

A tall building under construction with a glass facade and two construction workers in the foreground. The building is partially covered in scaffolding and has several cranes visible. The workers are wearing hard hats and safety vests. The image is a low-angle shot, making the building appear very tall.

SKANSKA USA

SIGNIA HILTON HOTEL

Gold Circle Award
Submission

Nominating Klein
Contracting Corporation
For Outstanding Work,
Low Slope Roofing



THE SIGNIA HILTON, ATLANTA

The Signia Hilton Hotel **opened to guests in late December 2023**. This hotel expands the footprint of the 1.5 million square foot Georgia World Congress Center, the fourth largest convention center in the U.S.. It forms part of a campus that also includes Mercedes-Benz Stadium, home of the NFL's Atlanta Falcons and MLS' Atlanta United FC, and Centennial Olympic Park. The project was initially planned to start in early 2020 and to be built on the site of the former Georgia Dome and parking facility but was **put on hold when the COVID-19 pandemic** hit and hobbled the hospitality industry.

A year later, in 2021, the project was able to proceed but the **team faced challenges with spiking material costs and availability** while being committed to delivering the tallest structure built on the west side of Atlanta in 40 years. The 976-room hotel tower stands **453 feet high (42 stories)**, and the podium area is a multi-elevation facility that includes

two mechanical roofs, an extensive ballroom area, an outdoor restaurant and pool area, and a porte-cochère. The hotel property totals 1.25 million square feet and connects to the Georgia World Congress Center.

The Signia Hilton is a new luxury concept for Hilton. It is one of the **highest-profile hotel openings in the U.S. for 2024**, with rooms rented long in advance, leaving no wiggle room for delays in delivery.

The roofing portion of the project went under contract with Klein Contracting Corporation on January 31, 2022. Beyond the **challenges of delivering a skyscraper in an urban environment**, the team spent thirty-one weeks in material procurement meetings that included the roofing manufacturer, project executive, Skanska strategic supply team, and the contractor, Klein Contracting Corporation. **This unique team delivered on time and on budget**

Building Details:

Name: Signia by Hilton in downtown Atlanta

Size: 42 stories, 1.25 million square feet

Owner: Georgia World Congress Center Authority

Developer: Drew Company

Architect: Gentler

Builders: Skanska, SG Contracting

Roofing Contractor: Klein Contracting Corporation

Timeline:

Groundbreaking: March 2021

Roofing Contract Finalized: January 2022

Roofing Podium Area Start: July 2022

Top out: March 2023

Roofing Tower Area Start: February 2023

Substantial Completion: December 2023

Hotel Opening: Late December 2023



"In the midst of the global challenges presented by the pandemic, navigating the complexities of this project demanded a strong commitment to safety, adaptability, and collaboration,"
Mark Pasciuto, Skanska Project Executive.

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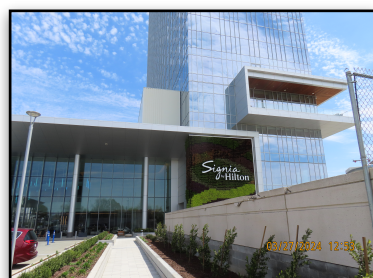
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Outstanding workmanship does not begin when you get on a job site. Outstanding workmanship begins when you make the client's goals your mission.



ROOF PROJECT OVERVIEW

The approximate 119,000 SQFT roof systems are Sika 80 Mil PVC in grey and divided into two areas: The Tower and the Podium.

