



# Austin Energy District Cooling System Expansion

Carol Stewart, PMP, LEED-AP  
AE On-Site Energy Resources

Todd Schmitt, PE, PMP  
EEA Consulting Engineers



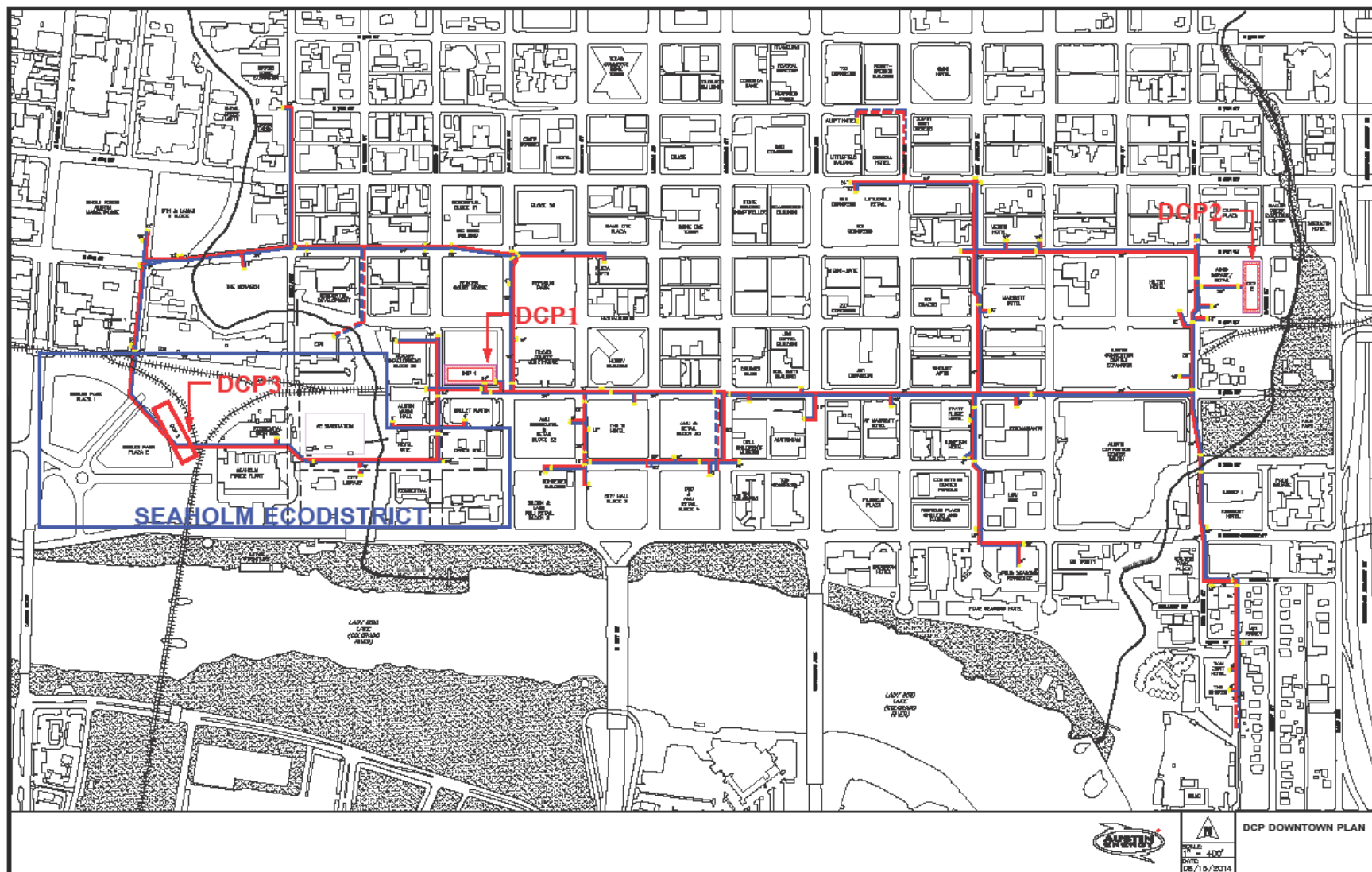


# Austin Energy Downtown District Cooling System

- History
- Capacity & Growth
- DCP-3 Site Selection
- DCP-3 Project Goals & Design Challenges
  - Capacity & Operational Requirements
  - Site Constraints
  - Aesthetics & Sustainability



