



FREE ESTIMATING RESOURCE • 2026 EDITION

The 2026 Missed-Scope Checklist That Quietly Kills Margins

Most bids don't lose because of bad pricing — they lose because entire line items were never priced. This checklist captures the blind spots that industry sources consistently warn about: temporary works, firestopping, waste factors, connection steel, commissioning, and more. Every item includes a step-by-step calculation method so you can price what others forget.

32 Commonly missed scope items	6 Trade packages covered	\$ Step-by-step formulas for every item
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A free resource from Revealed Engineering for U.S. general contractors and estimators.

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UNIVERSAL BLIND SPOTS

1. Temporary Works & Protection

WHAT IT IS

Items needed to build the project that don't stay in the finished building — scaffolding, temporary fencing, temporary lighting, and protection barriers for completed areas.

WHY IT'S MISSED

Architectural drawings show the finished building, not the scaffolding, fencing, or temporary power that gets you there. These items live in the written specifications, not on the drawings — so a takeoff based on drawings alone misses them completely.

HOW TO CALCULATE

A) Scaffolding

- Measure the building perimeter (walk the outside, add all wall lengths). Example: 200 ft.
- Measure the building height. Example: 30 ft.
- Each scaffold set covers about 6–8 ft of wall: $200 \text{ ft} \div 7 \text{ ft} = 29$ sets.
- Add 10% for overlaps and corners: $29 \times 1.10 = 32$ sets.
- Multiply by rental cost per set per month (\$100–\$300) and by project duration.

Formula: $(\text{Perimeter} \div 7) \times 1.10 \times \text{monthly rate} \times \text{months}$

B) Temporary fencing

- Measure site perimeter. Example: 400 ft.
- Multiply by rental rate per linear foot per month (\$2–\$5).
- Multiply by project duration in months.

Formula: $\text{Perimeter (LF)} \times \text{rate per LF} \times \text{months}$

C) Temporary power and lighting

- Call the local utility for the temporary hookup fee for a project of this size.
- Count light fixtures needed (entry points, work areas, parking).
- Multiply fixtures $\times$ monthly rental rate (\$20–\$50) $\times$ months.

Formula: $\text{Hookup fee} + (\text{fixtures} \times \text{rate} \times \text{months})$

COST IMPACT IF MISSED

3–8% of total project cost. On a \$1M project, that's \$30,000–\$80,000 left unpriced.

2. Firestopping & Passive Fire Protection

WHAT IT IS

The material — foam, putty, or collars — that seals the holes left where pipes, cables, or ducts pass through walls and floors, so fire can't spread between rooms.

WHY IT'S MISSED

MEP drawings show where pipes and wires go but not the firestopping material itself; that's in the fire protection specifications, which many estimators never read closely or assume 'someone else' will price.

HOW TO CALCULATE

Method 1 — Detailed count (best accuracy)

- Open all MEP drawings and find every wall/floor penetration.
- Bucket each one: small (under 6"), medium (6–12"), large (over 12").
- Price each: small \$50–\$100, medium \$100–\$150, large \$150–\$200.

Formula: (Small × \$75) + (Medium × \$125) + (Large × \$175)

Method 2 — Quick estimate

- Take total MEP cost and multiply by 1–2%.

Formula: MEP cost × 0.01 to 0.02

COST IMPACT IF MISSED

Industry sources call this the most commonly omitted item in fit-out work, and one of the most expensive to add later — \$5,000–\$10,000 missed on a \$500K MEP package.

3. Builder's Work in Connection

WHAT IT IS

The cutting, chasing, sleeving, and patching the general contractor does to help MEP subcontractors run pipes and cables through walls and floors.

WHY IT'S MISSED

A classic gap: the MEP sub's bid says 'GC to provide all penetrations and make good,' while the GC's estimator is focused on their own scope and never prices it. Nobody owns it.

HOW TO CALCULATE

Method 1 — Count by size (most accurate)

- Walk all MEP drawings and count every required penetration.
- Bucket: small (under 6"), medium (6–12"), large (over 12").
- Price: small \$50–\$100, medium \$150–\$250, large \$500–\$1,000.

Formula: (Small × \$75) + (Medium × \$200) + (Large × \$750)

Method 2 — Percentage allowance (quick)

- Take the total MEP subcontract value and multiply by 2–3%.

Formula: MEP subcontract value × 0.02 to 0.03

COST IMPACT IF MISSED

On a \$500K MEP package, 2–3% works out to \$10,000–\$15,000 in unplanned labor.

4. Testing, Commissioning & Handover

WHAT IT IS

Everything between 'built' and 'handed over': testing every system, training the owner, writing O&M; manuals, and running final demonstrations.

