

# STEEL STRUCTURES in HI - RISE BUILDINGS

**PEPSCON 2017**  
Hotel Taj Vivanta, New Delhi

**PENNAR ENGINEERED BUILDING SYSTEMS LTD.**  
An ISO 9001-2008 COMPANY

# PENNAR GROUP



**Pennar Industries**

- Strong presence in Automotive, Infrastructure, Railways and Environmental sector



**PEBS Pennar**

- Seven manufacturing facilities in India
- Largest Cold Formed steel profile manufacturer in India

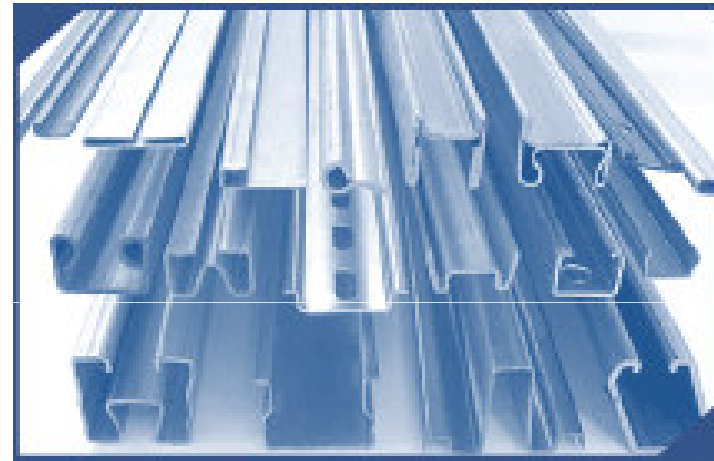


**Pennar Enviro**

- Operation history of over 35 years
- Sales Support and Marketing with 35 branches across India

## Products

- ❖ Cold Roll Steel Strips and Tubes
- ❖ Profiles for Automobiles
- ❖ Road Safety Barriers
- ❖ Railway Coach Components
- ❖ Engineering and Auto Components
- ❖ Building Components
- ❖ Pollution Control Equipment





# INTRODUCTION TO PEBS PENNAR

- ❖ A subsidiary of Pennar Industries Ltd., Hyderabad
- ❖ Incorporated in 2008 & commercial production in Jan 2010
- ❖ Involved in design, fabrication, supply & erection of:
  - ◆ Pre-engineered steel buildings
  - ◆ Hi-rise buildings & structural steel
  - ◆ Solar structures
  - ◆ Cold formed buildings
  - ◆ Industrial racking system
  - ◆ Transmission & Communication Towers
- ❖ Engineering Center & Manufacturing Plant at Hyderabad & Vadodara

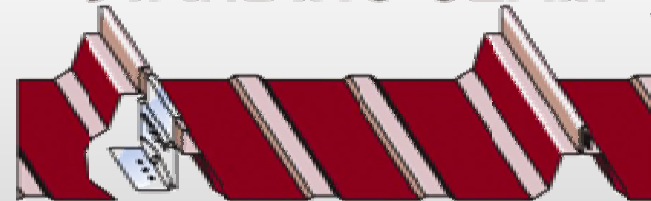




# TECHNICAL ASSOCIATION



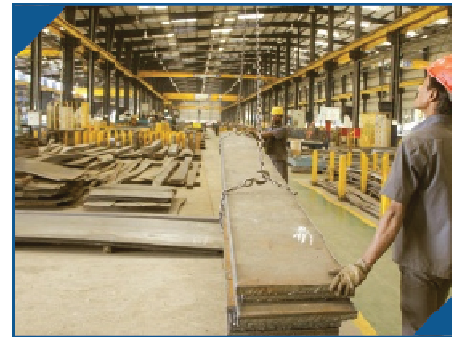
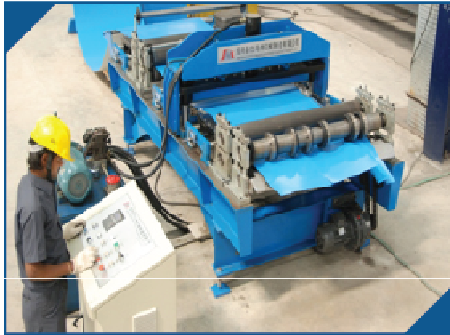
## DOUBLE LOK® 360° STANDING SEAM



PEBS Pennar has Technical Association with NCI Group, USA for Double Lok® Standing Seam Roofing System, proven weather tight technology since 60 years in USA

**NCI**GROUP, INC. USA

# MANUFACTURING FACILITY



State-of-the-art manufacturing facility with a production capacity of 120,000 MT per annum

# MANUFACTURING FACILITY

Capacity of  
1,20,000 MT per year

Hyderabad – 90,000MT  
Vadodara – 30,000MT





## SOFTWARE

- ❖ Metal building Software – MBS, USA
- ❖ Staad Pro V8i - US Code and IS Code – Bentley corporation, USA
- ❖ Auto CAD – Autodesk Inc. USA
- ❖ Estimation Software – In-house developed
- ❖ 3D Max Studio - Autodesk Inc., USA
- ❖ X-Steel (Tekla structure) – Trimble , Finland
- ❖ E Tabs, SAP 2000 V14

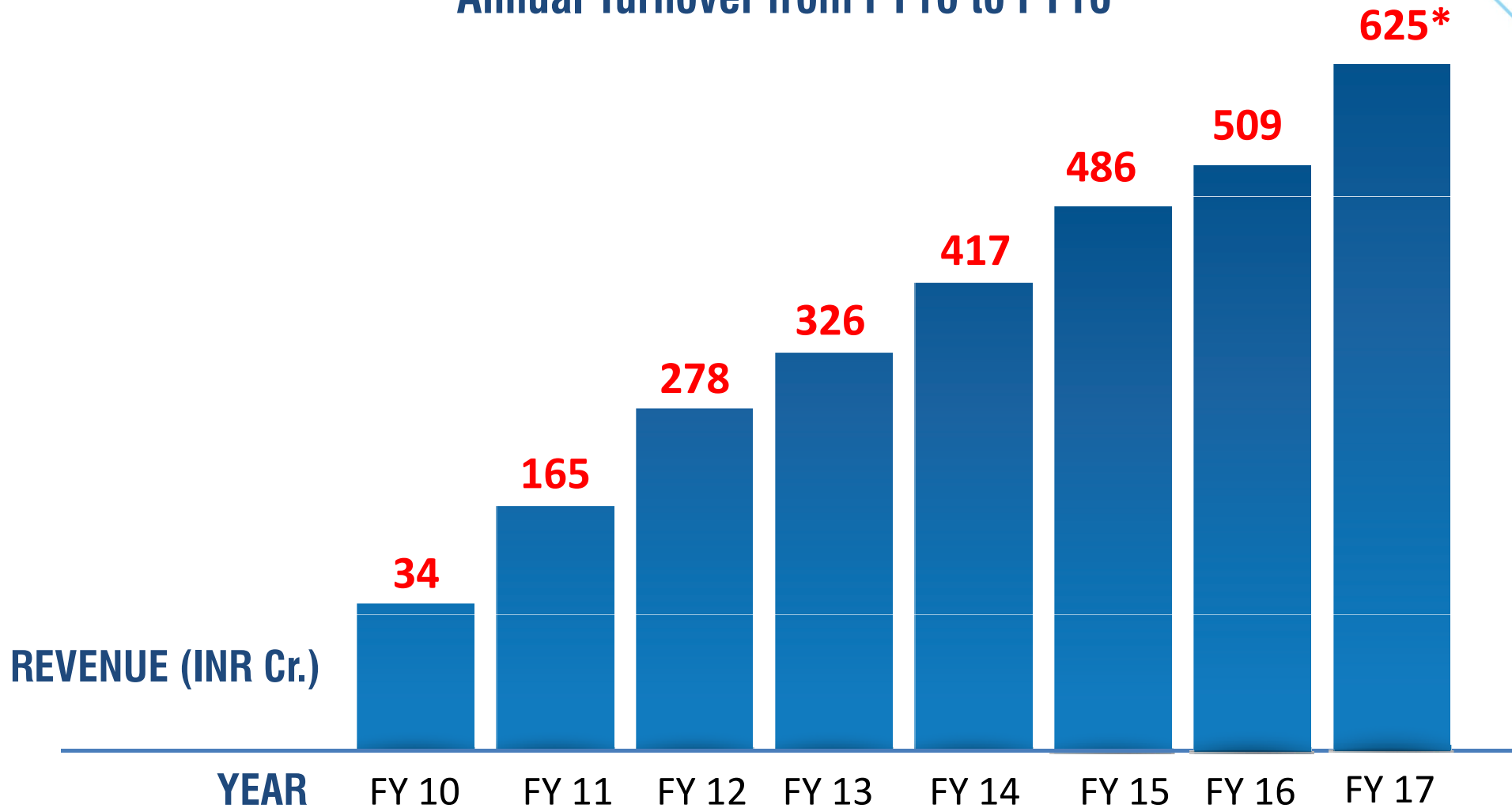
## CODES

- American
- Euro
- British
- Indian



# THE GROWTH STORY

## Annual Turnover from FY10 to FY16



**Procured orders worth over Rs. 2,800 Cr.  
from the date of inception**

*\* Projected revenue*

# AWARDS



**Construction Week India Awards 2013**  
Infrastructure Company of the Year



**Construction Week India Awards 2013**  
PEB Contractor of the Year



**IEI Industry Excellence Awards 2013**  
Excellence Award



**INSDAG National Award 2014**  
Certificate of Commendation



**VC Circle Award 2015**  
Manufacturing Company of the Year



**CIDC Vishwakarma Award 2015**  
Best professionally managed company  
Best PEB Building of the Year



**Dun & Bradstreet Infra Award 2016**  
Industrial Building



**TV5 Business Leader Award 2015**  
Infrastructure Category(Medium)



**IEI Industry Excellence Awards 2015**  
Excellence Award



**CIDC Vishwakarma Award 2016**  
Best Professionally Managed Company



**ACCE(I) Bhagawati Award**  
Outstanding Design of Industrial Plant



**Construction World-Top Challenger Award**  
Top Challenger



**Construction Week India Awards 2016**  
PEB Project of the Year-Runner Up



**IEI Industry Excellence Awards 2016**  
Excellence Award



# OUR CREDENTIALS

## CERTIFICATE



Management system as per  
ISO 9001 : 2008

In accordance with TÜV INDIA procedures, it is hereby certified that

**PENNAR ENGINEERED BUILDING SYSTEMS LTD.**  
CORPORATE OFFICE : 9<sup>th</sup> Floor (West Wing),  
DHFLVC Silicon Towers, Kondapur, Hyderabad - 500 084  
WORKS : Survey. No.144 & 145, Chandapur Village,  
Sadasivpet Mandal, Medak District, Hyderabad - 500 084  
Andhra Pradesh, India



applies a quality management system in line with the above standard for the following scope

**Design, Manufacture, Supply & Erection of Pre-Engineered Building Systems**

Certificate Registration No. QM 06 00151  
Audit Report No. Q 3358/2010

Valid until 21.12.2015  
Valid from 22.12.2013  
Initial Certification 22.12.2010

*S.K. Kulkarni*

Certification Body  
a) TÜV INDIA PVT. LTD.

Issue 09.12.2013  
Place : Mumbai

This certification was conducted in accordance with the TÜV INDIA auditing and certification procedures and is subject to regular surveillance audits.

TÜV India Pvt. Ltd., 801, Raheja Plaza - 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India [www.tuvindia.co.in](http://www.tuvindia.co.in)



## Indian Green Building Council (IGBC)

hereby certifies that

**PEBS Pennar**  
Sadasivpet, Hyderabad

has successfully achieved the Green Building Standards required for  
the following level of certification under the IGBC Green Factory Building Rating System

**IGBC Green Factory Building Gold**  
October 2010

*Pradip Bhargava*  
Chairman, IGBC Green Factory  
Building Rating System

*Dr Prem C Jain*  
Chairman, IGBC

*Janashyd N Godrej*  
Chairman, CII-Godrej GBC



## Certificate of Compliance

This certificate is issued for the following:

**DOUBLE-LOK STANDING  
SEAM ROOF SYSTEMS  
AS CLASS 1 PANEL ROOFS**

Prepared for:

Pennar Engineered Building Systems Ltd.,  
9<sup>th</sup> Floor, West Wing, DHFLVC Silicon Towers  
Kondapur, Hyderabad - 500 084 India

FM Approval Class: 4471

Approval Identification: 3054-414 Approval Granted: April 08, 2011

Said Approval is subject to satisfactory field performance, continuing Follow-up Facilities and Procedures Audits, and strict conformity to the construction as shown in the Approval Guide, an online resource of FM Approvals.

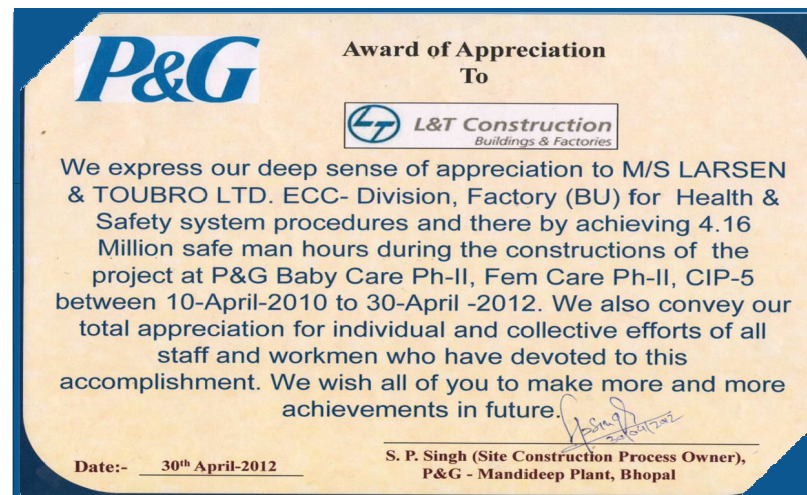
For more than 100 years FM Approvals has partnered with business and industry to reduce property losses.



*Richard F. Ferris, P.E.*  
Richard F. Ferris, P.E.  
Asst. Vice President, Group Manager  
FM Approvals  
1150 Boston-Providence Turnpike  
Norwood, MA 01906

Member of the FM Global Group

# OUR CREDENTIALS



# **ADVANTAGES OF STEEL IN MULTISTORIED STRUCTURES**



## 1. **Faster occupancy:**

With PEBs, we can save 40% for multistoried buildings. **Early occupancy generates early returns**

## 2. **Cost efficiency:**

Optimized design results in less usage of steel and cost

## 3. **Flexibility of expansion:**

PEBs are easy to expand or modify in future

## 4. **Low maintenance:**

PEBs need very minimal maintenance



## **6. Earthquake & Hurricane resistant:**

PEBs are designed to take care of earthquake/hurricane impact

## **7. Single-source responsibility:**

In PEBs, responsibility starting from design till erection lies in single hand, hence no hassle of multiple agencies

## **8. Factory controlled Quality:**

From raw material till finish, at every stage, quality is been controlled thoroughly

## **9. Re-locatable:**

PEB buildings can be dismantled and re erected at other locations



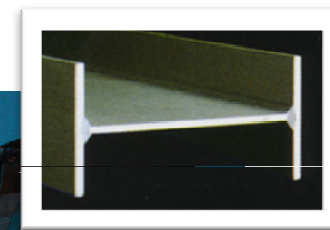
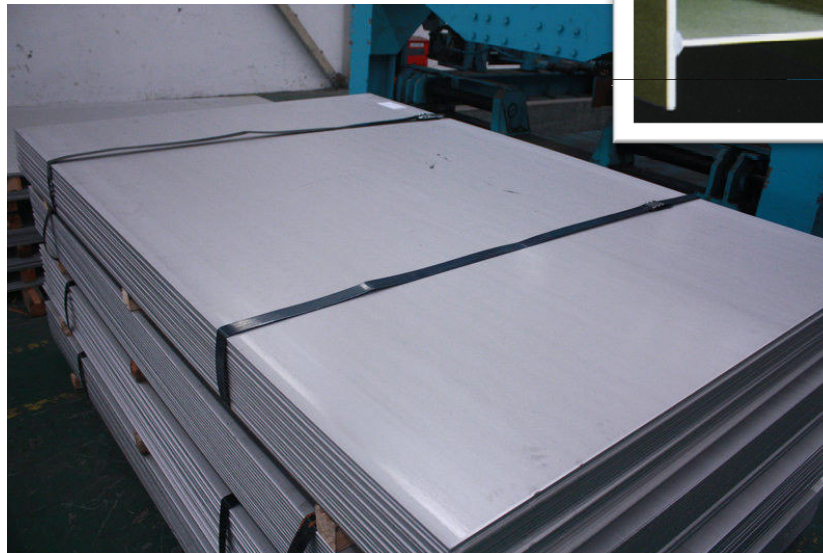
# MATERIAL SPECIFICATIONS

## ANCHOR BOLTS



ASTM A36 Black

## PLATES



ASTM A572 for plates  
Y S-345 Mpa



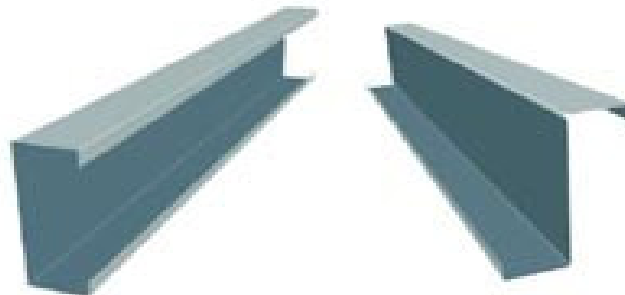
# MATERIAL SPECIFICATIONS

## H R SECTIONS



IS 2062 Y S-245 Mpa

## COLD FORM SECTION



'C' Purlin

'Z' Purlin

ASTM A653M

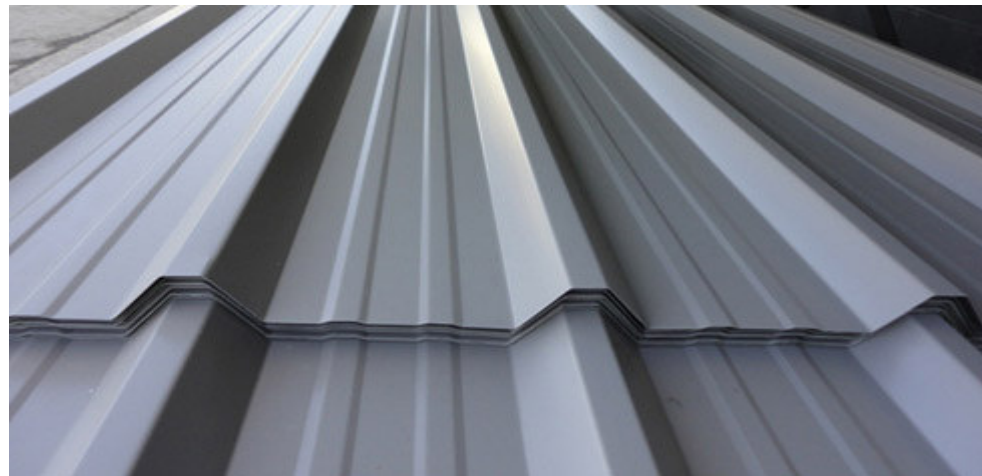
Y S-345/450 Mpa - Pre-  
galvanized – 120/275 GSM

## CONNECTION BOLTS



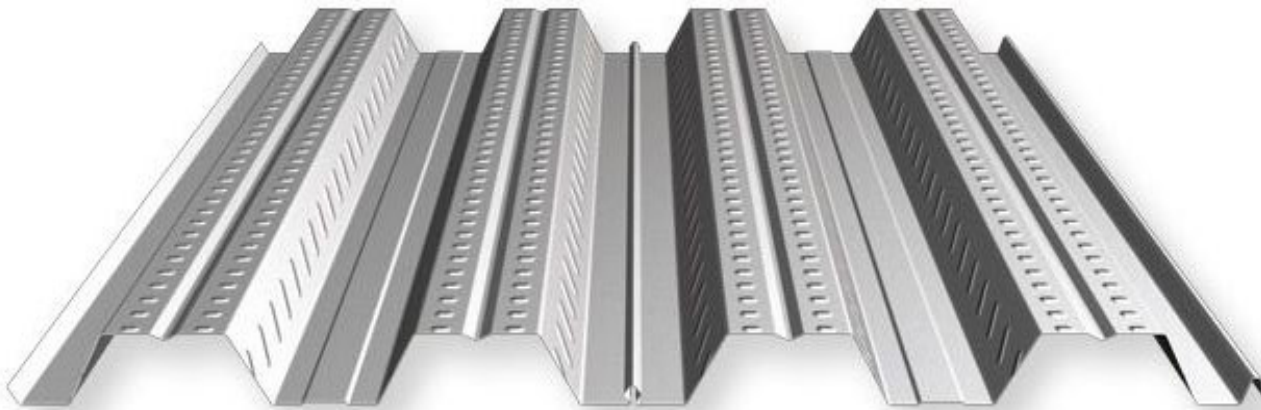
ASTM A325/A307  
- Electrogalvanised

## SHEETING



ASTM A792 M  
Colored Galvalume –  
RMP/SMP or Plain  
Galvalume  
Y S-345/550 Mpa -  
Thickness  
0.5/0.6mm TCT

