

Storm Drain Installation JHA Example

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Learning and planning resource. Adapt with the people doing the work, verify actual controls and follow required authorization. This document supplies no completed field inspections, signatures or work approval.

Work and worksite

A fictional crew plans to replace a storm-drain run and set a precast inlet in a closed construction area. The network can receive runoff from beyond the work boundary. An excavator will prepare the trench and lower compatible pipe sections; a separately assessed lifting arrangement will handle the inlet. Workers join pipe from protected trench positions. This example excludes pipe or chamber entry, live-flow work and contaminated-water remediation. It adds drainage isolation, rolling materials and lifting interfaces to excavation planning.

- Identify upstream catchments, connected drains, weather triggers and the person controlling diversion or isolation. Local clear weather does not rule out incoming water.
- Define component weights, lifting points, bedding, trench protection and equipment capacity for the planned position.
- Plan utility verification, delivery access, component storage and protected access for joints and grade checks.
- Keep entries into pipes and completed chambers outside this example; evaluate any proposed entry separately under the applicable construction requirements.

Actual project records needed: Location, crew and responsible people; equipment models and instructions; permits/releases; emergency arrangements; actual checks and approvals.

Task | Hazard | Control | Verification

Confirm the drainage boundary and utility route

Hazard: Unexpected runoff or a damaged service floods the work area while workers are below grade.

Control: The supervisor coordinates utility locating and verifies the drainage connections with the responsible owner. Establish a suitable flow-control or dry-work arrangement and weather response; do not rely on an unattended pump as the only protection.

Verification: Trace where water can arrive from, identify unresolved connections and record the person responsible for monitoring changes.

Reasoning: Connected storm drains expose the crew to conditions beyond the immediate trench.

Receive and stage pipe and precast components

Hazard: A pipe rolls, a stacked component shifts, or a person is caught during unloading.

Control: The receiving lead arranges stable support and restraint compatible with the components. Separate pedestrians from unloading, use the planned handling equipment and preserve a clear route to each lifting point.

Verification: Verify the delivered item and weight match the plan; check restraints and ground support before releasing transport securing devices.

Reasoning: Storage is part of the JHA because a round pipe remains capable of movement after the delivery vehicle leaves.

Excavate and establish the protected work zone

Hazard: Cave-in, water accumulation or unstable adjacent ground exposes workers installing bedding and joints.

Control: The excavation competent person evaluates conditions and checks the selected protective system against its design or tabulated data. Arrange protected access and required egress; keep workers out of unsafe ground and suspended-load paths.

Verification: Check the actual depth, system arrangement, access and added loads from stored pipe and lifting equipment before worker exposure.

Reasoning: A box selected for the pipe run may not protect the larger excavation needed for an inlet.

Remove old sections and lower new components

Hazard: A lifted piece falls or swings; a worker is trapped between the component and trench protection.

Control: The lifting lead verifies weights, approved lifting points, rigging and equipment suitability. Inspect rigging and remove defective gear. For this teaching scenario, clear personnel from the receiving area during lowering and use the agreed signal system.

Verification: Confirm capacity for the actual configuration and load path, positive control of access, and a stable landing location.

Reasoning: Eye contact with the operator does not protect someone standing beneath or beside an uncontrolled load.

Join pipe and complete external sealing

Hazard: Movement at the joint traps fingers; awkward handling strains workers; wet mortar contacts skin or eyes.

Control: The foreman permits approach only after the component is stable. Use suitable alignment tools and planned handling aids, keeping hands out of the closing joint. For mortar, provide the assessed skin and eye protection and washing arrangements.

Verification: Verify bedding support, stable pipe position and room to work within protection; confirm no one must enter the pipe or chamber.

Reasoning: The task changes from lifting to close-contact fitting, so the line-of-fire decision must change too.

Backfill, secure openings and hand over

Hazard: Compaction plant strikes a worker, protection is removed too early, or someone enters an unsecured new chamber.

Control: The supervisor coordinates backfill and system removal, separates workers from plant, and installs the planned opening protection. Restore drainage only through the agreed process after affected workers and equipment are clear.

Verification: Inspect the work boundary, covers or barriers, remaining openings and drainage status; communicate unresolved items to the next crew.

Reasoning: A completed inlet becomes a new access and confined-space management issue, not merely a finished concrete component.

Pause and reassess

- Withdraw from affected below-grade work for rising water, an unexpected connection, upstream flow change or a weather trigger; reassess the drainage and excavation arrangements.
- Re-plan when the delivered component, weight, lifting attachment or excavation dimensions differ from the assessed arrangement.
- Stop a proposed entry into a chamber or pipe. Evaluate the space and establish the applicable entry process before anyone crosses the opening.

Correct the condition, revise the analysis, communicate the change and obtain required authorization before restarting.

Improve the control

Needs improvement: Storm drain is dry, so entry is safe.

More useful: Identify connected flows and atmospheric or other entry hazards; this example authorizes no pipe or chamber entry.

Needs improvement: Use a trench box and keep hands clear.

More useful: Verify protection at the actual joint location, stabilize the pipe, select an alignment method and identify where hands and bodies stay during movement.

Decisions that change the analysis

Rain starts uphill while the trench remains dry. What changes?

Apply the agreed weather trigger and evaluate upstream inflow before exposure continues; do not wait for water to reach the workers.

A worker must climb inside the inlet to finish sealing. Is that covered?

No. Stop and evaluate the proposed entry separately, including classification, controls and any required permit and rescue arrangements.

References and adaptation

OSHA 1926.651 — Excavation water, utilities, access and inspection

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.651>

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OSHA 1926.652 — Protective-system selection and use

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.652>

OSHA 1926.251 — Rigging inspection and capacity

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.251>

OSHA 1926.250 — Materials storage

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.250>

OSHA 1926.1201 — Construction confined-space scope

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1201>

OSHA 1926.1203 — Confined-space evaluation

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1203>

This original walkthrough was informed by review of uploaded examples, then rewritten for the stated fictional scenario using current primary references. It does not reproduce a source document or its approval record.

Walkthrough and draft builder: <https://www.toddjeromejenkins.com/jha-jsa-examples/storm-drain-installation-jha>