



Excavate diaphragm (slurry) wall panels QA checklist

Excavate diaphragm (slurry) wall panels with an interactive checklist—commentable and ready to export as PDF/Excel. Control slurry, verticality, and base cleanliness for compliant QA.

Project:

Date:

Filled by:

Pre-Excavation Planning & Setup

1	Confirm approved method statement, ITP, and permits are current; brief crew on hazards and hold points; record approvals and toolbox talk attendance with signatures and photos.
2	Survey and set out panel limits and centerline; verify guide wall alignment and joint positions within ± 25 mm of design; upload total-station report and marked photos.
3	Check guide wall top level and straightness using digital level and taut string; tolerance: level within ± 5 mm and face straight within ± 5 mm; attach readings and images.
4	Inspect and calibrate instruments: mud balance, Marsh funnel, sand content kit, pH meter, thermometer, weighted tape, inclinometer; verify certificates ≤ 6 months; upload certificates.

Slurry Preparation & Testing

5	Mix bentonite or polymer slurry per supplier data; record batch ID, hydration time, and mixture proportions; photograph mixing plant and tank labels.
6	Measure slurry density with mud balance before trench filling; acceptance: 1030–1120 kg/m ³ ; log reading, temperature, time, and tester signature.
7	Check Marsh funnel viscosity at 20 °C; acceptance: 32–50 s for fresh slurry; record seconds, temperature, and batch ID; upload timer photo.
8	Test sand content of fresh slurry using a sand content kit; acceptance: $\leq 2\%$ by volume; record percentage and photo of vial scale.
9	Measure pH and temperature; acceptance: pH 8–11 and 10–30 °C; log readings and instrument serial numbers; attach meter screen photos.

Trench Excavation & Support

10	Maintain slurry head during excavation at least 1.0 m above groundwater and 0.3–0.6 m below guide wall top; record level every 30 minutes with staff gauge photos.
11	Excavate in controlled bites using grab/cutter; monitor trench width with calliper at guide walls; acceptance: overbreak $\leq +50$ mm from design, no underwidth; upload readings.
12	Sound depth with weighted tape after each bite; interim acceptance: reach target depth within $+0.20$ m; log depths at both ends and midspan with time-stamped photos.
13	Continuously circulate slurry through desander during excavation; in-trench acceptance: sand content $\leq 4\%$; record flow rate, desander status, and sand content results.
14	Monitor trench stability; if slurry level drops ≥ 0.5 m or loss observed, stop excavation, restore level, and notify engineer; document incident with photos and log entry.

Verticality & Alignment Control	
15	Verify grab alignment at start with guide frames/stop-end; acceptance: at panel top, centerline within ± 25 mm; upload survey screenshot and annotated photo.
16	Measure verticality using inclinometer or gyro tool at completion; acceptance: deviation $\leq 1:200$ in both axes; attach raw data, plots, and instrument ID.
17	Survey as-dug trench position at surface with total station; acceptance: trench centerline within ± 25 mm of design; upload CSV and plan markup.
18	Check stop-end or joint former plumb with spirit level/laser; acceptance: $\leq 1:200$ and secure restraining; record measurements and fixings with photos.

Base Cleaning & Verification	
19	Clean trench base using clean-out bucket or air-lift pump until returns are clear; record cleaning method, duration, and photos of slurry returns.
20	Measure base sediment thickness with weighted spoon/sonar at three locations; acceptance: ≤ 50 mm everywhere; log results and location sketch.
21	Re-test in-trench slurry: density 1030–1150 kg/m ³ , Marsh 32–60 s, sand content $\leq 2\%$, pH 8–11; record readings with timestamps and photos.
22	Confirm final depth with weighted tape at ends and midspan; acceptance: design depth achieved with overdepth ≤ 0.10 m; attach readings and video of bottom contact.

Documentation & Handover	
23	Compile excavation log: panel ID, dates, equipment, depths, slurry tests, surveys, incidents; attach photos/videos; sign by supervisor and QA inspector.
24	Declare pre-concreting hold point; submit records for review per approved project specifications and authority requirements; upload engineer's acceptance and generate QR-linked report.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Excavate diaphragm (slurry) wall panels is the head term for this focused, job-ready checklist covering slurry-supported panel excavation. It targets diaphragm wall excavation, slurry wall QA, and trench verticality control, while explicitly excluding panel concreting. The checklist helps site engineers, QA/QC inspectors, and supervisors manage bentonite/polymer slurry properties, maintain trench stability, and verify base cleanliness before handover. By standardising density, viscosity, sand content, and pH checks, teams reduce trench collapse risk and avoid inclusions that compromise panel integrity. Verticality and alignment controls prevent bearing loss, leakage paths, and rework. Base cleaning and final depth verification ensure the panel is ready for the next process per approved project specifications and authority requirements. Use this interactive checklist to capture readings, photos, survey files, and approvals in one place, then collaborate in real time—tick items, add comments for issues/resolutions, and export to PDF/Excel with a secure QR link.	1. Preparation: Gather calibrated Marsh funnel, mud balance, sand content kit, pH meter, thermometer, weighted tape, inclinometer, desander/air-lift, total station, radios, and full PPE. 2. Open the checklist on your device, select project and panel ID, and brief the team on acceptance criteria and hold points. 3. During work: Tick each item as completed, input readings (with units), attach photos/videos of instruments, survey screenshots, and slurry returns. 4. Use comments to flag nonconformances, assign actions, and record corrective steps; mention responsible parties and deadlines. 5. After completion: Review automatic summaries, ensure all mandatory evidence is attached, and verify tolerances are met. 6. Export the commentable interactive checklist to PDF/Excel for the engineer; share the QR-secured link for record authentication. 7. Sign-Off: Obtain digital signatures from supervisor, QA/QC, and the engineer; archive the final package in the project document system.