WHY IT'S MISSED

This work happens after construction and lives in Division 01 of the specs, not on the drawings — a section many estimators skip.

HOW TO CALCULATE

- Commissioning: MEP cost $\times$ 1–3%. Example: \$500,000 MEP $\rightarrow$ \$5,000–\$15,000.
- TAB (testing/adjusting/balancing HVAC): count air terminals $\times$ \$150–\$300 each. Example: 100 terminals $\times$ \$225 = \$22,500.
- O&M; manuals: count major systems $\times$ \$5,000–\$20,000 each. Example: 5 systems $\times$ \$10,000 = \$50,000.
- Training: sessions required $\times$ \$1,000–\$3,000 each.

COST IMPACT IF MISSED

Commissioning alone runs 1–3% of MEP; TAB adds \$10,000–\$50,000+; manuals and training add another \$10,000–\$50,000+. A medium project can miss \$50,000–\$100,000+ overall.

5. Waste, Disposal & Compliance

WHAT IT IS

Dumpsters, haul-away trucks, and dumping permits for the trash construction generates — cut-offs, empty bags, scrap, packaging — plus separating recyclables.

WHY IT'S MISSED

Estimators price the exact material quantity needed and forget that 10–15% of it becomes waste, plus the dumpsters and disposal fees themselves, which are a site-operations cost rather than a drawn item.

HOW TO CALCULATE

A) Waste volume

- Take total material volume from your takeoff and apply the trade-specific waste factor.
- Example: 100 CY of concrete $\times$ 10% waste = 10 CY of waste.

B) Dumpster rental

- Estimate dumpsters needed (standard size: 20–30 CY).
- Multiply dumpsters $\times$ weekly rate (\$300–\$600) $\times$ weeks.

Formula: Dumpsters $\times$ \$450 (avg) $\times$ weeks

Example: 2 dumpsters $\times$ \$450 $\times$ 20 weeks = \$18,000.

C) Disposal fees

- Convert waste volume to weight ($\approx$ 750 lbs per CY) and to tons.
- Multiply by local landfill rate (\$40–\$100/ton).

Formula: (CY $\times$ 750 lbs) $\div$ 2,000 $\times$ \$70/ton

Example: 100 CY $\rightarrow$ 37.5 tons $\times$ \$70 = \$2,625.

COST IMPACT IF MISSED

5–10% of material cost in waste fees alone — \$25,000–\$50,000 on \$500K of materials.

6. Out-of-Hours & Phasing Costs

WHAT IT IS

The extra cost of working nights, weekends, or in phases when a site is occupied or noise-restricted, instead of standard weekday hours.

WHY IT'S MISSED

Drawings describe what to build, not when you're allowed to build it; those restrictions sit in project requirements or owner instructions that get overlooked.

HOW TO CALCULATE

A) Night/weekend work

- Identify tasks that must happen outside normal hours.
- Apply overtime multiplier: time-and-a-half $\times 1.5$, double-time $\times 2.0$.

Formula: Normal labor cost $\times 1.5$ (or 2.0)

Example: $\$100,000 \times 1.5 = \$150,000$.

B) Phasing inefficiency

- If work runs in multiple phases, crews re-mobilize repeatedly — add 10–20% to affected labor.

Formula: Labor cost $\times 1.10$ to 1.20

Example: $\$100,000 \times 1.15 = \$115,000$.

COST IMPACT IF MISSED

Night work runs 1.5–2 $\times$ normal labor rates — an extra \$100K–\$200K on \$200K of affected labor.

7. Permits, Inspections & Approval Fees

WHAT IT IS

Building permit fees, inspection fees at each construction stage, and approvals from the fire department, utilities, or state.

WHY IT'S MISSED

These are administrative costs that never appear on a drawing — they live in contract documents or local regulations, and many estimators skip the call to the building department that would surface them.

HOW TO CALCULATE

A) Building permits

- Call or check the local building department for the fee on this project type and value.
- Typical range: 0.5–2% of total construction cost.

Formula: Construction cost $\times 0.005$ to 0.02

Example: $\$1M \times 1\% = \$10,000$.

B) Utility connection fees

- Call each utility (water, sewer, electric, gas) for their connection fee and total them.

Example: $\$5,000 + \$5,000 + \$3,000 + \$2,000 = \$15,000$.

C) Inspections

- Count required inspections (foundation, framing, plumbing, electrical, mechanical, fire, final).
- Multiply by \$100–\$500 per inspection.

Formula: Number of inspections $\times \$300$ (avg)

Example: $10 \times \$300 = \$3,000$.

