READY TO INSPECT — FIELD CHECKLIST

Deep foundations rough-in inspection checklist

Deep foundations rough-in is the last time the work is fully visible. Once the cover inspection passes and the walls, ceilings and slabs close, every defect left behind becomes a demolition bill. This checklist walks the rough-in in the order the work goes in, with the photo each item needs before it gets buried. Work is commonly verified against ACI, the project geotechnical report and specifications. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The GC's superintendent or a geotechnical field rep observing installation pier by pier, with the pile crew foreman. When: As each pile is driven or each shaft is drilled and reinforced, before concrete is placed or the excavation is backfilled. Once it's covered, the record is all that's left.

Layout and location

- [ ] Pile head location checked against the plan before installation
  Each pile or shaft center measured against the layout, offset from plan location within the specified tolerance and recorded.
  2 photos required
- [ ] Tip or founding elevation reconciled with the bearing criteria
  Founding elevation surveyed and compared against the depth and bearing stratum called for in the geotechnical report, not just the driving record.
  2 photos required
- [ ] Element numbers staked from project control to match the pile plan
  Each stake or paint mark carries the pile or shaft number from the pile plan, set by the surveyor from project control, so every log and as-built ties to one location.
  1 photo required
- [ ] Test elements installed and criteria issued before production starts
  Test piles, test shafts or load-test elements the specifications call for are in, and the geotechnical engineer's installation criteria are issued in writing before production elements begin.
  No photo required

Driven piles

- [ ] Driving record matched to the acceptance criteria
  Blow count, set and final penetration logged against the specified refusal or capacity criteria for each pile, hammer energy noted.
  No photo required
- [ ] Pile condition checked before and during driving
  Pile straight and undamaged before pickup, head not brooming or splitting, no visible deviation or heave of adjacent piles.
  No photo required
- [ ] Hammer, helmet and cushion match the approved installation plan
  Hammer model, helmet and cushion material on the rig matched to the driving system in the approved pile installation plan; cushion changed at the interval that plan sets.
  No photo required

Drilled shafts and augercast

- [ ] Hole cleanliness and slurry condition verified before concrete
  Base cleaned of cuttings, slurry properties within the specified range where used, sidewalls stable and free of caving before the pour.
  No photo required
- [ ] Reinforcement cage placement, cover and support checked
  Cage centered with spacers holding the specified cover all around, dowels and hoops per the drawings, cage supported so it doesn't rack during concreting.
  No photo required
- [ ] Tremie or auger tip kept below the concrete head through the pour
  Tremie, pump line or auger tip stays embedded in the rising concrete or grout for the whole placement, per the approved installation plan; any break in the pour logged.
  No photo required

- [ ] Concrete or grout volume logged against the theoretical volume
  Volume placed in each shaft or augercast pile compared with its theoretical hole volume on the log; an under-run or large over-run reported as a possible neck or cave.
  No photo required

Installation records

- [ ] Depth measured independently of the rig readout
  Pile or auger marked in increments, or shaft depth sounded with a weighted tape from behind the shaft protection, and the reading compared with the rig's counter before logging.
  1 photo required
- [ ] Foundation contractor's log complete for every element installed today
  Each element installed today appears on the log with its number, date, depth, installation data and any interruption, signed by the foreman before the rig moves on.
  No photo required
- [ ] Out-of-criteria elements reported to the engineers before the next one
  Short elements, early refusal, obstructions or cage problems written up to the geotechnical engineer and engineer of record, with their direction logged before production continues.
  No photo required
- [ ] Finished heads flagged with their number and protected from traffic
  Each installed pile or shaft head marked with its element number and flagged, capped or barricaded so equipment does not strike or load it before cutoff.
  1 photo required