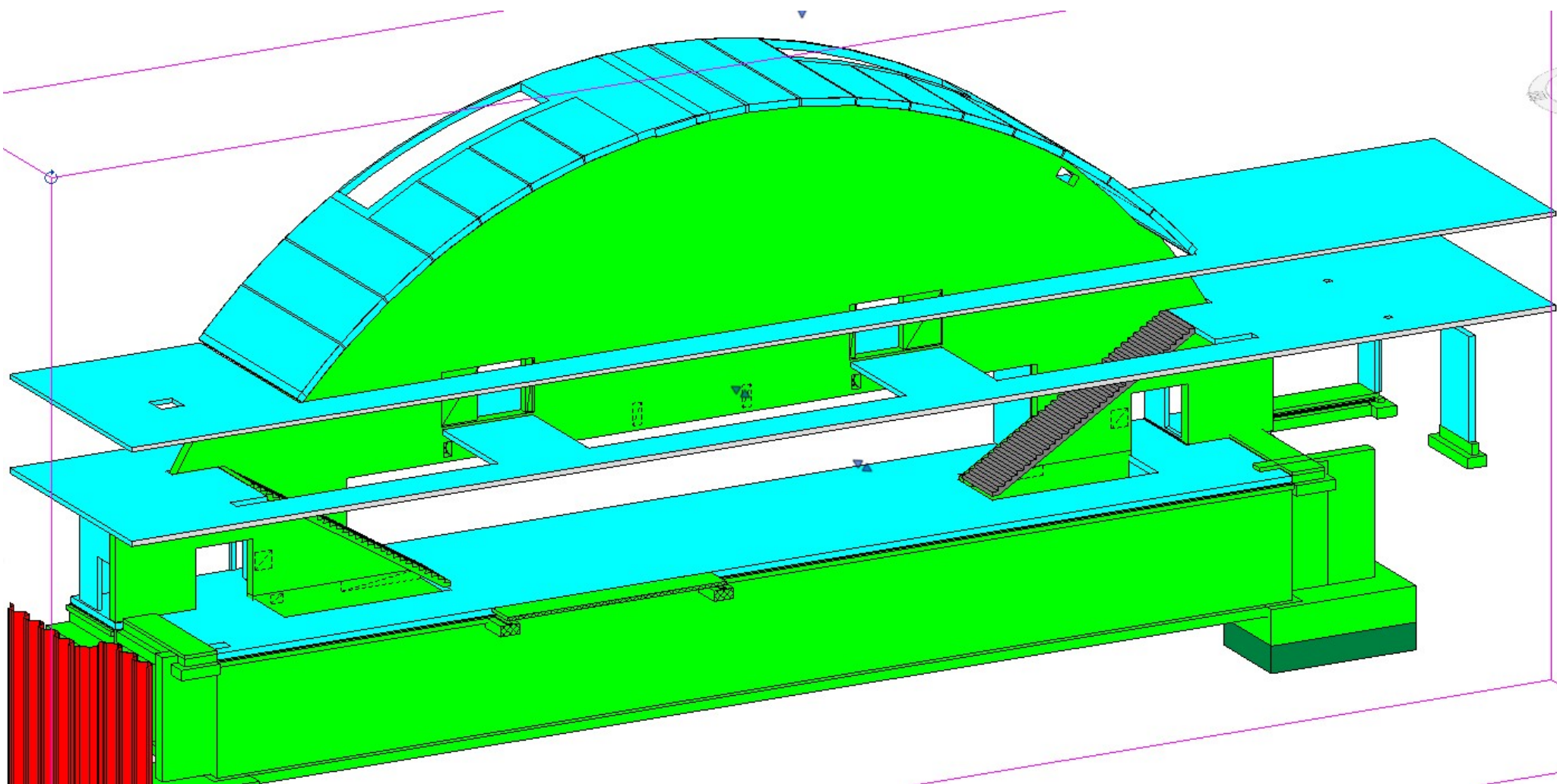


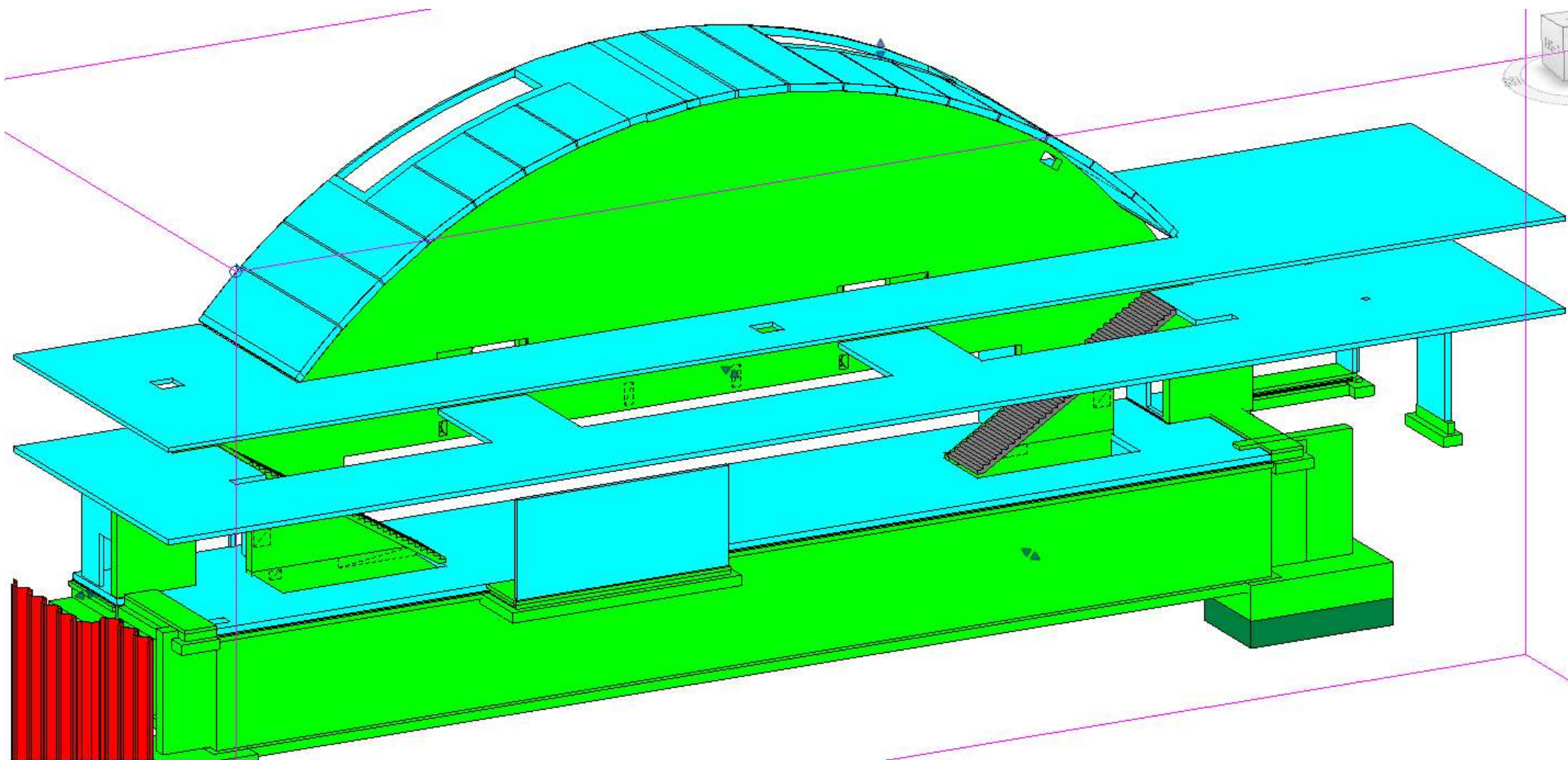


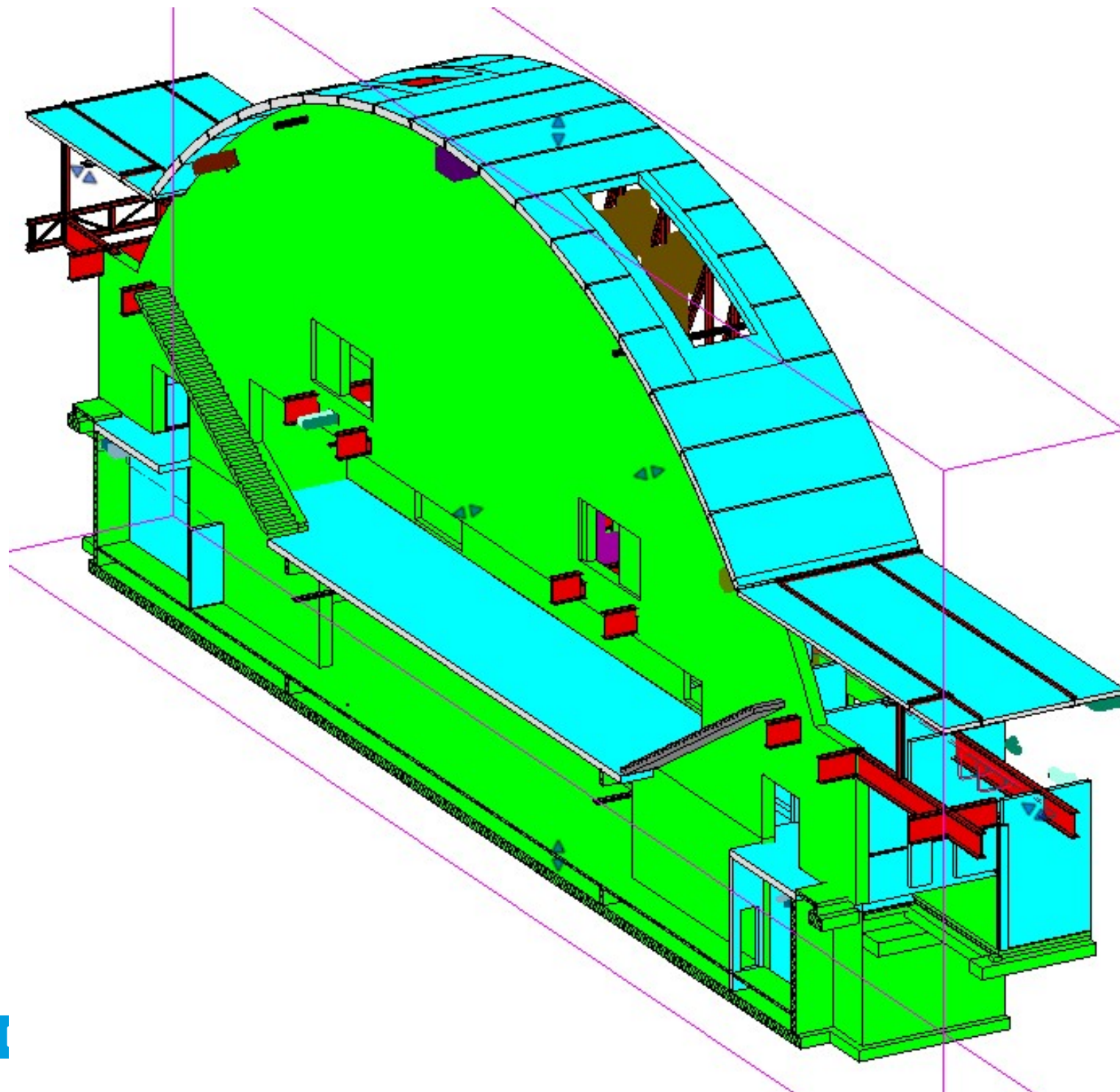


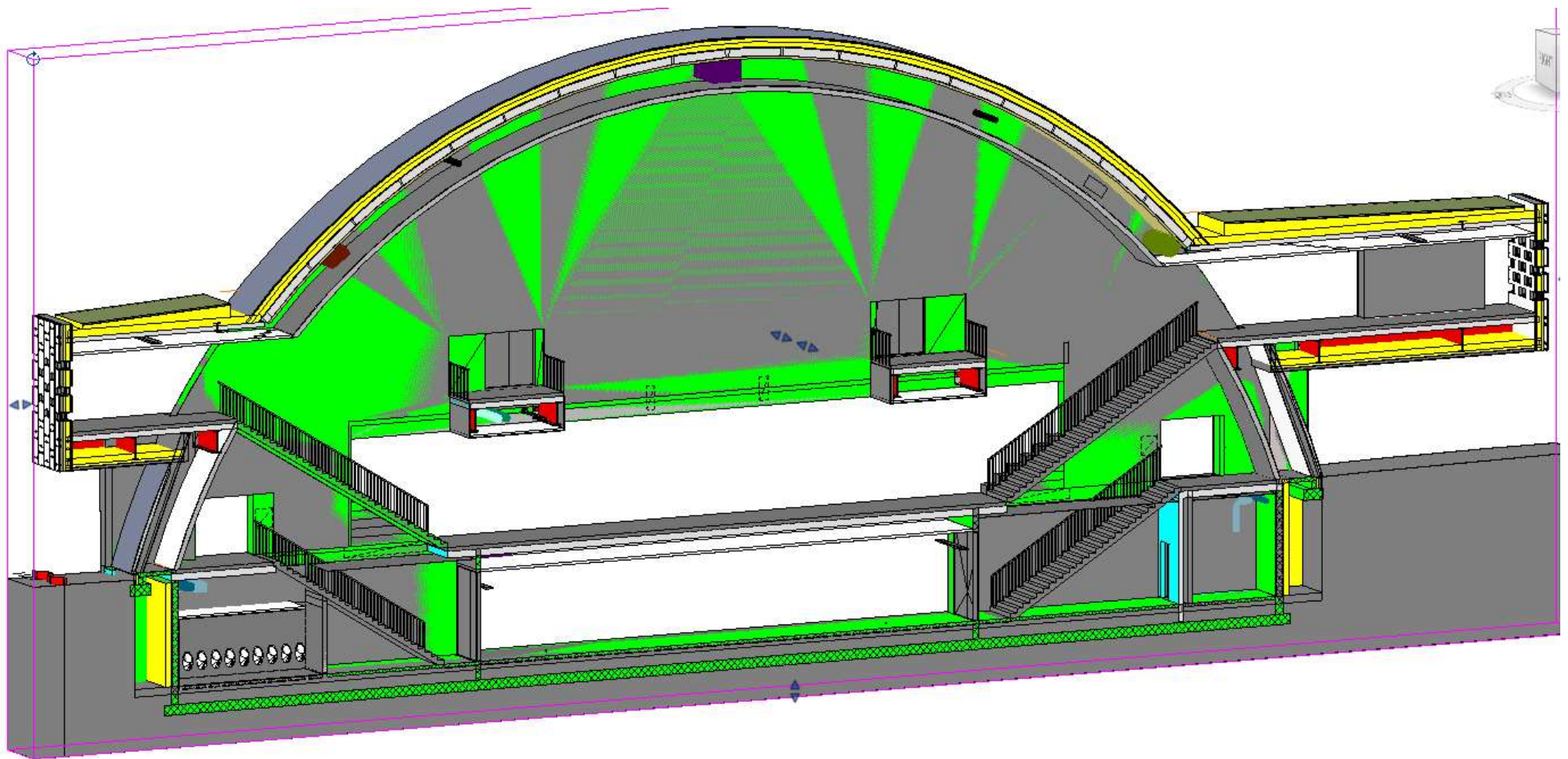


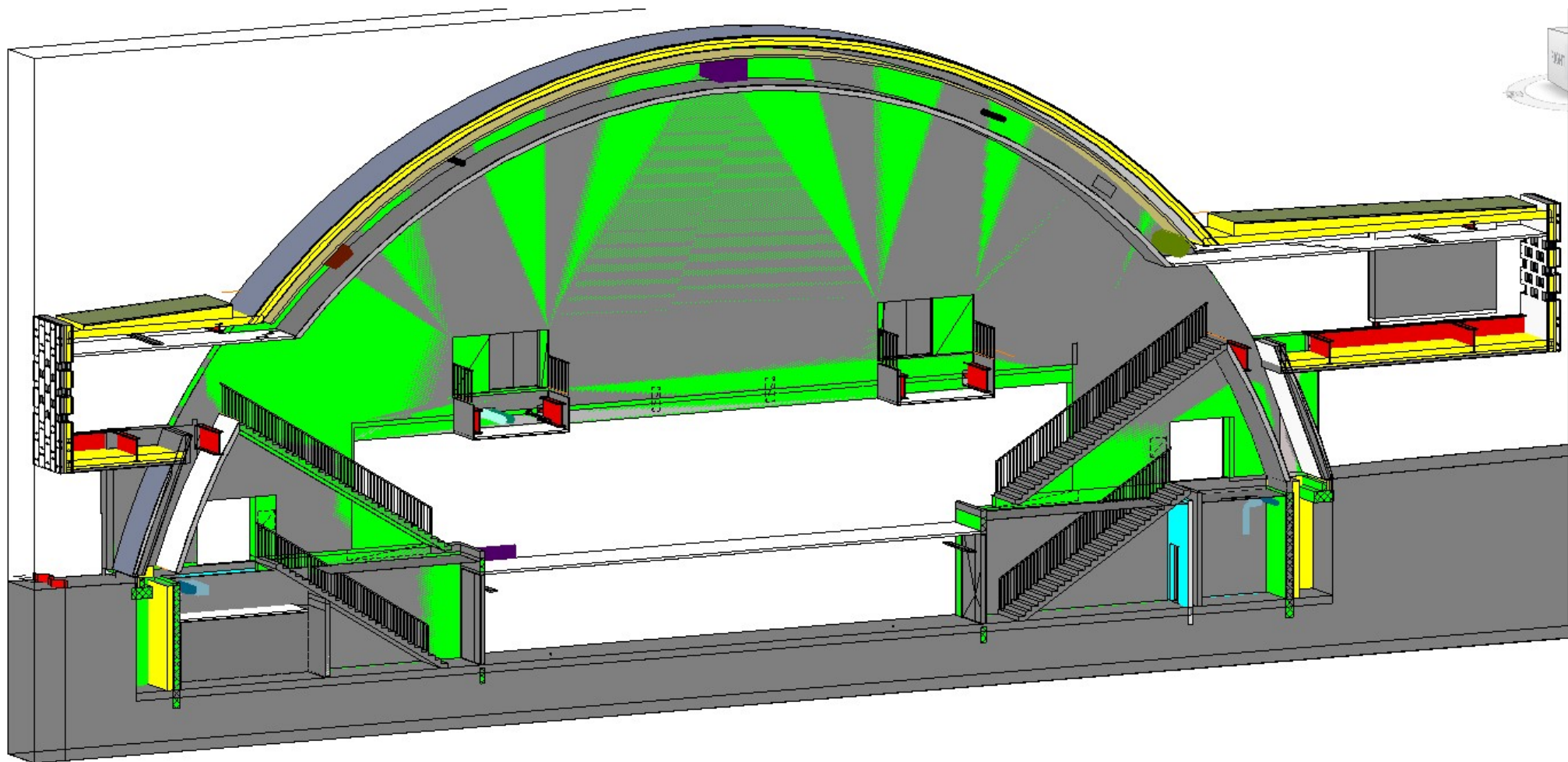


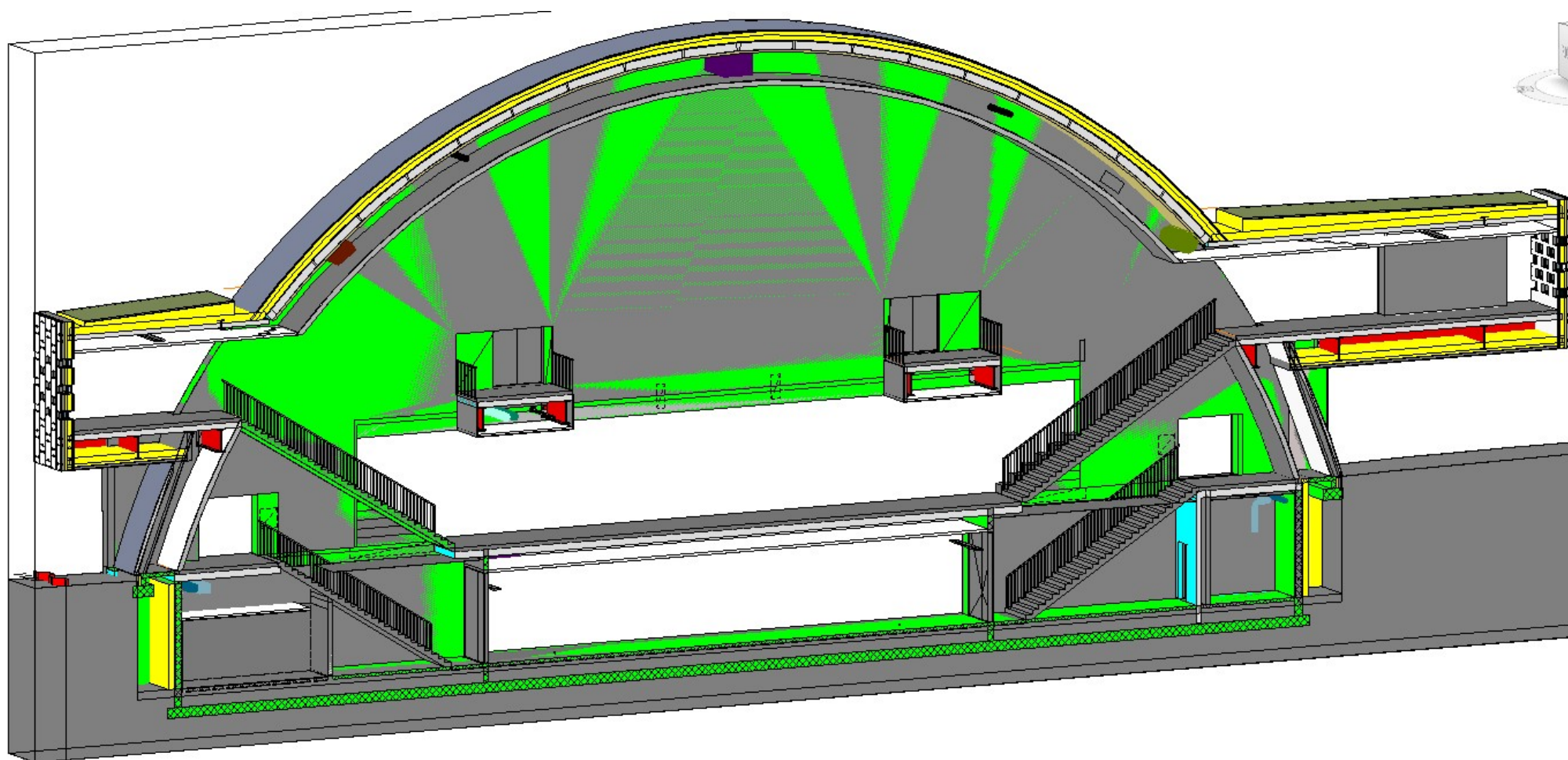


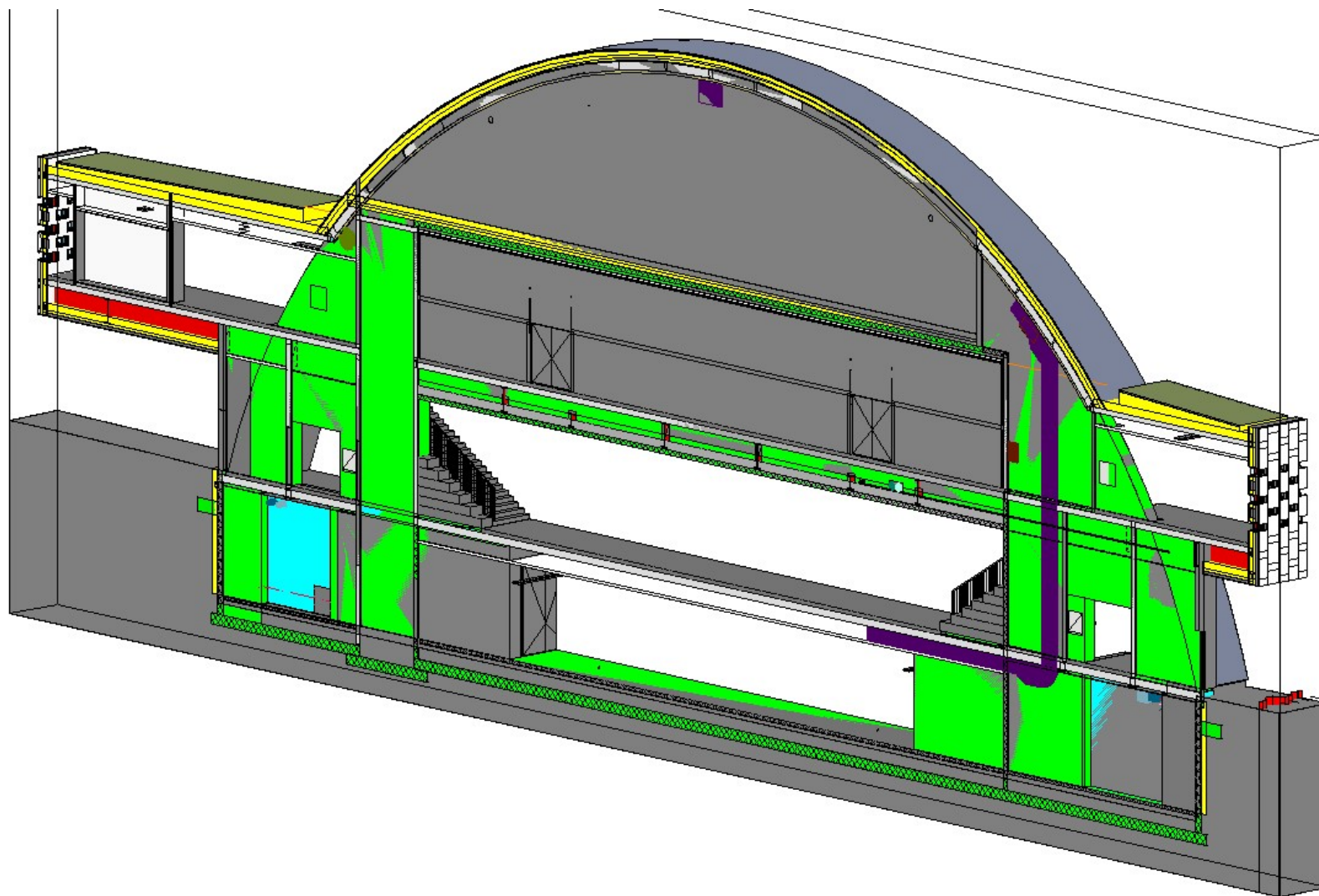


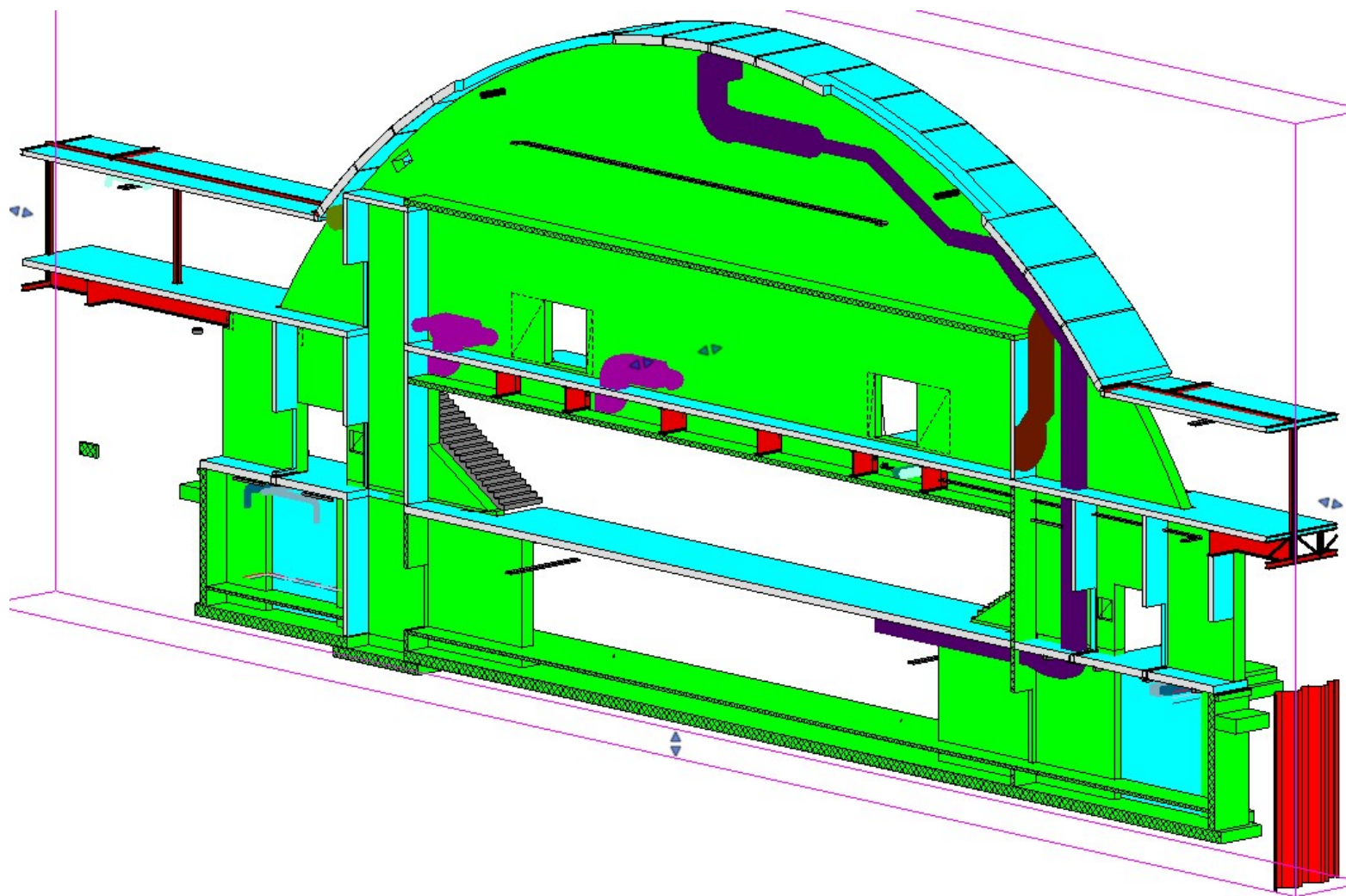