COST IMPACT IF MISSED

\$5,000–\$100,000+ depending on project size and jurisdiction; permits alone can be \$10,000–\$20,000 on a \$1M project.

8. Final Cleaning & Punch List Management

WHAT IT IS

Deep cleaning after construction (dust, debris, paint splatter) plus the labor to fix the small defects the owner flags on final walk-through.

WHY IT'S MISSED

Drawings show the finished building, not the cleanup crew. Estimators assume subs will clean up after themselves — they rarely do thoroughly, and punch list labor is a separate, often-forgotten cost.

HOW TO CALCULATE

A) Final cleaning

- Measure total building area.
- Apply post-construction deep-clean rate: \$0.30/sq ft average.

Formula: Building area × \$0.30 (avg)

Example: 10,000 sq ft × \$0.30 = \$3,000.

B) Punch list labor

- Take total labor cost and apply a 1–2% allowance.

Formula: Total labor cost × 0.01 to 0.02

Example: \$500,000 × 1.5% = \$7,500.

COST IMPACT IF MISSED

\$10,000–\$50,000+ on commercial work; on a 50,000 sq ft building, cleaning alone can run \$15,000.

9. Temporary Facilities

WHAT IT IS

Site trailers, portable toilets, temporary storage, security fencing, and guards or cameras — the infrastructure that runs the job site itself.

WHY IT'S MISSED

These sit in Division 01 (General Requirements), not on the drawings, so estimators focused on the building assume someone else priced the trailer and toilets.

HOW TO CALCULATE

A) Site trailers

- Decide how many trailers you need (typically 1–3).
- Get a monthly rate (\$800–\$2,000/trailer) and multiply by duration.

Formula: Trailers × \$1,400 (avg) × months

Example: 2 × \$1,400 × 12 = \$33,600.

B) Portable toilets

- Rule of thumb: 1 toilet per 10 workers at peak.
- Multiply by monthly rate (\$150–\$300/unit) and duration.

Formula: $(\text{Workers} \div 10) \times \$225 \text{ (avg)} \times \text{months}$

Example: 50 workers $\rightarrow$ 5 units $\times$ \$225 $\times$ 12 = \$13,500.

C) Security

- Guards: hours needed $\times$ hourly rate (\$25–\$50).
- Cameras: monthly rental (\$500–\$2,000) $\times$ duration.

COST IMPACT IF MISSED

\$5,000–\$30,000+ per month on large projects — \$60,000–\$360,000+ across a 12-month job.

10. Site Logistics

WHAT IT IS

Traffic control, material staging, crane access, internal hauling, and worker parking — the operational plan for actually moving people and materials around the site.

WHY IT'S MISSED

Drawings show the building, not how you build it. On tight, occupied, or busy sites, logistics is a real cost that estimators often assume will just happen.

HOW TO CALCULATE

A) Traffic control

- Check whether flaggers are required and estimate hours needed.
- Multiply by hourly rate (\$30–\$50).

Formula: $\text{Flaggers} \times \text{hours} \times \40 (avg)

Example: $2 \times 8 \text{ hrs} \times 100 \text{ days} \times \$40 = \$64,000$.

B) Off-site storage

- If no on-site storage, price a storage yard (\$1,000–\$5,000/month) plus trucking.

Formula: $\text{Storage} \times \$3,000 \text{ (avg)} \times \text{months} + \text{trucking}$

Example: $\$3,000 \times 12 + \$10,000 = \$46,000$.

C) Internal hauling inefficiency

- If materials move multiple times, add 5–10% to affected labor.

Formula: $\text{Affected labor} \times 1.05 \text{ to } 1.10$

Example: $\$200,000 \times 1.07 = \$214,000$.

COST IMPACT IF MISSED

Poor logistics causes 5–15% labor inefficiency — \$25,000–\$75,000 wasted on \$500K of labor.

CONCRETE PACKAGE

11. Formwork Access & Shoring

WHAT IT IS

The scaffolding or lifts needed to install and strip formwork on tall pours, plus the shoring and bracing required on walls over 10 ft so the formwork doesn't collapse.

WHY IT'S MISSED

Estimators measure concrete volume from the drawings and stop there — the formwork contact area, and the access/shoring to install it, get left out even when formwork itself is priced.

HOW TO CALCULATE

A) Formwork contact area

- Walls: length × height × 2 sides. Columns: perimeter × height (4 sides).
- Beams: (2 × height + width) × length. Elevated slabs: full area.

Example: 50 ft wall × 20 ft × 2 sides = 2,000 sq ft.