# Austin Energy District Energy Campuses





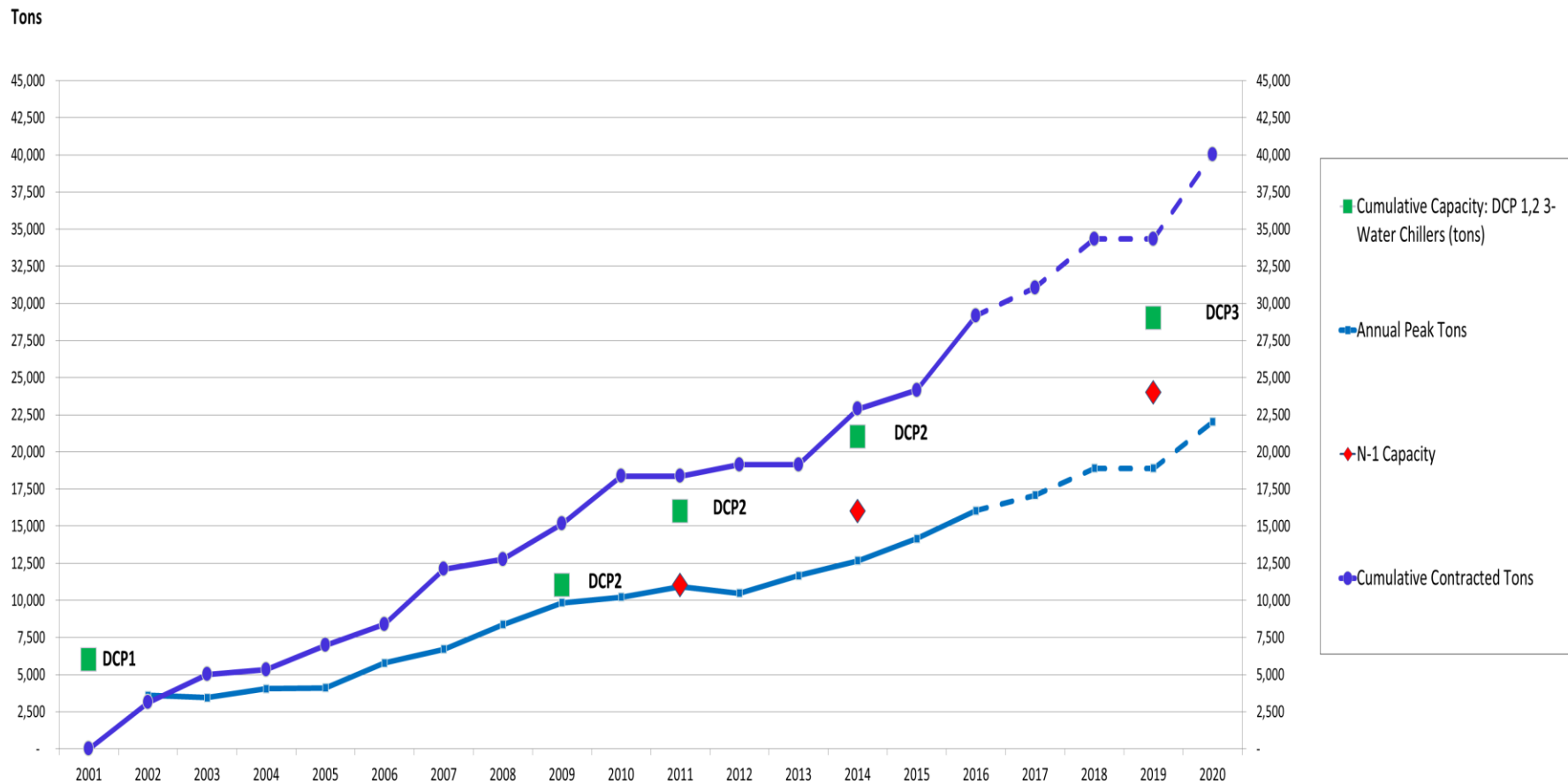
# History

- 1999 City Council Resolution Created AE District Energy Program
- Part of a City Economic Development Toolbox and Utility Demand Side Management Program
- 2001 – DCP-1 Operational
- 2004 – 8 Buildings Connected
- 2006 – DCP-2 Operational
- 2007 – 15 Buildings Connected
- 2015 – 32 Buildings Connected



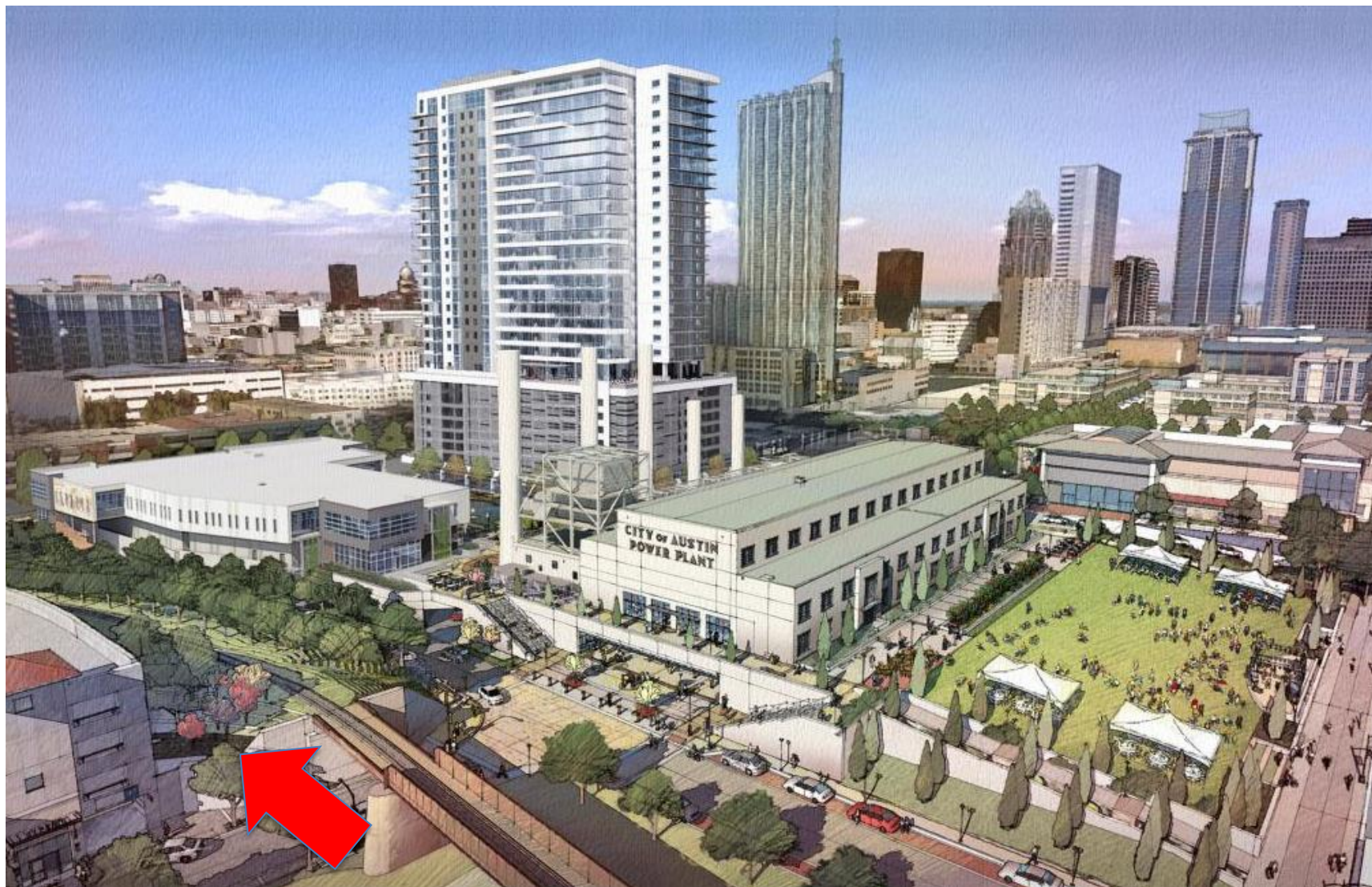
	DCP-1	DCP-2	DCP-3	Summary
Water Chillers	6,000 Tons	15,000 Tons	5,000-10,000 Tons	26,000-31,000 Tons
Ice Chillers	2,000 Tons	5,000 Tons	NA	7,000 Tons
Ice TES	28,000 Ton Hrs	60,000 Ton Hrs	NA	88,000 Ton Hrs
Cooling Towers	7,200 Tons	17,500 Tons	N+1	-----
Temperature	32-38°F	32-36°F	36°F	-----
Pumping Capacity	9,200 GPM	21,000 GPM	10-12,000 GPM	Primary & Secondary Configuration