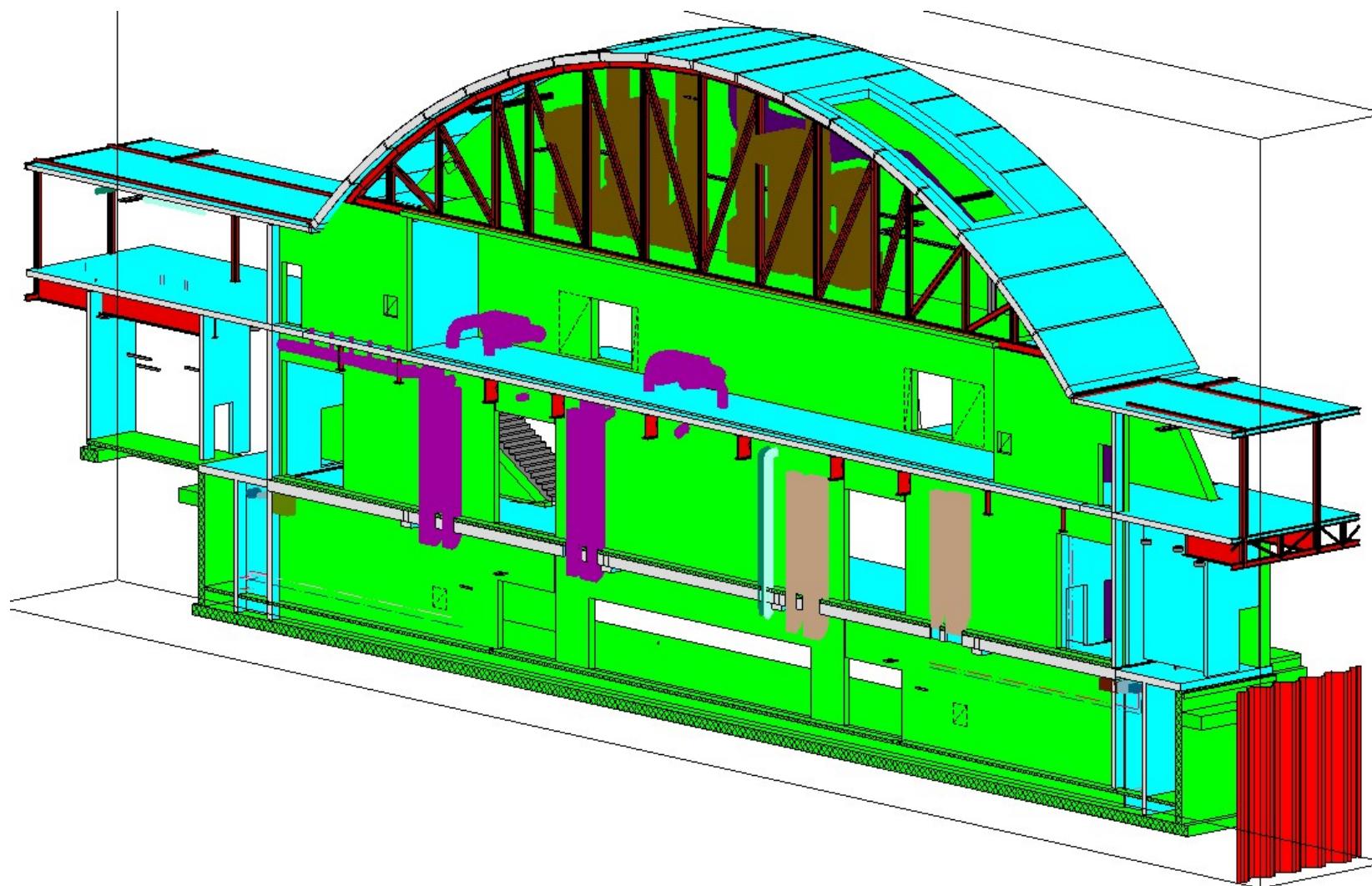


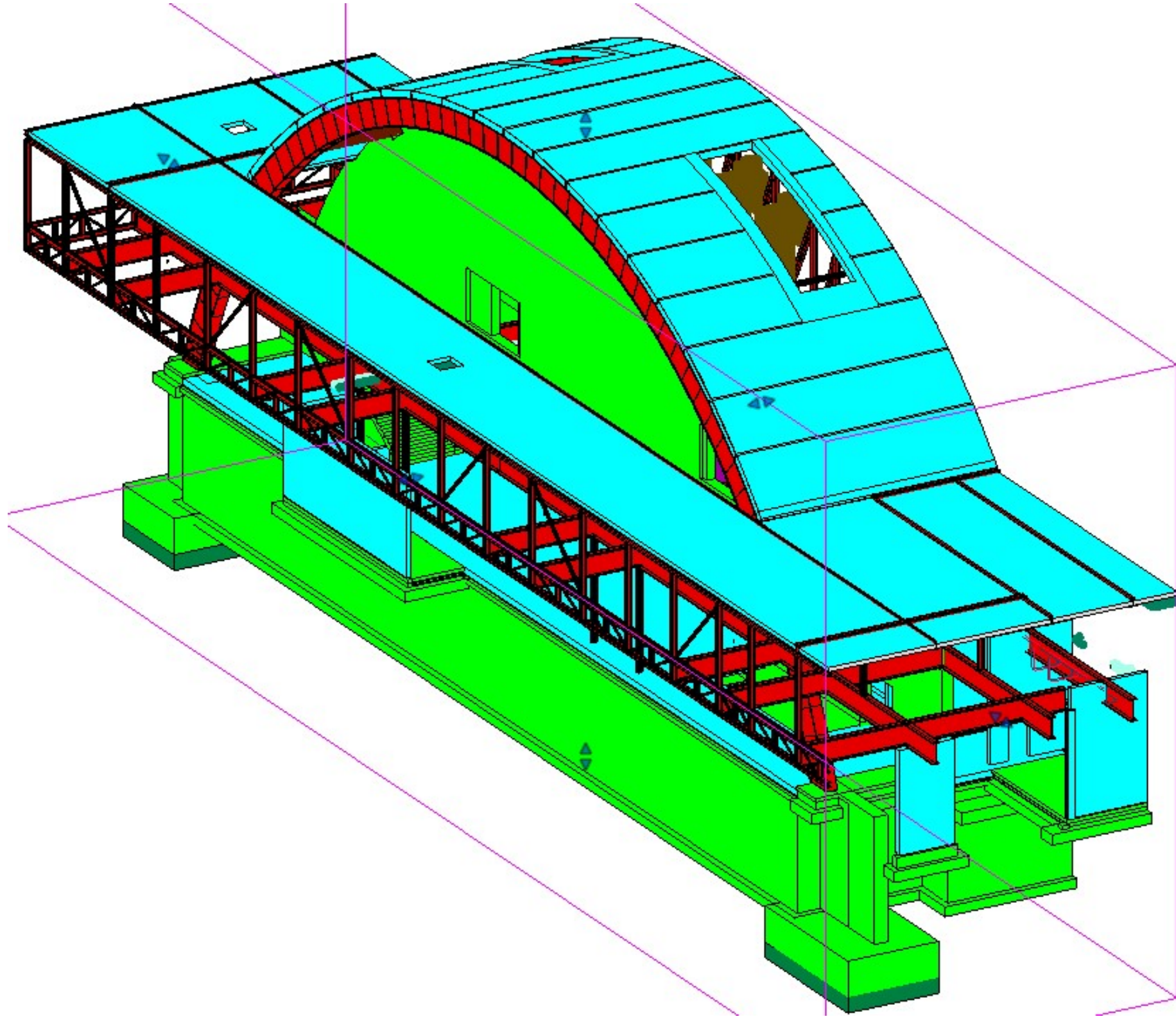


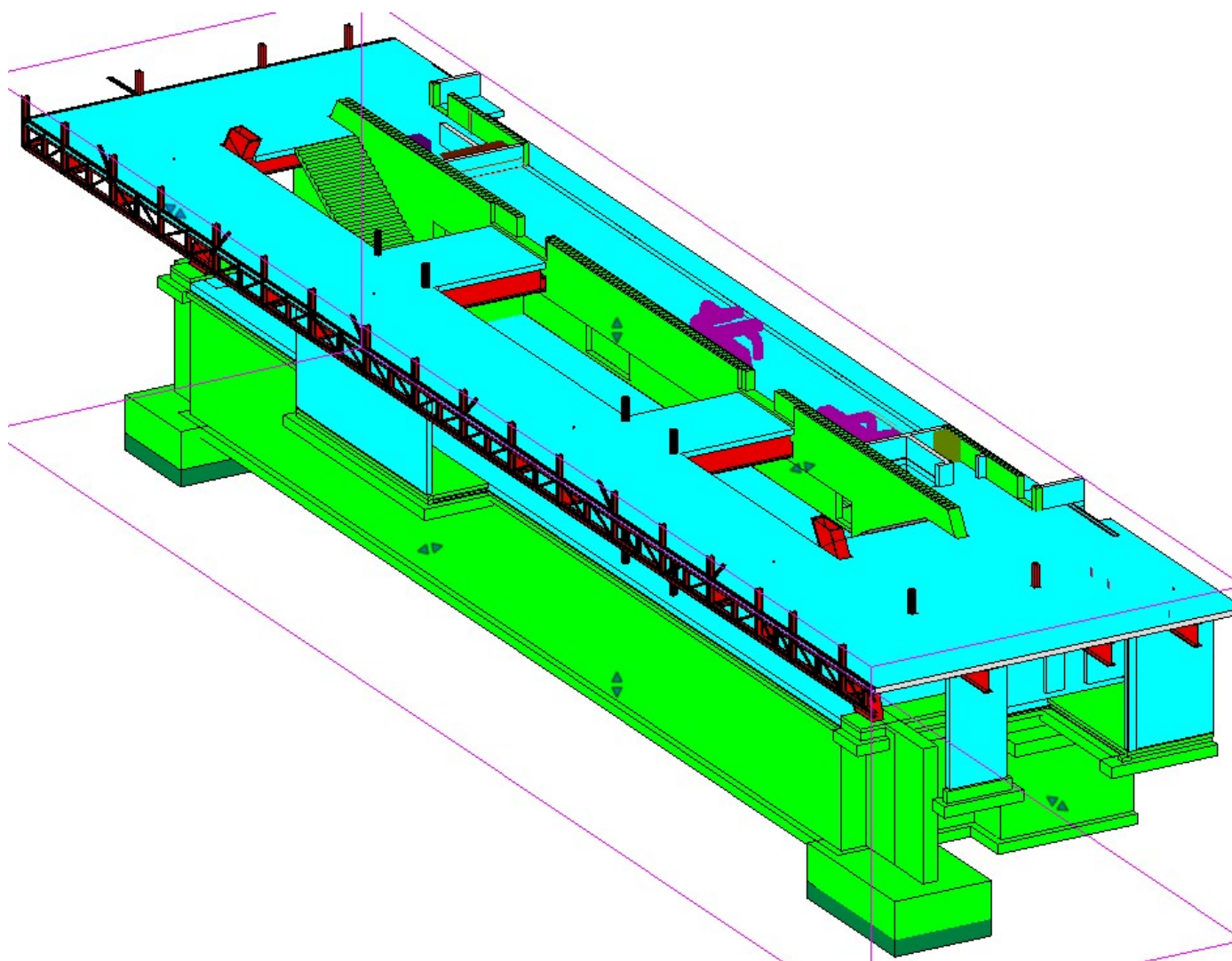


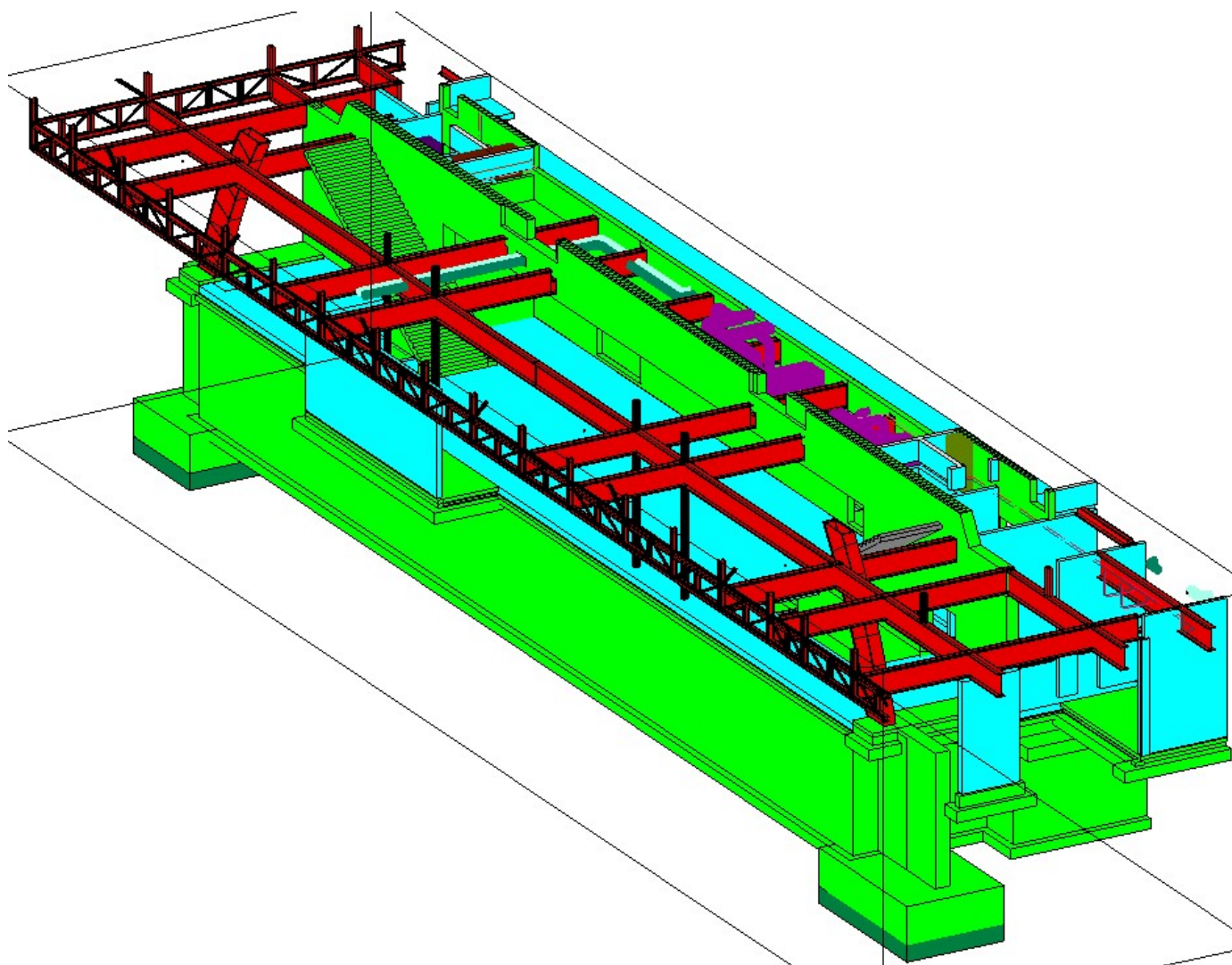


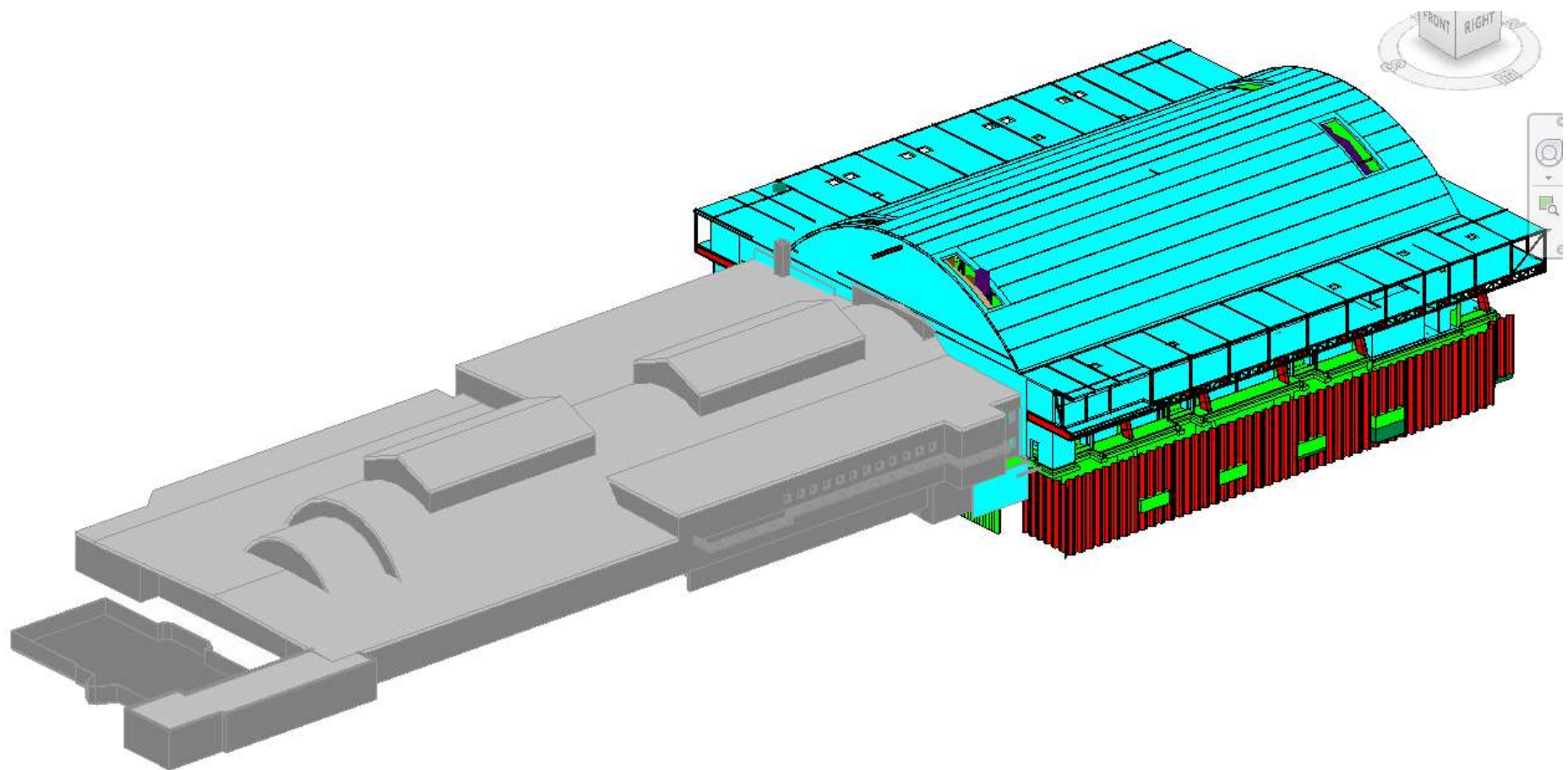


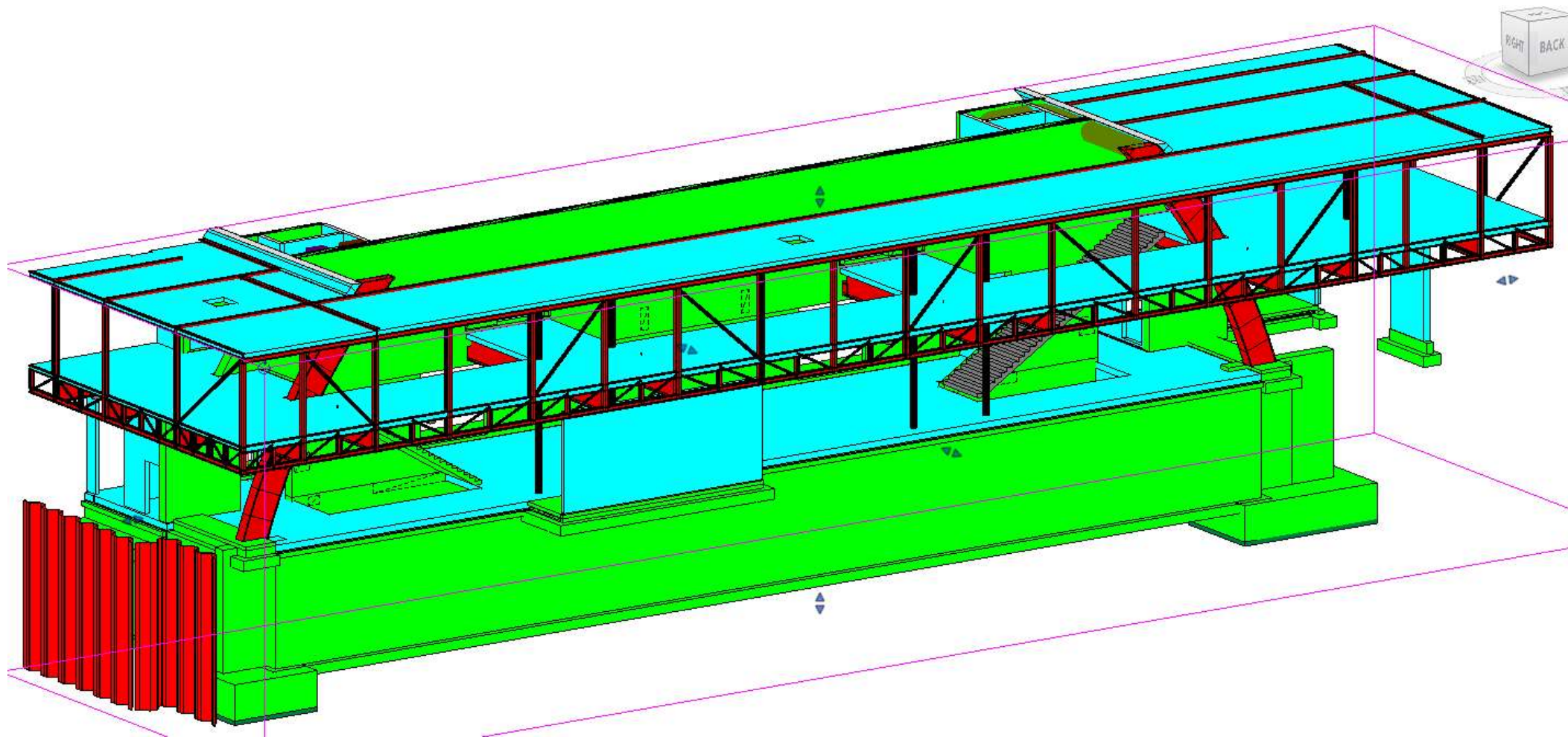


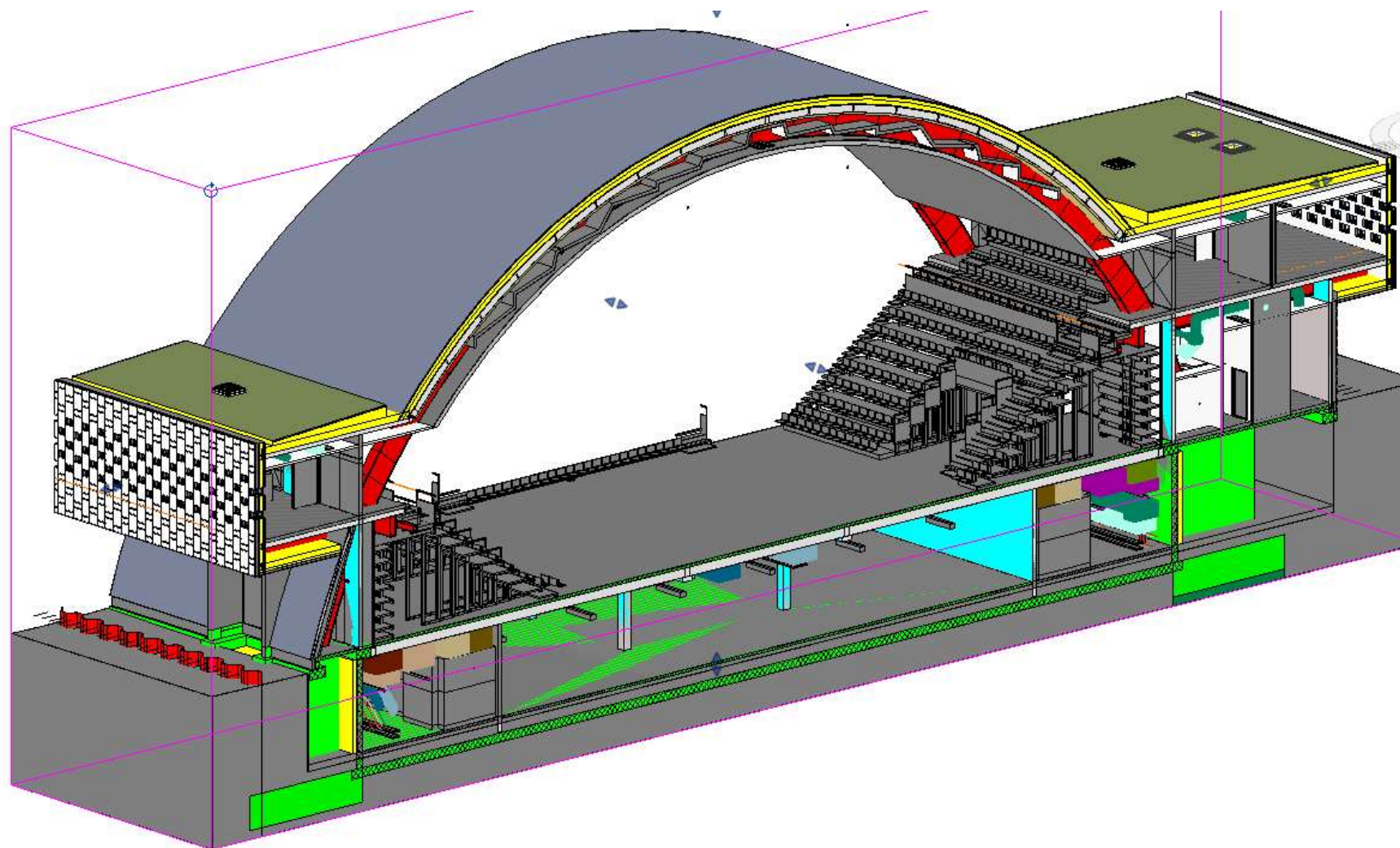


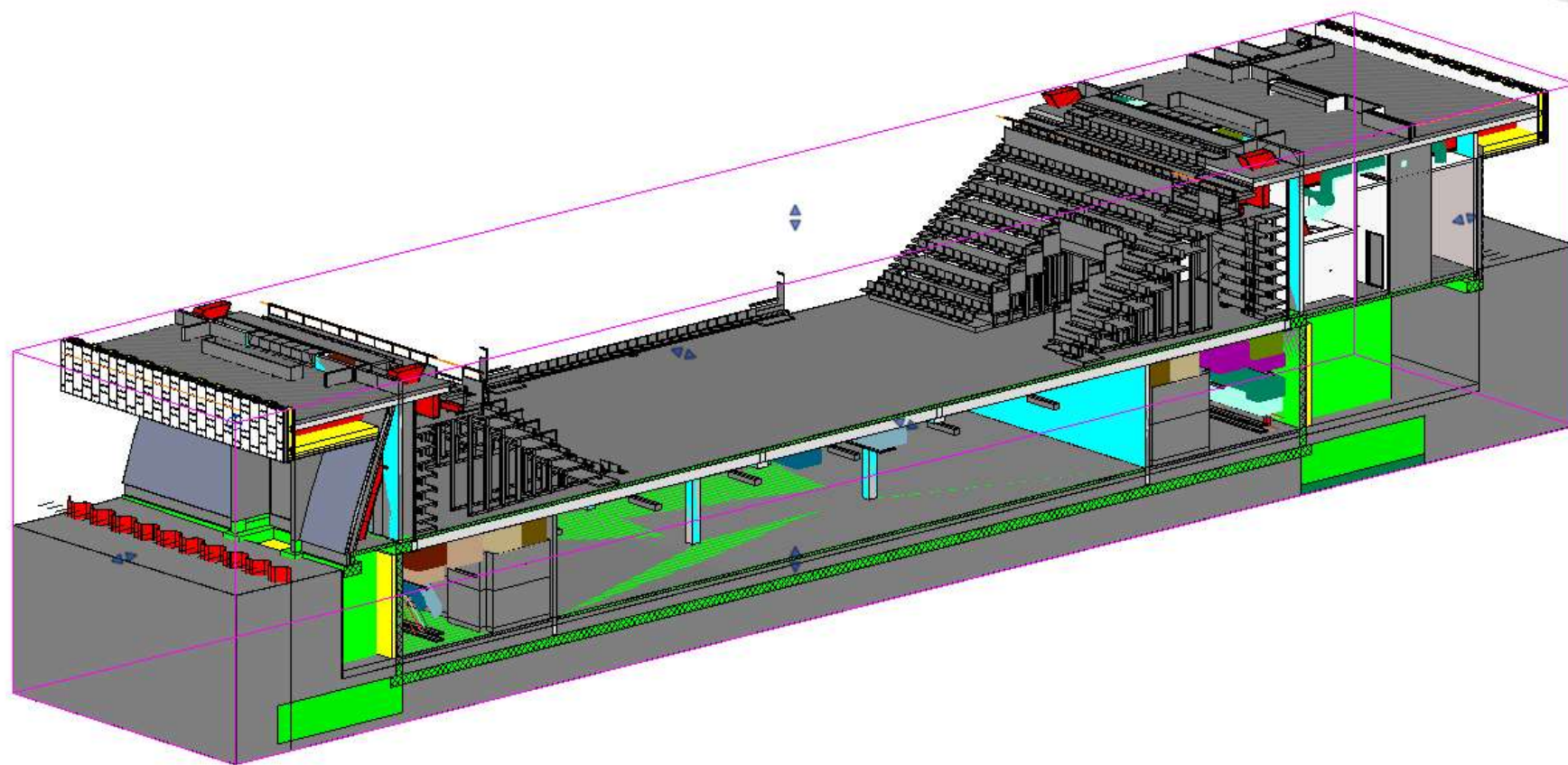


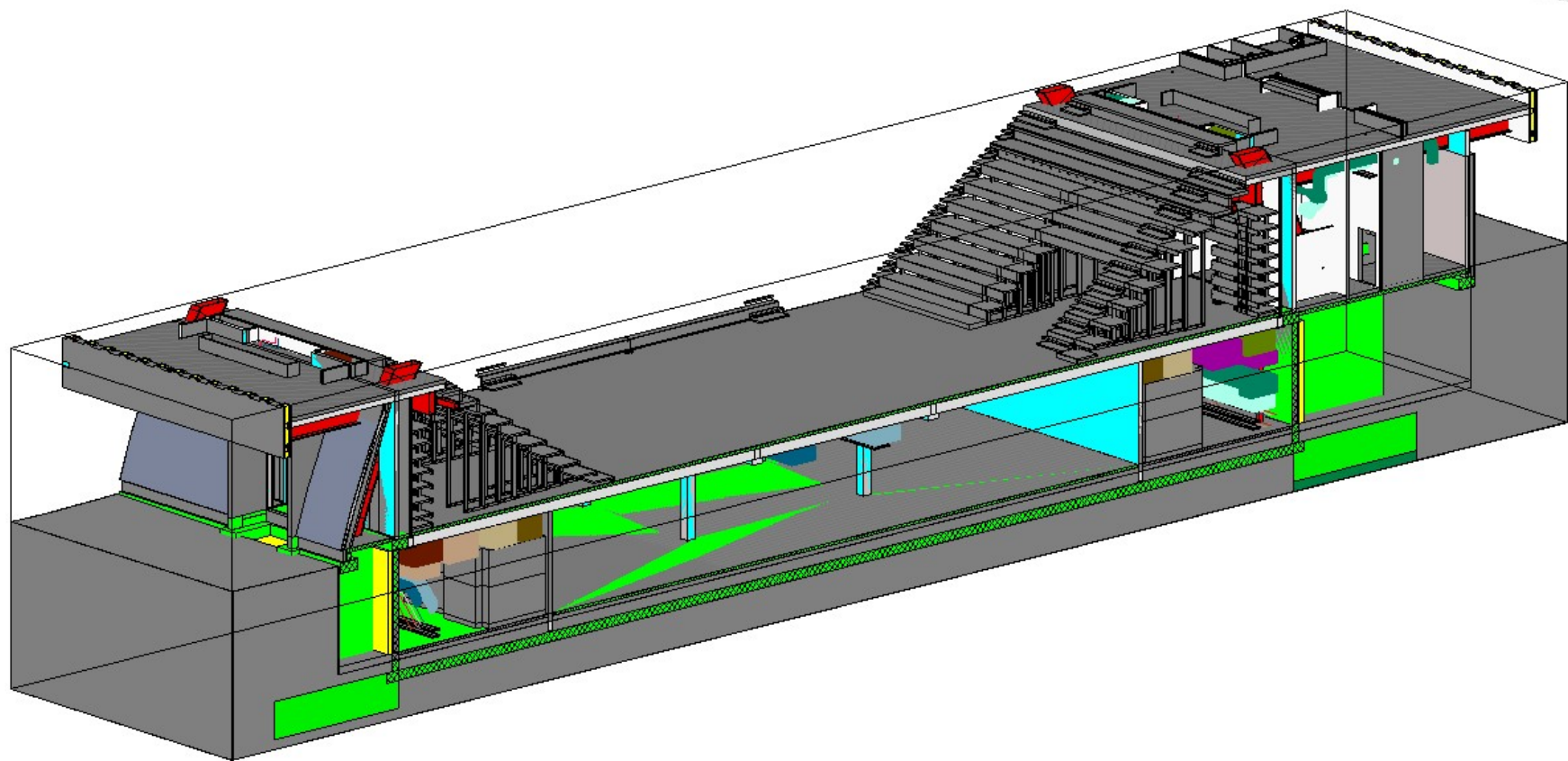