## DECKING SHEET



ASTM A653, or equivalent

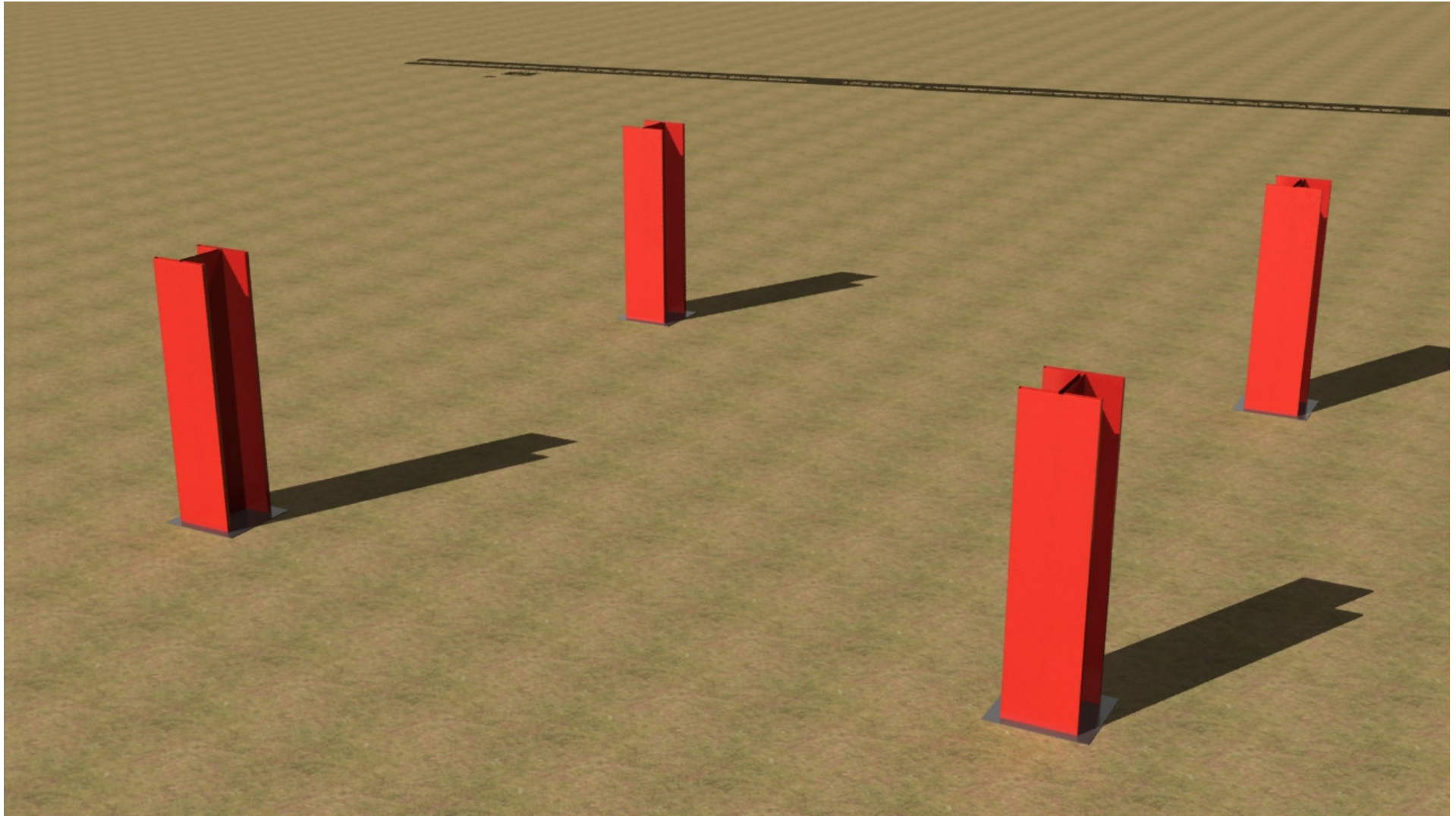
Galvanized 120/275 GSM, Profile  
52/75 deep

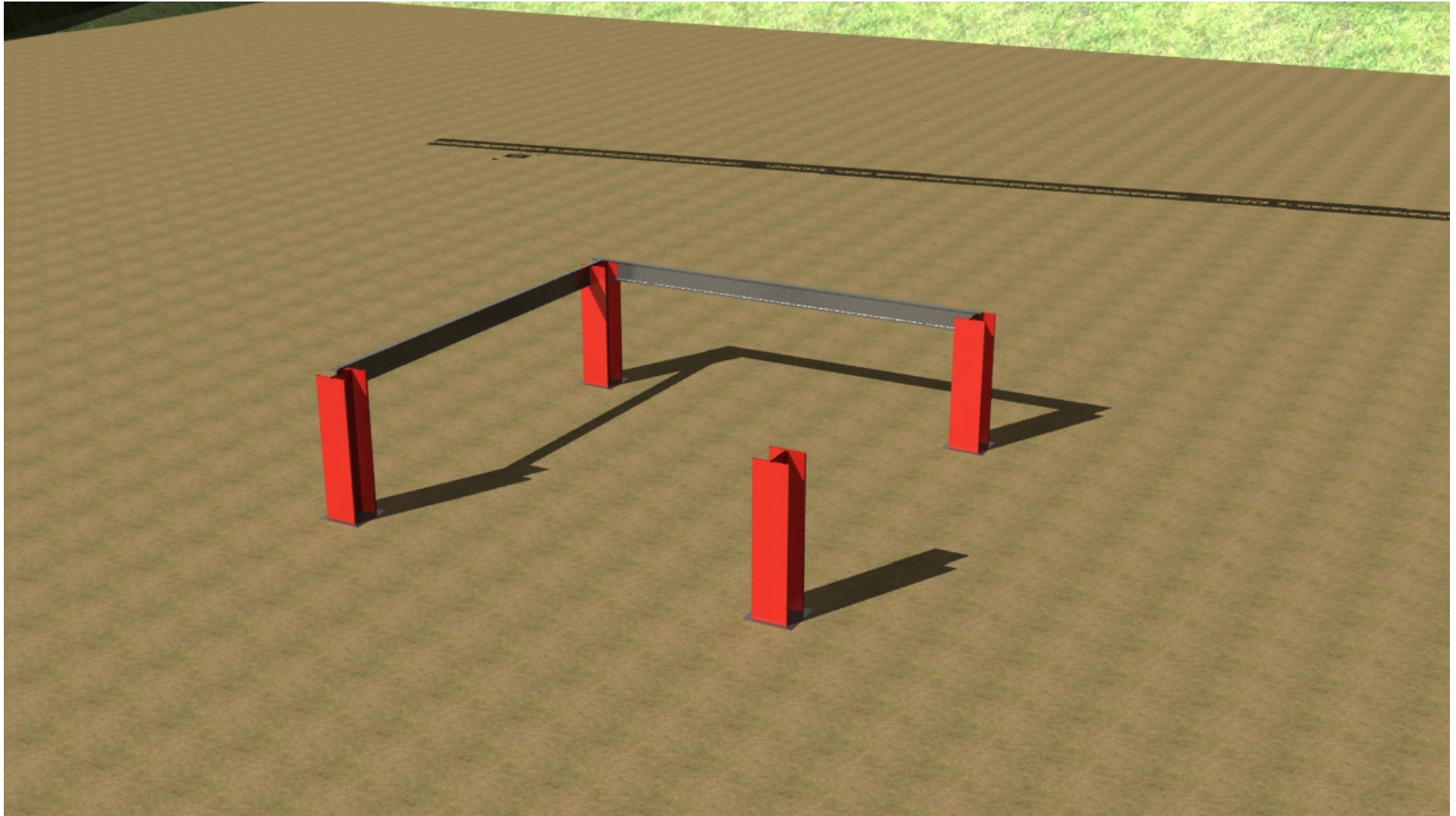
Y S-240/345 Mpa - Thickness  
0.6/0.7/0.8/0.9/1.0/1.2mm TCT