## Onsite Energy Resources Growth









Source: Southwest Strategies Group







# DCP-3 Site Constraints – Limited Site Access





# DCP-3 Site Constraints – Adjacent Rail Track



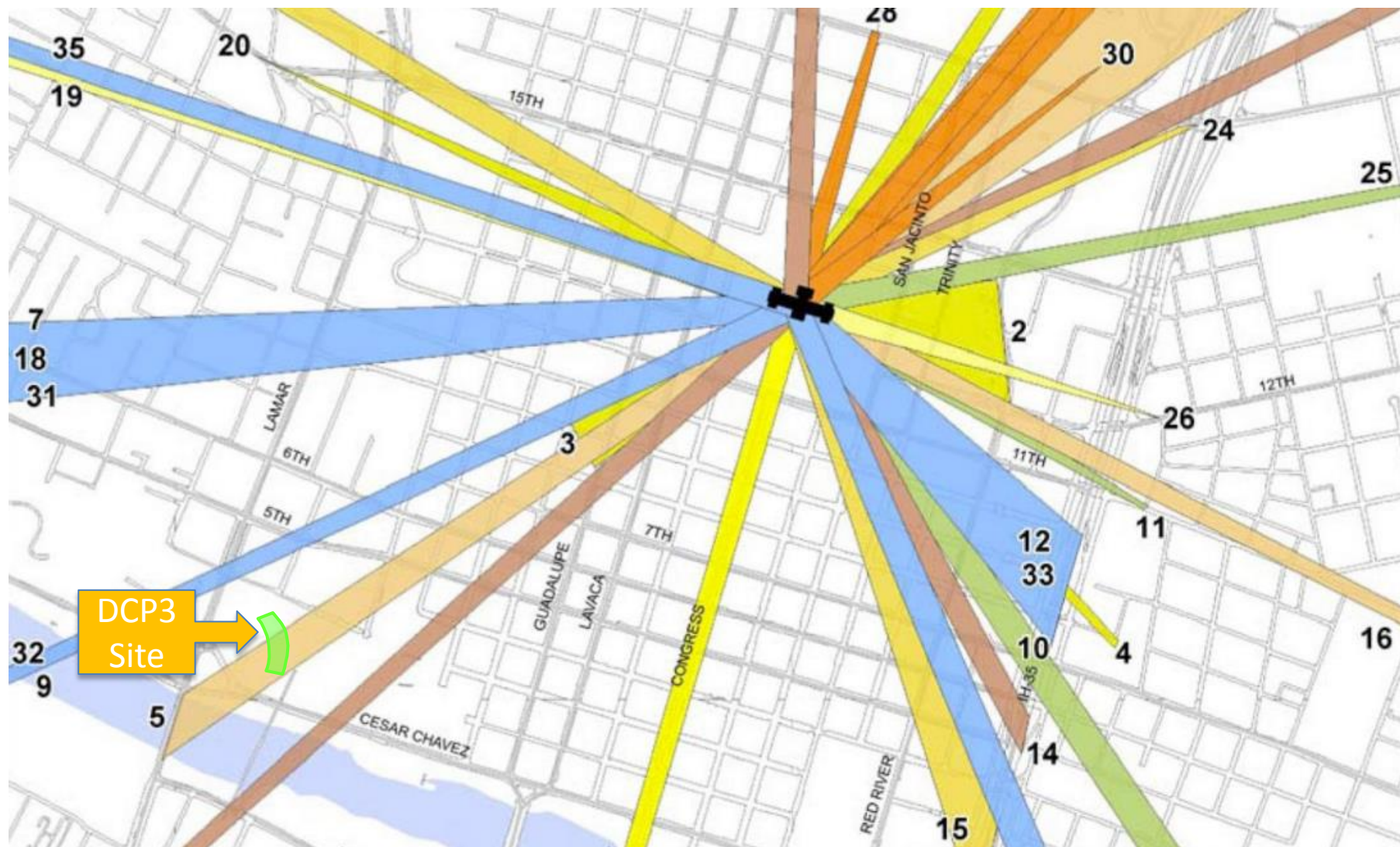




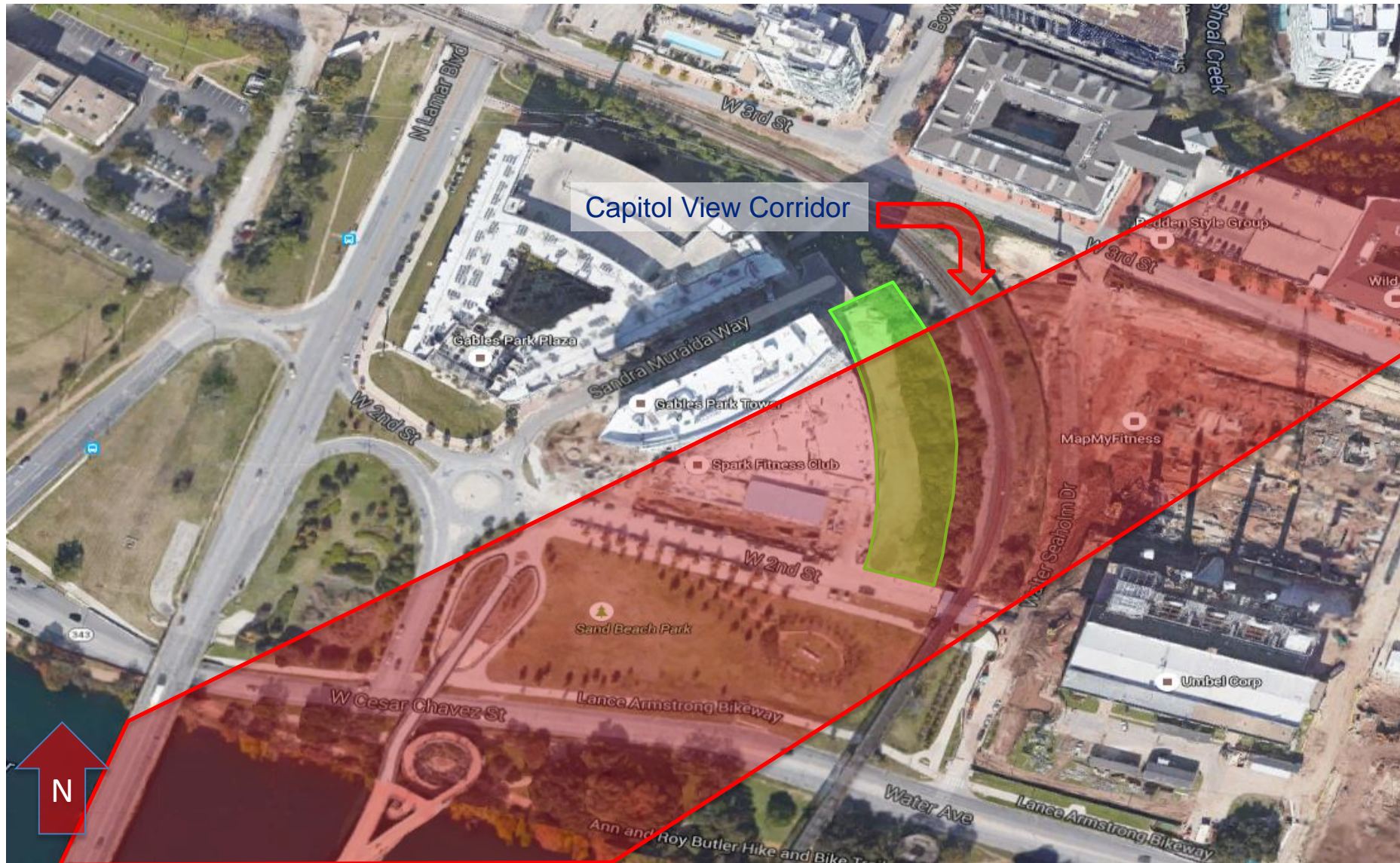
View Looking South

Tracks on East

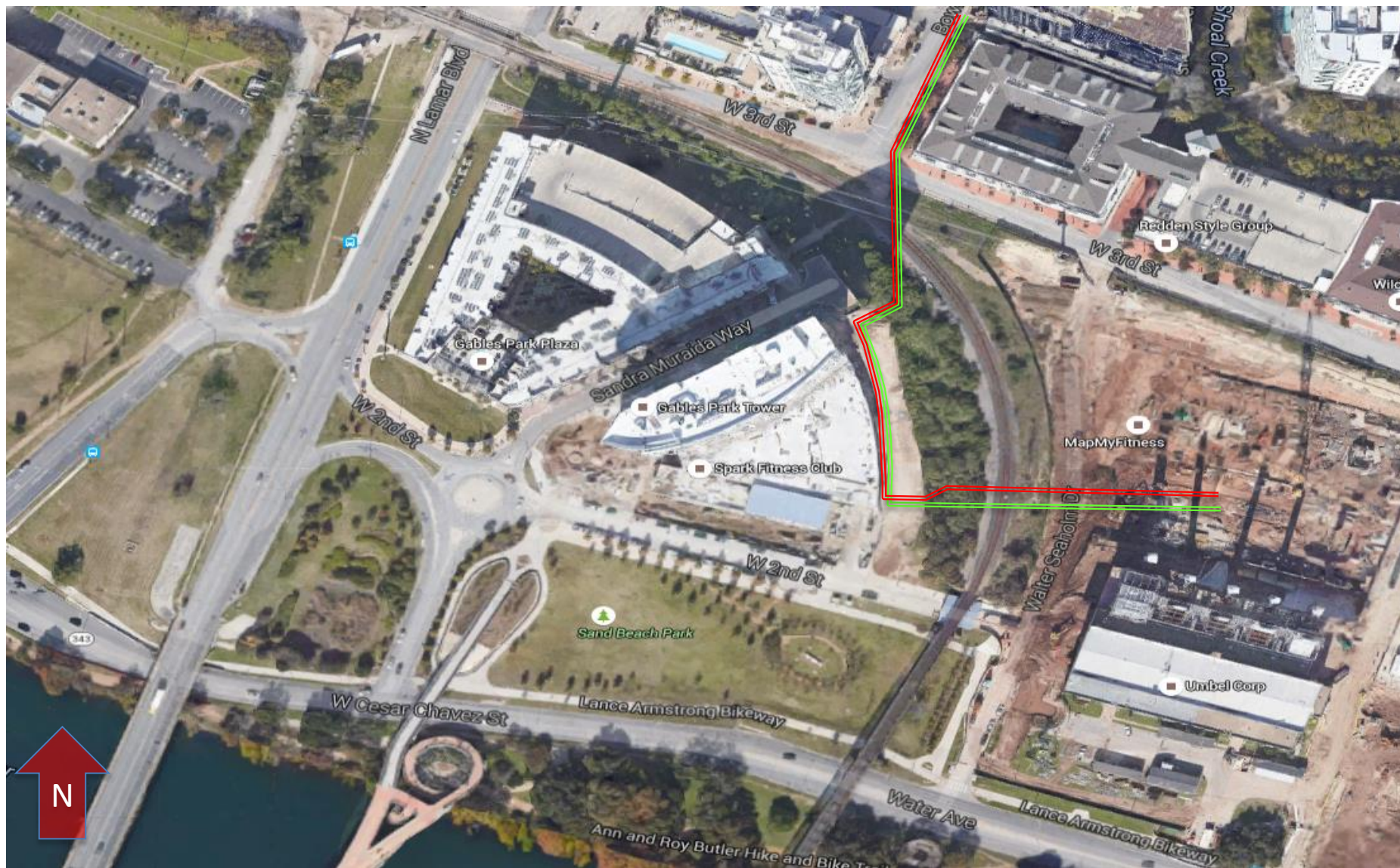