B) Shoring/bracing for tall walls

- If wall height exceeds 10 ft, price shoring at \$2–\$5/sq ft of wall area.

Formula: Wall area × \$3.50 (avg)

Example: 2,000 sq ft × \$3.50 = \$7,000.

C) Scaffolding for access

- Perimeter × height ÷ coverage per set (6–8 ft), × monthly rate × months.

Formula: (Perimeter ÷ 7) × monthly rate × months

COST IMPACT IF MISSED

Formwork runs 40–60% of concrete cost; access/shoring adds another 10–20%. On \$200K concrete, that's \$80K–\$120K plus \$20K–\$40K.

12. Curing & Protection

WHAT IT IS

Cure compound, wet blankets, insulating blankets, and winter heating that let poured concrete reach its design strength — and keep it from freezing in cold weather.

WHY IT'S MISSED

Curing materials and winter protection live in the specs or method statements, not on the drawings, so estimators focused on volume and formwork skip past them.

HOW TO CALCULATE

A) Cure compound

- Coverage is roughly 1 gallon per 200–300 sq ft, at \$20–\$50/gallon.

Formula: (Surface area ÷ 250) × \$35 (avg/gal)

Example: 10,000 sq ft ÷ 250 = 40 gal × \$35 = \$1,400.

B) Winter heating

- Estimate BTU requirement (50–100 BTU/cu ft) and fuel cost for the required days.

Formula: Volume × 75 BTU × days × fuel cost/BTU

Example: 10,000 cu ft × 75 × 7 days ≈ \$5,250.

C) Insulating blankets

- Surface area to cover × rental rate (\$0.50–\$2/sq ft/month) × months.

Formula: Surface area × \$1.25 (avg) × months

Example: 5,000 sq ft × \$1.25 × 2 = \$12,500.

COST IMPACT IF MISSED

\$5,000–\$20,000+ per project; missing winter protection on a cold-weather pour can wipe out the entire concrete margin.

13. Concrete Waste Factors

WHAT IT IS

The extra concrete you always need beyond the calculated volume — spillage, uneven ground, overbreak, pump-line waste, and test cylinders.

WHY IT'S MISSED

Estimators price the exact volume shown on the drawings; real pours are messier than the drawing implies.

HOW TO CALCULATE

- Footings: add 10%. Slabs: add 5%. Walls/columns: add 5–7%. Elevated slabs: add 7–10%.

Formula: Calculated volume × (1 + waste factor)

Example: 100 CY footings × 1.10 = 110 CY ordered; 200 CY slab × 1.05 = 210 CY.

COST IMPACT IF MISSED

Missing this underprices concrete by 5–10% — \$10,000–\$20,000 on \$200K of concrete work.

14. Small Concrete Works & Edge Detailing

WHAT IT IS

Curbs, skirting, grooves, cornices, cutting around openings, and patch/repair work — small items that still take real labor and material.

WHY IT'S MISSED

Too small to appear on drawings; assumed 'included' but never actually measured against the major concrete takeoff.

HOW TO CALCULATE

A) Linear items

- Measure total length of curbs/skirting and price at \$10–\$30/LF.

Formula: Total length × \$20 (avg)

Example: 500 LF × \$20 = \$10,000.

B) Cutting/repair allowance

- Add 2–3% of total concrete cost as a repair/patching allowance.

Formula: Total concrete cost × 0.02 to 0.03

Example: \$200,000 × 0.025 = \$5,000.

COST IMPACT IF MISSED

Easily \$5,000–\$15,000 in labor on a medium project if left unpriced.

STRUCTURAL STEEL PACKAGE

15. Connection Plates & Angles

WHAT IT IS

Base plates, gusset plates, splice plates, stiffeners, clip angles, and doubler plates — the small steel pieces that connect the main beams and columns.

WHY IT'S MISSED

Connection steel is small relative to main members and often isn't detailed in early-stage drawings, so estimators focused on beams and columns leave it out.

HOW TO CALCULATE

Method 1 — Rule of thumb

- Add 8–22% to member tonnage (8–12% simple structures, 15–22% complex).

Formula: Member tonnage × 1.08 to 1.22

Example: 100 tons × 1.15 = 115 tons total.

Method 2 — Detailed count

- Count each connection type from details; calculate plate weight from size × thickness × steel density (490 lb/cu ft).

Formula: Sum of all plate weights from connection details

COST IMPACT IF MISSED

Connection steel is 8–22% of tonnage but is often missed entirely — \$24,000–\$66,000 on 100 tons at \$3,000/ton.

16. Anchor Bolts & Hardware

WHAT IT IS

The bolts, nuts, washers, templates, and grout that anchor steel columns to the concrete foundation.