# **MULTISTOREY STRUCTURES**

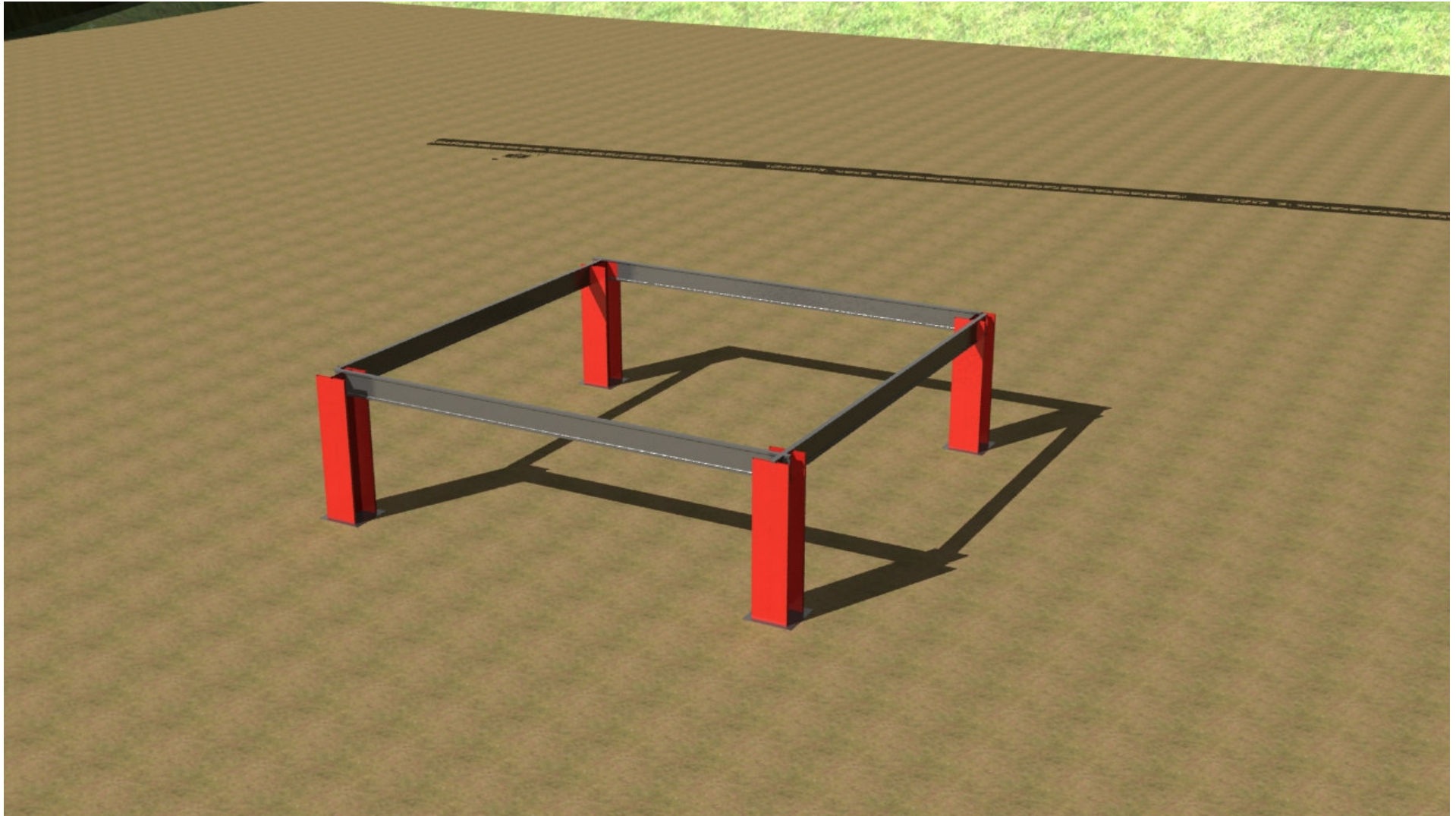
## **CONSTRUCTION METHODOLOGY**



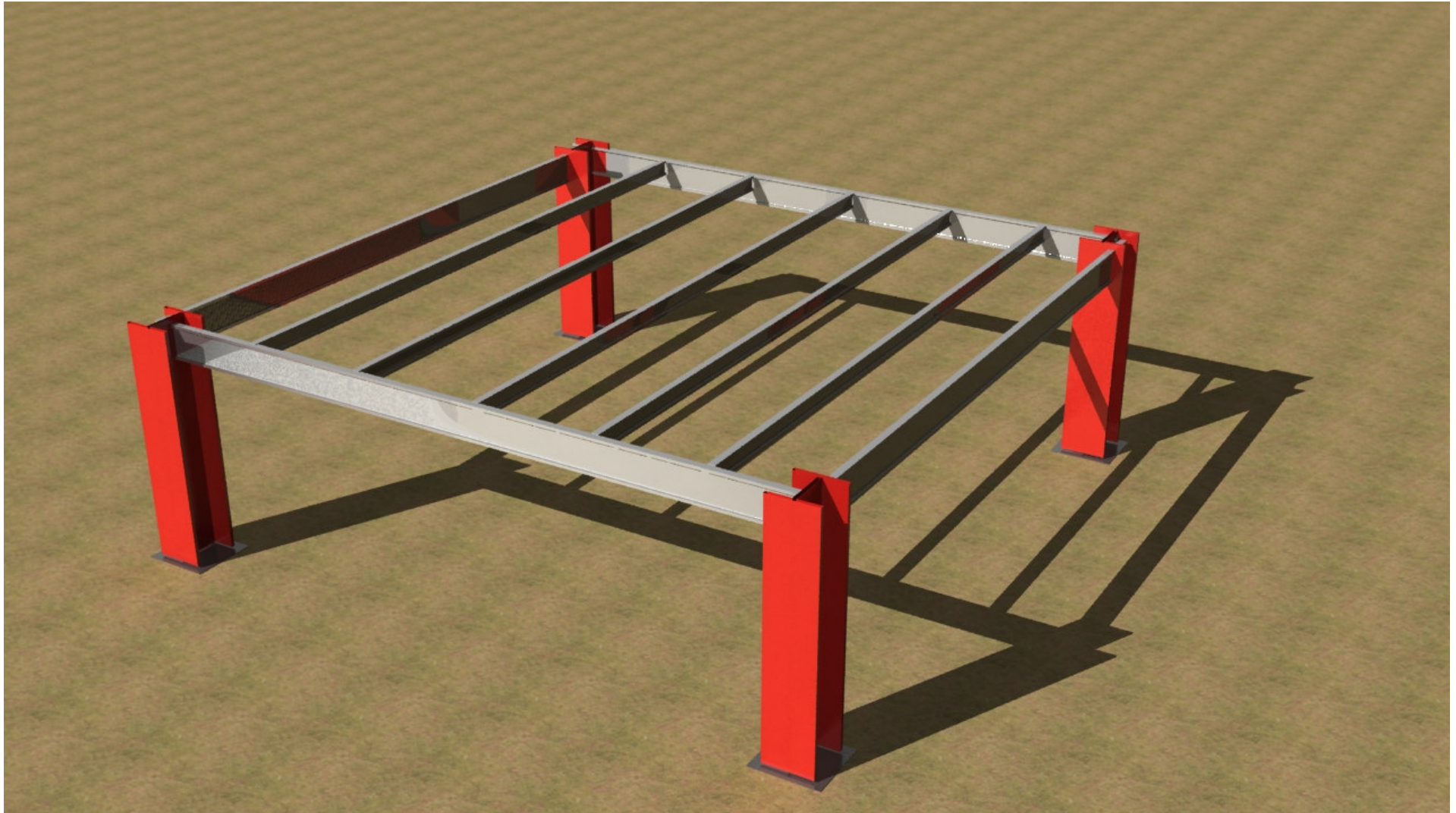




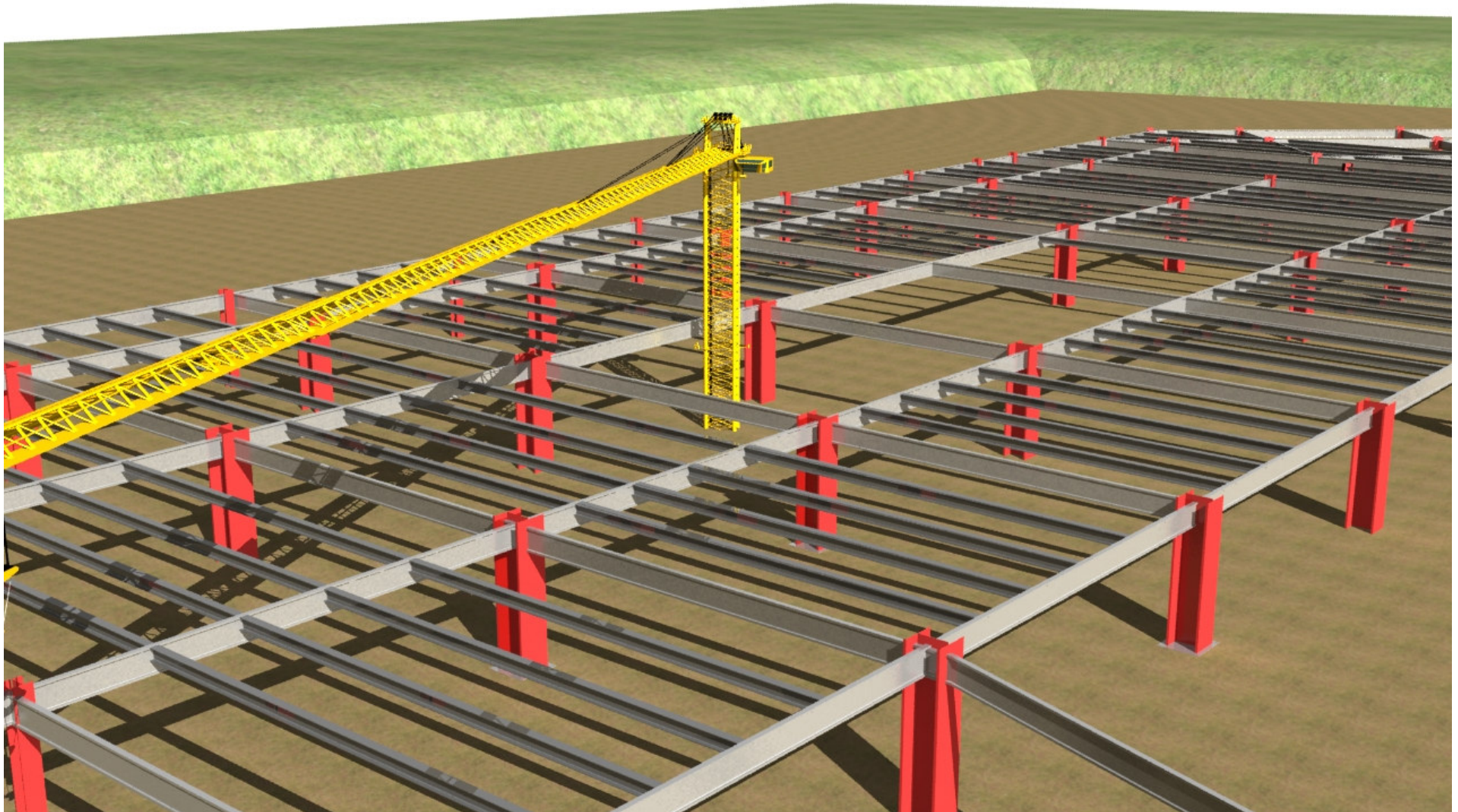




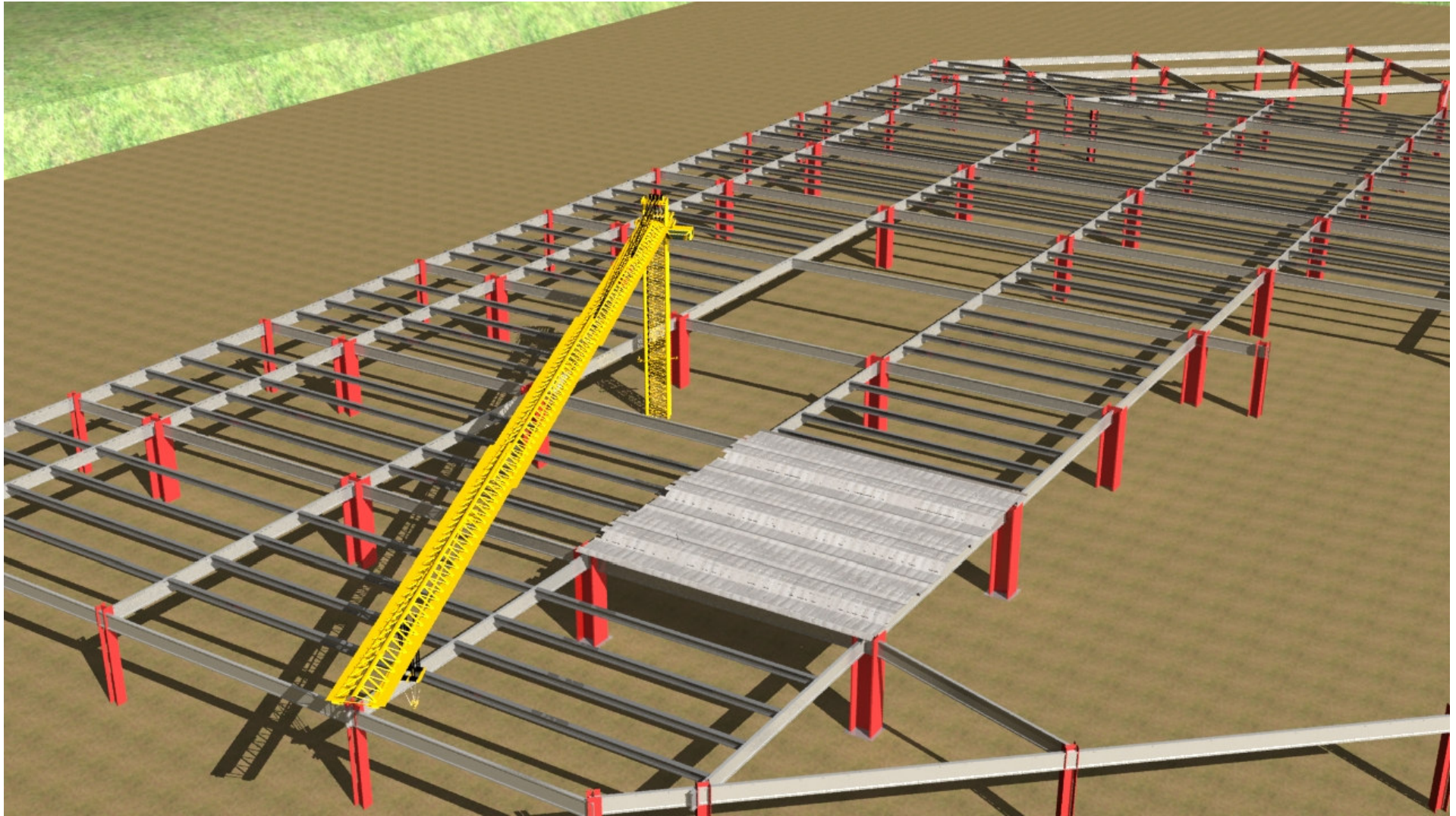




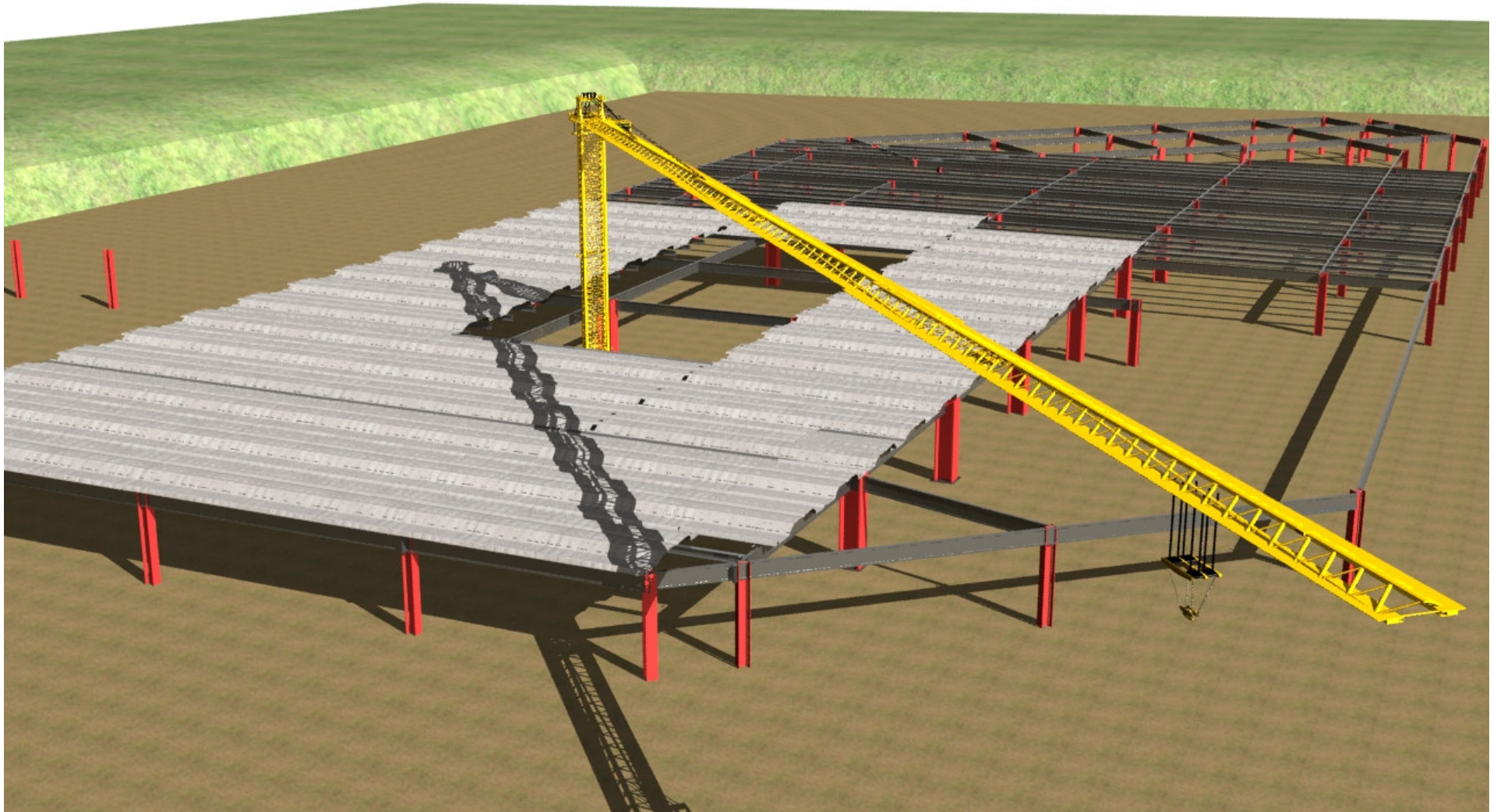




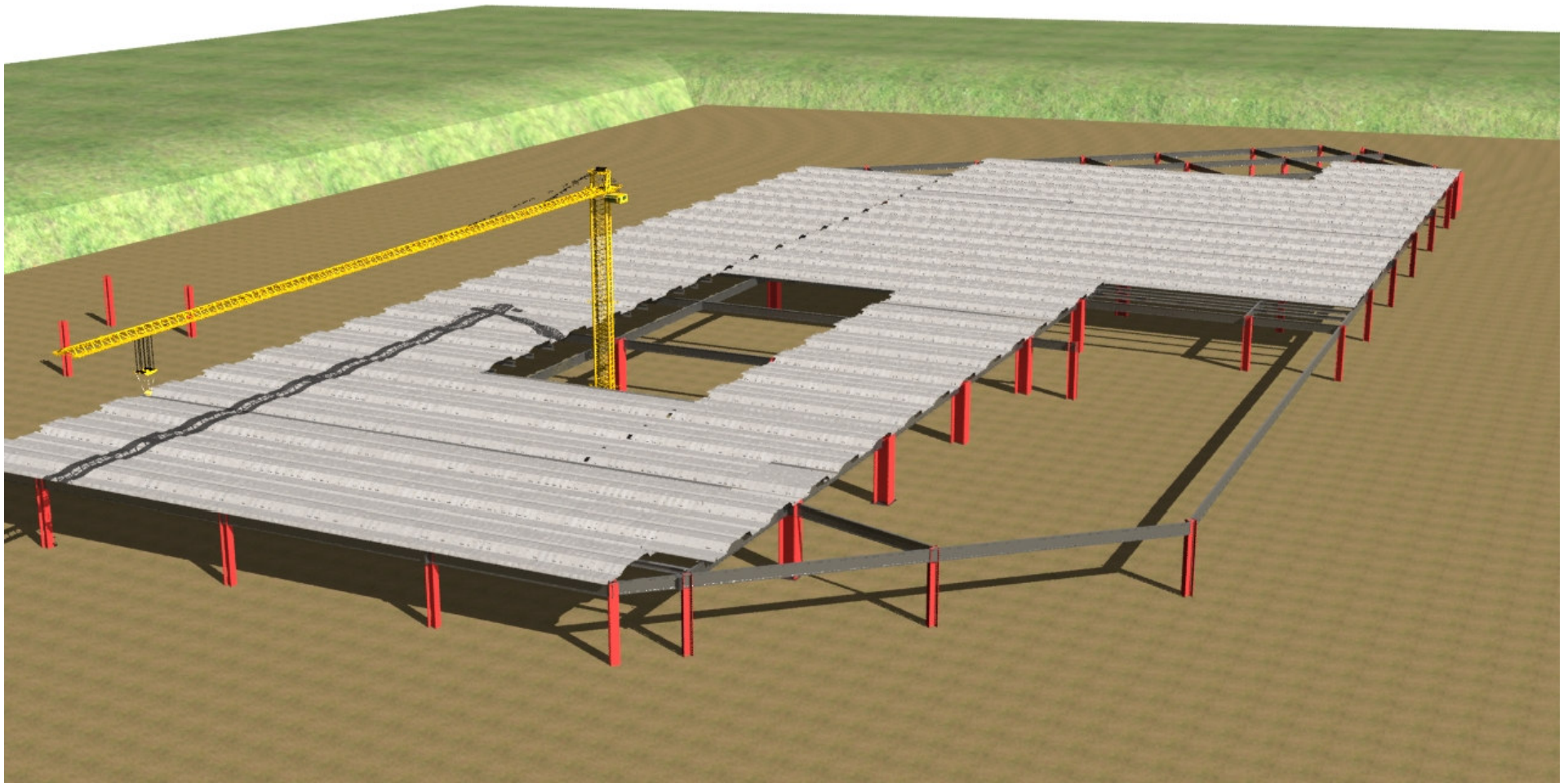




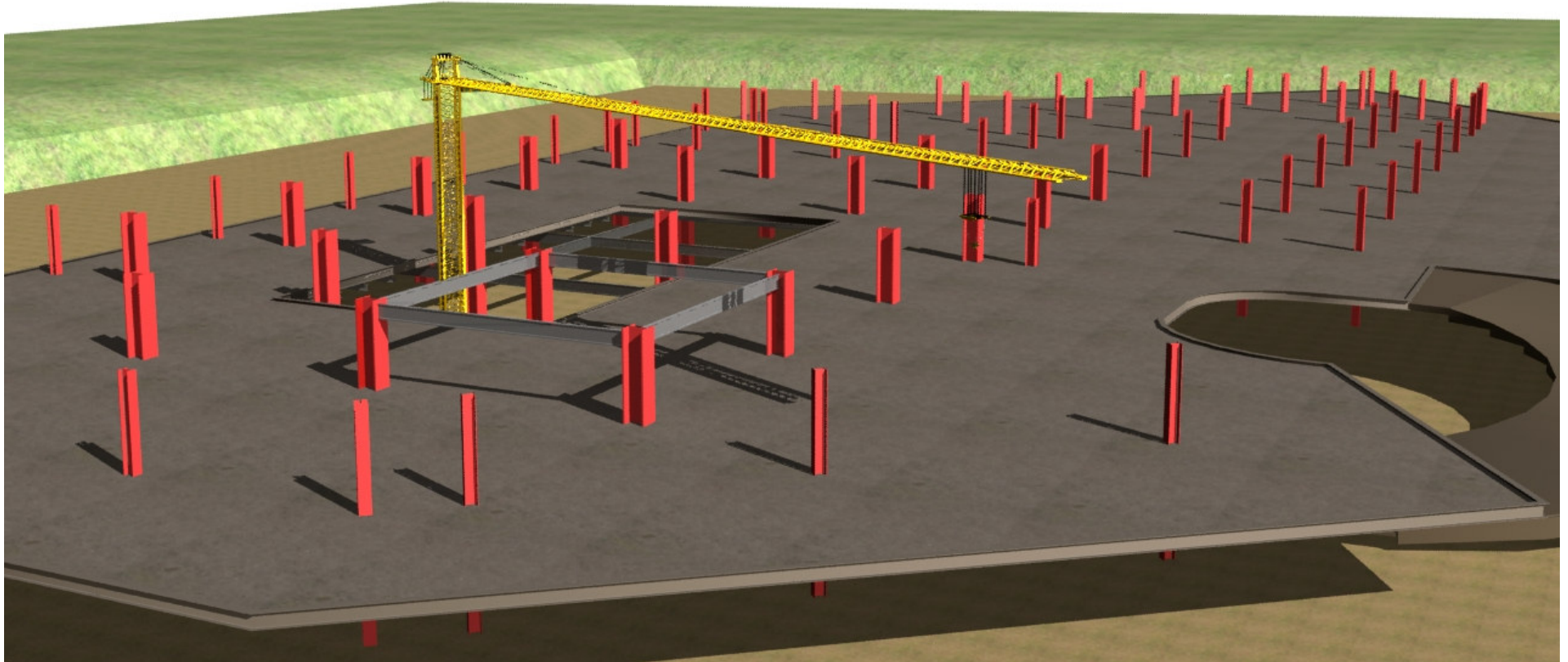


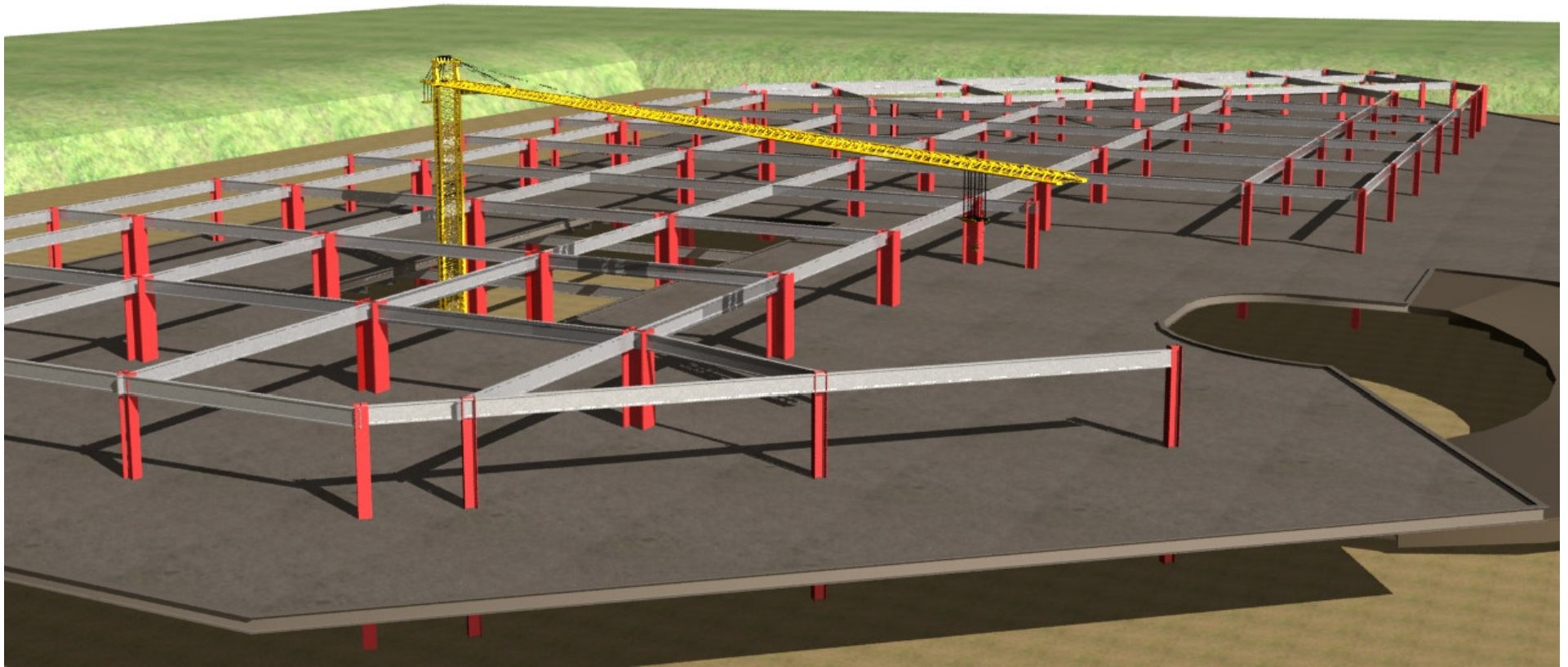




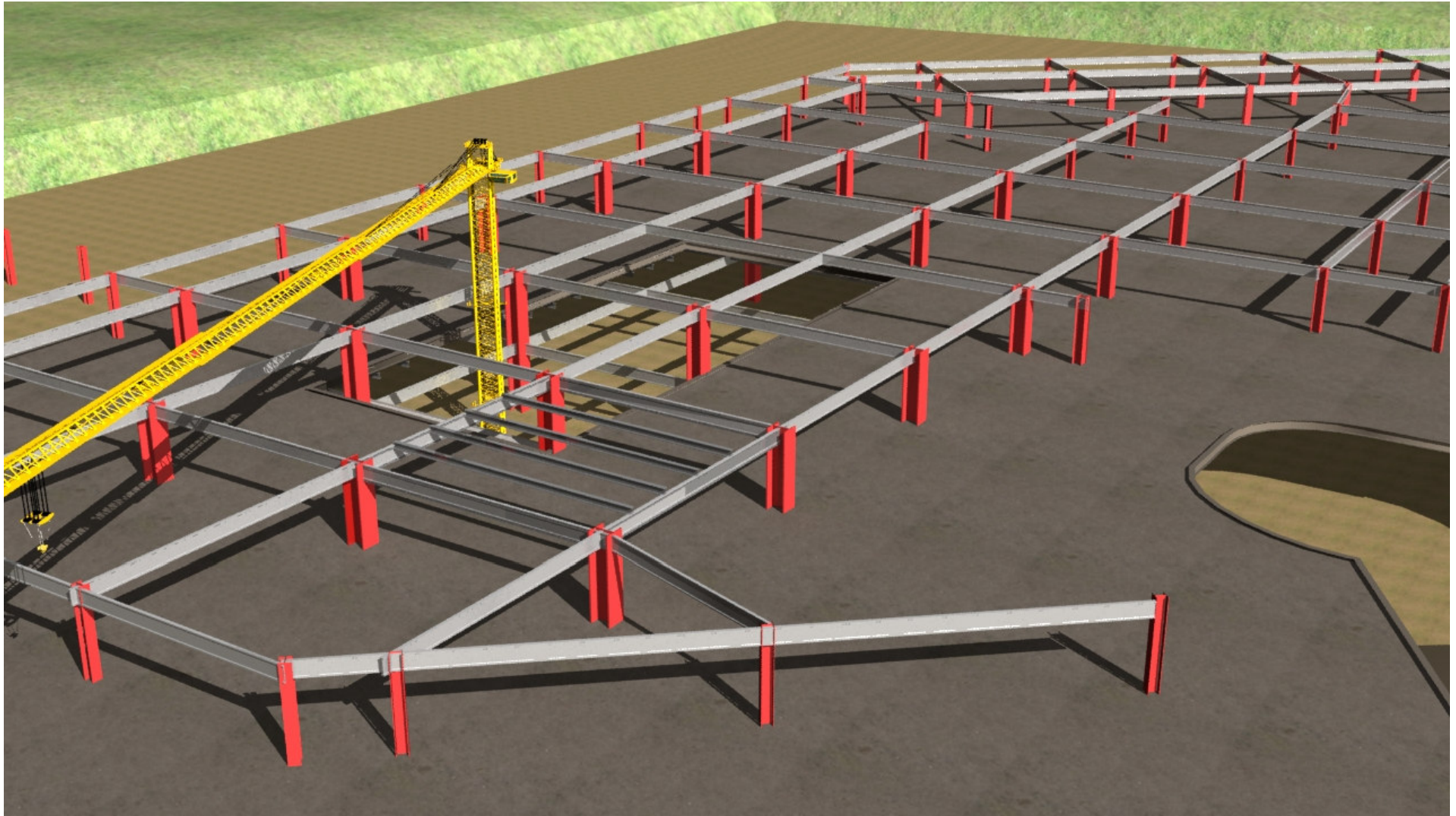




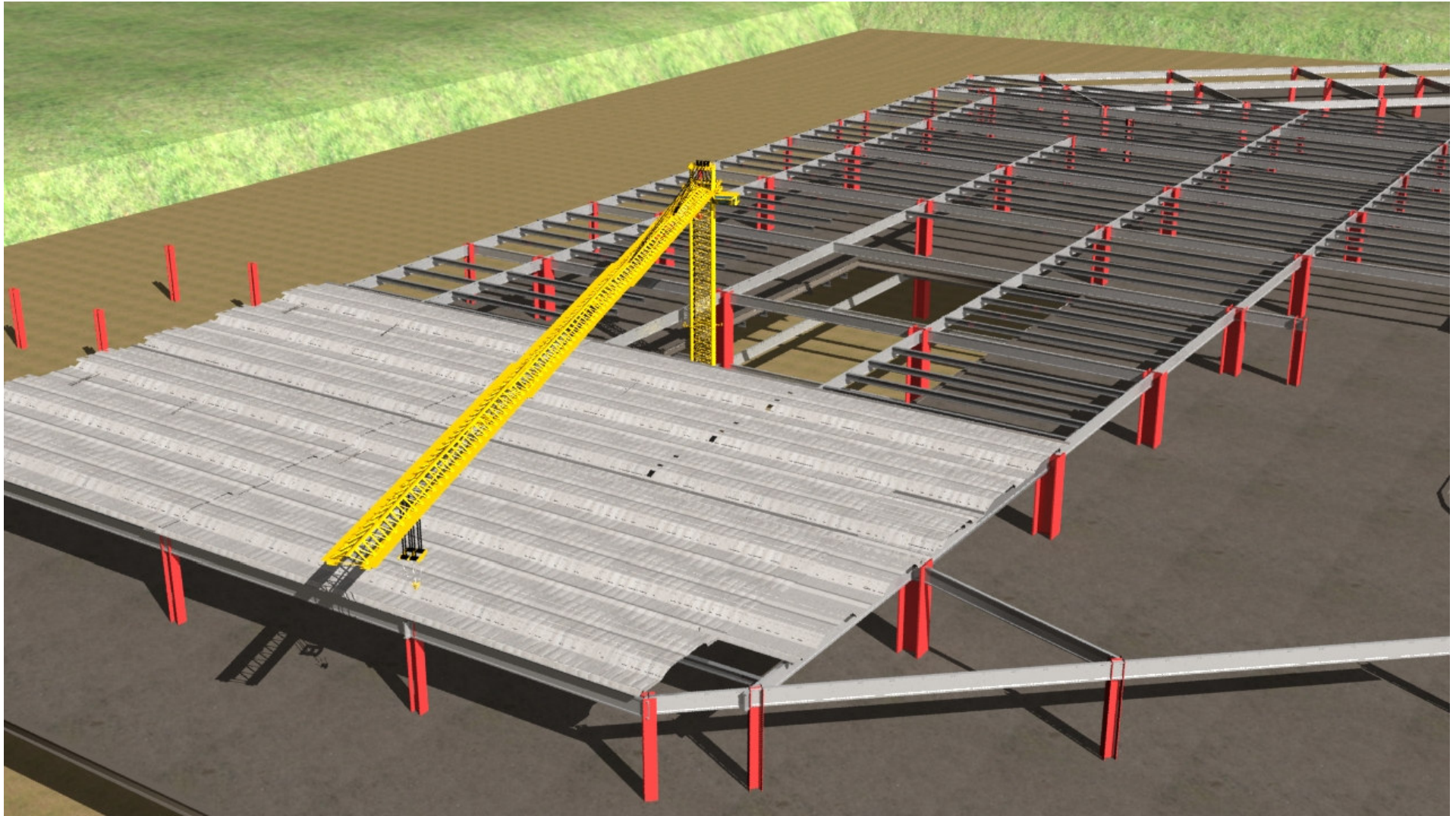




