

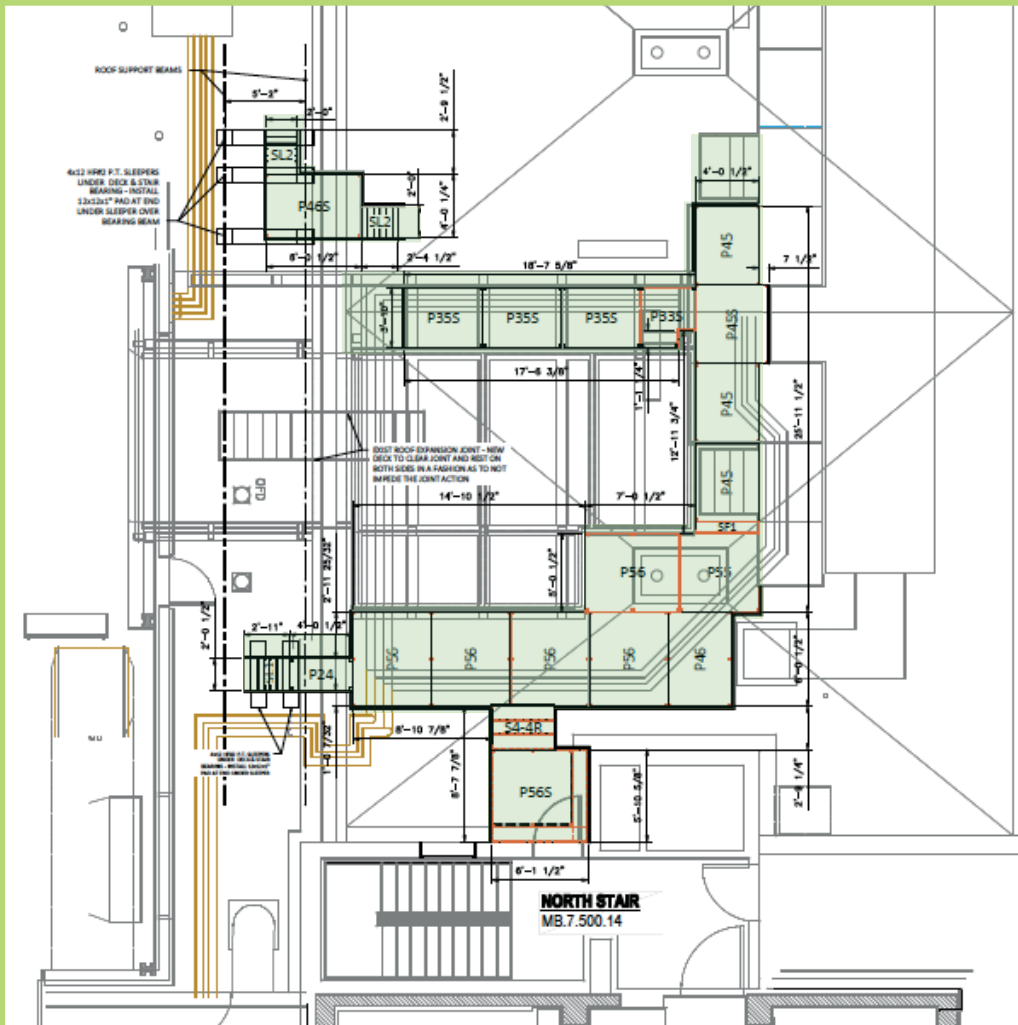


# AHU Access Case Study

## Sellen Construction

## Pacific Northwest

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# Situation

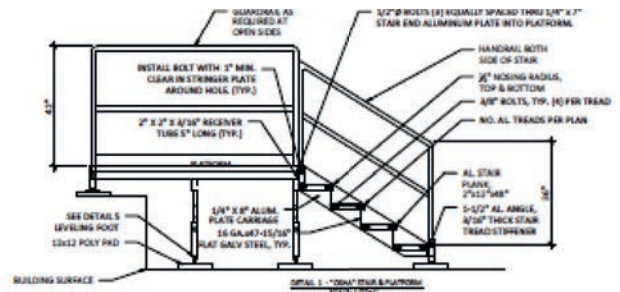
Sellen Construction is a general contractor company based in the Pacific Northwest. Their client projects include education, healthcare, hotels, mixed-use, office, life sciences, historic renovations, and arts and culture centers.

Sellen hired Work Safe Access to provide a complex network of access solutions for a rooftop site with a number of access and weight restrictions.