WHY IT'S MISSED

Not always shown on structural drawings; often assumed to fall under the foundation contractor's scope, in the gap between steel and concrete.

HOW TO CALCULATE

A) Count from column schedule

- Count columns; assume 4–8 bolts per column at \$50–\$200 per bolt set.

Formula: Columns × bolts per column × \$125 (avg)

Example: 50 columns × 4 × \$125 = \$25,000.

B) Grouting and templates

- Grouting: \$100–\$300 per column. Templates: \$500–\$2,000 per template type.

Formula: (Columns × \$200) + (Template types × \$1,250)

Example: $50 \times \$200 + 5 \times \$1,250 = \$16,250$.

COST IMPACT IF MISSED

\$500–\$5,000+ per column; \$20,000–\$100,000+ per project on 50 columns.

17. Shear Studs

WHAT IT IS

Small steel pins welded to beams to bond a concrete slab to steel in composite construction, so the two act as one structural unit.

WHY IT'S MISSED

Often called out only in structural notes rather than the member schedule, making it easy to overlook in a takeoff.

HOW TO CALCULATE

A) From drawings

- Count studs per beam × number of composite beams.

Formula: Total studs × \$2.50 (installed)

Example: $20 \times 50 \text{ beams} = 1,000 \text{ studs} \times \$2.50 = \$2,500$.

B) Rule of thumb

- Assume 1 stud per 12–18 in. of composite beam length.

Formula: (Composite beam length ÷ 1.5) × \$2.50

Example: $2,000 \text{ LF} \div 1.5 = 1,333 \text{ studs} \times \$2.50 = \$3,333$.

COST IMPACT IF MISSED

\$2–\$3 installed each, but totals reach \$10,000–\$50,000+ on a large composite floor.

18. Miscellaneous Steel

WHAT IT IS

Lintels, elevator beams, pit steel, shaft ladders, rails, grates, perimeter angles, and embed plates — steel outside the main structural frame.

WHY IT'S MISSED

These live on elevation drawings or in specs rather than the main structural plans, so the structural steel takeoff misses them.

HOW TO CALCULATE

A) Lintels

- Count door/window openings and determine lintel size and weight per opening.

Formula: Openings × average lintel weight × \$3/lb

Example: $100 \text{ openings} \times 50 \text{ lb} \times \$3 = \$15,000$.

B) Misc. steel allowance

- Add 5–10% to structural steel tonnage as a misc. steel allowance.

Formula: Structural steel tonnage × 0.05 to 0.10

Example: 100 tons × 0.07 × \$3,000/ton = \$21,000.

COST IMPACT IF MISSED

5–10% of total steel tonnage, often missed entirely — \$15,000–\$30,000 on 100 tons.

19. Steel Waste Factor

WHAT IT IS

The extra steel needed beyond calculated net weight — cutting scrap, fitting errors, damaged pieces, and mill overrun/underrun.

WHY IT'S MISSED

Estimators price the net weight shown on drawings; the real order is always heavier.

HOW TO CALCULATE

- Simple structures: add 3%. Complex structures (irregular shapes, many connections): add 5–10%.

Formula: Calculated tonnage × (1 + waste factor)

Example: 100 tons × 1.03 = 103 tons (simple); 100 tons × 1.07 = 107 tons (complex).

COST IMPACT IF MISSED

Underprices steel by 3–10% — \$9,000–\$30,000 on \$300K of steel work.

20. Material Protection Before Erection

WHAT IT IS

Primer, powder coating, galvanizing, and fireproofing that protect steel from corrosion and fire, plus safe on-site storage before erection.

WHY IT'S MISSED

Often assumed to be included in the fabricator's quote when it isn't, so it's priced nowhere.

HOW TO CALCULATE

A) Primer/paint

- Rule of thumb: 1 ton of steel ≈ 200–300 sq ft of surface area, at \$1–\$3/sq ft.

Formula: (Tonnage × 250 sq ft/ton) × \$2 (avg)

Example: 100 tons → 25,000 sq ft × \$2 = \$50,000.

B) Fireproofing

- Surface area × \$5–\$15/sq ft depending on thickness required.

Formula: Surface area × \$10 (avg)

Example: 25,000 sq ft × \$10 = \$250,000.

C) Galvanizing

- Steel weight (tons) × \$200–\$500 per ton.

Formula: Tonnage × \$350 (avg)

Example: 50 tons × \$350 = \$17,500.

COST IMPACT IF MISSED

Fireproofing alone runs \$5–\$15/sq ft; on a 100-ton structure, missing it can mean \$200,000+.