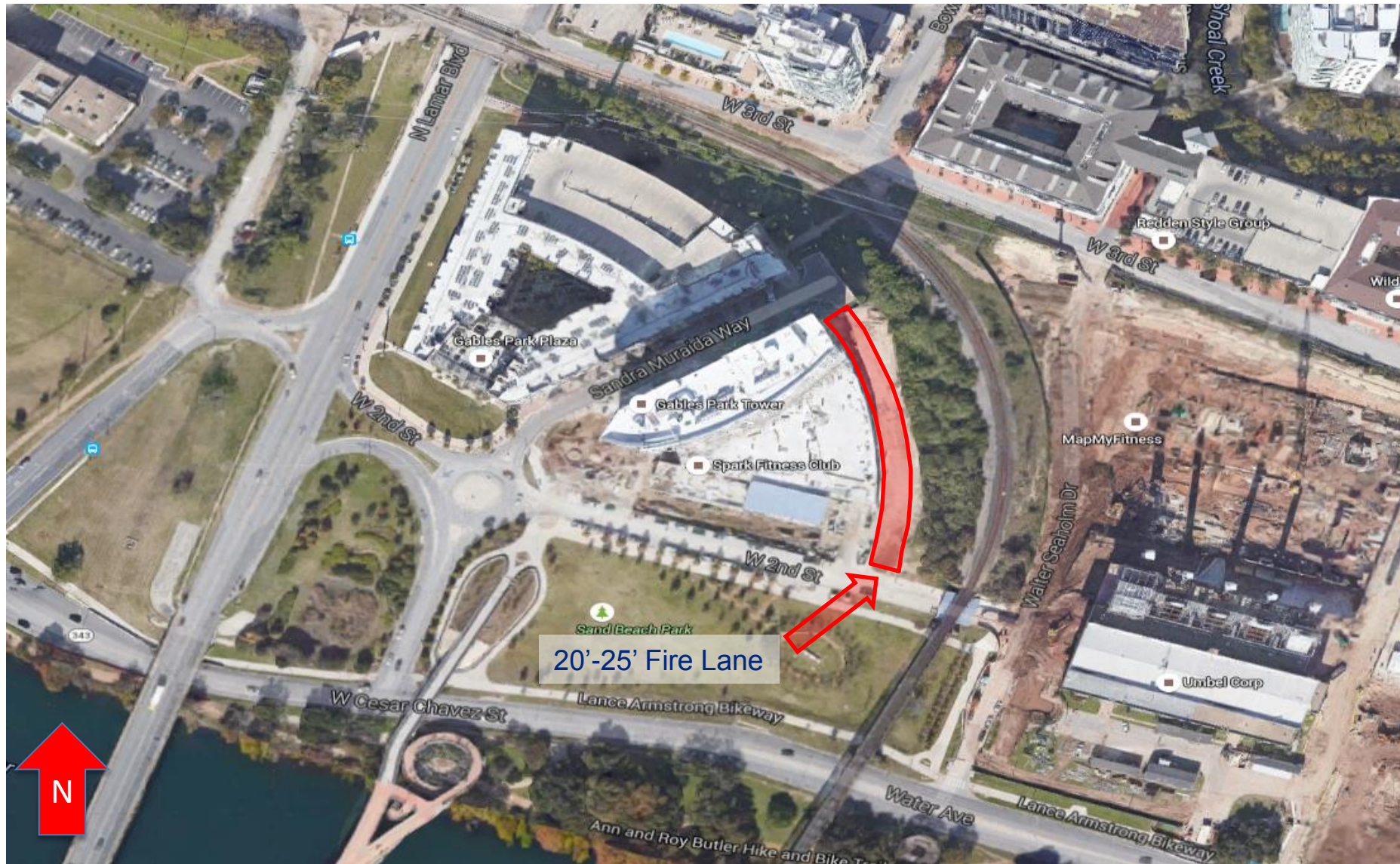




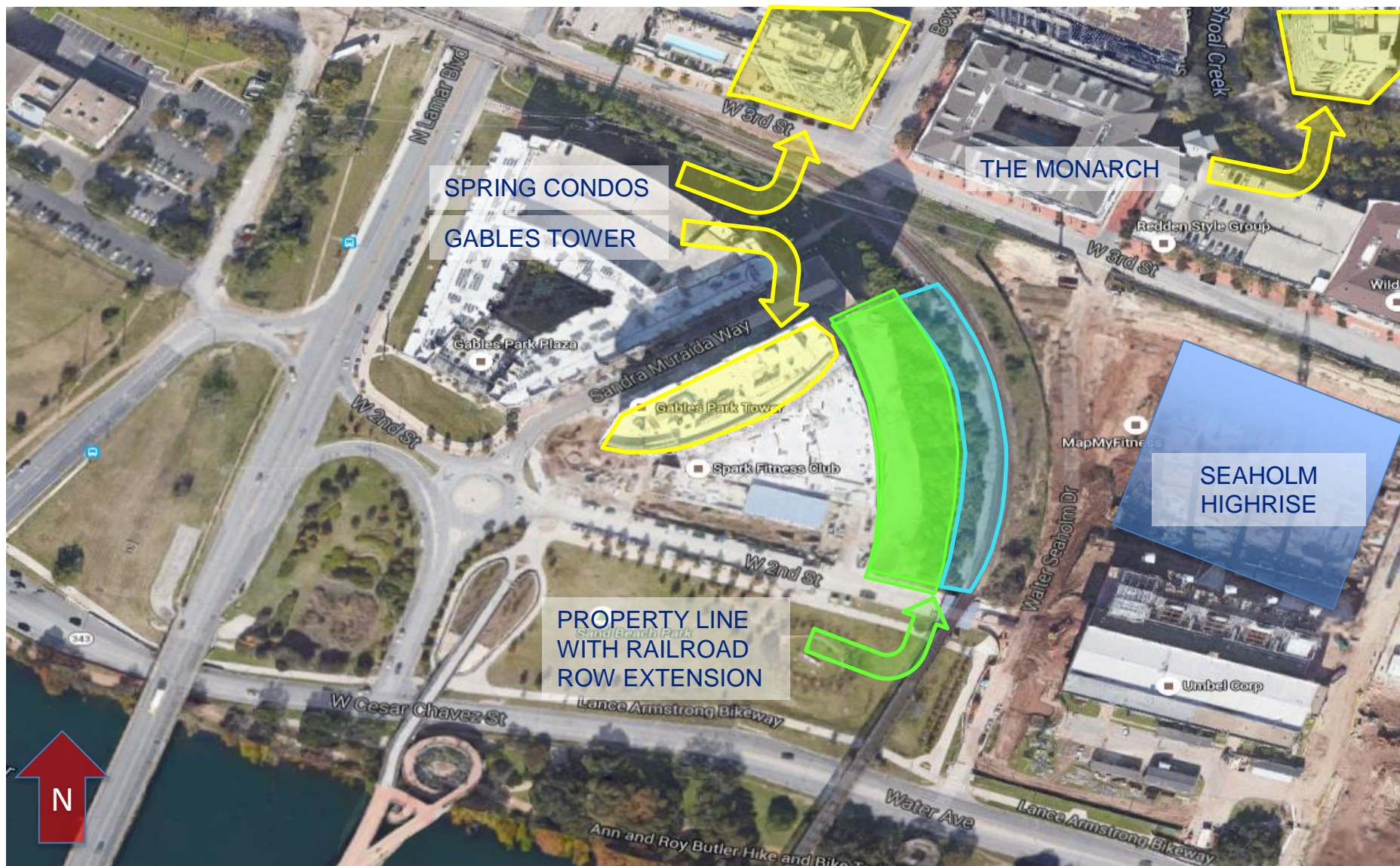


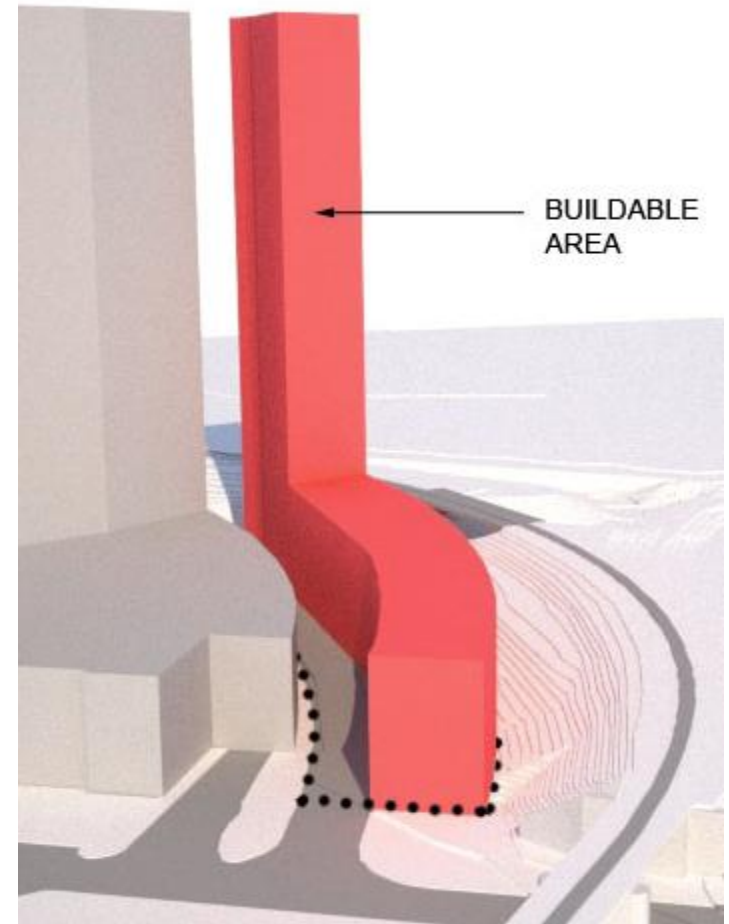
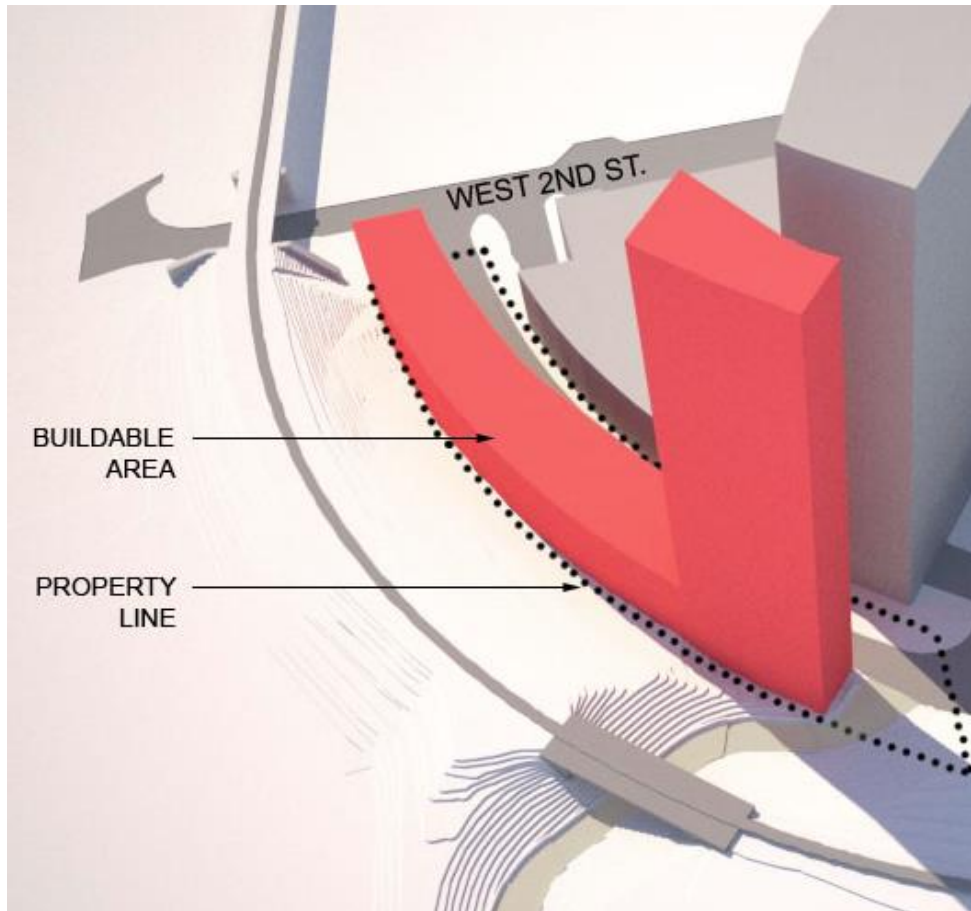