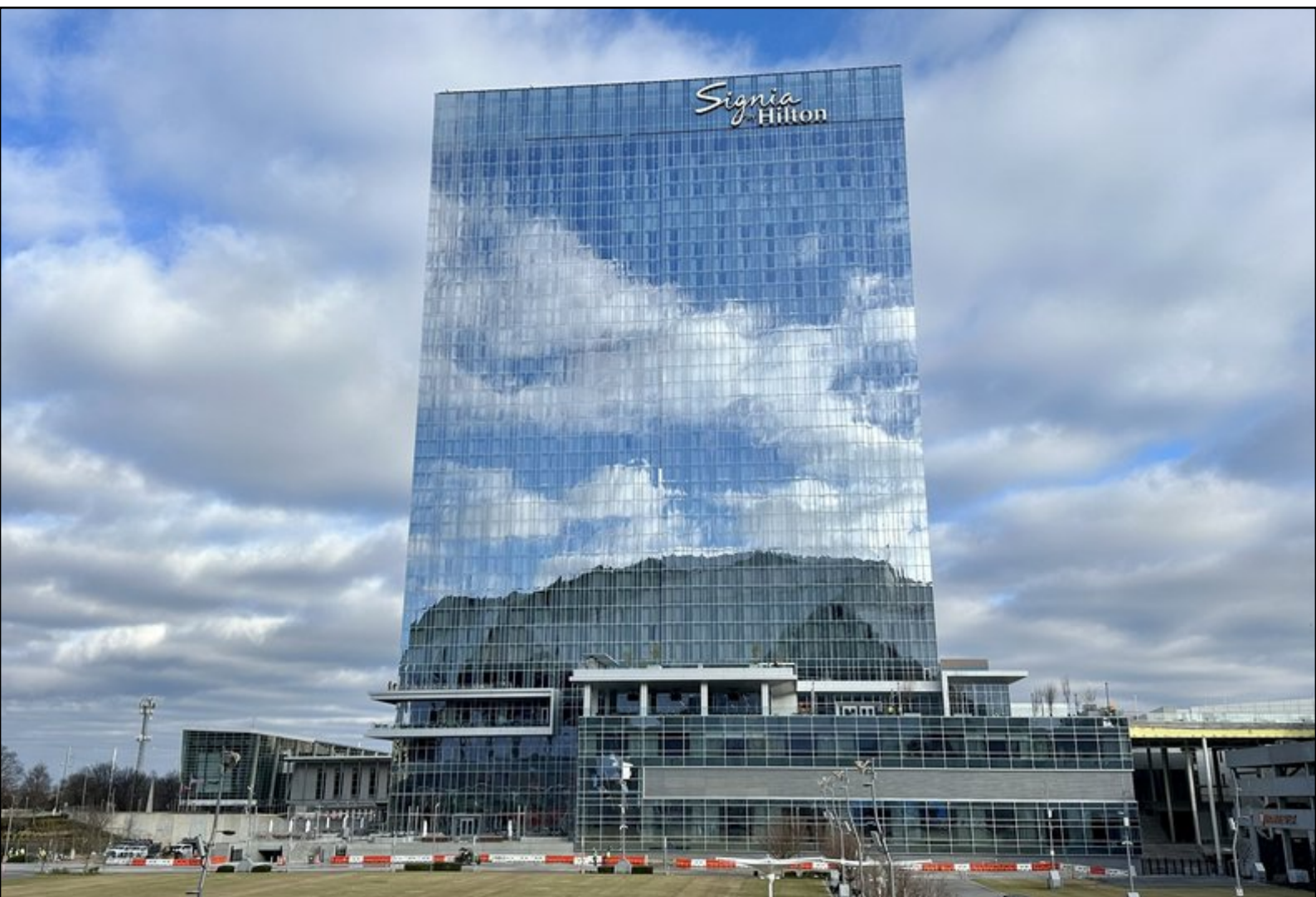
The installation of the roof systems faced several significant challenges:

- 1. Material Acquisition:** Obtaining the necessary materials, such as cover board, insulation, and the specific color and mil weight of the cap sheet, was difficult. This was due to supply chain issues and the unique specifications required for the project. This in turn, made cost and delivery times unknown and challenging to budget and the project deadline.
- 2. Logistics, Space Constraints, Scheduling and Coordination:** The installation had to be carried out in a very confined space. The tight space constraints required

meticulous planning and coordination to manage the limited space available for unloading materials and equipment. The project involved detailed and flexible scheduling and coordination of multiple elements, such as crane time, elevator time, and the installation of various roof systems. This required teamwork, communication and a perpetual eye on the schedule to ensure that each task was completed efficiently without causing delays.