MEP PACKAGE

21. Temporary Power & Lighting During Construction

WHAT IT IS

The temporary electrical service, meter base, hookup fees, and work lighting needed to build the project — separate from the permanent electrical system.

WHY IT'S MISSED

This cost sits in Division 01 or the specs, not on the permanent electrical drawings, so pricing the permanent system doesn't catch it.

HOW TO CALCULATE

A) Utility hookup

- Contact the local utility for the exact fee; typically \$1,000–\$10,000+ depending on service size.

Example: Temporary 400A service = \$5,000 hookup fee.

B) Temporary lighting

- Count fixtures needed (entry points, work areas, parking) × \$20–\$50/month.

Formula: Fixtures × \$35 (avg) × months

Example: 20 × \$35 × 12 = \$8,400.

C) Temporary power panels

- Count panels needed × \$100–\$300/month.

Formula: Panels × \$200 (avg) × months

Example: 5 × \$200 × 12 = \$12,000.

COST IMPACT IF MISSED

\$5,000–\$30,000+ depending on project size — easily \$20,000+ on a 12-month job.

22. Controls, Interfaces & Ownership

WHAT IT IS

Motor starters, lighting controls, generator field conditioning, and equipment connections — the systems that make installed equipment actually work.

WHY IT'S MISSED

Electrical drawings show the equipment, but controls are often detailed in separate specs and fall into a 'someone else handles it' gap.

HOW TO CALCULATE

A) Motor starters

- Count motors over 1 HP × \$200–\$2,000 each.

Formula: Motors × \$1,100 (avg)

Example: 20 motors × \$1,100 = \$22,000.

B) Lighting controls

- Count lighting zones × \$500–\$2,000 per zone.

Formula: Zones × \$1,250 (avg)

Example: 15 zones × \$1,250 = \$18,750.

C) Controls allowance (quick)

- If not detailed, add 20–40% to equipment cost.

Formula: Equipment cost × 0.20 to 0.40

Example: \$100,000 × 0.30 = \$30,000.

COST IMPACT IF MISSED

Controls run 20–40% of MEP cost — missing them means \$100,000–\$200,000 on a \$500K MEP scope.

23. Fire-Rated Penetrations & Firestopping at MEP Openings

WHAT IT IS

Fire-rated sealing around every pipe, cable, and duct that passes through a rated wall or floor — the MEP-specific version of Item 2.

WHY IT'S MISSED

Not shown on MEP drawings; each trade assumes the general contractor (or the other trade) is pricing it.

HOW TO CALCULATE

A) Count penetrations

- Count every fire-rated wall/floor penetration in the MEP drawings, bucketed small/medium/large.

Formula: (Small × \$50) + (Medium × \$100) + (Large × \$200)

Example: 100/50/20 count → \$5,000 + \$5,000 + \$4,000 = \$14,000.

B) Percentage allowance

- Take MEP cost × 1–2%.

Formula: MEP cost × 0.01 to 0.02

Example: \$500,000 × 0.015 = \$7,500.

COST IMPACT IF MISSED

\$50–\$200 per penetration adds up fast — \$10,000–\$50,000+ on a medium MEP package.

24. Seismic Bracing & Supports

WHAT IT IS

Extra bracing for pipes, ducts, and equipment required by code in seismic zones.

WHY IT'S MISSED

Rarely called out clearly on plans; it lives in structural or seismic-specific specs, and estimators outside seismic regions may not think to check.

HOW TO CALCULATE

A) From seismic drawings

- Count seismic braces × \$100–\$500 each.

Formula: Braces × \$300 (avg)

Example: 100 braces × \$300 = \$30,000.

B) Rule of thumb

- Add 10–20% to MEP support/hanger costs.

Formula: MEP support cost × 1.10 to 1.20

Example: \$100,000 × 1.15 = \$115,000.

COST IMPACT IF MISSED

Adds 10–20% to MEP support costs — \$20,000–\$40,000 on \$200K of supports.

25. Equipment Start-Up, Training & Closeout Documentation

WHAT IT IS

Commissioning support, O&M; manuals, and owner training that follow equipment installation — the paperwork side of closeout.

WHY IT'S MISSED

This isn't physical installation work; it only appears in the specs or Division 01, so it's easy for an equipment-focused estimate to skip.

HOW TO CALCULATE

A) Commissioning support

- MEP cost × 1–2% for contractor time during commissioning.

Formula: MEP cost × 0.01 to 0.02

Example: \$500,000 × 0.015 = \$7,500.

B) O&M; manuals

- Count major systems × \$2,000–\$5,000 each.

