

Engineer Photo Checklist

Engineering site observations — whether structural, civil, or MEP — carry professional liability that demands airtight documentation. When a structure is disputed, a system fails, or a contractor claims they followed the drawings, the question is always the same: **can you prove what conditions existed, that the work conformed to the engineered design, and that deviations were identified and addressed during your observation?** This guide covers every phase of engineering field documentation.

THE 7 PHASES

Document Every Phase, Protect Every Job

01 PHASE Pre-Construction Site Observation

- Existing site conditions — full survey
- Survey benchmarks & datum confirmed
- Utilities located & confirmed
- Soil & geotechnical conditions noted
- Approved engineering drawings on-site
- Grading & drainage baseline
- Existing structure condition documented
- Permit & stamped drawings posted
- Adjacent structures & setbacks noted

02 PHASE Foundation & Earthwork Observation

- Excavation depth & bearing soil condition
- Rebar size, spacing & cover depth
- Backfill material & compaction lifts
- Bearing capacity test or proof roll
- Concrete delivery ticket — mix & PSI
- Compaction test results in frame
- Footing dimensions per plan
- Pour in progress — vibration confirmed
- Foundation observation report reference

03 PHASE Structural Frame Observation

- Steel member size & grade labeled
- Anchor rod layout per plan
- Engineered lumber — stamp visible
- Bolted connections — bolt size & pattern
- Shear tab & moment connection details
- Shear panel nailing per schedule
- Welded connections — weld size & type
- Wood framing — size & spacing per plan
- Structural deviations noted immediately



04 PHASE Civil & Site Work Observation

- | | | |
|--|---|--|
| <input type="checkbox"/> Grading elevations vs. civil plan | <input type="checkbox"/> Swale & detention basin dimensions | <input type="checkbox"/> Storm drain pipe type, size & slope |
| <input type="checkbox"/> Catch basin installation & invert | <input type="checkbox"/> Retaining wall — batter & drainage | <input type="checkbox"/> Pavement base — type & depth |
| <input type="checkbox"/> Subgrade compaction before paving | <input type="checkbox"/> Curb & gutter — line & grade | <input type="checkbox"/> Site utilities — as-built vs. plan |

05 PHASE MEP Systems Observation

- | | | |
|--|--|---|
| <input type="checkbox"/> Mechanical equipment — model & location | <input type="checkbox"/> Duct size & routing per plan | <input type="checkbox"/> Pipe size, material & slope |
| <input type="checkbox"/> Hanger spacing per code | <input type="checkbox"/> Electrical conduit size & routing | <input type="checkbox"/> Panel location & clearances |
| <input type="checkbox"/> Equipment pad size & level | <input type="checkbox"/> Seismic bracing on all equipment | <input type="checkbox"/> MEP coordination — conflicts noted |

06 PHASE Special Inspections & Testing

- | | | |
|---|--|--|
| <input type="checkbox"/> Concrete cylinder — break result noted | <input type="checkbox"/> Soil compaction — density test result | <input type="checkbox"/> Weld inspection — AWS certification |
| <input type="checkbox"/> High-strength bolt — torque test | <input type="checkbox"/> Masonry — mortar & grout samples | <input type="checkbox"/> Fireproofing — thickness measurement |
| <input type="checkbox"/> Special inspection report on-site | <input type="checkbox"/> Inspector credentials photographed | <input type="checkbox"/> Failed test — corrective action noted |

07 PHASE Final Observation & Engineer Closeout

- | | | |
|--|---|---|
| <input type="checkbox"/> Final structure — all elevations | <input type="checkbox"/> As-built conditions vs. design drawings | <input type="checkbox"/> Deviations documented & resolved |
| <input type="checkbox"/> Certificate of compliance issued | <input type="checkbox"/> Final inspection approval documented | <input type="checkbox"/> All special inspection reports collected |
| <input type="checkbox"/> Letter of substantial conformance | <input type="checkbox"/> O&M documentation for engineered systems | <input type="checkbox"/> Final observation report reference shot |

HOW TO USE THIS IN THE FIELD

Turn This Checklist Into Your Daily Workflow

- 01 Photograph Every Deviation from the Engineered Design Immediately**

When field conditions differ from the drawings — a wrong rebar size, a missing anchor rod, a changed beam — photograph it before any work continues. The timestamp and location establish when you found it and what you observed, which is the core of your professional liability defense.
- 02 Capture Special Inspection Results with the Work Visible**

A compaction test result, weld inspection sticker, or concrete cylinder break result photographed in isolation proves little. The test must be in frame with the work being tested visible — tying the result to a specific location on the project.
- 03 Document Bearing Soil Condition Before Concrete is Placed**

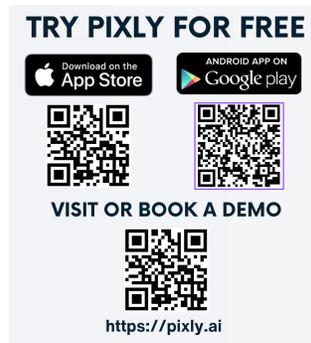
Bearing capacity and soil condition at the bottom of every footing excavation must be documented before concrete is placed. Once the pour starts, the opportunity is gone — and the liability for any future settlement falls to the engineer of record.
- 04 Build a Site Observation Log with Photos, Not Just Written Reports**

A written report describes what you saw. A date-stamped, GPS-tagged photo proves it. Pairing your observation reports with organized site photos from every visit creates the standard of care documentation that protects your license and your firm.

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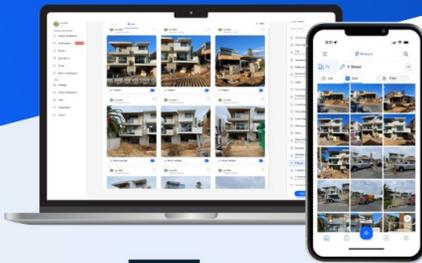
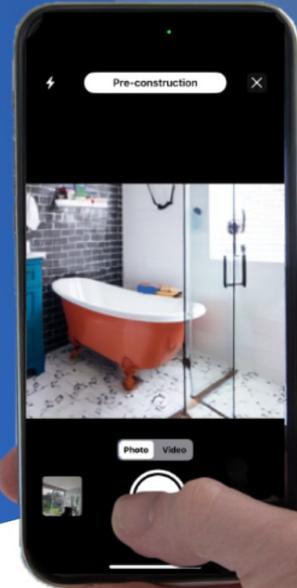
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