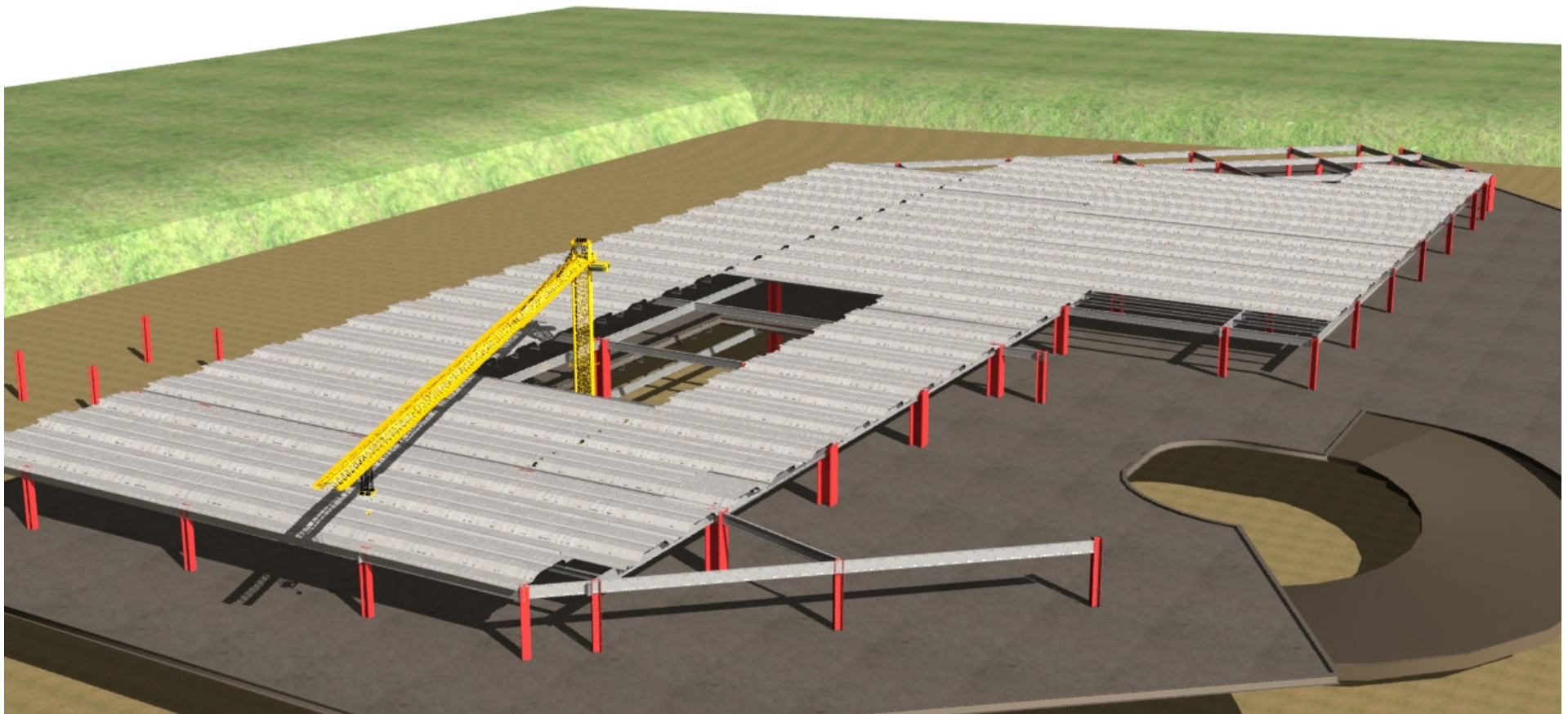


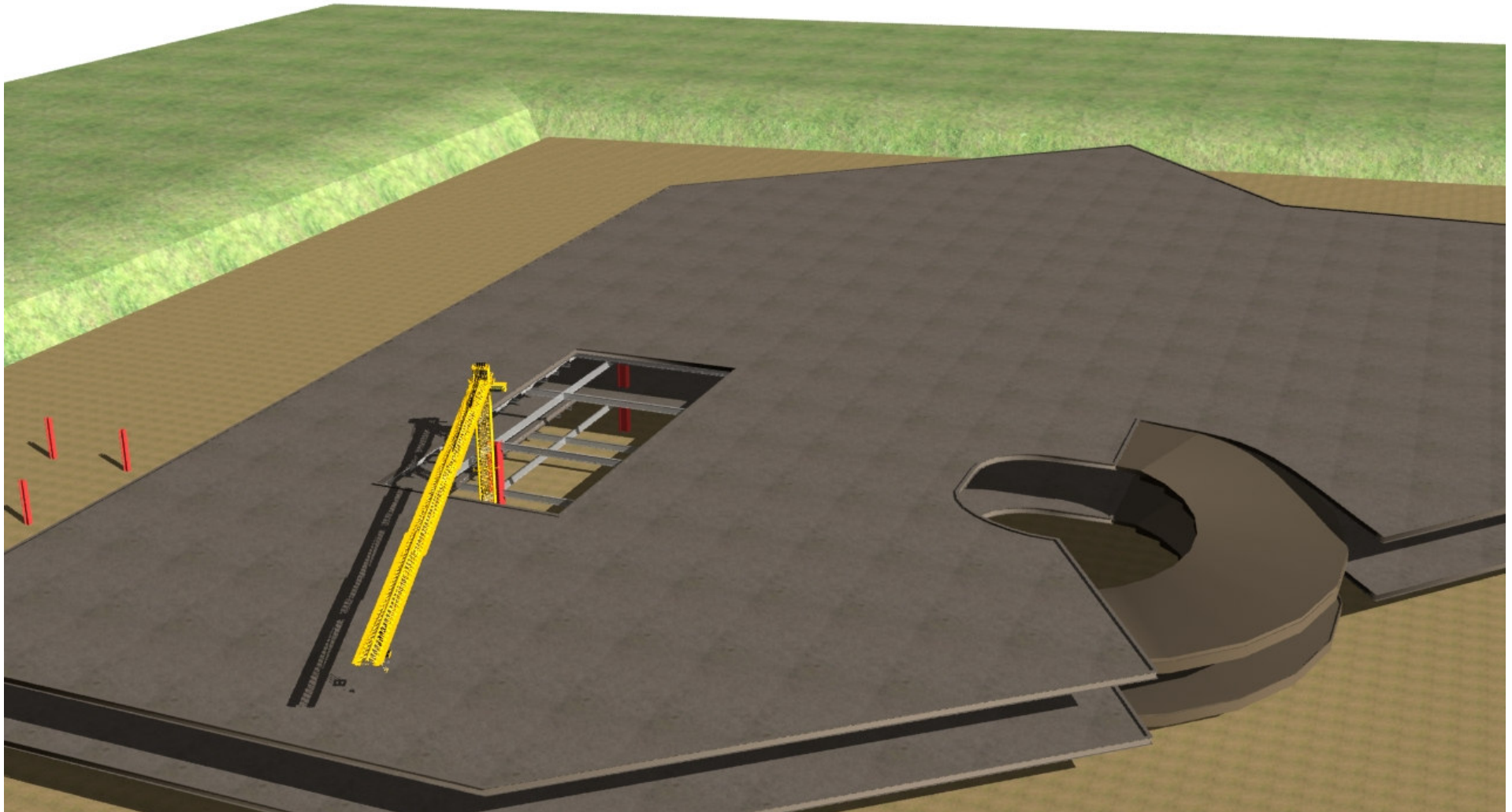




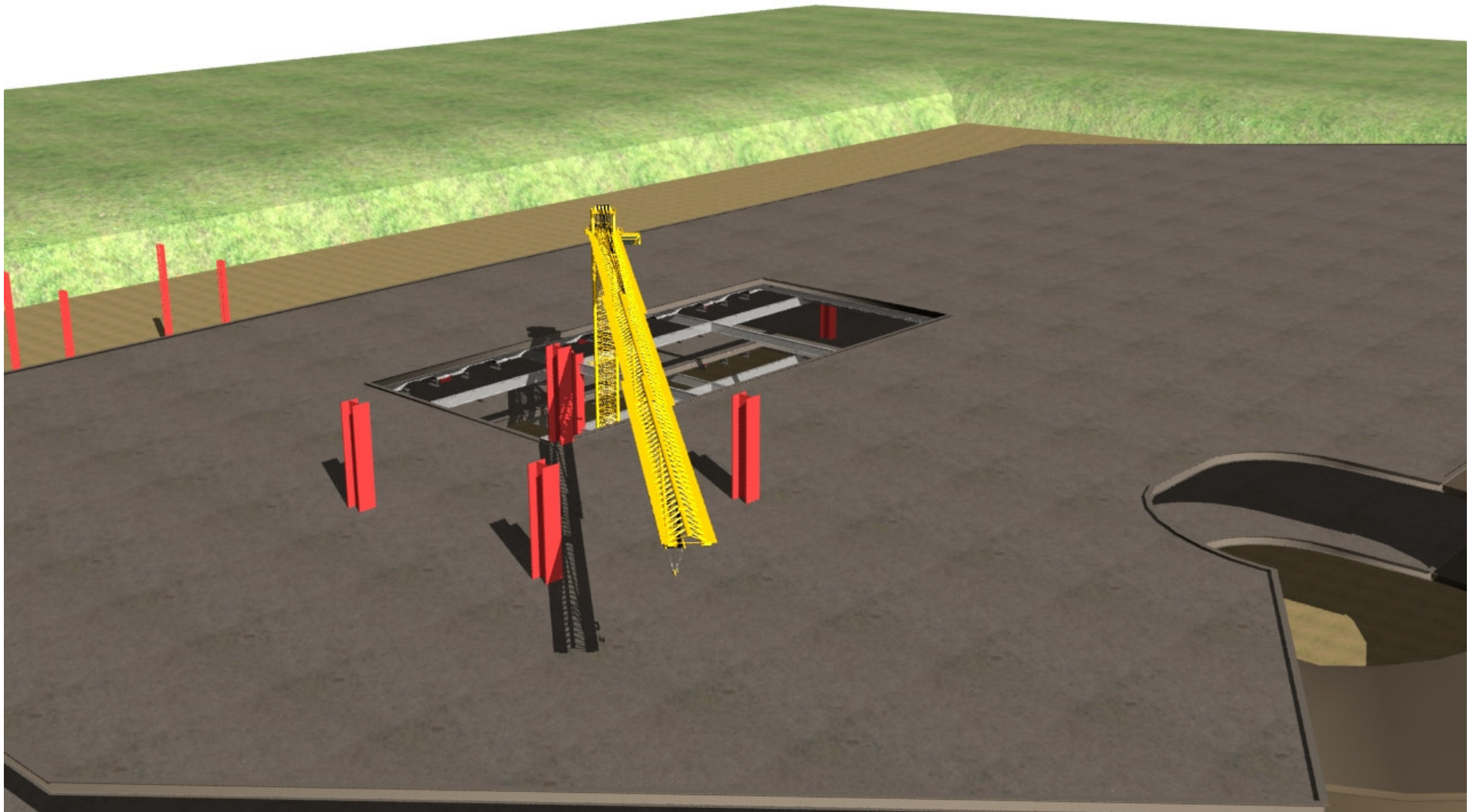




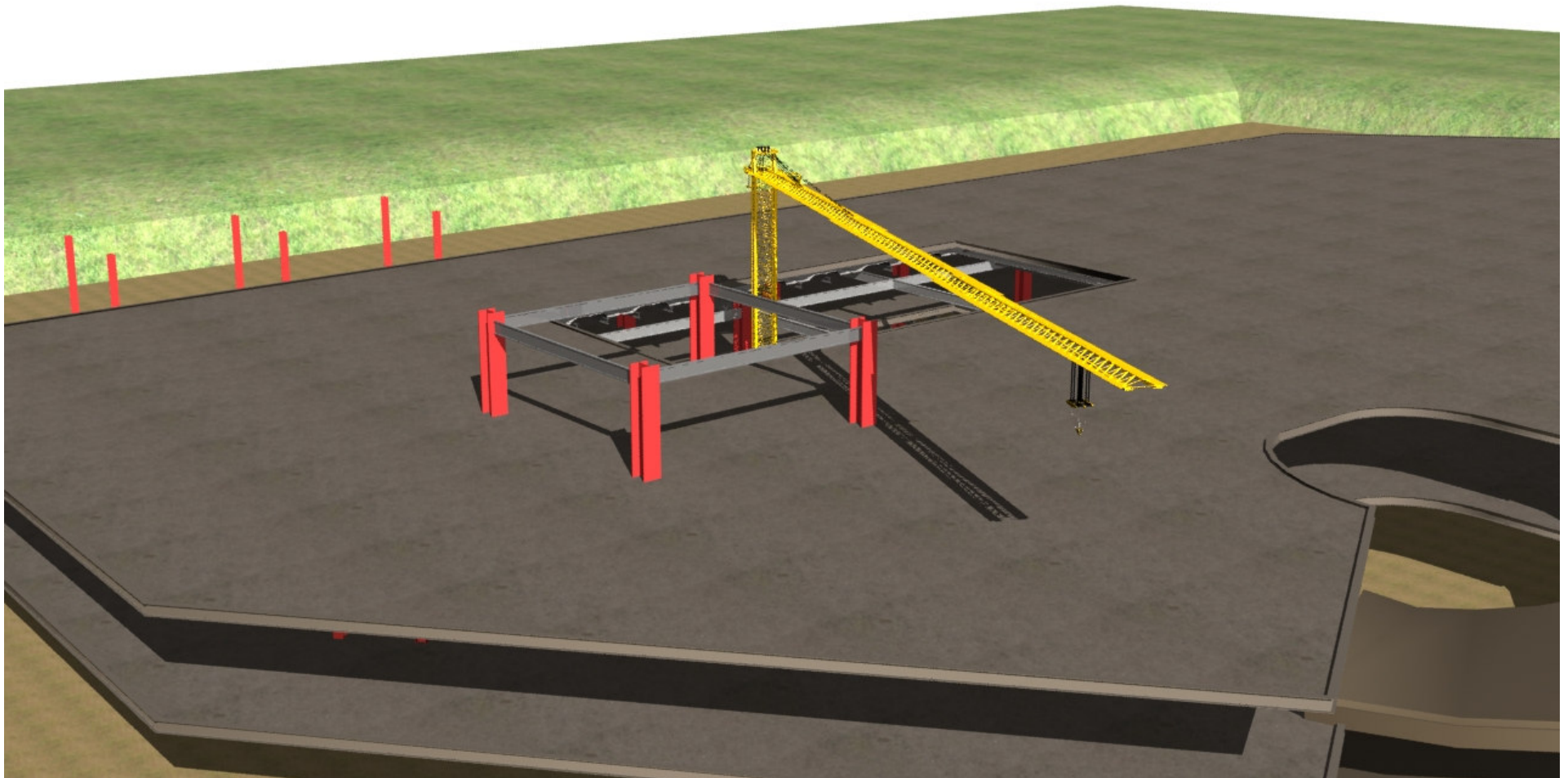


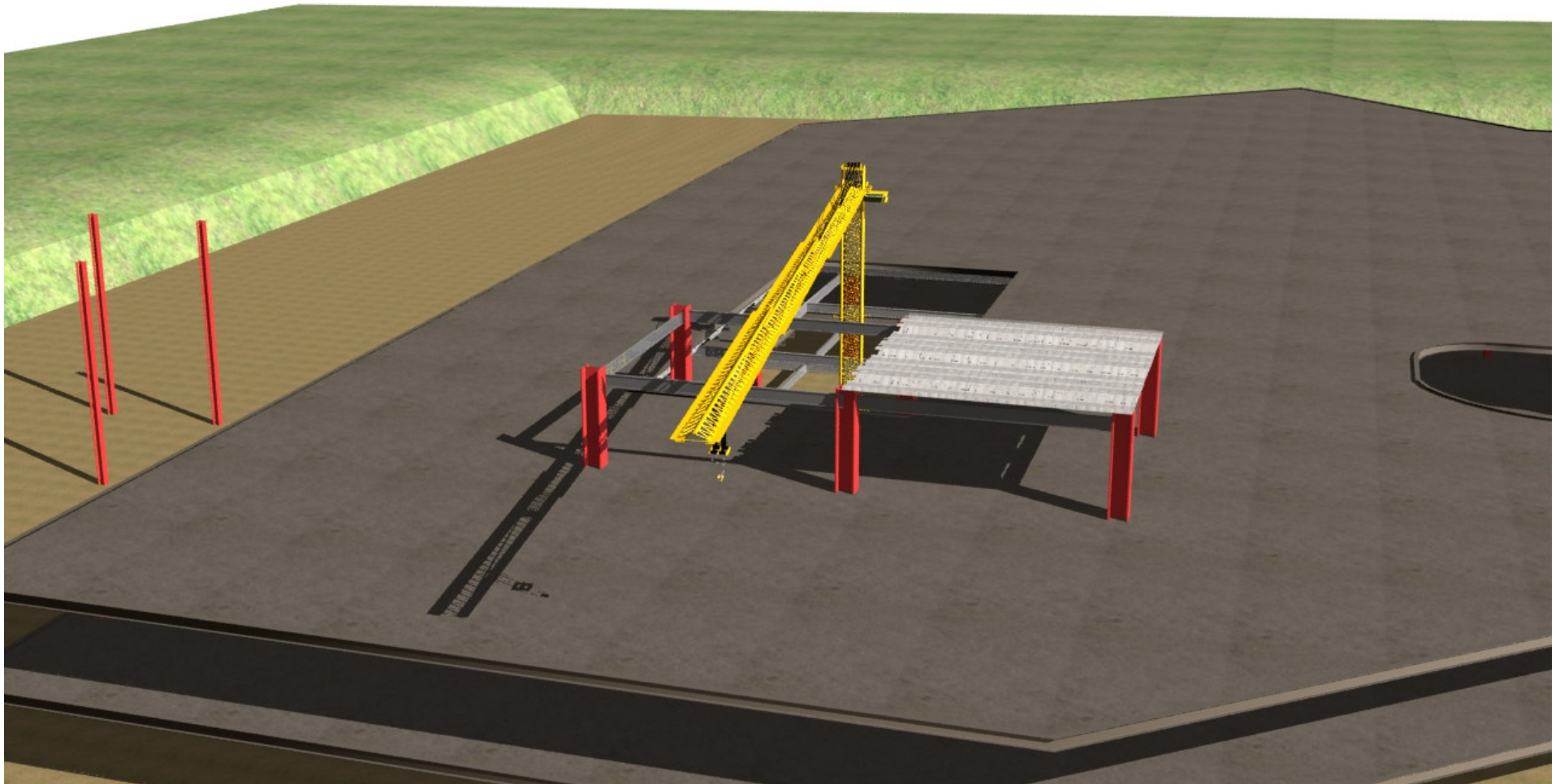




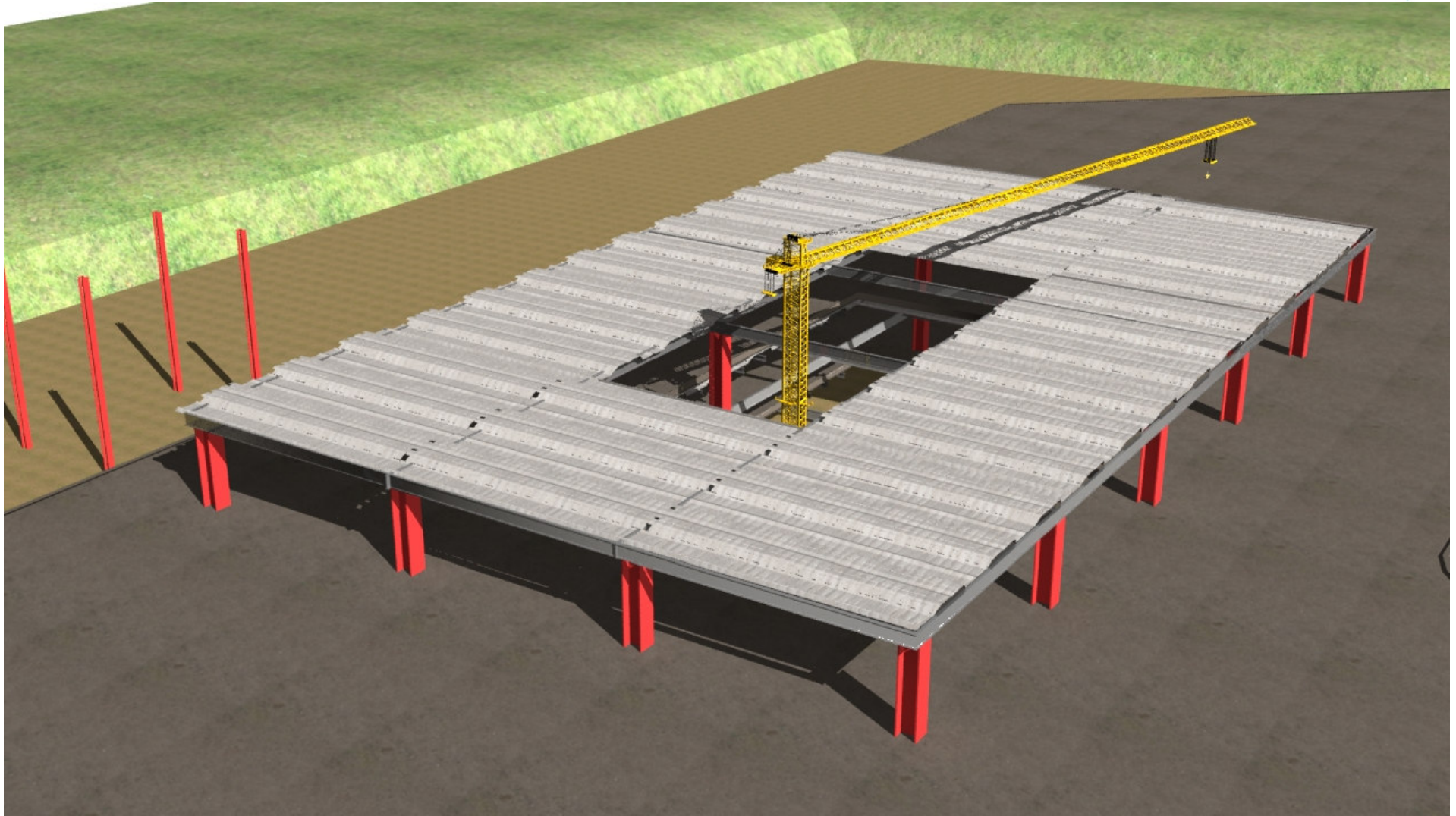


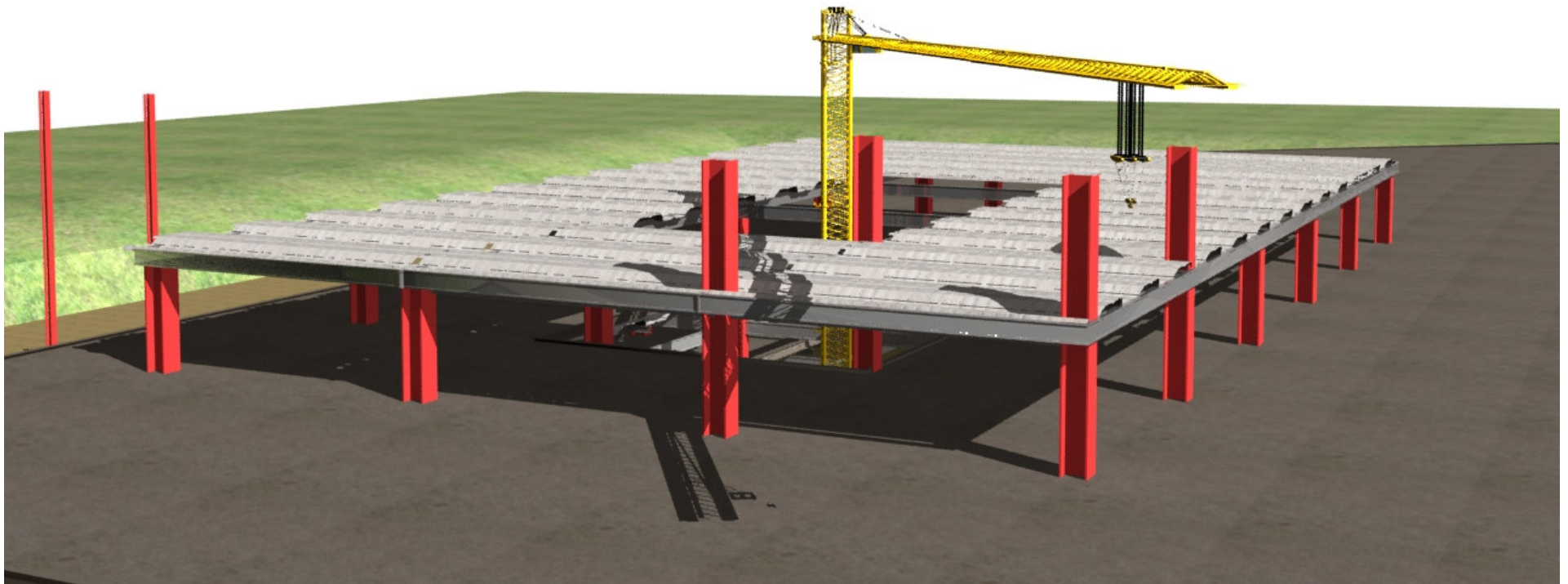




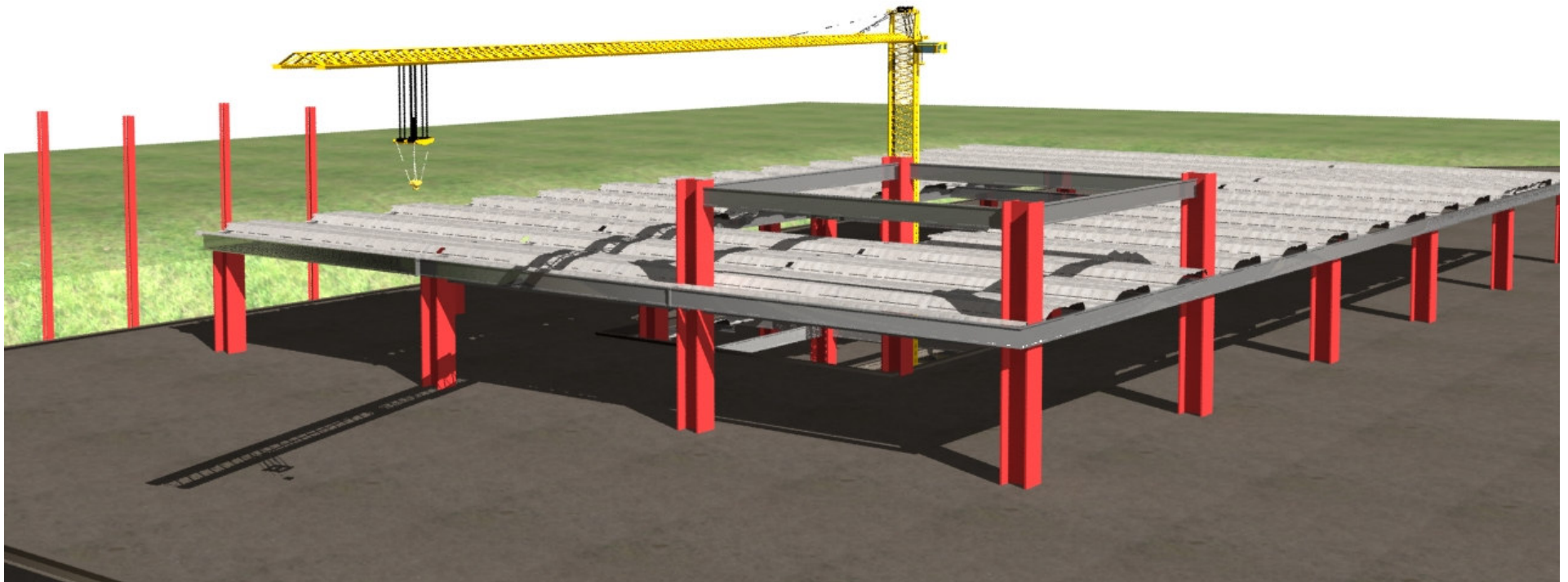


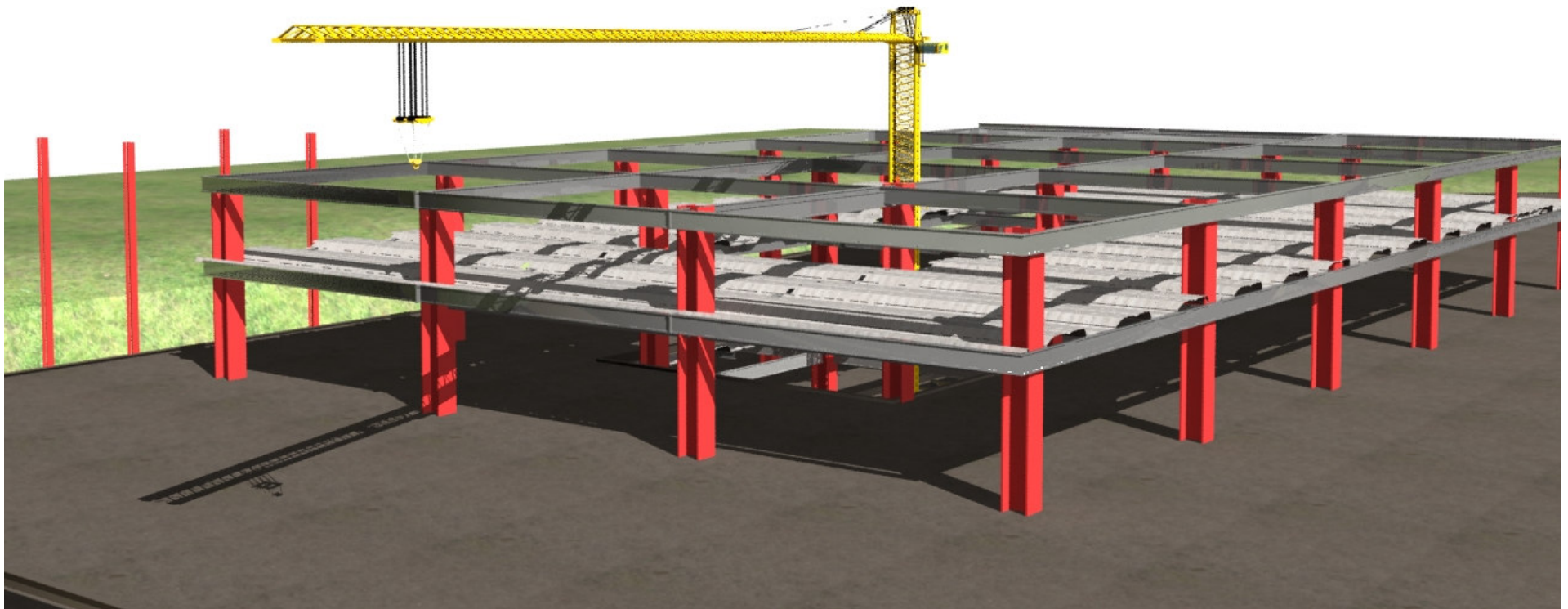




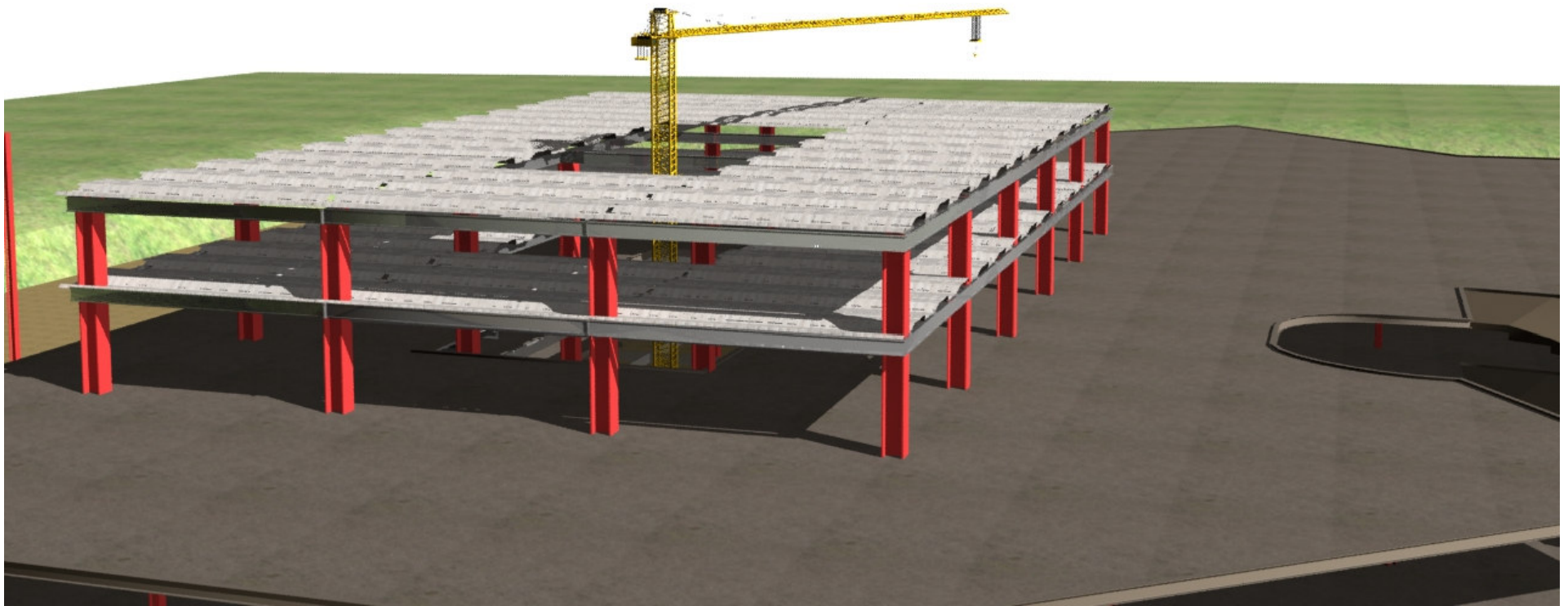


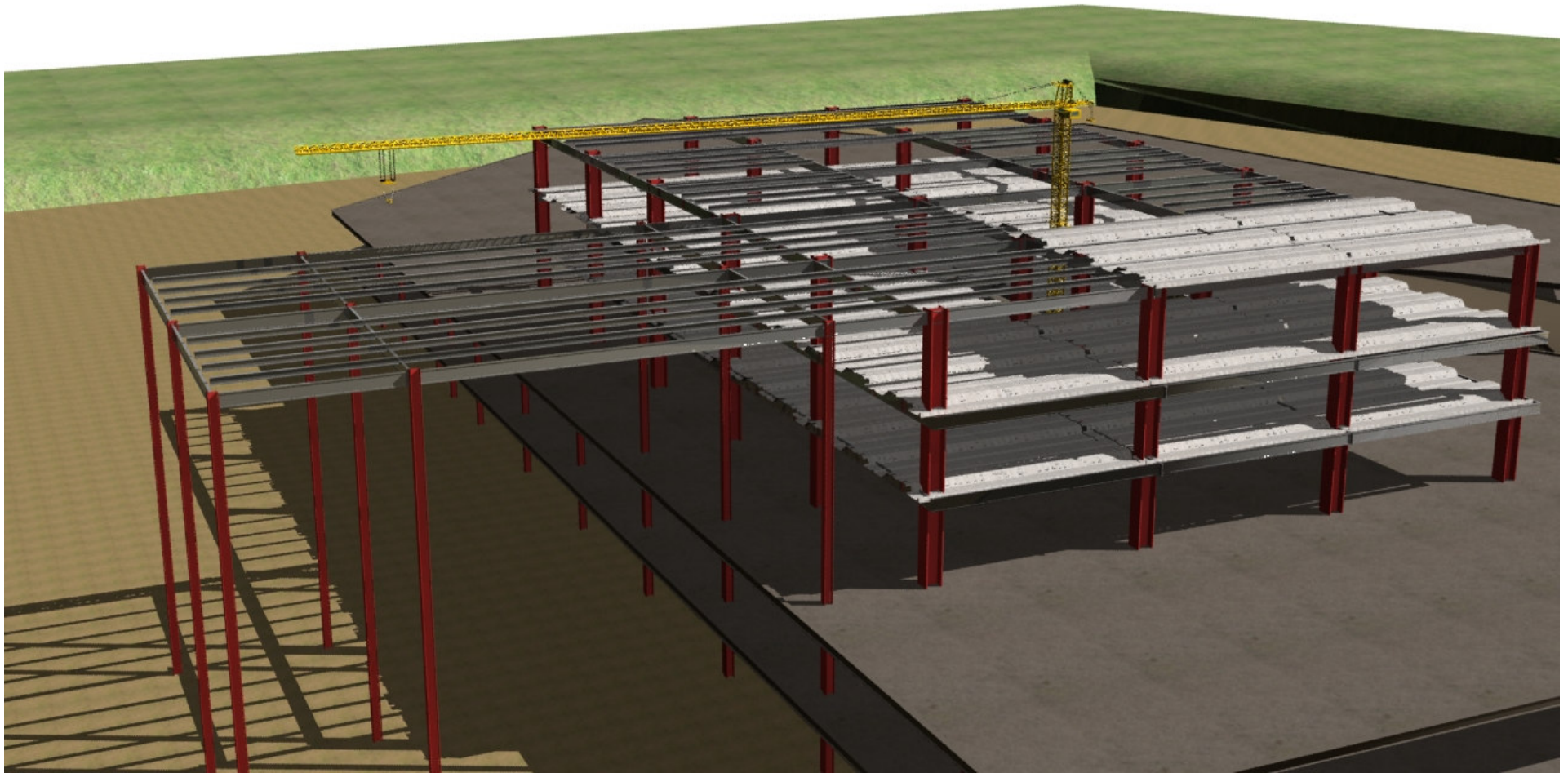