- 3. Complex Roof Areas:** The multiple elevations and areas of the Tower (453 feet in the air) and Podium, including mechanical roof areas, a ballroom, a porte-cochère, a restaurant, a pool area, and a lobby roof area, added to the complexity of the installation.

Despite these challenges, the team successfully installed the 30-year NDL PVC system, demonstrating their ability to manage and overcome significant obstacles including delivering on time and within budget.



1. MATERIAL ACQUISITION

The pandemic led to a series of further black swan events. On-time delivery methods fell apart, compounded by storms that impacted the petrochemical industry and decimated the roofing industry. The Hilton Signia roof system project, like many others, was **significantly affected in terms of both cost and schedule**.

Before selecting the manufacturer and specific system, Klein Contracting collaborated with two manufacturers to determine the price and delivery timeframe for each roof component. Each manufacturer could deliver some items, but neither could guarantee the price or delivery of the entire system. Additionally, the roof system consisted of an **80 Mil PVC in reflective grey, which is only produced by the chosen manufacturer one day a month**.

The multiple elevation roofs were either over a steel or concrete deck and comprised the following:

Roof Systems ~ steel deck:

- Sarnafil S327-80 mil Energy Smart membrane adhered
- ½" DensDeck Prime or Securock UltraLight Coated Glass-Mat board adhered
- 2" Sarantherm insulation and crickets/saddles fastened
- 1.5" Sarnatherm insulation loose laid
- ½" substrate board loose laid

Roof Systems ~ concrete:

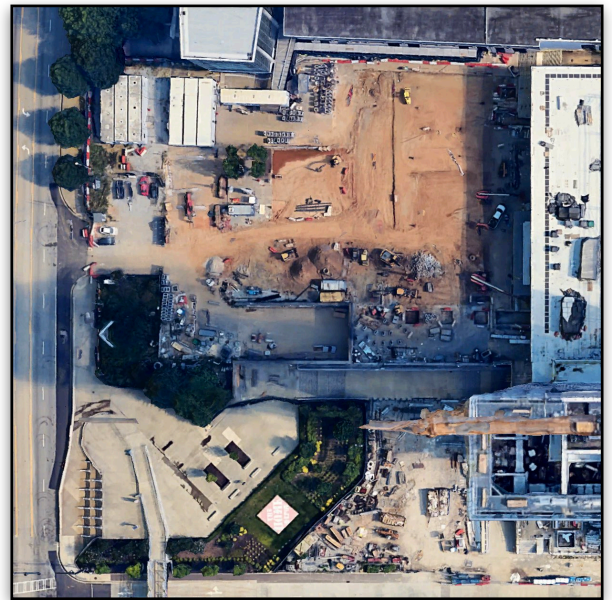
- Sarnafil S327-80 mil Energy Smart membrane adhered
- ½" Securock UltraLight Coated Glass-Mat board adhered
- 1.5" Sarnatherm insulation loose laid
- 2" Sarantherm insulation and crickets/saddles fastened
- Vapor Retarder TA 138 torch applied to deck

Once the materials were approved in January 2022, they were ordered. Since roofing is a critical path item, the team decided to form a **dedicated roofing materials weekly meeting**. This team included Skanska's Strategic Supply Chain Director, the Skanska Project Executive, a representative from Sika, and Klein Contracting. The team met every Wednesday morning at 8 AM from January 31, 2022, until September 7, 2022. **It took thirty-one meetings, multiple product substitutions, and a lot of flexibility. Pricing changed multiple times on various items and product substitutions were frequent.**

Thirty-one weeks later, materials had been delivered in stages starting in July 2022 throughout the project, ensuring that as Klein Contracting worked, materials were available. This timing worked well as other upstream trades were delayed, which in turn delayed the start of the roofing. However, this **delay did not affect the substantial completion of the project** nor the substantial liquidated damages on the project.

Unusual times called for unusual solutions, and the collaborative nature of the team resulted in the roofing being completed not only on time but also on budget!

COVID-19 delayed the goal of creating a sky-rise hotel attached to the Georgia World Congress Center. However, it did not change the ability to produce a **spectacular, 30-year NDL roof system on a building that changed the face of the Atlanta skyline**. Creating a team focused on being flexible and open to substitutions, as well as keeping each other up to date on all issues that impacted the delivery and cost of the roof system, directly led to the success of the roofing on the project.