# DCP-3 Site Constraints – Fire Lane







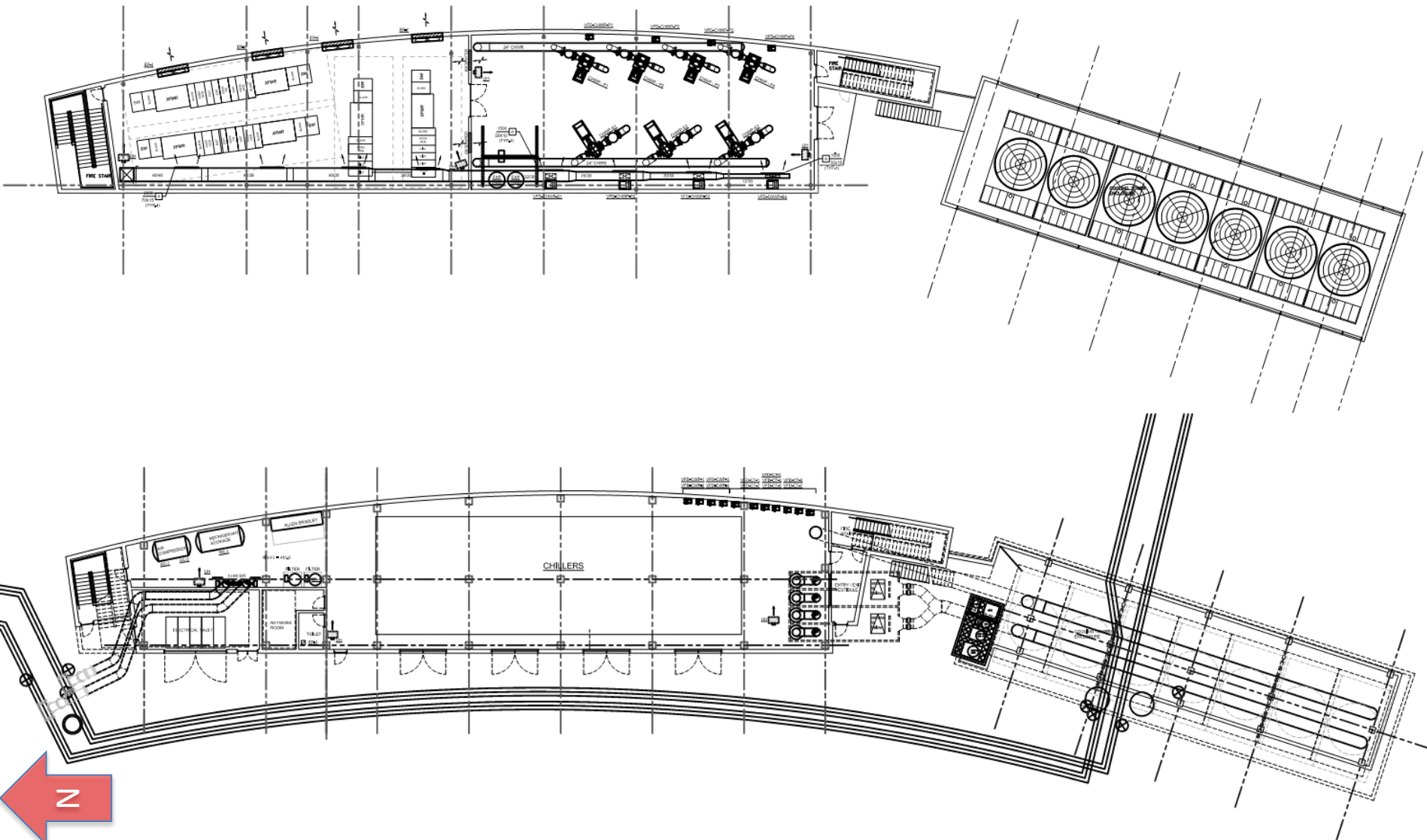




# Primary Goals

- Established a goal of 8,000 tons
- Most efficient of 3 plants
- Able to accommodate multiple chiller solutions
- Primary / Secondary Pumping
- 12.47kv incoming power
- N+1 pumps & CT's
- Unoccupied
- Secure