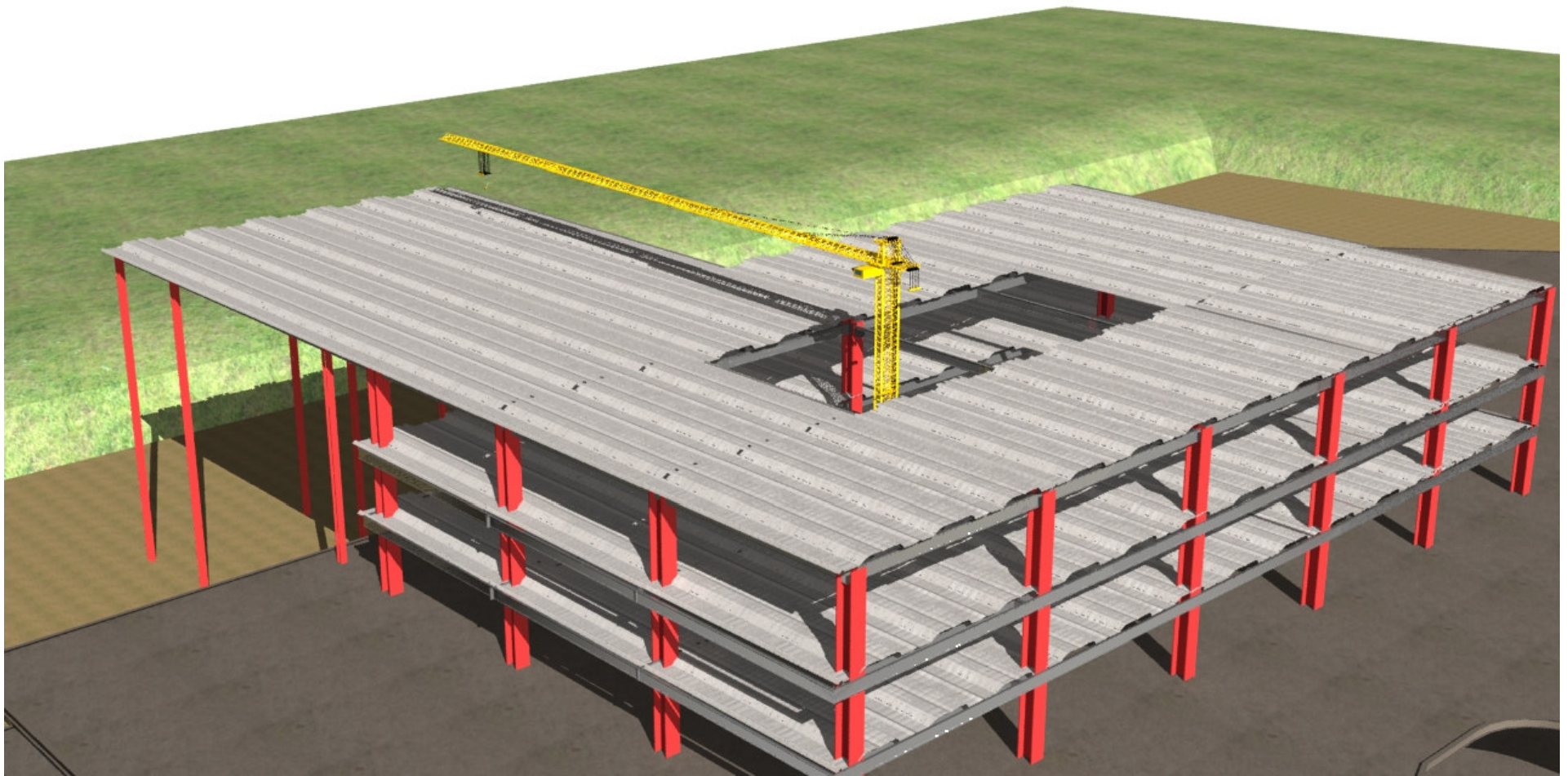


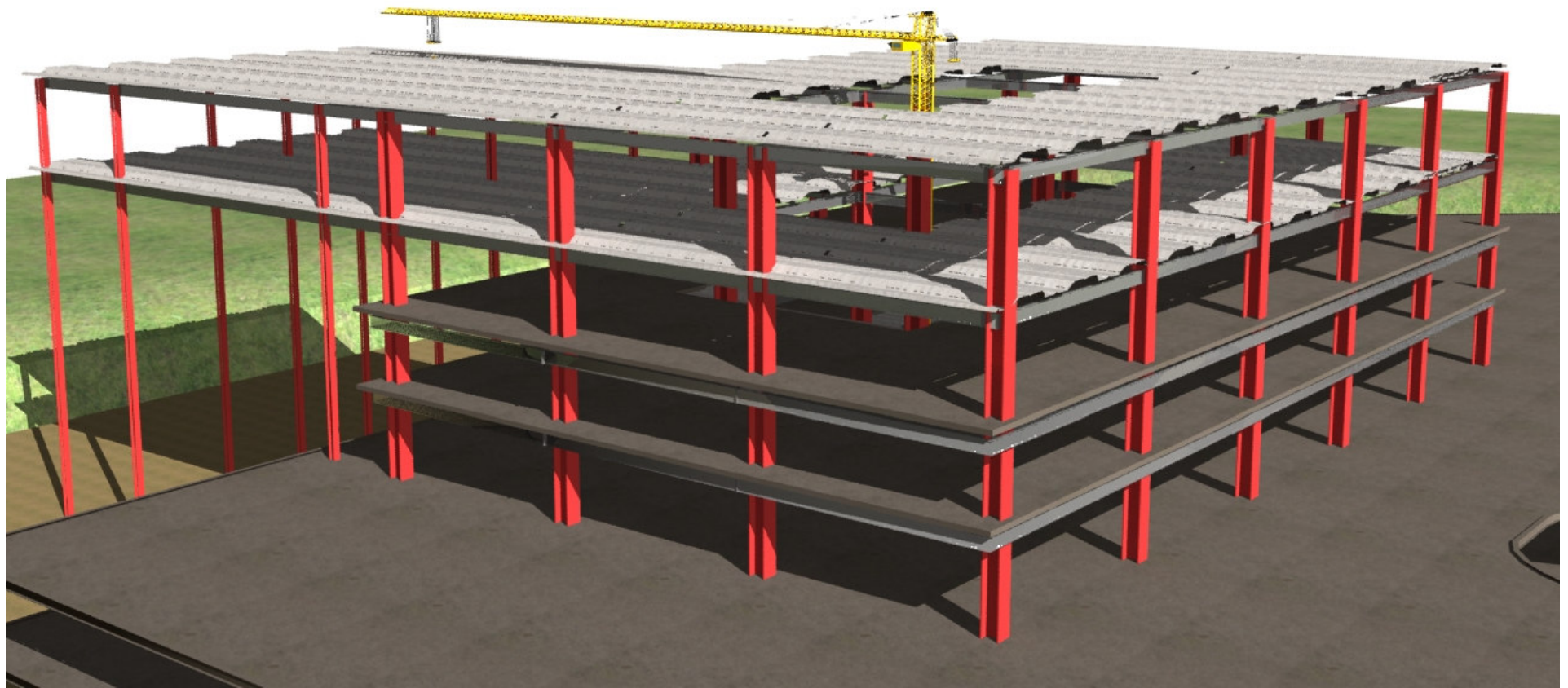




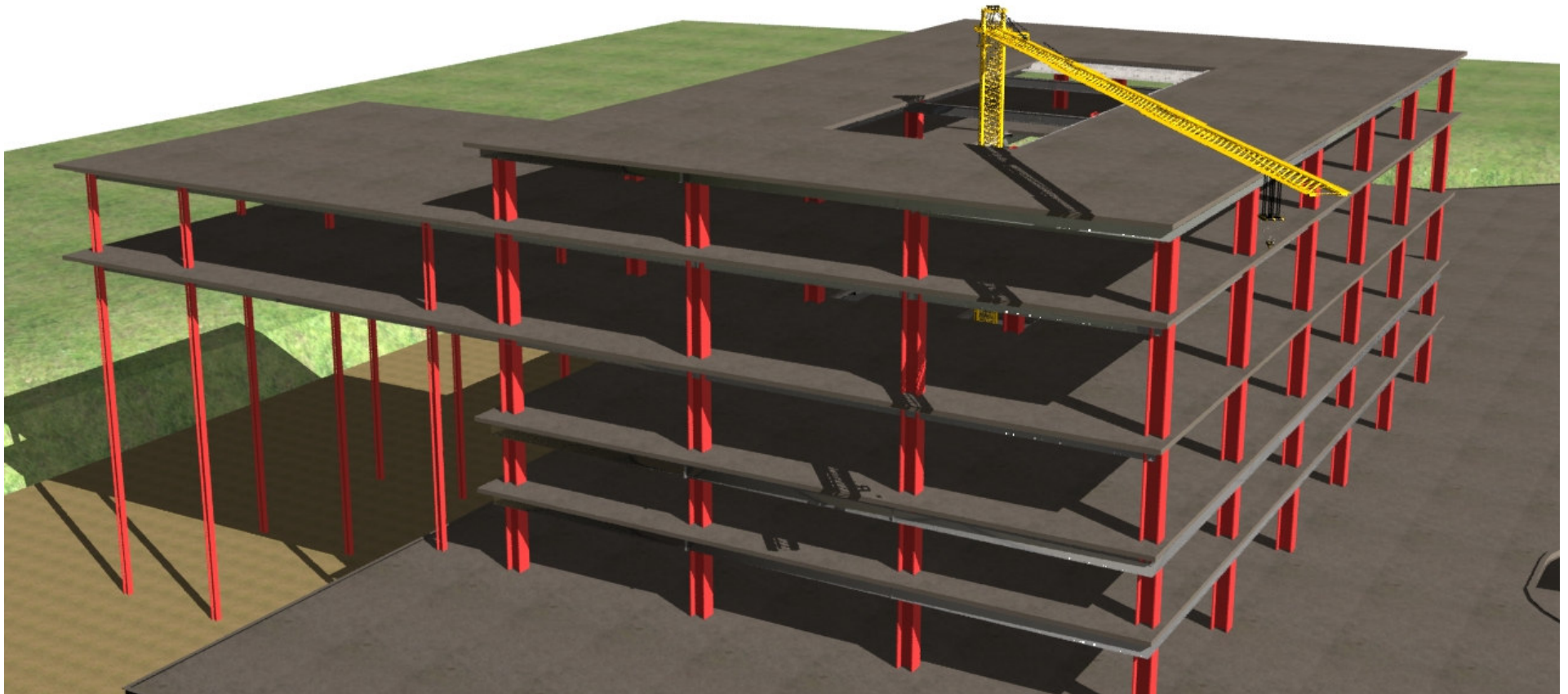


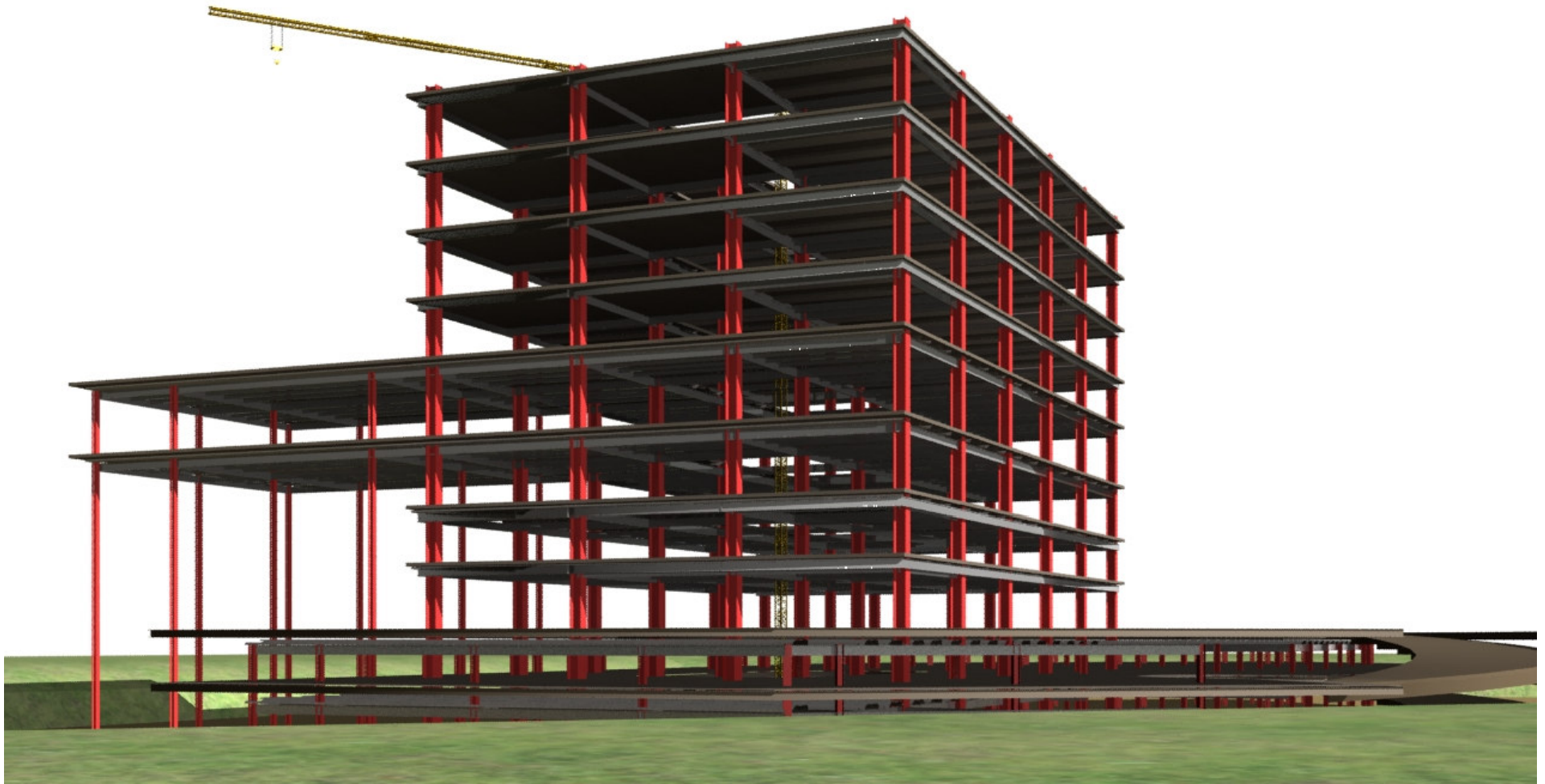




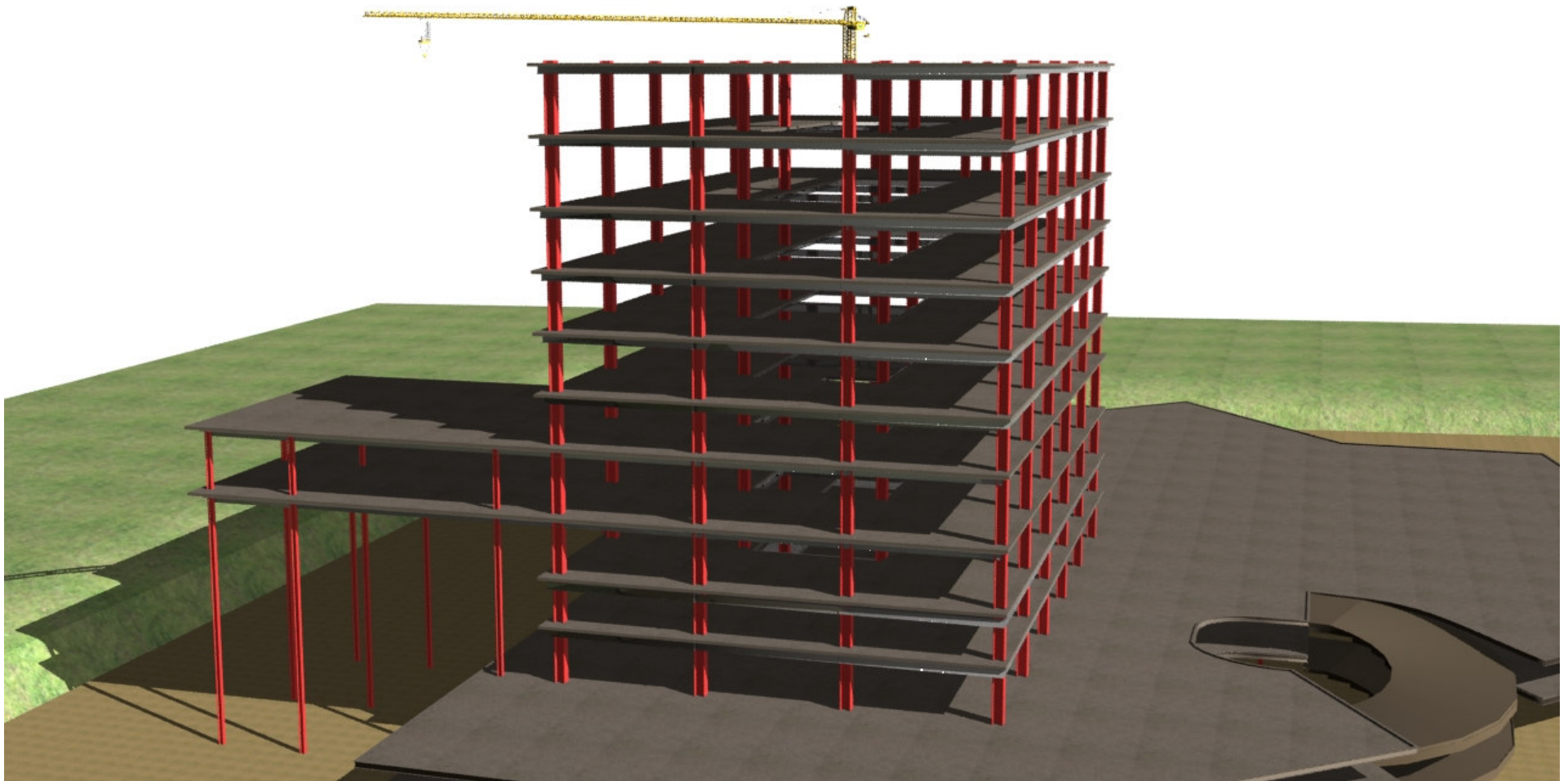






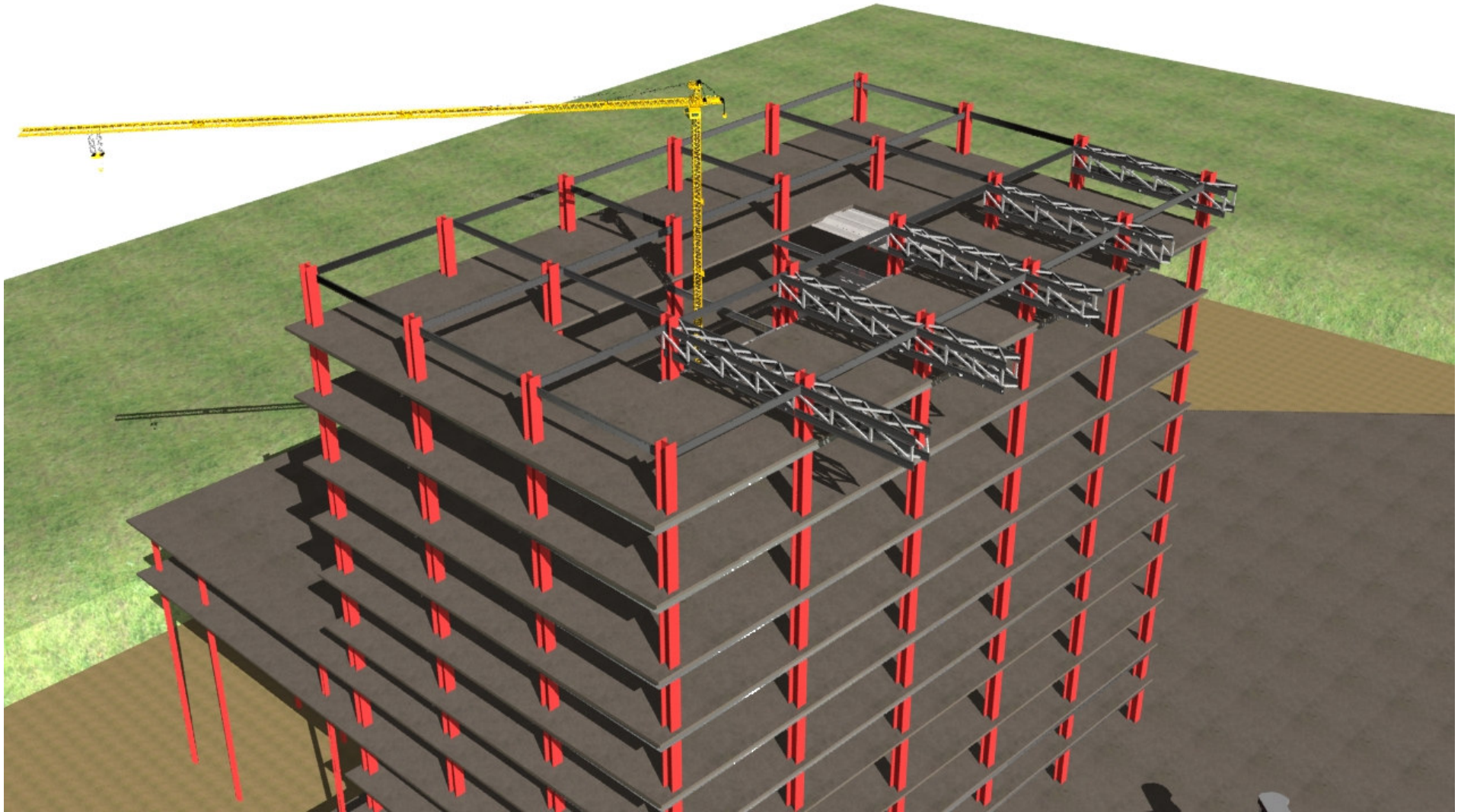




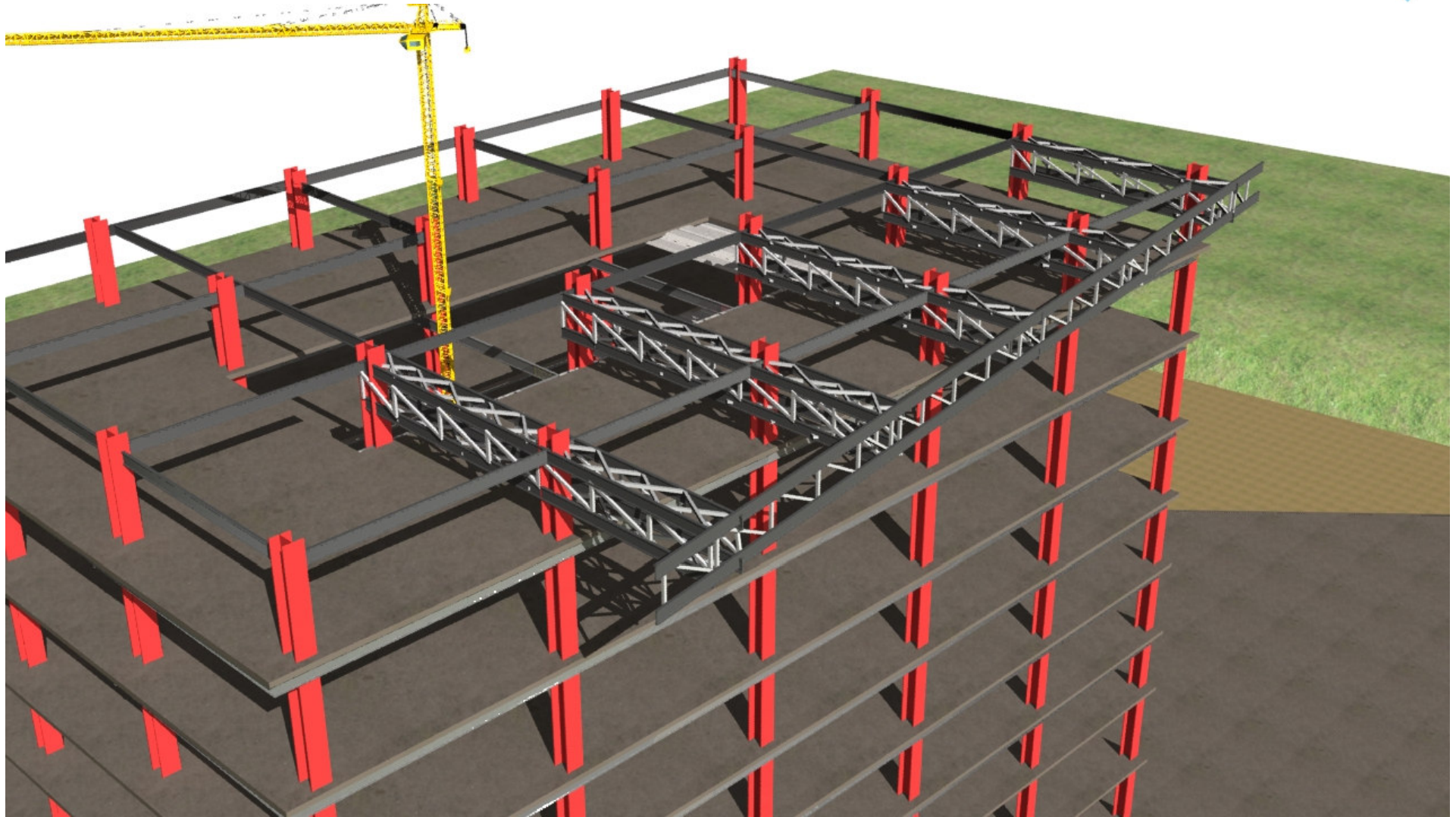




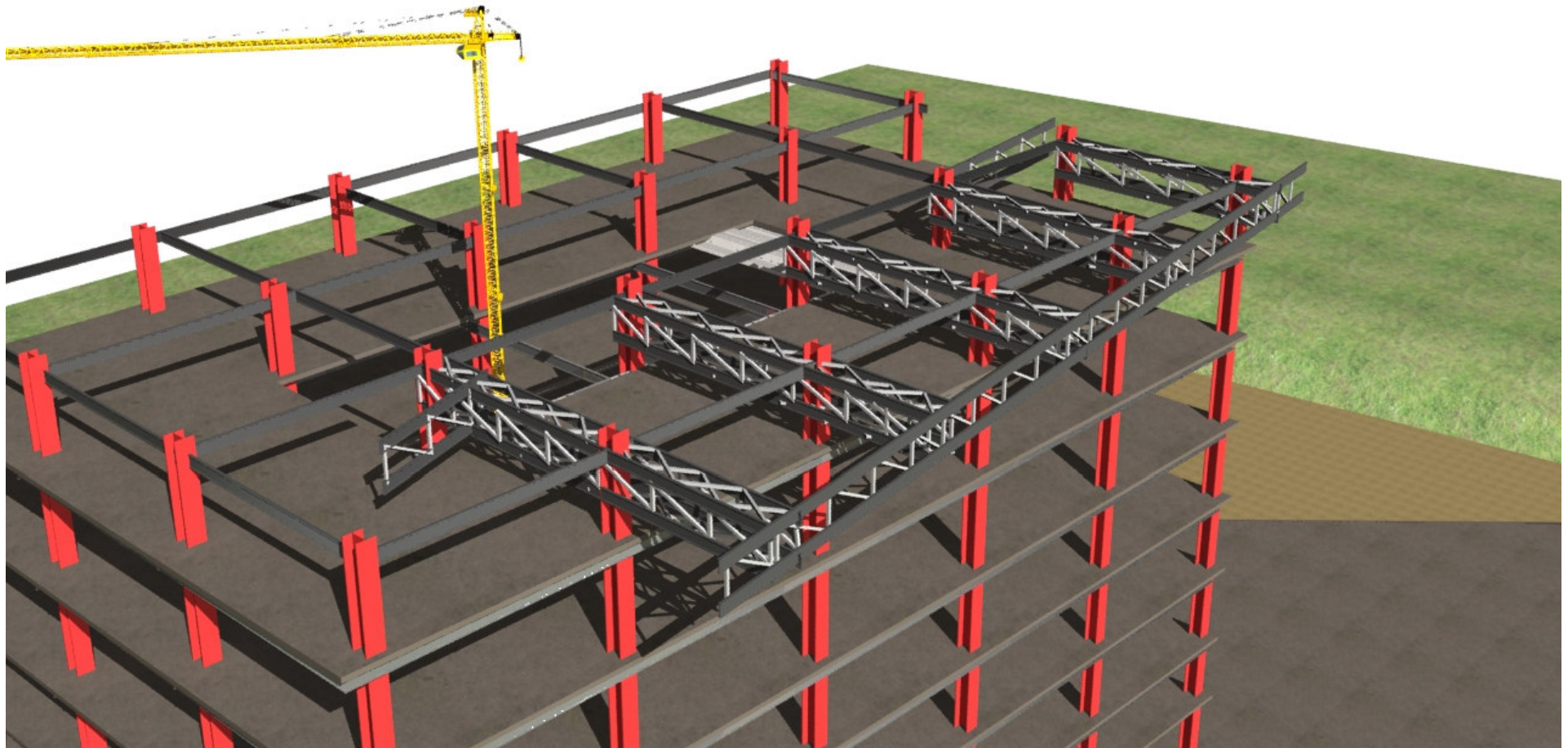


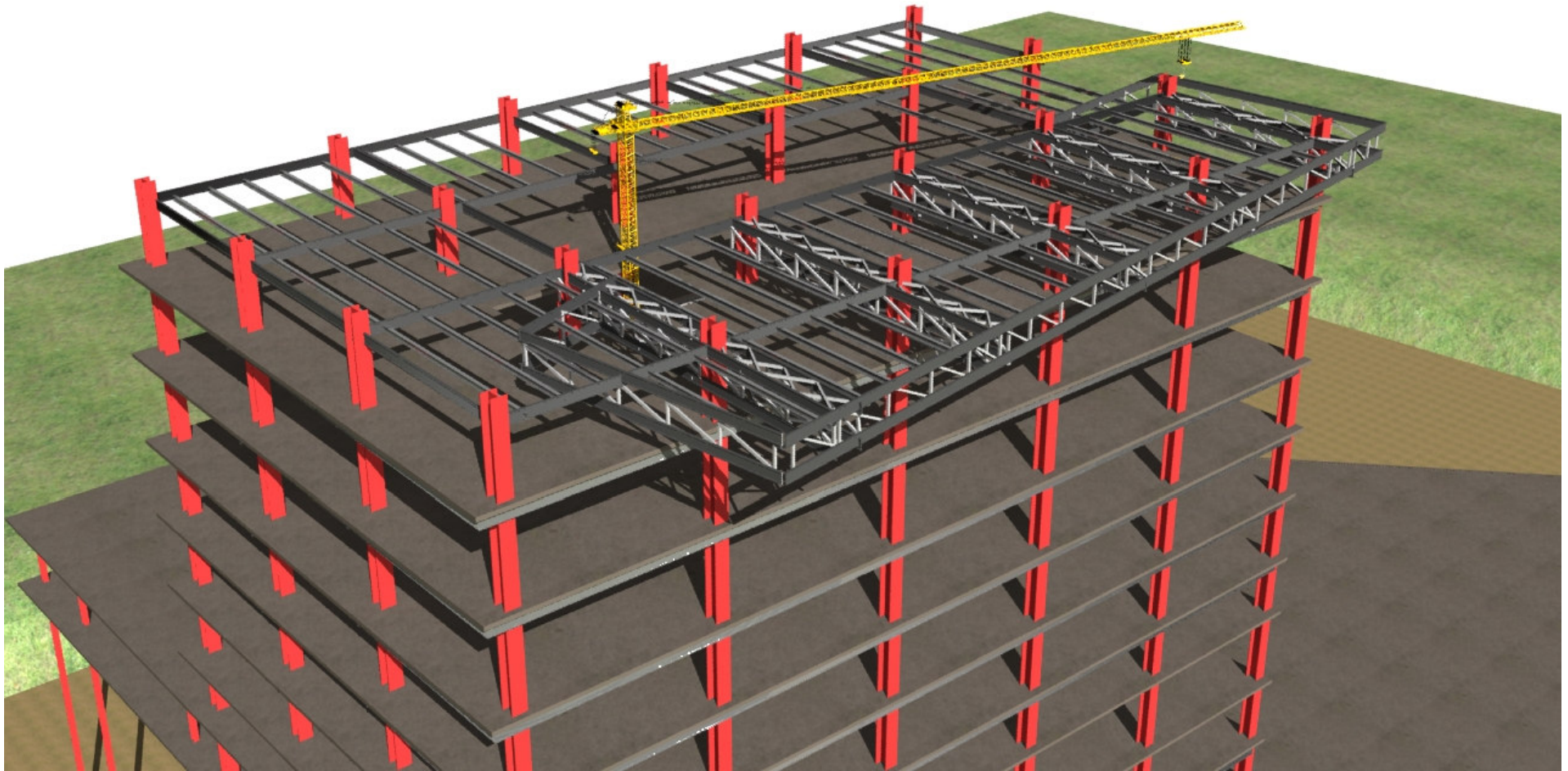




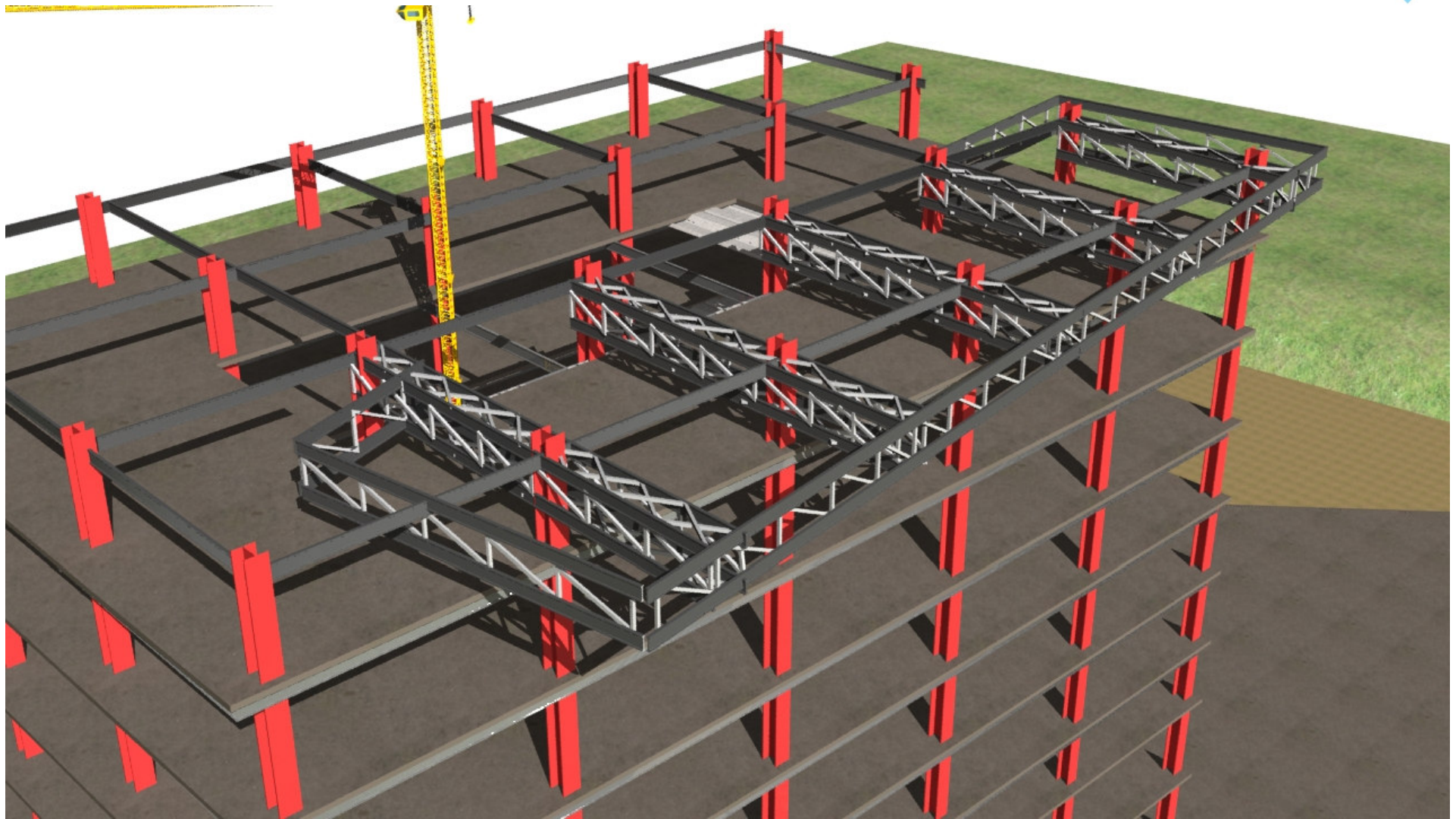


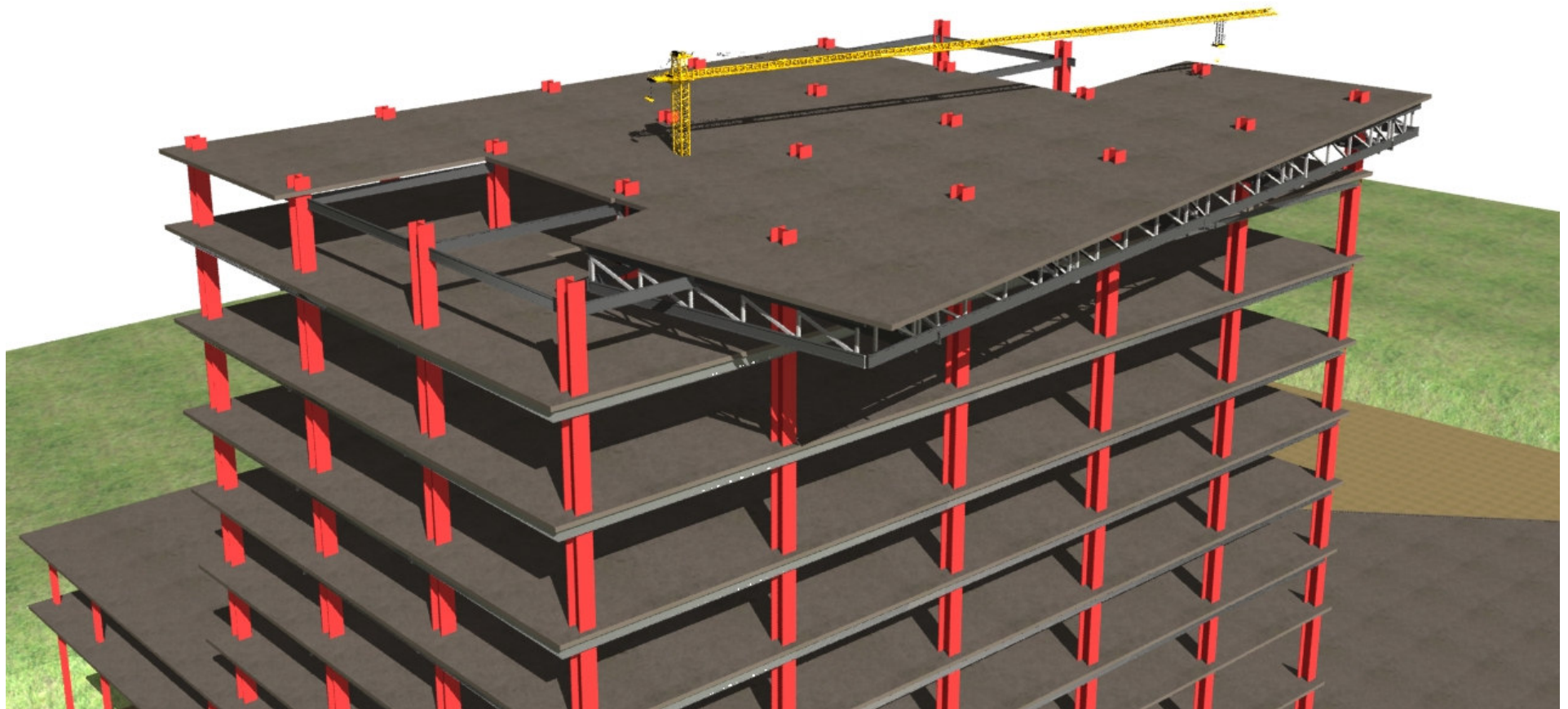




