STRETCHLEARN · WORKBOOK

Electrical Contracting Business — Workbook

This workbook turns the course into the documents and decisions that run a profitable electrical contracting company: a labor-burden and estimate builder, a go or no-go and bid system, a crew schedule and productivity tracker, and a compliance, safety, and job-cost set. Work through one section per module, completing each worksheet and checklist as you go. By the end you will have your own burdened labor rate, a bid you can defend line by line, a manpower plan, and the financial reports that tell you which jobs actually make money.

Estimating and Takeoffs That Win Profitable Work

Build your true burdened labor rate and overhead recovery, then turn a takeoff into a priced estimate you can defend.

Exercise: Build Your Fully Burdened Labor Rate

Pick one real labor classification (for example, a journeyman you actually employ) and work through the burden stack from the lesson to reach a fully burdened cost per worked hour. Then write down how that number differs from the bare wage you have probably been bidding. Keep this figure visible on every estimate.

• Start with the base wage, then add statutory burden (payroll taxes plus your real workers-comp rate per 100 of payroll). What is the burdened wage so far?

• Add benefits, paid time off, vehicle, phone, and small tools per worked hour. How much does each add, and what is your final fully burdened rate?

• By how many dollars per hour does your burdened rate exceed the bare wage, and what would that gap have cost you on your last 1,000-hour job if you had bid the bare wage?

Worksheet: Overhead Recovery Rate Calculator

Use last year's numbers to calculate the overhead percentage you must add to every job's direct cost so your profit is not silently paying your office bills. Fill each value, then divide total overhead by total direct job cost.

Total annual overhead (office salaries, rent, software, insurance, advertising, owner pay)

Total annual direct job cost (field labor + material + direct job expenses)

Overhead recovery rate (overhead / direct cost), as a percent

Target net profit margin percent

Markup multiplier for profit (1 / (1 - margin))

Combined check: does direct cost + overhead + profit match your historical billed revenue?

Worksheet: Labor-Unit Estimate Builder

Take off one real or sample job and convert it to priced labor and material. Count each item, apply its labor unit and the right difficulty column, multiply by your burdened rate, then add overhead and profit to reach a bid.

Item / description (devices, fixtures, conduit per 100 ft, wire per 1000 ft, gear)

Quantity counted from the takeoff

Labor unit (hours each or per 100/1000)

Condition column / labor factor (new, height, occupied, retrofit)

Extended labor hours (quantity x unit x factor)

Material cost (extended, from supplier quote)

Total direct cost (labor hours x burdened rate + material + direct expenses)

Overhead added (direct cost x overhead rate)

Profit and final bid price (cost / (1 - margin))

Checklist: Estimating Discipline Checklist

[ ] Fully burdened labor rate calculated and written down (not the bare wage)
[ ] Overhead recovery rate calculated from real annual numbers
[ ] Every item taken off the prints with a method that prevents double-counting or misses
[ ] Correct labor-unit column or factor applied for height, occupancy, and retrofit conditions
[ ] Foreman, layout, and start-up time added, not just install hours
[ ] Margin converted to markup correctly (markup is not margin)
[ ] Direct job expenses (permits, rentals, lifts, temp power) included as line items

Bidding, Contracts, and Winning the Right Jobs

Decide which jobs to chase, assemble a scoped competitive bid, and protect the company with contract and payment terms.

Exercise: Run a Go or No-Go on a Real Bid Invitation

Take an actual bid invitation in front of you and run it through the go or no-go filter before spending an hour estimating. Score each factor, decide go or no-go, and write one sentence justifying the decision.

• Do we have the manpower and the right skills for this scope and schedule, given everything else we have awarded?

• Who is the general contractor or owner, can we bond and cash-flow it, and do they pay on time?

• How many electrical contractors are bidding, do we have any real edge, and does the job fit our target margin, or are we just chasing revenue?

Worksheet: Bid Scope Letter Builder

Draft the inclusions, exclusions, allowances, and clarifications that must accompany your number so everyone prices the same scope. Fill each field for the job you are bidding; this letter goes out with the price.