2. LOGISTICS

SPACE CONSTRAINTS

The compact urban space, formerly the site of the Georgia Dome and a parking facility, is situated between Home Depot Field and the Georgia World Congress Center. **The laydown area was extremely cramped and in high demand by all trades involved in the project.** Materials had to be unloaded immediately and relocated as the space was needed for other trades to unload their supplies. Due to the tight space constraints, all deliveries were meticulously scheduled in advance to ensure smooth operations. As roofing was one of the trades impacted by supply chain issues, **Skanska dedicated a portion of the laydown area to roofing materials.**

An added layer of fun occurred when **“Rogue truckers” would make spontaneous deliveries, which could not be refused since it might be the only opportunity to receive the materials they carried.** This situation forced Klein and Skanska to scramble equipment and crews to unload these unexpected deliveries, adding another layer of complexity to the already challenging logistics. The team had to quickly pivot to get forklifts and personnel to the site to unload and relocate the materials. This required constant communication with Skanska and as often as possible, adhering to a well-organized logistics plan to prevent any disruptions that could halt progress.

Despite these obstacles, the collaborative efforts of the team ensured that materials were delivered and managed efficiently. **The ability to adapt to changing circumstances and work together under pressure was crucial to the success of the project.** The team’s dedication and resourcefulness allowed them to overcome the logistical challenges and complete the project on time and within budget.



SCHEDULING AND COORDINATION

Scheduling and coordinating this complex, new construction roofing project involved navigating numerous challenges. The flow of the roofing was as follows (note roofing areas illustrated in the next section, Complex Roofing):

- **Area 1:** Ballroom: Level 5
- **Area 2:** Mechanical Roof(s): Level 3 & Level 4
- **Area 3:** Lobby & Porte Cochère: Level 3
- **Area 4:** Lower Roof to the Georgia World Congress Center
- **Area 5:** Pool Bar, Restaurant, & Kitchen: Level 4: Restaurant Level 5: East vestibule, Kitchen, and Pool bar roofs
- **Area 6:** Tower Mechanical and Elevator Roof: Tower Level
- **Area 7:** Tower Roof: Tower Level

The start dates, however, were dependent on **upstream trades who both also suffered from supply chain delays and may be storing material in areas that needed to be roofed**. These delays had a cascading effect, pushing back the schedule for subsequent tasks and requiring constant adjustments to the project timeline. **Adaptability and real-time rescheduling** were required to minimize downtime. This added a layer of complexity to the project management, as it required flexibility and quick decision-making to keep the project on track despite the unpredictable nature of the supply chain issues.



The project also involved coordinating crane time and elevator time.

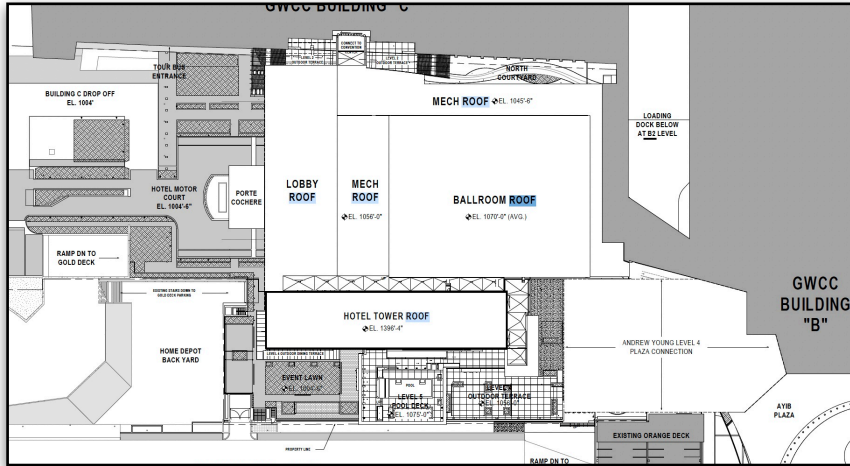
Crane time was needed to manage both the delivery and the moving of materials and equipment to different elevations. Any delay in crane availability caused significant disruption to the workflow, potentially halting progress on multiple fronts. To mitigate this, it was essential to communicate crane operational needs with the team so as to not disrupt other activities on-site, ensuring that the crane was available when needed. This required constant

communication with multiple team members at Skanska to avoid any scheduling conflicts and ensure smooth operations.