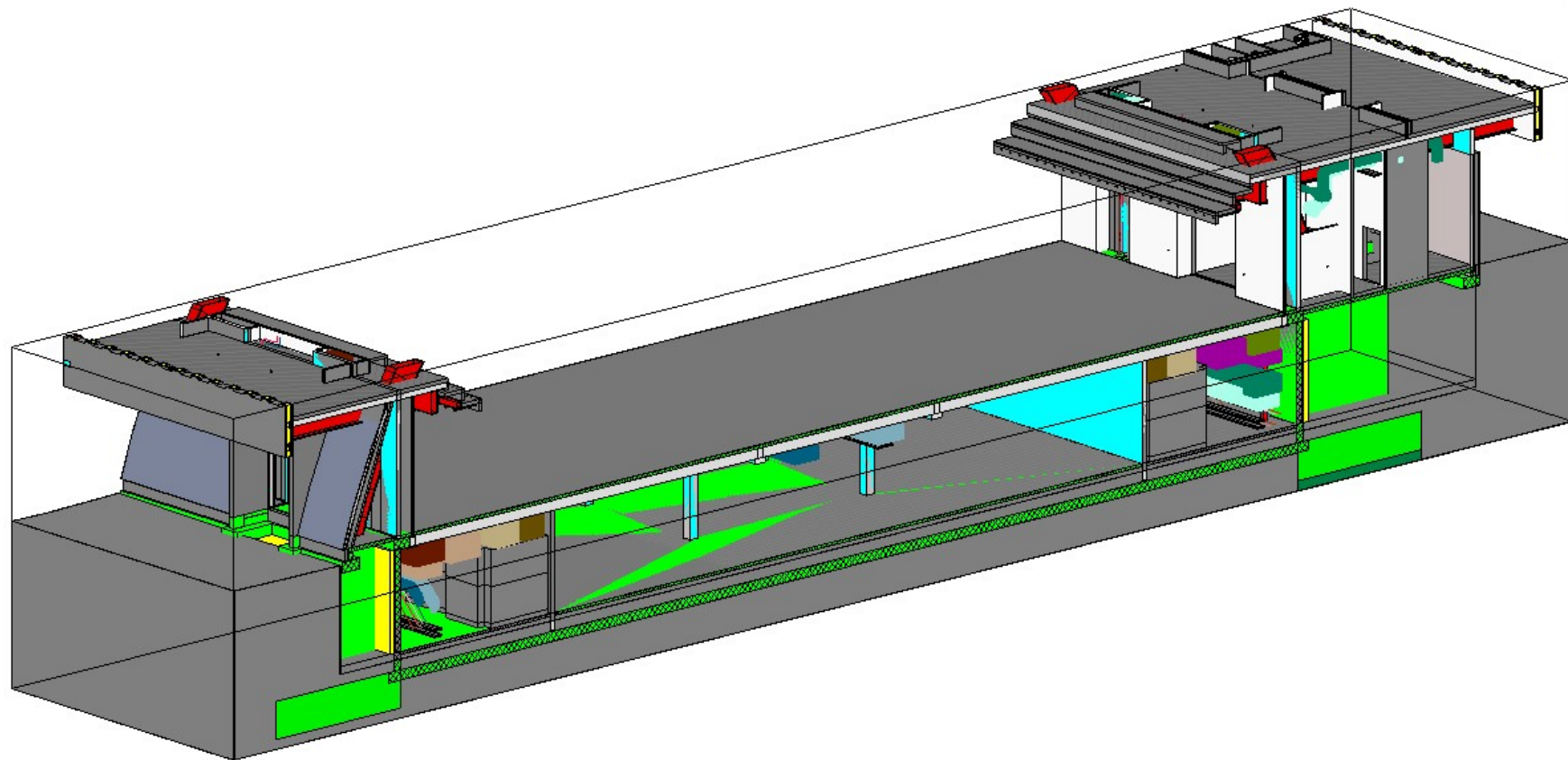


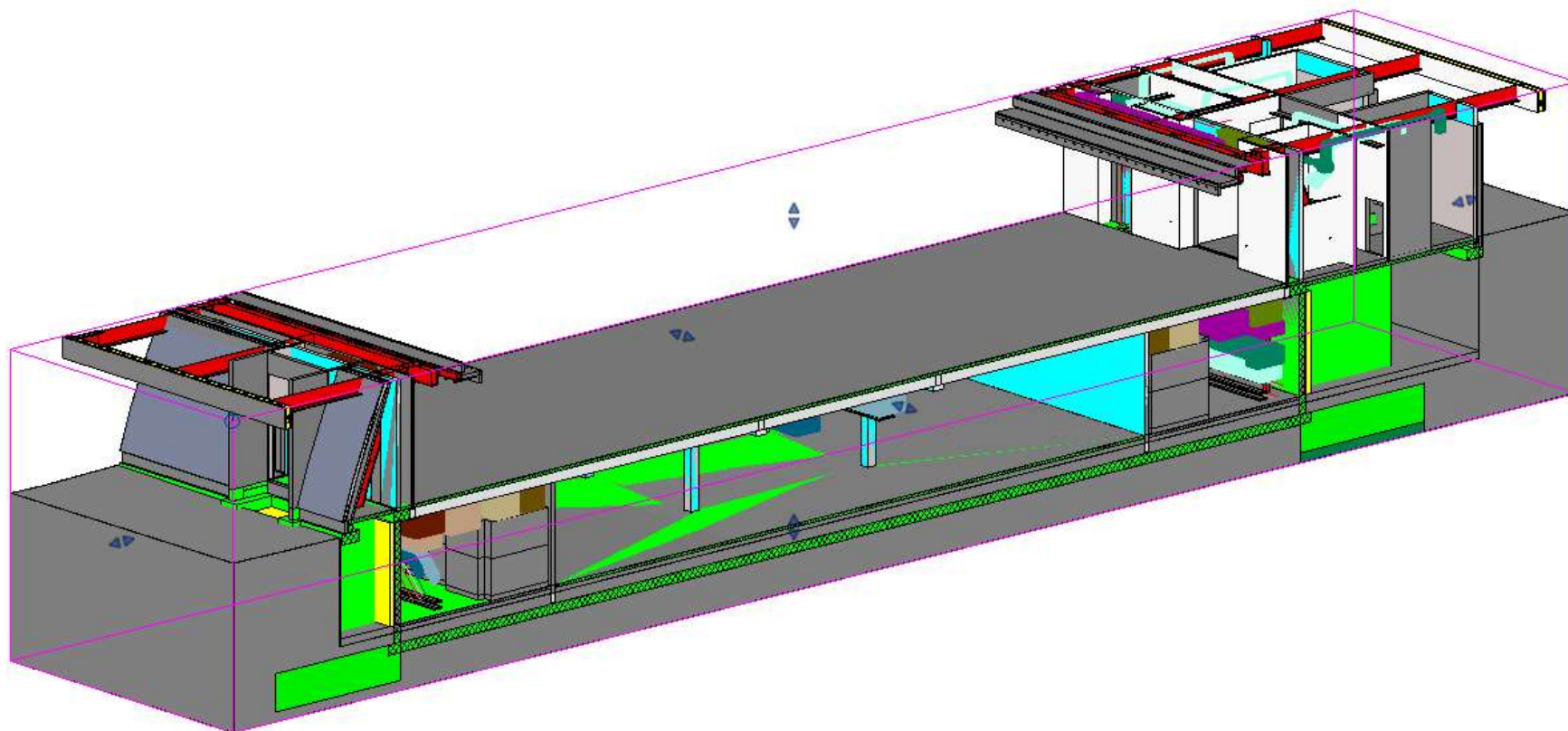










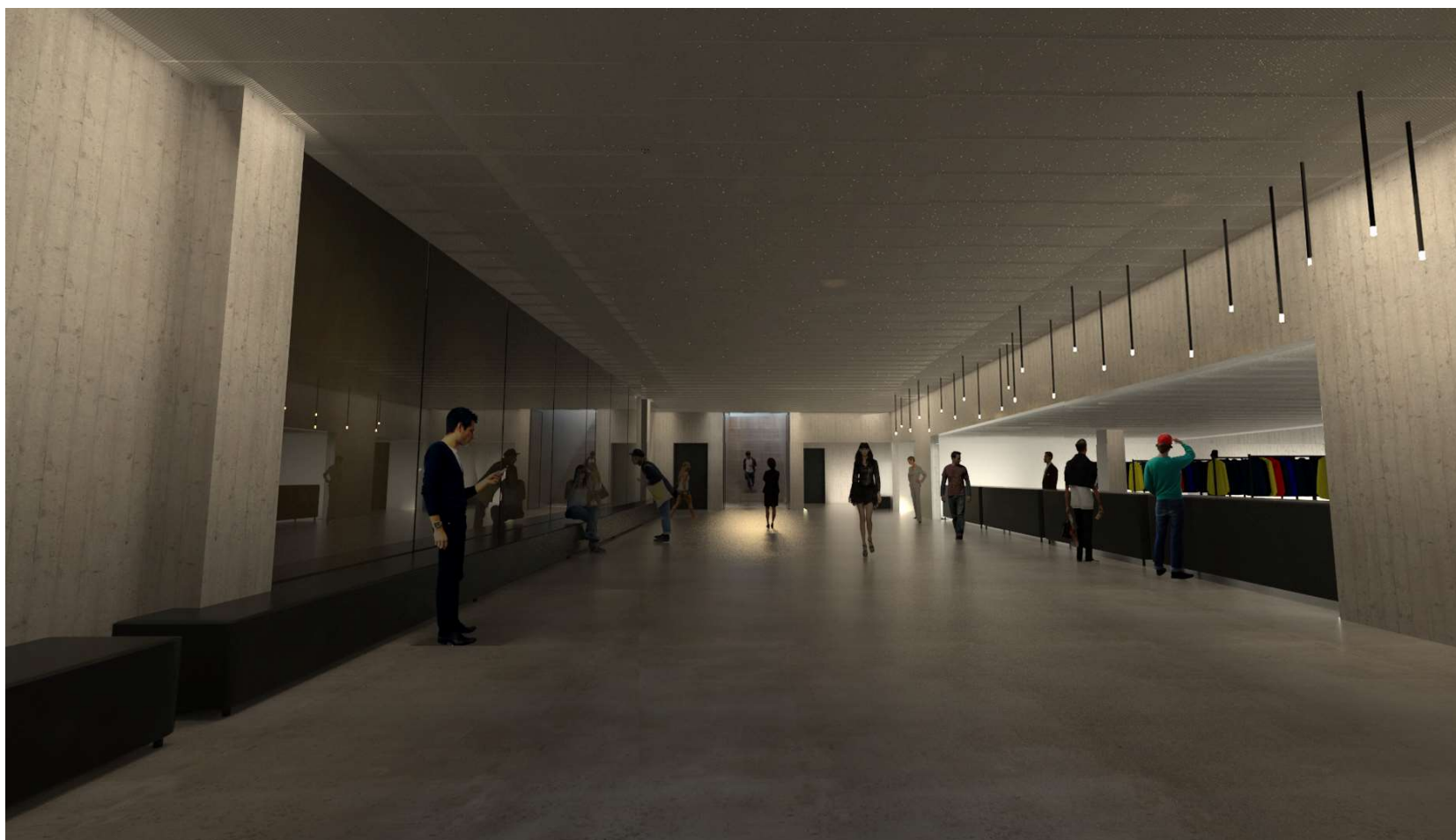




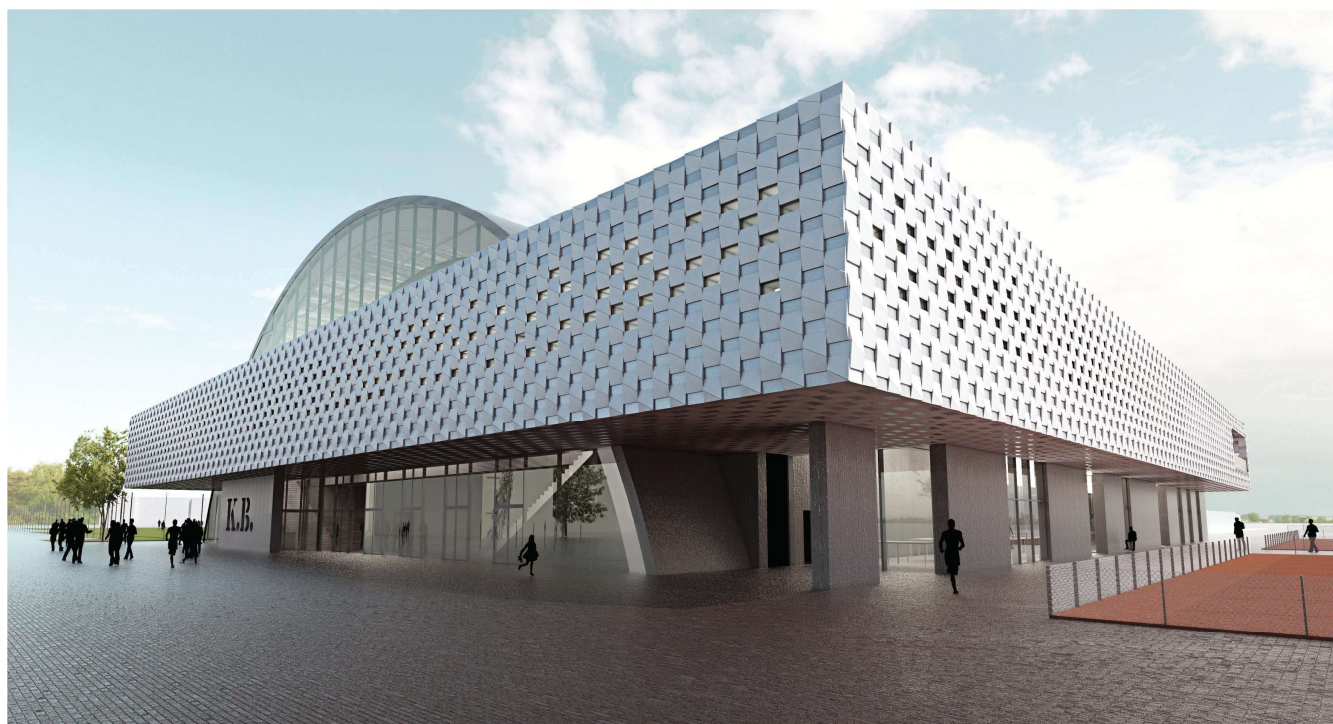














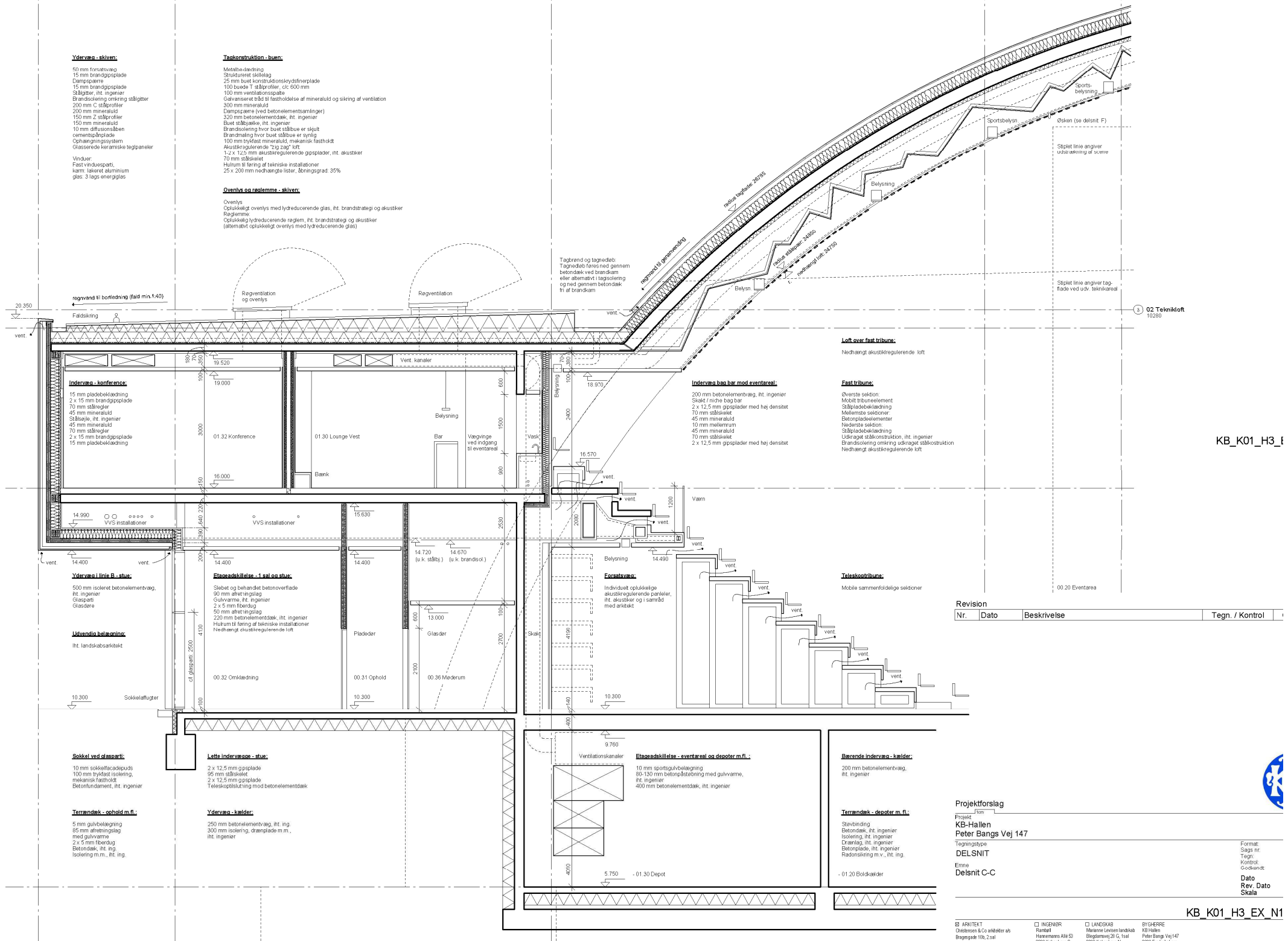












Ydervæg - skiven:

50 mm forstøbning
15 mm brandgipsplade
Dampspærre
15 mm brandgipsplade
