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Install contiguous pile wall—drilling stage QA checklist

Install contiguous pile wall—drilling stage interactive checklist covering spacing, alignment, verticality, and bore cleanliness; fully commentable and export as PDF/Excel for QA records.

Project:	
Date:	
Filled by:	

Pre-Drilling Setup	
1	Confirm latest drawings, ITP, and hold points; record approvals and version numbers.
2	Verify pile IDs and sequence match schedule; mark on guide wall; photo evidence of markings.
3	Calibrate drill mast inclination sensor against certified digital level; acceptance ±0.1°; save calibration certificate.
4	Inspect rig, kelly, auger/barrel, and casings for wear; record serial numbers and condition photos.
5	Confirm subsurface utility clearances using permit and GPR (if required); set exclusion zones; supervisor sign-off.

Layout and Guide Wall	
6	Set out pile center coordinates with total station; tolerance ±5 mm; upload as-built CSV and sketch.
7	Check guide wall straightness and level; deviation ≤5 mm over 5 m; record level readings and photos.
8	Mark design pitch (center-to-center spacing) along guide wall; acceptance ±10 mm; photo of each mark.
9	Install and verify two independent control benchmarks; cross-check closure ≤6 mm; surveyor signature required.
10	Confirm minimum edge distance to existing structures per drawings; measure and record with steel tape; photo.

Drilling and Verticality Control	
11	Center rig over pile mark using laser crosshair; acceptance within ±5 mm; capture rig display screenshot.
12	Verify mast verticality with dual-axis inclinometer before drilling; deviation ≤1:200; store inclinometer readings.
13	Drill with specified tool diameter; measure bore diameter using calliper/sonar; within +50/–0 mm; record measurements.
14	Measure bore depth with weighted tape to design toe/rock socket; tolerance +0/–50 mm; log depth per pile.
15	Check cumulative horizontal deviation using downhole inclinometer; limit ≤1% of depth; upload deviation plot.

Ground/Fluid Stability	
16	Assess groundwater; if support fluid used, maintain fluid head ≥1.0 m above water table; log levels hourly.
17	Test support fluid: density 1040–1150 kg/m³, Marsh viscosity 32–60 s, sand ≤4%; attach field test sheets.
18	Install temporary casing (if required) plumb within ≤1:200; embed ≥1.5 m into stable stratum; photo verification.
19	Monitor penetration rate and torque; flag abrupt changes indicating obstructions/voids; engineer review note attached.
20	Survey bore profile via calliper/sonar every 2 m; necking/overbreak >5% diameter triggers NCR and rectification plan.

Bore Cleanliness and Acceptance	
21	Circulate support fluid or airlift to remove fines; target return turbidity ≤50 NTU; record sample results.
22	Measure base sediment thickness with weighted dip plate; acceptance ≤50 mm; log three readings and average.
23	Inspect bore base with downhole camera where feasible; confirm no loose debris; save timestamped images.
24	Flush until return fines <3% by mass; retain labeled sample; supervisor verification.
25	Confirm center-to-center spacing between adjacent drilled bores equals design pitch ±10 mm; upload survey check.
26	Complete pre-concrete inspection and hold-point release per approved project specifications and authority requirements; obtain signatures.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Install contiguous pile wall—drilling stage is the focused inspection phase dedicated to verifying spacing, alignment, verticality, and bore cleanliness before any concrete is placed. This checklist targets contiguous bored piles supported by a guide wall, ensuring pile layout accuracy, mast plumb, and clean, stable boreholes. It excludes secant walls, cage placement, tremie operations, and concreting. By standardizing survey set-out, mast calibration, deviation monitoring, and bore cleaning methods, teams reduce risks of misalignment, insufficient overlap, excessive overbreak, and soft base defects that can compromise wall continuity and load transfer. Acceptance cues include center-to-center spacing within tolerance, verticality within stated limits, compliant bore diameter and depth, and measured base sediment within allowable thickness. The outcome is a constructible pile line ready for reinforcement and concreting, backed by measurable evidence and clear hold-point releases per approved project specifications and authority requirements. Use this interactive tool to tick items, add comments, attach photos, and export PDF/Excel with a QR audit link.	1. Preparation: gather latest drawings, ITP, survey control data, calibrated inclinometer, total station, calliper/sonar, Marsh funnel, density kit, turbidity meter, dip plate, and PPE. Confirm crew briefing and hold-point requirements. 2. Open the checklist, select project, chainage, and pile IDs. Enable interactive mode to allow real-time ticking, commenting, and media attachments tied to each inspection item. 3. Record measurements directly in the fields provided, attach instrument screenshots and photos, and tag locations. Use tolerance prompts to flag out-of-range values for immediate escalation. 4. Add comments for nonconformances and corrective actions. Mention responsible parties, due dates, and link supporting documents per approved project specifications and authority requirements. 5. Export results as PDF/Excel for distribution at hold points. Share the QR code to enable quick verification of the latest signed record on site. 6. Sign-Off: obtain digital signatures from contractor, consultant, and client representatives. Archive the record with QR authentication to lock revisions and preserve a complete audit trail.