Elevator time was another crucial factor, especially in a 42-story high-rise construction project. The elevators were used to transport materials and workers daily to the forty-two levels, representing a **significant bottleneck**. The limited number of elevators and their high demand meant that any downtime or scheduling conflicts could lead to substantial delays. To mitigate this issue, crews tended to schedule their trips to the Tower area very early in the morning, before the peak usage times.

3. COMPLEX ROOFING: PODIUM AND TOWER AREAS

The 118,000 SF roofing project consisted of two sections, A, the Podium, all multiple lower elevations, and B, The Tower, the 42 story tower.



THE PODIUM

The Podium is approximately 100,000SF. The timeline of roofing installation was as follows: :

- **Area 1:** Ballroom Level 5
- **Area 2:** Mechanical Roof(s) Levels 3 & 4
- **Area 3:** Lobby & Porte Cochère Level 3
- **Area 4:** Pool Bar, Restaurant, & Kitchen
 - Level 4: Restaurant
 - Level 5: East vestibule, Kitchen, and Pool bar roofs

All of the roofs are on steel decks and are the following:

- Sarnafil S327-80 mil Energy Smart membrane adhered
- ½" DensDeck Prime or Securock UltraLight Coated Glass-Mat board adhered
- 2" Sarantherm insulation and crickets/saddles fastened
- 1.5" Sarnatherm insulation loose laid
- ½" substrate board loose laid

The roofing process for the Podium area **faced several specific challenges:**

1. Laydown Area Access

- **Intown tight location:** The roof system was seriously impacted by the supply chain crisis. Skanska created temporary storage within the laydown area to accommodate materials that arrived prior to installation.

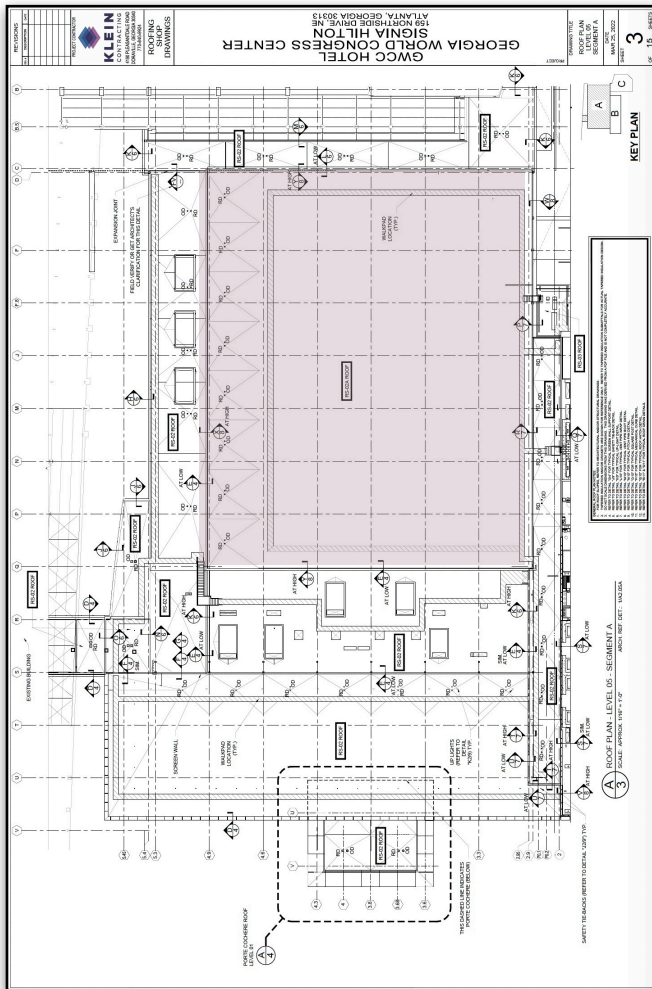
2. Coordination Among Multiple Trades

- **Simultaneous Work:** The project involved multiple trades working simultaneously. Each trade had its own schedule and requirements, necessitating careful planning and coordination to avoid conflicts and ensure efficient workflow.