Stålgitter, iht. ingeniør
Brandsikring omkring stålgitter
200 mm C-stålrør
200 mm mineraluld
150 mm mineraluld
10 mm diffusionsåben
cementspandplade
Ophængningssystem
Glaserede keramiske teglpaneler
Vinduer
Fast vindueparti,
samt låseret aluminium
glas 3-lags energiglas

Tægekonstruktion - bun:

Minirulandring
Struktureret slidlag
25 mm tæte konstruktionsdybslæber
100 buede T-stålrør, c/c 600 mm
100 mm ventilationspatte
Galvaniseret tråd til fastholdelse af mineraluld og sikring af ventilation
300 mm mineraluld
Dampspærre (ved betonelementsamlinger)
300 mm betonelementdæk, iht. ingeniør
Buet stålskælv, iht. ingeniør
Brandsikring hvor buet stålskælv er skåret
Brændning hvor buet stålskælv er synlig
100 mm trykløst mineraluld, mekanisk fastholdt
Akustikregulerende "zig zag" loft
1,2 x 12,5 mm akustikregulerende gipsplader, iht. akustiker
70 mm stålskælv
Hulrum tilføring af tekniske installationer
25 x 200 mm nedhængte lister, løsningsgrad 35%

Ovenlys og regnvands - skiven:

Ovenlys
Oplukkeligt ovenlys med hydreducerende glas, iht. brandstrategi og akustiker
Reglørme
Oplukkeligt hydreducerende reglør, iht. brandstrategi og akustiker
(alternativt oplukkeligt ovenlys med hydreducerende glas)

Loft over fast tribune:

Nedhængt akustikregulerende loft

Fast tribune:

Øverste sektion:
Mobil tribuneelement
Stålpeladebæklægning
Mellemløse sektioner
Betondelelementer
Nederste sektion:
Stålpeladebæklægning
Udkraget stålkonstruktion, iht. ingeniør
Brandsikring omkring udkraget stålkonstruktion
Nedhængt akustikregulerende loft

Teleskoptribune:

Mobile sammenføjele sektioner

Revision				Tegn. / Kontrol	
Nr.	Dato	Beskrivelse			

Projektforslag
af
KB-Hallen
Peter Bangs Vej 147
Tegningsbillede
DELSNIT
Elev
DELSNIT C-C

Format:
Sags nr.
Tegn.
Kontrol
Godkendt

Dato
Rev. Dato
Skala