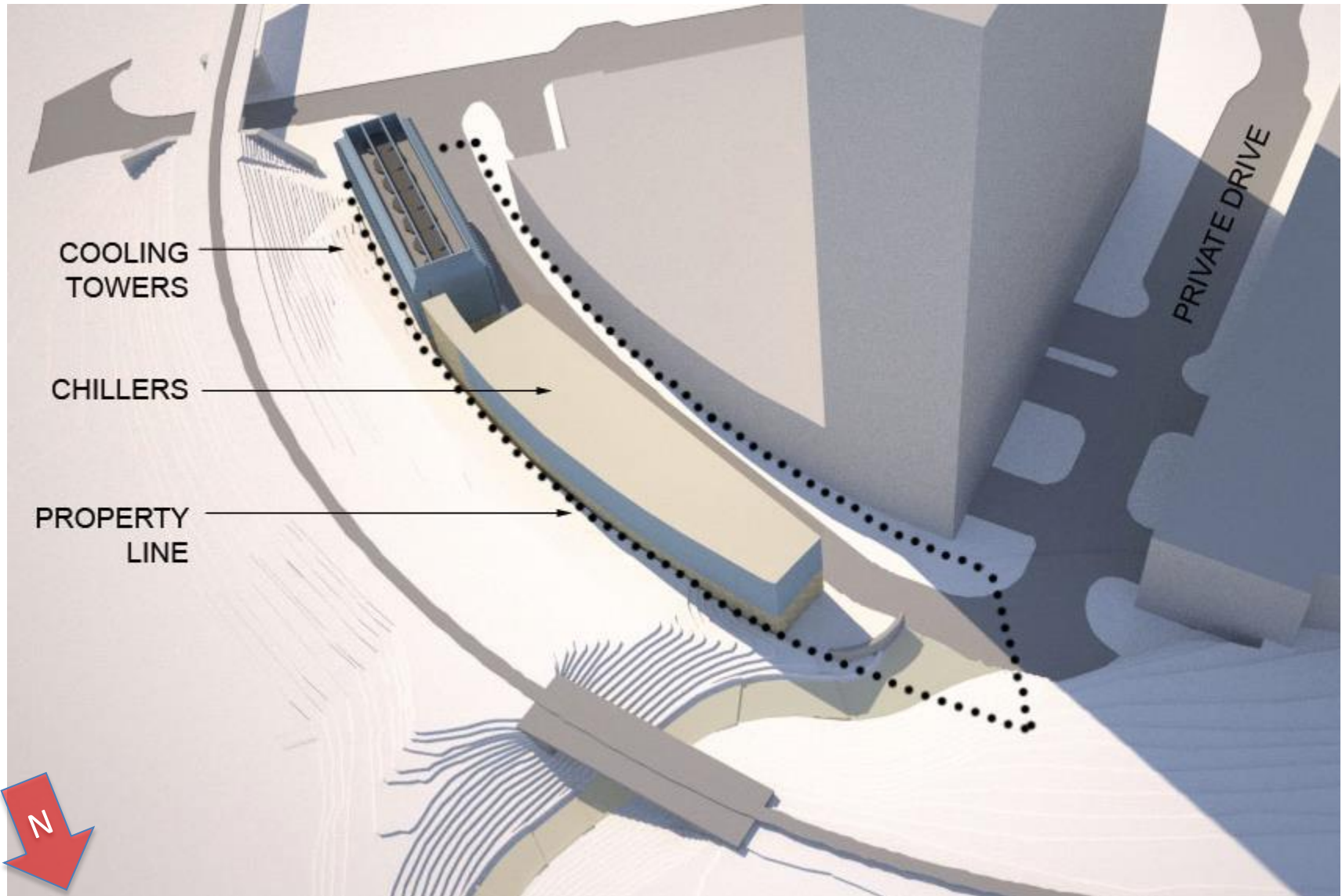






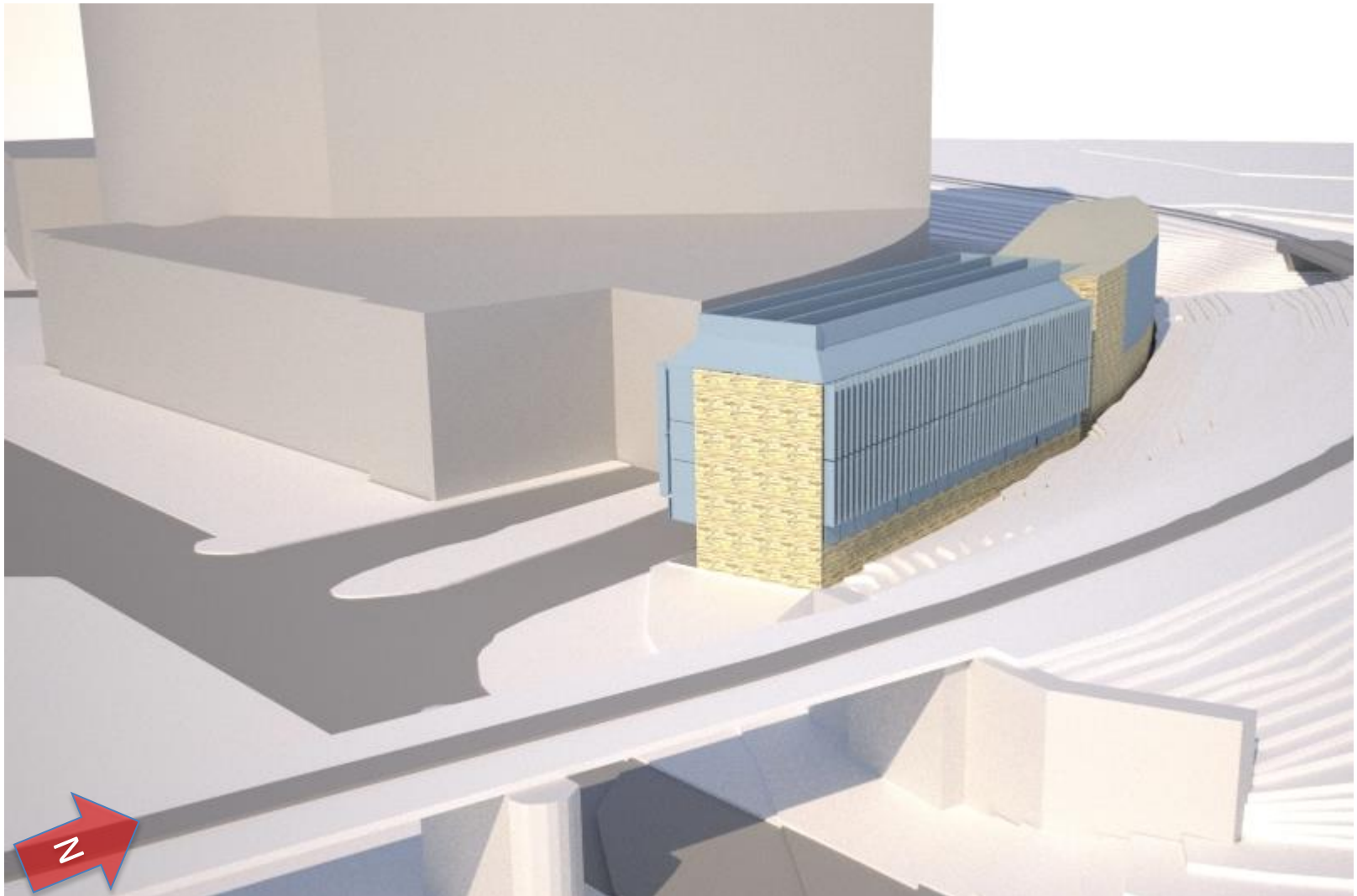


# Preliminary Design Results – Rendering



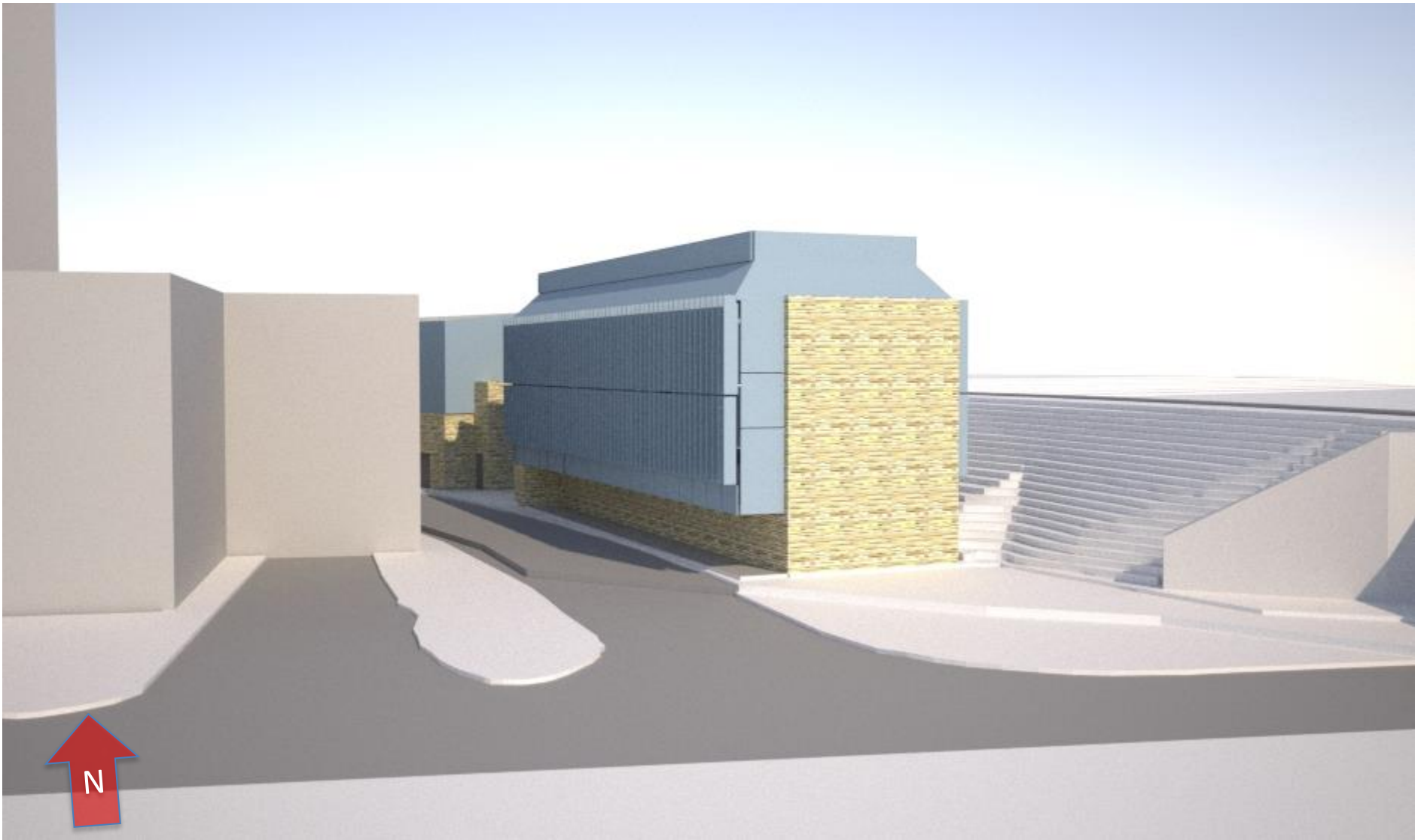


## Preliminary Design Results – Rendering (cont.)



