

Structural Steel Unloading and Staging JHA

Worked instructional example

Work and worksite

A steel erection crew will unload identified beam bundles from a flatbed with a mobile crane and land them on prepared dunnage in a building-project laydown area. The truck remains within a closed unloading zone. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- Ground, crane setup, truck access and landing supports are released for the actual loads.
- A qualified rigger establishes the unloading order and lifting attachments before transport restraints are removed.
- This excludes forklift pallet movement, highway transport, multiple-lift rigging and steel erection into the frame.

Questions before work

- Which bundle could move when each transport restraint is released?
- What weights, lift points and unloading sequence are confirmed?
- How will landed beams remain stable and accessible for later rigging?

Task Hazard Control

1 Release the unloading bay

Hazard: Weak ground, insufficient crane space or crossing traffic can cause collapse or collision.

Control: Controlling contractor and lift lead confirm access, support and pedestrian control for truck and crane operations. Set aside a landing area with stable supports and a clear exit.

Verification: Lift lead checks the site layout before truck entry.

Reasoning: An erection delivery needs a usable unloading site, not just a parking space.

2 Inspect the delivered stack

Hazard: Shifted steel can roll or fall when restraints are removed.

Control: Rigger examines load position from a safe location and plans selective restraint release. Add a suitable stabilizing method where needed before unbinding; hold unloading if the shifted load cannot be controlled.

Verification: Rigger identifies the release order with the driver and crew.

Reasoning: Transport straps can be retaining a load that moved in transit.

3 Attach lifting gear

Hazard: Sharp edges, inaccessible slings or unsuitable attachments can injure workers or drop steel.

Control: Qualified rigger selects inspected gear for the bundle and protects it at damaging edges. Provide suitable truck access and work positions; keep hands out of sling tightening paths and never use unidentified shipping bands as lift points.

Verification: Rigger verifies weight, gear capacity and attachment before tensioning.

Reasoning: Shipping restraint and lifting attachment have different functions.

Complete the work and hand over

4 Release and lift one planned load

Hazard: Steel can shift at restraint release or swing into the truck crew.

Control: Follow the agreed restraint and pickup sequence with crane support as specified by the lift plan. Clear workers from the load and use one designated signal person; pause for unexpected movement.

Verification: Lift lead confirms people are clear before the load leaves the bed.

Reasoning: The moment restraint is released changes the load's support system.

5 Land and chock steel

Hazard: Beams can roll, crush hands or displace dunnage.

Control: Land on selected supports that keep steel stable and permit later sling removal. Use tools and safe positions for blocking; do not reach beneath the load. Release rigging only after stability is established.

Verification: Rigger checks support contact and rolling restraint before unhooking.

Reasoning: An unloaded beam still needs a stable storage arrangement.

6 Hand over the laydown area

Hazard: Poor spacing or undocumented damage can expose the erection crew.

Control: Mark bundle identities, maintain access and stack limits, and report damaged members or unstable supports. Release the truck route only after rigging and loose restraints are secured.

Verification: Foreperson confirms the staged inventory and access with the erection lead.

Reasoning: Storage must support the next retrieval as well as today's landing.

Pause and reassess

- A load has shifted or cannot be stabilized before unbinding.
- Unknown weight, damaged gear or inadequate landing support.
- Traffic enters the unloading zone or crane conditions change.

Improve the controls

Needs improvement: Work carefully and wear PPE.

More useful: Qualified rigger selects inspected gear for the bundle and protects it at damaging edges. Provide suitable truck access and work positions; keep hands out of sling tightening paths and never use unidentified shipping bands as lift points.

Needs improvement: Check that everything is ready.

More useful: Controlling contractor and lift lead confirm access, support and pedestrian control for truck and crane operations. Set aside a landing area with stable supports and a clear exit.

Decisions that change the analysis

Is this covered by the forklift pallet example?

No. This uses crane-handled long steel and staged restraint release from a flatbed. The pallet example does not establish the bundle's lifting points, unbinding sequence or rolling restraint.

What must the crew record for actual use?

Identify the actual equipment and work boundaries, responsible people, applicable criteria, inspection findings and open actions. Resolve changes with affected crews and obtain required project authorization before work.

Training needs

- Applicable crane, signal-person and qualified-rigger roles; unloading communication.
- Steel restraint-release sequence, truck access and stable dunnage placement.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

OSHA 1926.752 Steel erection site layout

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.752>

OSHA 1926.753 Steel erection hoisting and rigging

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.753>

OSHA 1926.21 Safety training and education

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This instructional example supplies no actual inspection results, signatures or work approval.