Formula: Systems × \$3,500 (avg)

Example: 5 systems × \$3,500 = \$17,500.

C) Training

- Count required sessions × \$1,000–\$3,000 each.

Formula: Sessions × \$2,000 (avg)

Example: 4 sessions × \$2,000 = \$8,000.

COST IMPACT IF MISSED

\$10,000–\$50,000+ for documentation and training alone; \$30,000+ on a complex MEP project.

FINISHES PACKAGE

26. Protection of Completed Work

WHAT IT IS

Temporary floor protection, wall guards, and door protection that keep finished surfaces safe while other trades keep working.

WHY IT'S MISSED

Estimators assume subcontractors will be careful with each other's work; they usually aren't, and this protection doesn't appear on any drawing.

HOW TO CALCULATE

A) Floor protection

- Area to protect × \$0.50–\$2/sq ft (ram board, cardboard, plywood).

Formula: Area × \$1.25 (avg)

Example: 10,000 sq ft × \$1.25 = \$12,500.

B) Wall/door protection

- Linear feet of walls/doors × \$5–\$15/LF (corner guards, plywood).

Formula: Linear feet × \$10 (avg)

Example: 1,000 LF × \$10 = \$10,000.

COST IMPACT IF MISSED

\$5,000–\$20,000+ in materials and labor; unprotected damage costs even more to repair.

27. Sundry Items

WHAT IT IS

Fixings, sealants, flashings, damp-proof course, hardware, and accessories — small but necessary items that never show up on a drawing.

WHY IT'S MISSED

Too small to draw; assumed 'included' but never actually measured against the major finishes takeoff.

HOW TO CALCULATE

A) Sundries allowance (quick)

- Add 3–5% of finishes cost.

Formula: Finishes cost × 0.03 to 0.05

Example: \$200,000 × 0.04 = \$8,000.

B) Detailed method

- Sealant joints (LF × cost), fasteners (count × cost), flashings (area × cost), hardware.

Example: \$3,000 + \$2,000 + \$2,000 + \$1,000 = \$8,000.

COST IMPACT IF MISSED

Thousands in unplanned cost if skipped — \$6,000–\$10,000 on \$200K of finishes.

28. Finishes Waste Factors

WHAT IT IS

The extra material you always order beyond the calculated area — drywall off-cuts, carpet pattern repeat, tile edge cuts.

WHY IT'S MISSED

Estimators price the exact area on the drawings; the real order always runs higher.

HOW TO CALCULATE

- Drywall: add 10–15%. Carpet: add 5–10%. Tile: add 10% straight lay, 15–20% diagonal/pattern. Paint: add 10–15%.

Formula: Calculated area × (1 + waste factor)

Example: 5,000 sq ft drywall × 1.12 = 5,600 sq ft ordered; 2,000 sq ft diagonal tile × 1.17 = 2,340 sq ft.

COST IMPACT IF MISSED

Underprices finishes by 5–20% — \$5,000–\$20,000 on \$100K of finishes.

29. Edge Details

WHAT IT IS

Skirting/baseboards, grooves, cornices, and cutting around doors and windows — the finishing touches that complete a scope.

WHY IT'S MISSED

Rarely detailed on drawings; assumed to be 'included' in the main finish price, which usually only covers the field, not the edges.

HOW TO CALCULATE

A) Baseboards/skirting

- Total wall perimeter × \$5–\$15/LF depending on material.

Formula: Perimeter × \$10 (avg)

Example: 2,000 LF × \$10 = \$20,000.

B) Cutting around openings

- Count doors/windows × 0.5–1 hour each × labor rate.

Formula: Openings × 0.75 hrs × \$50/hr

Example: 50 × 0.75 × \$50 = \$1,875.

C) Cornices/grooves

- Linear feet of custom detail × \$10–\$30/LF.

Formula: Linear feet × \$20 (avg)

Example: 500 LF × \$20 = \$10,000.

COST IMPACT IF MISSED

Easily \$10,000–\$30,000 in labor on a medium project if priced separately from the main finish.

SITEWORK PACKAGE

30. Erosion Control & Dewatering

WHAT IT IS

Silt fencing, sediment basins, dewatering pumps, and discharge permits required to control erosion and manage water on site.

WHY IT'S MISSED

These live in civil or environmental specs, not the architectural drawings estimators typically start from.

HOW TO CALCULATE

A) Silt fencing

- Perimeter of disturbed area × \$2–\$5/LF installed.

Formula: $\text{Perimeter} \times \3.50 (avg)

Example: $1,000 \text{ LF} \times \$3.50 = \$3,500$.

B) Sediment basins

- Count basins required × \$1,000–\$5,000 each.