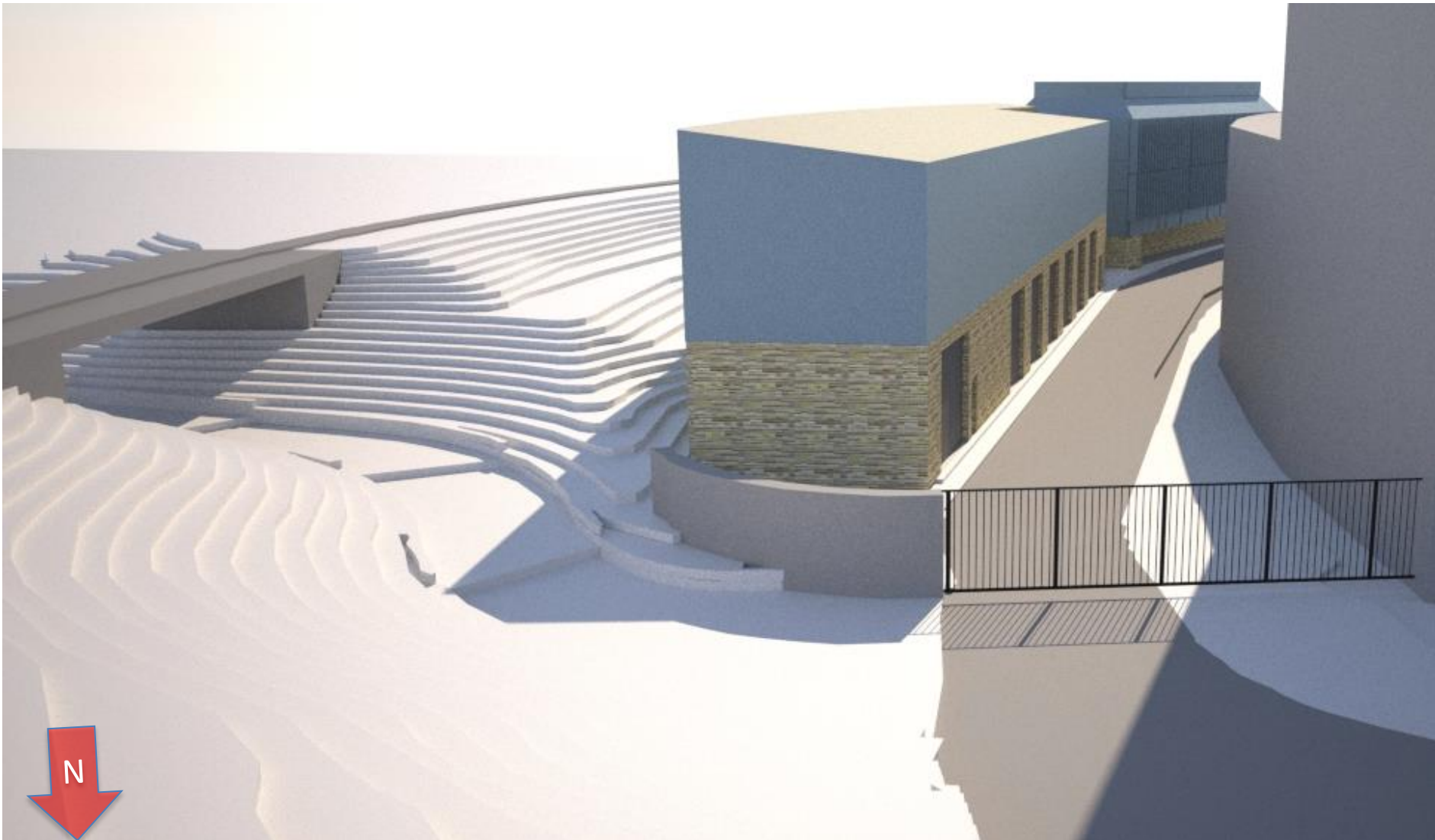


## Preliminary Design Results – Rendering (cont.)





## Preliminary Design Results – Rendering (cont.)







## Questions?

Thank you to the AE OSER and EEA teams.