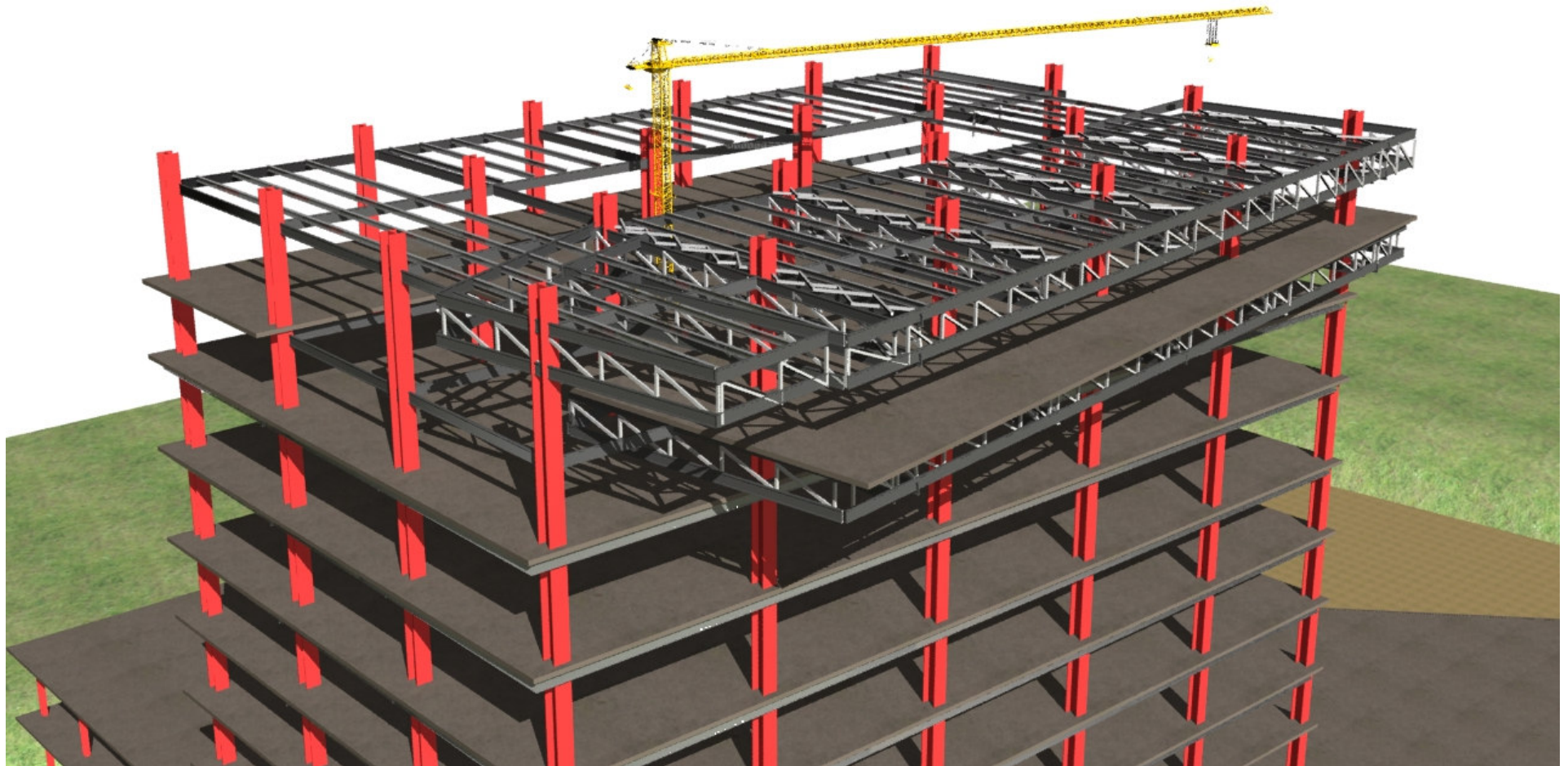


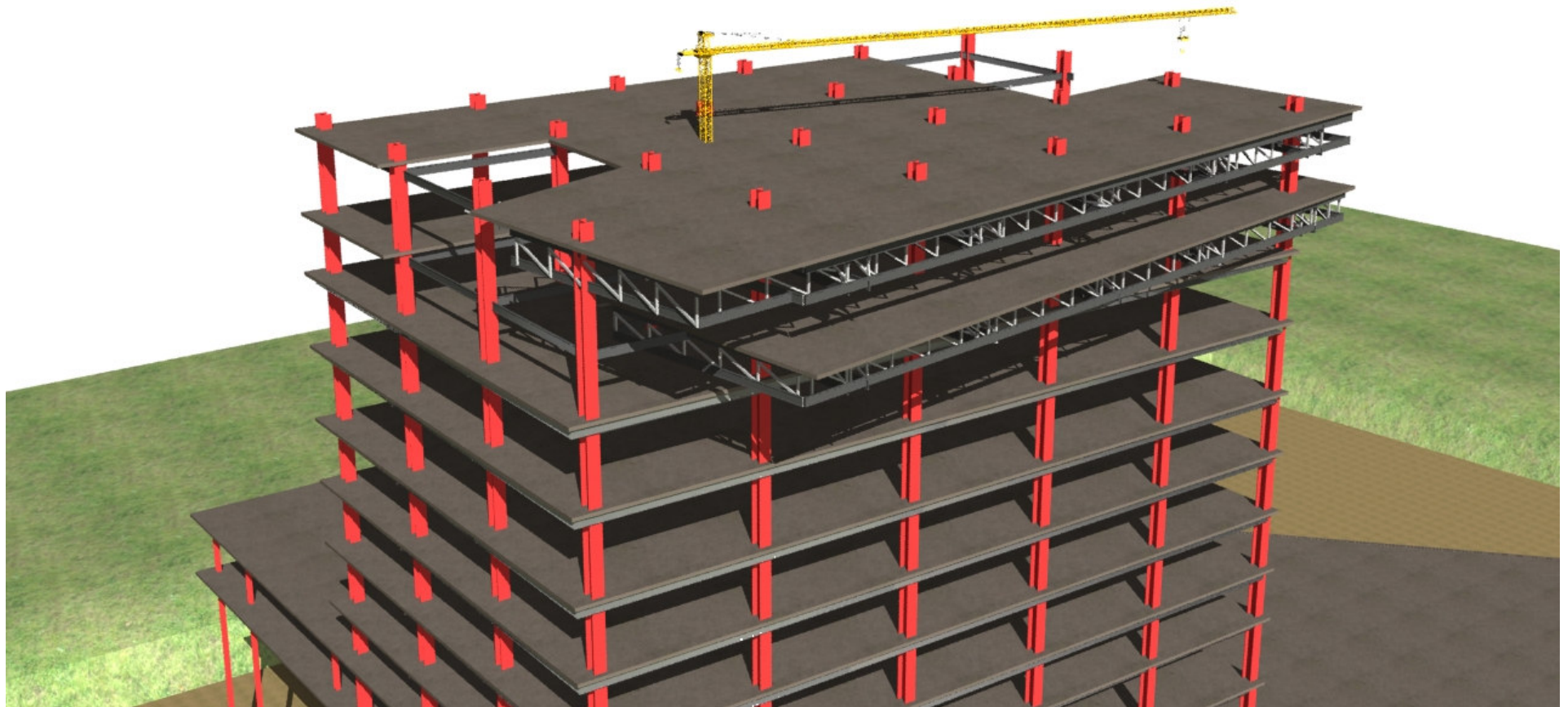




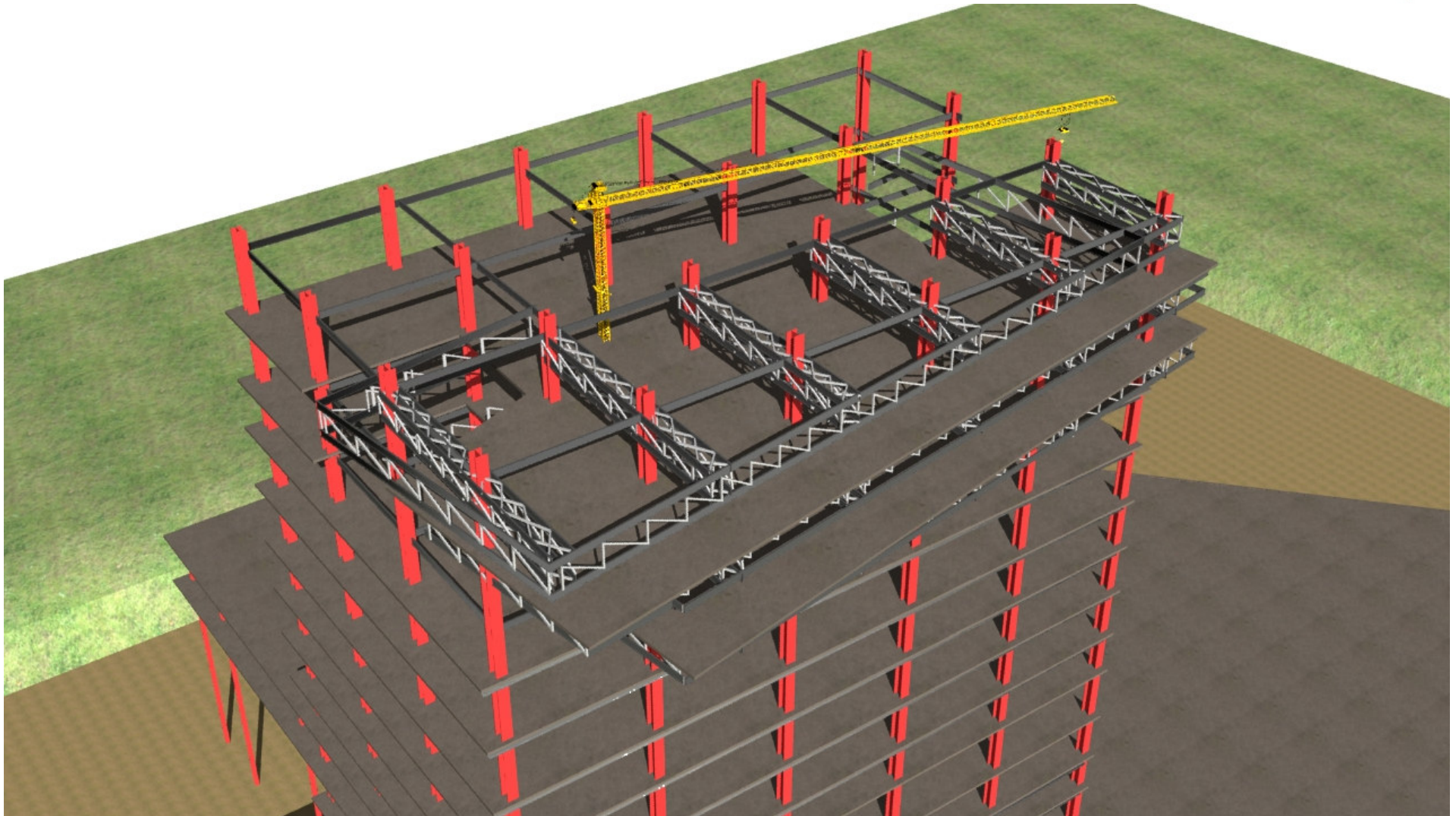




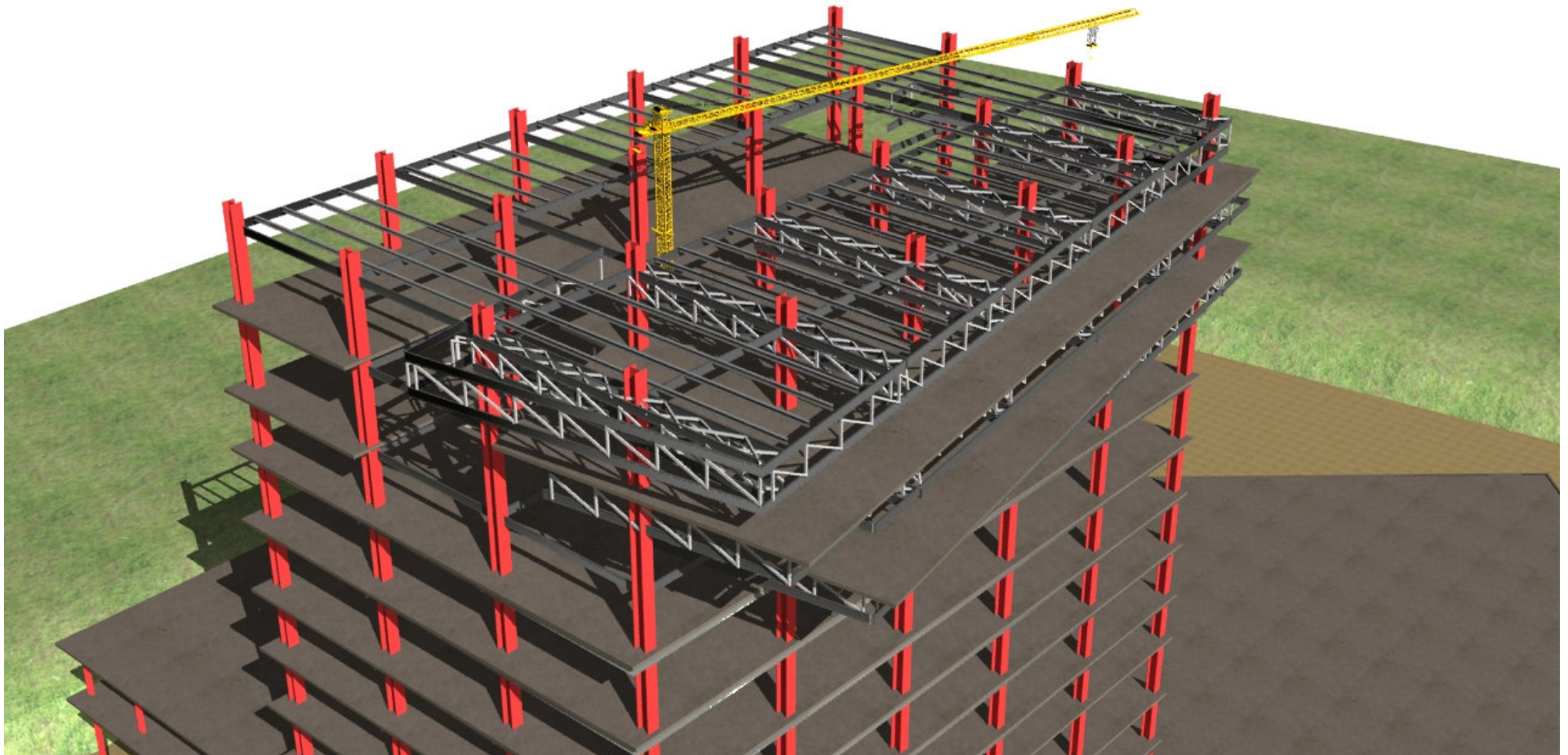




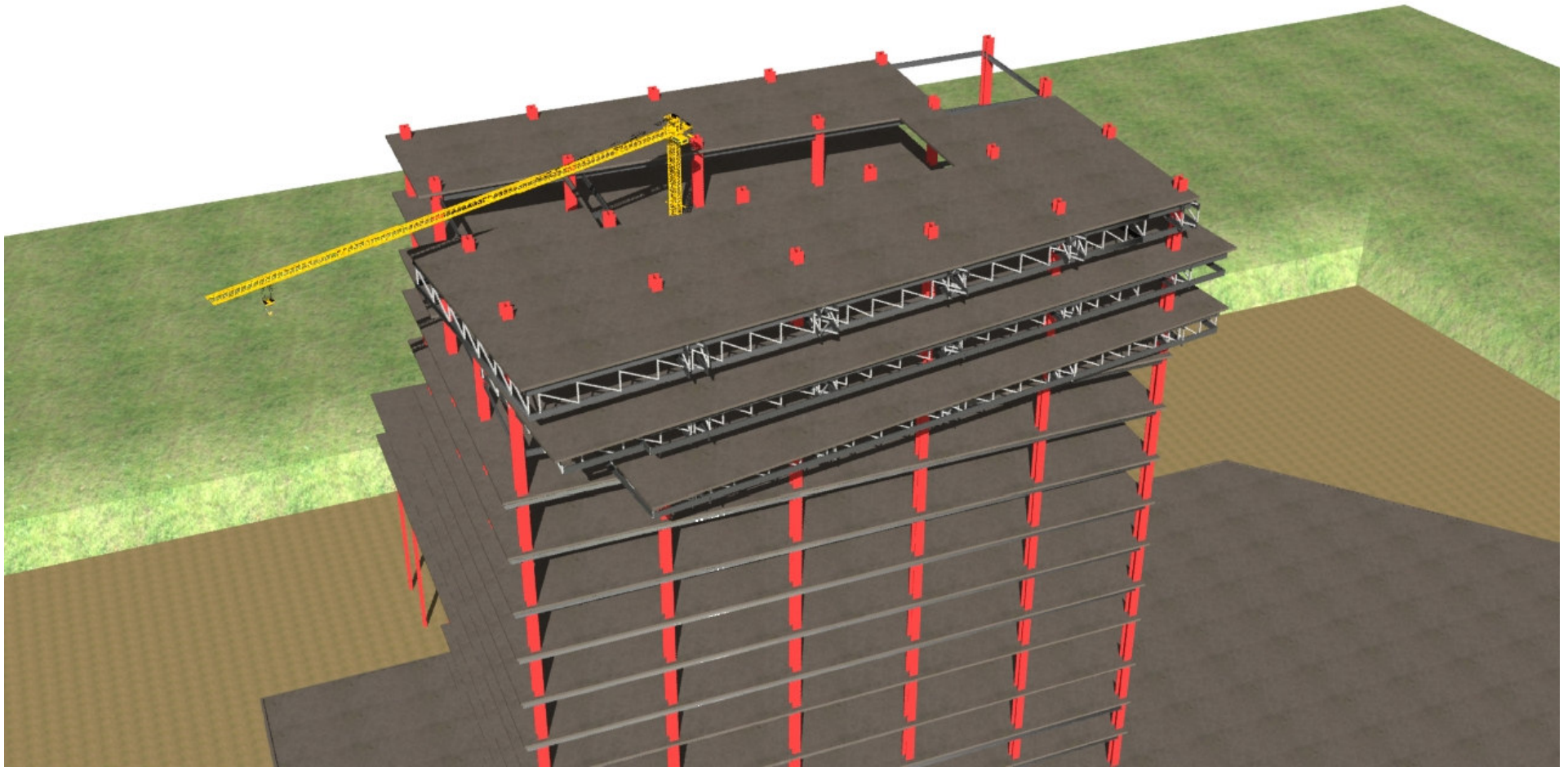


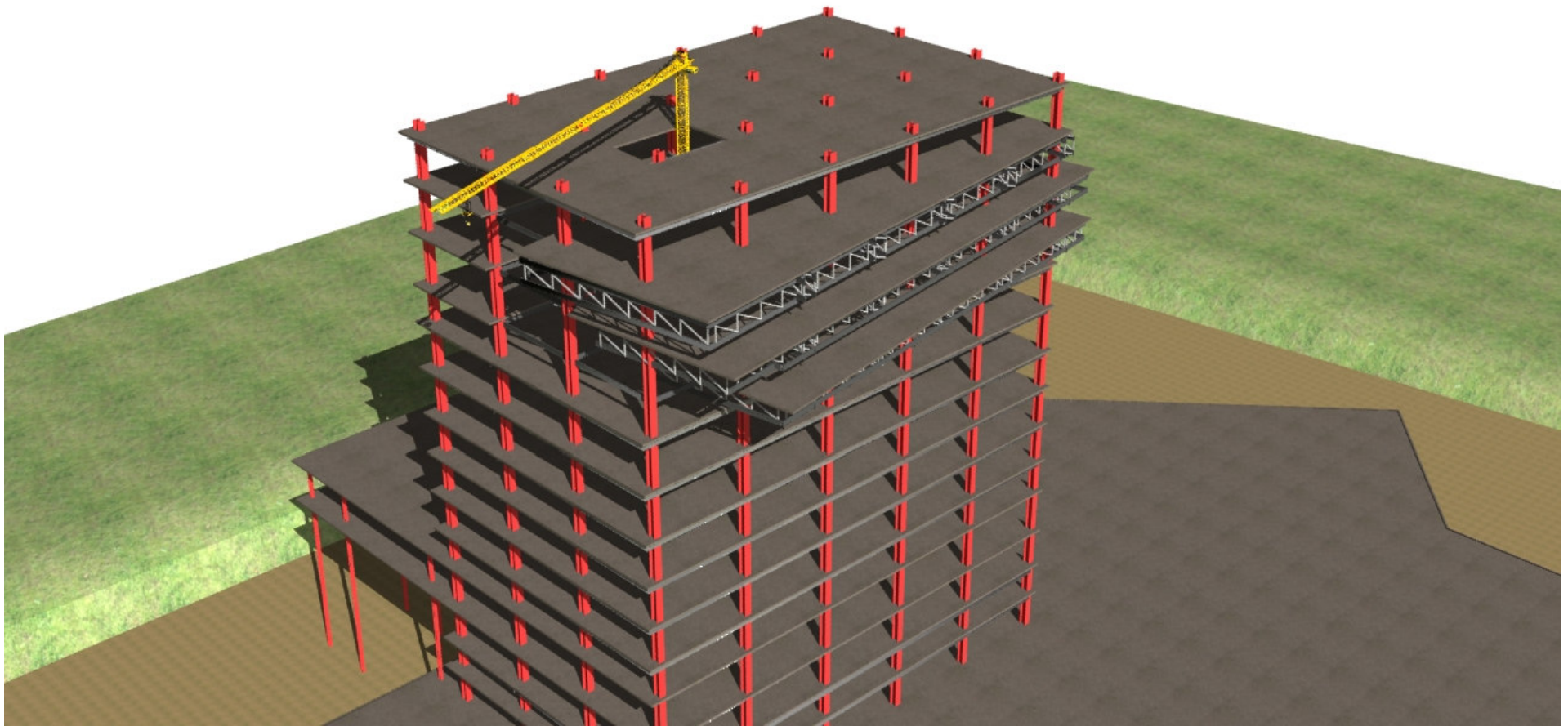




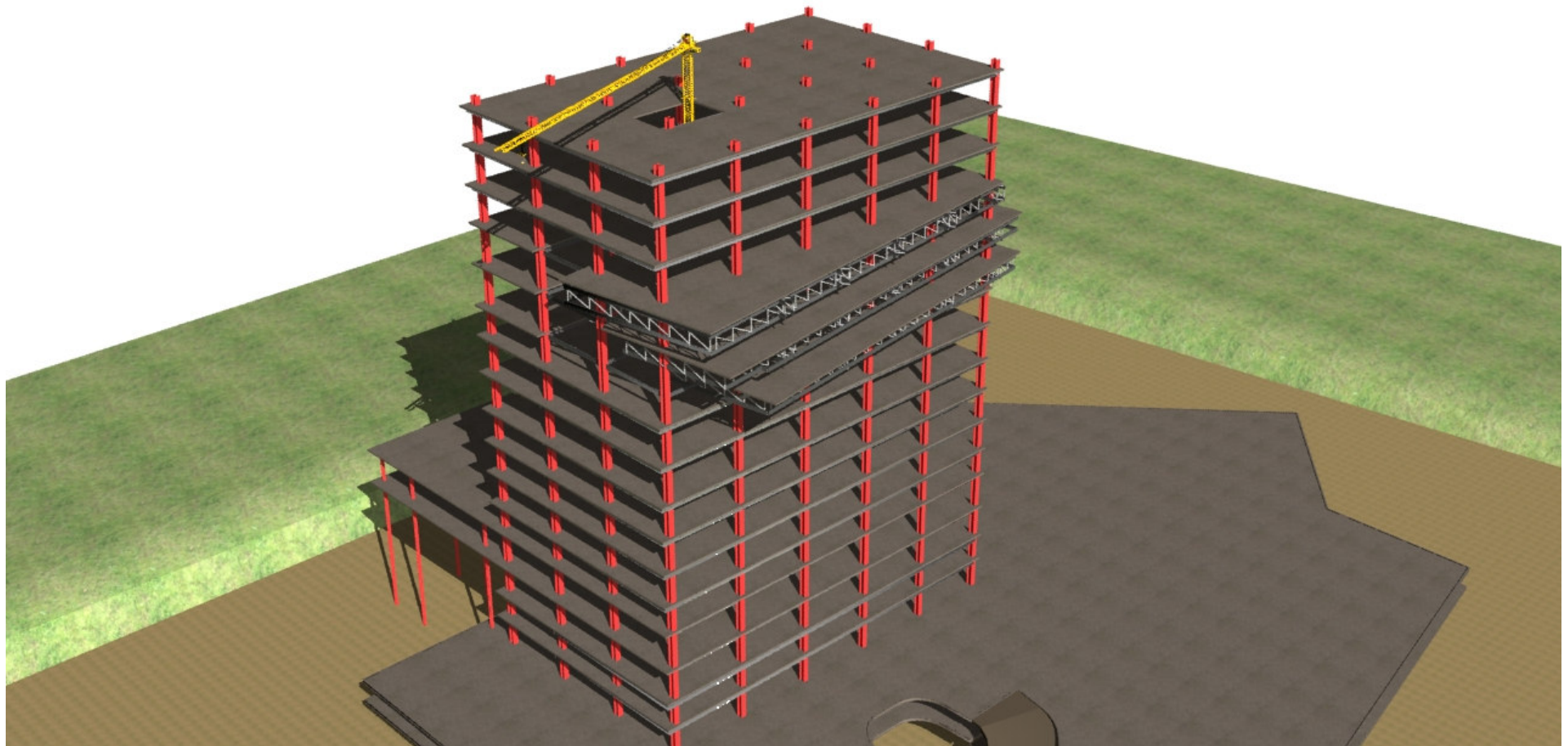


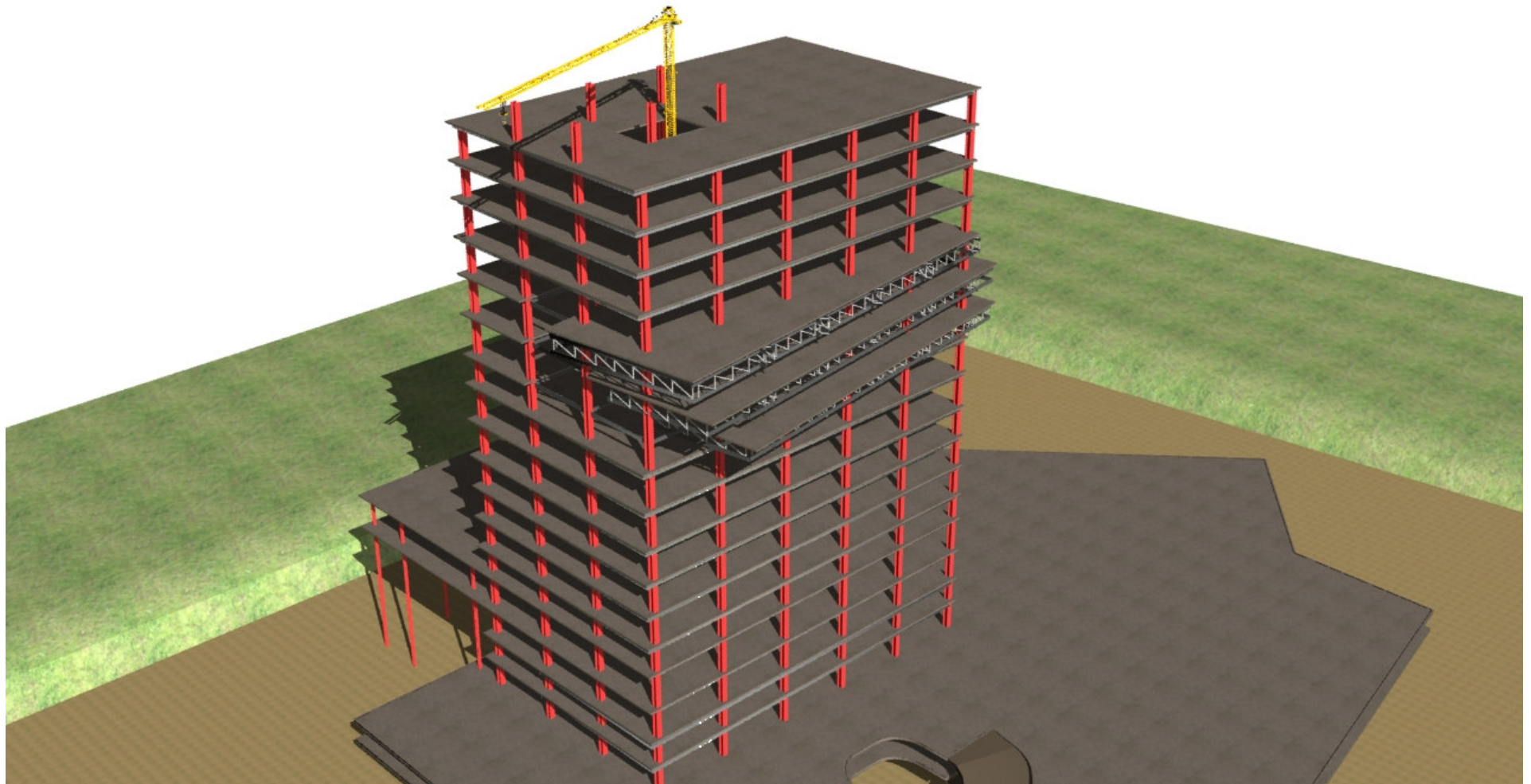




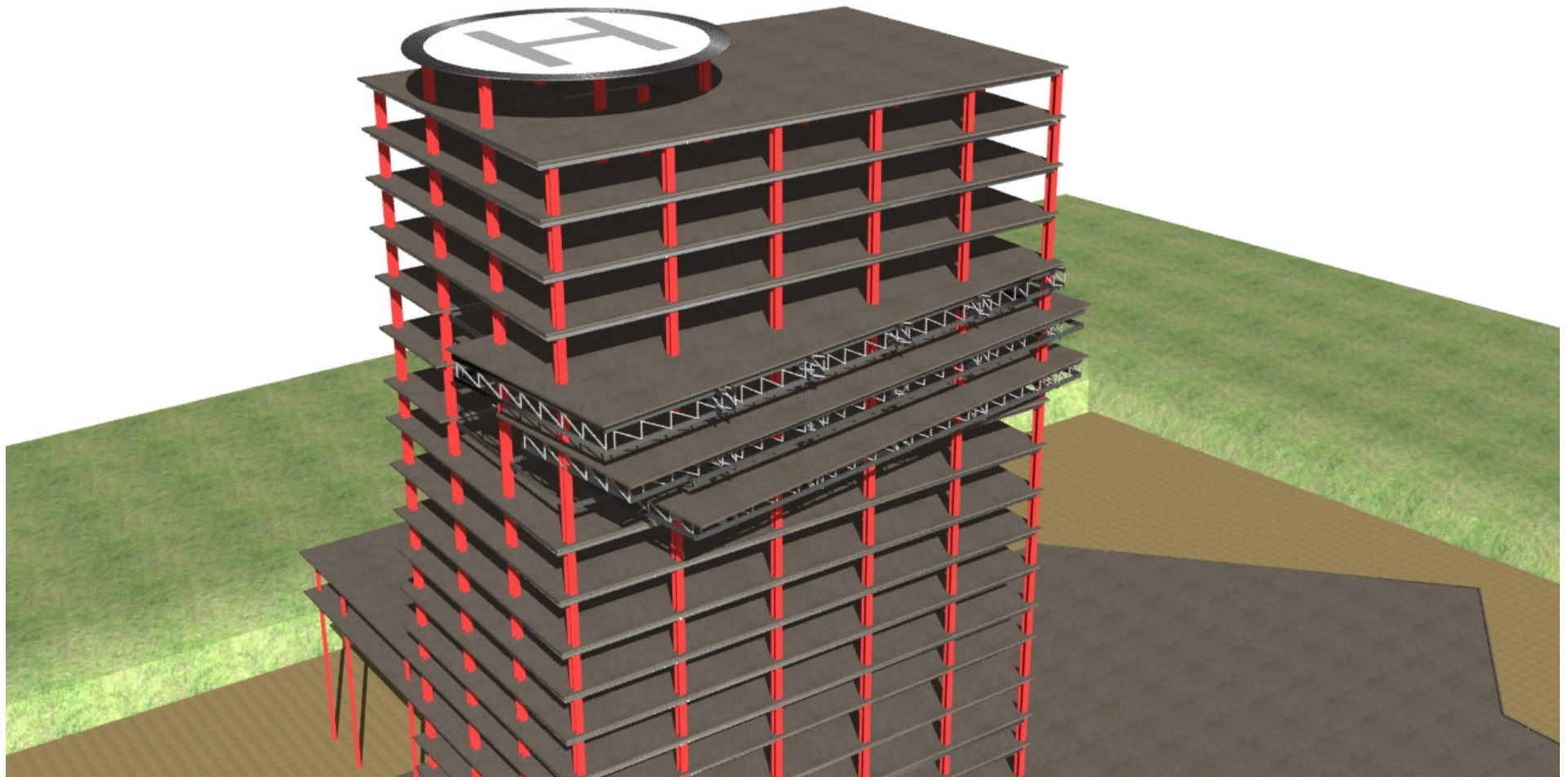












# **EXPERTISE IN MULTI-STORIED BUILDINGS**

## **PROJECT PICTURES**





# JAYABHERI ORANGE COUNTY, HYDERABAD



*Jayabheri Orange County, Hyderabad, G+10 floors*