Formula: $\text{Basins} \times \$3,000 \text{ (avg)}$

Example: $3 \times \$3,000 = \$9,000$.

C) Dewatering pumps

- Determine required pump size (GPM) × \$500–\$2,000/month × months.

Formula: $\text{Pumps} \times \$1,250 \text{ (avg)} \times \text{months}$

Example: $2 \times \$1,250 \times 6 = \$15,000$.

D) Discharge permits

- Contact local authority for fee; typically \$500–\$5,000+.

COST IMPACT IF MISSED

\$10,000–\$50,000+ depending on site conditions; dewatering alone can exceed \$30,000 on a wet site.

31. Temporary Access & Roads

WHAT IT IS

Haul roads, crane pads, and site restoration — the temporary infrastructure that gets equipment and materials to the work area.

WHY IT'S MISSED

Drawings show the building, not how materials reach it; estimators often assume equipment can just drive on existing ground.

HOW TO CALCULATE

A) Haul roads

- Length × width × \$2–\$5/sq ft (gravel/compacted base).

Formula: Length × width × \$3.50 (avg)

Example: 500 LF × 20 ft = 10,000 sq ft × \$3.50 = \$35,000.

B) Crane pads

- Pad area × \$5–\$15/sq ft (heavy-duty base).

Formula: Area × \$10 (avg)

Example: 2,000 sq ft × \$10 = \$20,000.

C) Restoration

- Area to restore × \$3–\$10/sq ft (seeding/sod/paving).

Formula: Area × \$6.50 (avg)

Example: 10,000 sq ft × \$6.50 = \$65,000.

COST IMPACT IF MISSED

\$20,000–\$100,000+ on large sites; poor access sites can easily exceed \$50,000.

32. External Works Beyond Footprint

WHAT IT IS

Landscaping, paving, and utilities (sewer, water, electric) outside the building line, but still part of the project scope.

WHY IT'S MISSED

Estimators focus on the building and treat everything beyond it as 'someone else's problem,' even though it's shown on the site plan.

HOW TO CALCULATE

A) Landscaping

- Area from site plan × \$5–\$15/sq ft.

Formula: Area × \$10 (avg)

Example: 20,000 sq ft × \$10 = \$200,000.

B) Paving

- Area from site plan × \$8–\$20/sq ft (asphalt/concrete).

Formula: Area × \$14 (avg)

Example: 10,000 sq ft × \$14 = \$140,000.

C) External utilities

- Length from site plan × \$50–\$200/LF.

Formula: Length × \$125 (avg)

Example: 500 LF × \$125 = \$62,500.

COST IMPACT IF MISSED

Can reach 10–20% of total project cost — \$200,000–\$400,000 on a \$2M project.

✓ Quick Reference: Approved Calculation Formulas

ITEM	APPROVED FORMULA
Concrete waste	Volume × 1.10 (footings) or × 1.05 (slabs)
Steel connections	Member tonnage × 1.08 to 1.22
Steel waste	Tonnage × 1.03 (simple) or × 1.05–1.10 (complex)
Drywall waste	Area × 1.10 to 1.15
Tile waste	Area × 1.10 (straight) or × 1.15–1.20 (diagonal)
Firestopping	Penetrations × \$50–\$200 each OR 1–2% of MEP cost
Commissioning	1–3% of MEP cost
Permits	0.5–2% of construction cost
Final cleaning	Area × \$0.10–\$0.50 per sq ft
Sundries (finishes)	3–5% of finishes cost

■ How to Use This in Your Next Bid

- 1 Run your normal takeoff (quantities from drawings).
- 2 Apply waste factors to all materials (see Items 13, 19, 28).
- 3 Add connection steel (8–22% to member tonnage) — Item 15.
- 4 Count penetrations for firestopping and builder's work — Items 2, 3, 23.
- 5 Price temporary items (power, fencing, trailers, cleaning) — Items 1, 8, 9, 21.
- 6 Add commissioning, training, O&M — Items 4, 25.
- 7 Check permits and fees with local authorities — Item 7.
- 8 Review external works (landscaping, paving, utilities) — Item 32.
- 9 Add sundries allowance (3–5% of finishes) — Item 27.
- 10 Document all assumptions in writing before submitting.

A NOTE ON SCOPE

Missed scope varies by project type, region, and delivery method. A design-build project in California carries different risk than a bid-build warehouse in Texas. This checklist consolidates the most commonly reported blind spots across 2024–2026 industry sources. Adapt it to your specific project — it is not a one-size-fits-all substitute for your own estimating judgment.

Want this checklist built into every bid, automatically?

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