## CODE COMPLIANCE

1. STANDARD: OSHA CHAPTER 24, SUBPART D WALKING WORKING SURFACES
2. STAIR RISE = 9" MAX.
3. DESIGN LOADING:
  - 3.1. DECK/RAMP 100 PSF
  - 3.2. STAIR TREAD 300 LBS./TREAD
  - 3.3. SHIPS LADDER 1,000 LBS./TREAD
  - 3.4. RAILING 50 PLF/200 LBS. CONC.
  - 3.5. LATERAL LOAD 600#
  - 3.6. WIND LOAD 135 MPH, EXP C, KZT=2.0
  - 3.7. SEISMIC LOAD SDS=1.0, SEISMIC CAT. 'D'
4. HANDRAILS:
  - 4.1. DECKS & STAIRS: 1-1/2" GRASPABLE CONTINUOUS HANDRAIL AT 36" OFF STAIR NOSING. INSTALL BOTH SIDES OF STAIRS.
  - 4.2. SHIP'S LADDER: 1-1/2" GRASPABLE CONTINUOUS HANDRAIL AT 12" PERPENDICULAR TO STEP NOSING. INSTALL BOTH SIDES OF STEPS.
5. FOOTING INFORMATION:
  - 5.1. PRE-MANUFACTURED 12"x12"x1" ABS PAD UNDER ALL ADJUSTABLE LEGS ON ROOFING.



## Project Specs

Work Safe Access provided IBC-compliant and OSHA-compliant customized access systems as part of a project for Sellen Construction.

- 18 Platforms
- 2 Sets OSHA Stairs
- 3 Ships Ladders
- 23 OSHA Compliant Railings



# Unique Challenges

## *Modular System Key to Success*

The site's rooftop footprint, and the requirements of the property owners, eliminated the use of a crane or any machinery that would create even moderate vibrations or noise.

The access system was designed as a series of connected safety platforms and walkways. The pre-fabricated system needed to enable maintenance and facilities personnel responsible for upkeep of the air handling units (AHUs) the room to inspect and service the them. The system needed to provide efficiency to rooftop personnel and allow them to flow easily from one unit to the next in the safest, most convenient manner possible.

Craning can be a viable – although expensive – solution for positioning project components in place. If craning is not possible, modular systems are a must. This enables the project schedule to continue on pace.

The roof loading constraint meant that the typical build process for a rooftop access system had to be scaled back.

Work Safe Access chose to execute the project in mini sprints that would ensure the access system was spread out as

it was built to keep the weight evenly distributed. The roof could not support all of the access product in one area. Work Safe Access had to ensure the underlying roof would not become overloaded.

Work Safe Access had already kitted and bundled modular components. Their crews packed materials up via two-story scaffolding stairs and onto the roof where they moved the kits directly to assembly areas.

## *Previous Access System Recycled into New Design*

The site already housed a Work Safe Access unit from a previous project.

Work Safe Access systems are modular and the manufactured component design is consistent. Work Safe Access systems can be disassembled and reassembled in multiple configurations.

In this case, the original Work Safe Access system was simply broken down, moved and joined into the new system, and reassembled at the new elevated height of roughly two feet. Sellen Construction noted that the previous system blended seamlessly to match the new system.



## *Contiguous Customized Access System*

The new Work Safe Access system was comprised of a series of ships ladders, stairs, and platforms evenly elevated with safety guardrails in a u-shape allowing access to rooftop AHUs.

## *Design Build*

This was a design build project. Design build projects are collaborative. They tend to be faster and more fluid than alternative project methods and require vendor flexibility to accommodate changes.

Transparency, teamwork, responsiveness, and communication are vital to the reputation and project outcome of all who participate.

Work Safe Access crews installed the units through graveyard shifts, which provided the least amount of impact to the occupants.

The teams adapted to a steady flow of design shifts. Because the access system

was pre-fabricated, adjustments were made within scope and without stopping the site production flow.

## **Results**

### *Modular Safe Rooftop Access*

The team met the unusual scope conditions and provided efficient solutions to design challenges.

Work Safe Access worked closely with Sellen Construction to provide a slip resistant rooftop system that would enable facilities and maintenance crews to gain safe access to air handler units.

Work Safe Access solutions are designed to provide the safest environment possible.



***“Work Safe Access just gets it. I’m impressed with their products, service, and experience. They’re an outstanding team to have on any project. I highly recommend them.”***

– Noah Loyd  
Project Manager, Sellen Construction