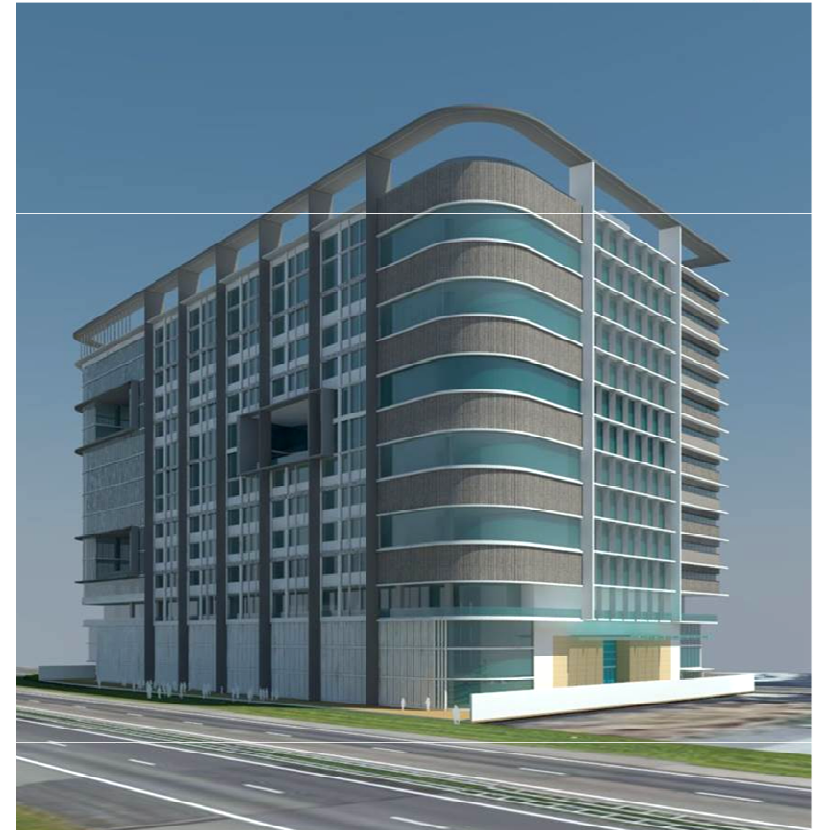
# GLAND PHARMA, HYDERABAD



*Gland Pharma, AP, G+3 floors*



# PHOENIX TRIVIUM, HYDERABAD



***G+17 floors***



# MULTILEVEL CAR PARKING, LULU MALL, COCHIN



*Multi level car parking for Lulu Mall through Sobha Developers*





*Research Center for Rolls Royce (G+3)*



# ETNA , PHOENIX, HYDERABAD



*Residential building (G+10)*



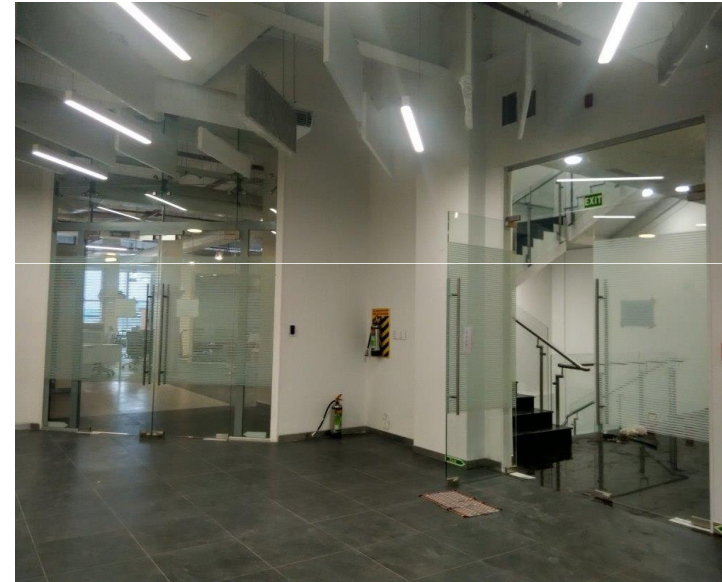