3. Storage Constraints

- **Material Storage:** The roof served as the storage area for materials of the respective trades. Managing space effectively was crucial to avoid obstructing ongoing work and to ensure materials were readily accessible.

COMPLEX ROOFING: PODIUM



4. Safety Measures

- **Worker Safety:** Ensuring the safety of all workers on the roof was paramount. This included implementing fall protection systems, conducting regular safety briefings, and ensuring all workers were equipped with appropriate personal protective equipment (PPE). **One roof area in particular was essentially a ledge** and additional safety measures were critical to ensure a safe and successful project.

The first area to be roofed and one of the most spectacular features of the new hotel was the **Triumph Ballroom**. This was five stories above ground. The facility is attached to and expands the Georgia World Congress Center by another 100,000 SF of meeting space. Part of that expansion is the spectacular and uniquely designed ballroom. The space is over 40,000 SF and the roof is approximately 50,000 SF. **Due to the aforementioned supply chain issues** and upstream trade supply chain issues, the project was slated to start in May 2022 but instead started in July 2022. The area went smoothly and quickly finalized by the installation of walk pads.

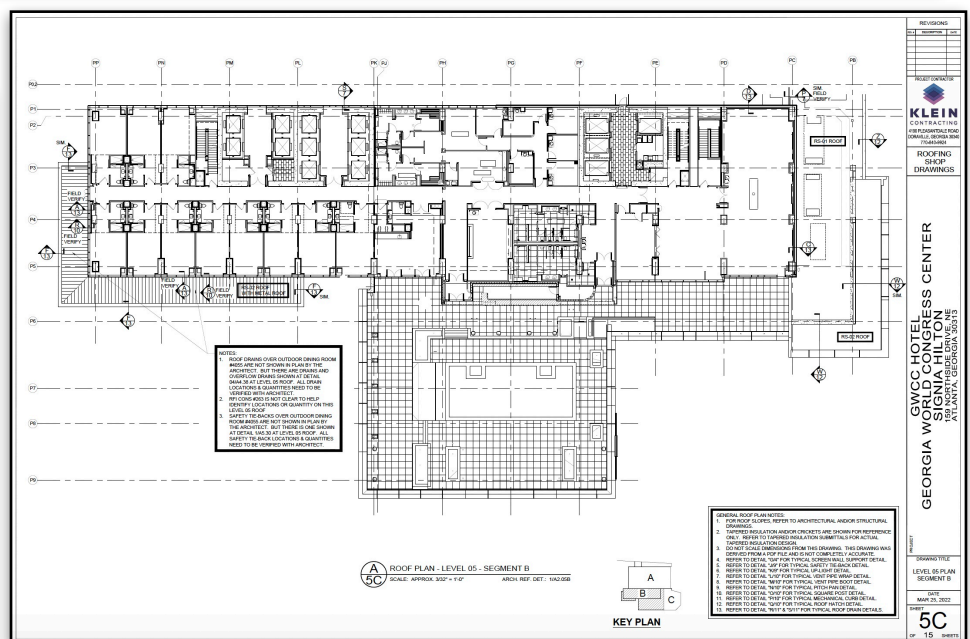


COMPLEX ROOFING: PODIUM

The next sections that were completed and ready to be roofed were Area 2: Mechanical Roof(s) (Level 3 & Level 4). The unique design of the building sheltered the view of the equipment from the ground for aesthetics. A wall exists between the third-floor HVAC equipment and the second-floor roof. The cooling tower is located on the fourth floor and is obscured from view by the fifth-floor ballroom roof.

The challenges of roofing these areas involved coordination between trades both working on equipment and needing the roof space for storage due to the tight accommodations and extremely limited space in the laydown area.

After these HVAC and cooling tower roofs were completed, Area 3: Lobby & Porte Cochère (Level 3) areas were completed and roofed.