Project name, bid date, and bid time

Inclusions (exactly what your price covers: branch wiring, gear, devices, named systems)

Exclusions (fire alarm, low voltage, trenching, concrete, patching, temp power, etc.)

Allowances (stated dollar placeholders for undesigned items, e.g. fixture allowance)

Clarifications and assumptions where the documents were silent

Alternates and unit prices requested by the documents

Major material quotes relied on and their expiration dates

Walk-away floor price (do not go below this on a bid-day call)

Worksheet: Subcontract and Payment-Terms Review

Before signing any subcontract, review it against the clauses that decide your cash flow and risk. Note the term as written and what you will negotiate. Do not sign until the high-risk rows are resolved.

Pay-if-paid or pay-when-paid? (push for pay-when-paid)

Retention percent and when it is released

Is the bid scope letter attached and governing?

Change-order authorization process before performing extra work

No-damage-for-delay and liquidated-damages exposure

Preliminary lien notice deadline for this jurisdiction (e.g. within 20 days of starting)

Lien filing deadline after completion

Schedule-of-values breakdown for monthly progress billing

Checklist: Bid-Day and Award Checklist

[ ] Go or no-go decision made before estimating hours were spent
[ ] Takeoff and labor hours finalized a day early, not at bid time
[ ] Firm written quotes collected for gear, fixtures, and major material
[ ] Division 26 specification read for product and method requirements, not just drawings
[ ] Overhead and profit applied by formula, with a walk-away floor set in advance
[ ] Scope letter submitted with the price and receipt confirmed by the GC
[ ] On award: subcontract reviewed and high-risk clauses negotiated before signing
[ ] Preliminary lien notice sent on schedule once work begins

Crew Management and Field Productivity

Schedule manpower across all jobs, lay work out for efficiency, and track field hours against the estimate while the job is live.

Worksheet: Company Manpower-Loading Chart

List every active and awarded job and the crew it needs by week, then lay them against your total headcount to expose coming overloads and idle gaps. Fill several weeks forward so you can act before the peak or valley arrives.

Job name

Required electricians by week (week 1, week 2, week 3, week 4)

Crew mix needed (master/journeyman/apprentice)

Job ready to receive crew? (yes/no)

Total required across all jobs per week

Total available electricians per week

Surplus or shortage per week (and the fix: shift dates, move people, hire, add fill-in work)

Exercise: Design a Prefabrication Plan for One Job

Pick a job and identify which assemblies you will prefabricate in the shop instead of building in the field. Decide what to prefab, who builds it, and roughly how many field hours it removes, then write the kit-and-stage plan for the crew.

• Which assemblies (device whips, fixture whips, bracketed box kits, panel feeds, racked conduit) can be built on a bench instead of on a ladder?

• Who builds them (which apprentice or shop hand), and what cut list and jigs do they need?

• How will material be kitted and staged by floor or area so the field crew never hunts for parts, and how many field hours do you expect to save?

Worksheet: Labor Productivity Tracker (Percent Complete vs Hours)

For each phase of a live job, compare physical percent complete to the share of budgeted hours already burned so you catch an overrun in time to fix it. Update weekly with the foreman.

Phase / cost code (underground, rough-in, gear, finish)

Estimated hours budgeted for the phase

Actual hours burned to date (from timecards)

Physical percent complete (foreman estimate)

Earned hours (percent complete x budgeted hours)

Productivity factor (earned hours / actual hours)

Projected hours to finish, and over/under the budget

Action if behind (re-plan, re-crew, re-sequence, fix coordination/material/rework)

Checklist: Field Efficiency Checklist

[ ] Worker classification matched to task (master on gear, apprentice on pulls)
[ ] Legal and productive journeyman-to-apprentice ratio maintained
[ ] Manpower loaded across all jobs several weeks out, peaks and gaps smoothed
[ ] Job confirmed actually ready before the crew is sent (no paid idle time)
[ ] Prefab program running for whips, box kits, and feeds
[ ] Material kitted and staged by area before the crew arrives
[ ] Coordination meetings attended and rough-in sequenced to claim routes early
[ ] Productivity (percent complete vs hours) reviewed weekly with the foreman

Compliance, Safety, and the Numbers That Run the Shop

Keep the company licensed, permitted, code-compliant, and safe, then run it by job costing, WIP, and a monthly P&L.