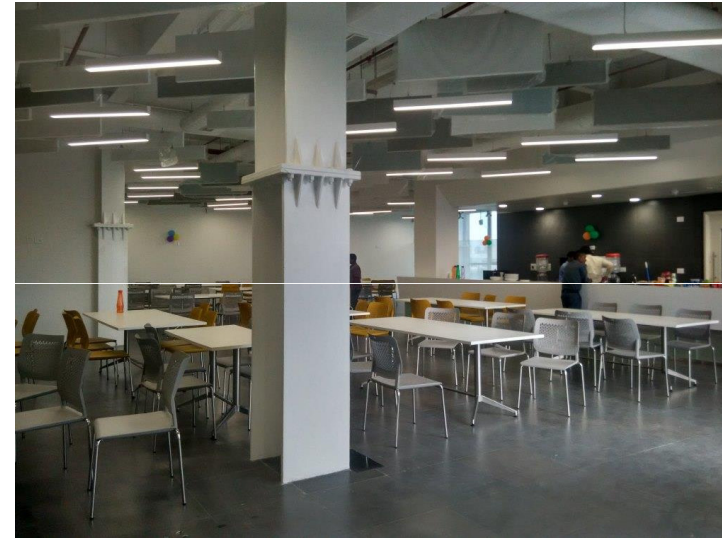
# PHOENIX OLYMPUS, HYDERABAD



*G+7 floors*



# RELIANCE JIO DATA CENTER, CHENNAI



***G+5 floor multistorey building***



# ITC, BENGALURU





# ETNA , PHENIX, HYDERABAD



*Residential building (G+10)*



# ETNA , PHENIX, HYDERABAD



***Residential building (G+10)***



# GMI PROJECTS (PLATINA), HYDERABAD





# BHARAT BIOTECH, HYDERABAD



***Bharat Biotech, Multi-storey G+10 floors, 85,000sft area***



# KANNUR AIRPORT, KANNUR





**THANK YOU**