COMPLEX ROOFING: PODIUM

The next area that was roofed was

Area 4: Pool Bar, Restaurant, & Kitchen

- Level 4: Restaurant
- Level 5: East vestibule, Kitchen, and Pool bar roofs

This area came with a particular safety issue as it is **five stories up, narrow (only either 7' or 15' depending on the area) with no ledge and is against a wall of windows**. Ensuring the safety of all workers on the roof was paramount. **This included implementing fall protection systems**, conducting regular safety briefings on proper use of this fall protection

Skanska holds the value of safety for everyone on site above all else and therefore worked collaboratively to create the best solution to keep everyone in the area working safely. **Stanchions were installed, and then Klein Contracting installed cabling, allowing everyone to tie off to the cable.**

The roofing of this area and the entire project, involved multiple elevations and challenges and had **ZERO safety incidents**.



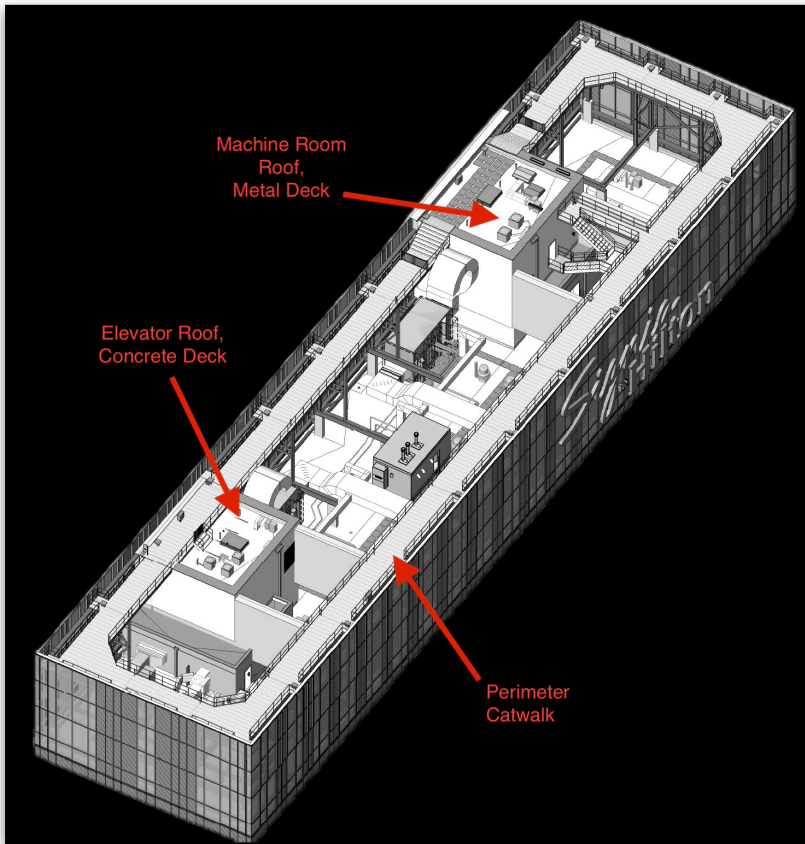


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COMPLEX ROOFING: THE TOWER

THE TOWER



The three roofs have **two different decks**, the Tower itself and the Machine Room roof are concrete and the Elevator Room is a concrete deck. The systems are:

All of the roof are on steel decks is as follows:

- Sarnafil S327-80 mil Energy Smart membrane adhered
- ½" DensDeck Prime or Securock UltraLight Coated Glass-Mat board adhered
- 2" Sarantherm insulation and crickets/saddles fastened
- 1.5" Sarnatherm insulation loose laid
- ½" substrate board loose laid



Roof Systems ~ concrete:

- Sarnafil S327-80 mil Energy Smart membrane adhered
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“It is a rare gift to not only work on a building that changes the face of a city but also to be honored to work on a team devoted to everyone’s success. Despite the myriad challenges on the project, Skanska invested time, energy, and faith in our team. Skanska’s value of “Be Better Together” empowered us to deliver on our promise of the best roofing system, on time, and on budget.” ~ Candace Klein, President, Klein Contracting Corporation.