Worksheet: License, Permit, and Inspection Tracker

Map the licensing the company depends on and the permit and inspection steps for a job, so nothing lapses and no inspection is missed. Fill the license rows once and the job rows per project.
Qualifier (master electrician) name and license expiration

Company electrical contractor license and renewal date

Insurance and bond proof current? (GL, workers comp, auto)

NEC edition and local amendments enforced by this AHJ

Permit pulled with the AHJ before start (date, fee)

Rough-in inspection scheduled before walls close (date, pass/fail)

Final inspection scheduled before energizing (date, pass/fail)

Utility connection / service release coordinated with sign-off

Checklist: Electrical Safety Program Checklist

[ ] Lockout and tagout (LOTO) procedure in place and enforced by the foreman
[ ] Test-before-touch practiced: every conductor treated as live until metered
[ ] Electrically safe work condition established before working on equipment
[ ] Arc-flash boundaries respected and rated PPE worn for energized tasks
[ ] Job hazard analysis done on each new task or condition
[ ] Regular toolbox talks held and competency documented
[ ] Workers-comp EMR tracked and reviewed (it drives premium and bid eligibility)
[ ] NFPA 70E and OSHA requirements referenced for energized-work justification

Worksheet: Work-in-Progress (WIP) Schedule

For each open job, calculate percent complete and earned revenue against what you have billed to reveal whether you are overbilled or underbilled. Review monthly; this is how serious contractors and bonding companies judge real financial health.

Job name and contract value

Total estimated cost

Cost incurred to date

Percent complete (cost to date / estimated cost)

Earned revenue (percent complete x contract value)

Amount billed to date

Overbilled or underbilled (earned vs billed)

Projected profit at completion and fade/gain since last review

Exercise: Read One Job's Cost Report and One Month's P&L

Take a closed job and the most recent monthly profit and loss statement and interpret them against the benchmarks from the lesson. Decide what the numbers are telling you to change.

• On the closed job, how did actual cost by code compare to the estimate, and which phase drove any variance?

• What gross margin did the company earn this month, and is it inside the healthy range for your work type (roughly 20 to 35 percent on smaller and service work)?

• If gross margin is thin, the leak is in estimating or field productivity; if gross margin is healthy but net profit is

not, overhead is too high. Which knob will you turn, and how?

Your Action Plan

1. Calculate your fully burdened labor rate and your overhead recovery rate from last year's numbers, and put both on every estimate.
2. Rebuild your most common bids as labor-unit takeoffs with the right difficulty factors, so every line is auditable.
3. Adopt a go or no-go filter and start tracking your bid hit rate so you stop paying for losing estimates you never had a chance to win.
4. Attach a scope letter with explicit inclusions and exclusions to every bid, and read the Division 26 specification, not just the drawings.
5. Review every subcontract for pay-if-paid, retention, and change-order terms before signing, and send preliminary lien notices on schedule.
6. Build a monthly progress-billing routine on a schedule of values, and track retention receivable so you actually collect it.
7. Load manpower across all jobs several weeks out, smooth the peaks and valleys, and never send a crew to a job that is not ready.
8. Stand up a prefab program and a daily foreman task plan, then track percent complete against hours weekly to catch overruns early.
9. Lock in the safety program (LOTO, test-before-touch, arc-flash PPE, toolbox talks) and confirm licensing, permits, and the AHJ's NEC edition on every job.
10. Close the books monthly and review job-cost reports, the WIP schedule, and the P&L against benchmarks; turn the knob the numbers point to.