

HOUSING

SEVEN PRINCIPLES OF COST EFFICIENT DESIGN

How do we reduce cost while
elevating design quality

Keep the singular goal of cost reduction at the forefront—and visualize it. Layered or competing goals can, and do, increase costs.

Wendy Klein

COMMUNITY DEVELOPMENT PARTNERS

SEVEN PRINCIPLES

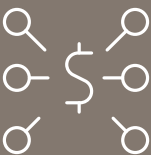
Born out of our recent Affordable Housing work in partnership with Walsh Construction and Reach Community Development, these cost efficient design principles can be applied to all sectors of multi-family housing.



BUILD A COMMITTED TEAM



CHOOSE A DEVELOPMENT FRIENDLY SITE



TARGET VALUE DESIGN



DESIGN EFFICIENT, REPEATABLE UNITS



USE 24” MODULES



ASK THE TRADE EXPERTS



ENSURE EASY APPROVALS



BUILD A COMMITTED TEAM

From owner/developer to general contractor to design teams—ensure all parties are equally motivated by affordability and fully vested in the process.

Help your client establish clear goals and get their buy in on these efficient design principles. When selecting your architect and general contractor, carefully consider their ability and propensity to pursue the guidelines with rigor.

Success depends on everyone's full commitment to this singular direction from the start. Communicating and finding common ground before the design phase will help create a clearer design vision based on the team's shared pool of data and experience.

Assess early on, how will interiors fit into the equation? What is the cost of every stakeholder? Spending more time and budget upfront on planning can pay off in spades down the line.

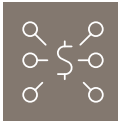


CHOOSE A DEVELOPMENT FRIENDLY SITE

Choose a site that's not a liability. Flat is better than steep, clean is better than contaminated, allowable zoning is better than zoning changes.

Starting in a challenging place with a difficult site, creates more obstacles for every other part of the project. If your goal is efficiency, avoid as many hurdles as possible. Clean, simple sites offer optimal opportunities for success throughout the process.

Consider the parking space, is it on a grade or does it include a structure? What is the current zoning of the site? Are there places for construction staging areas?



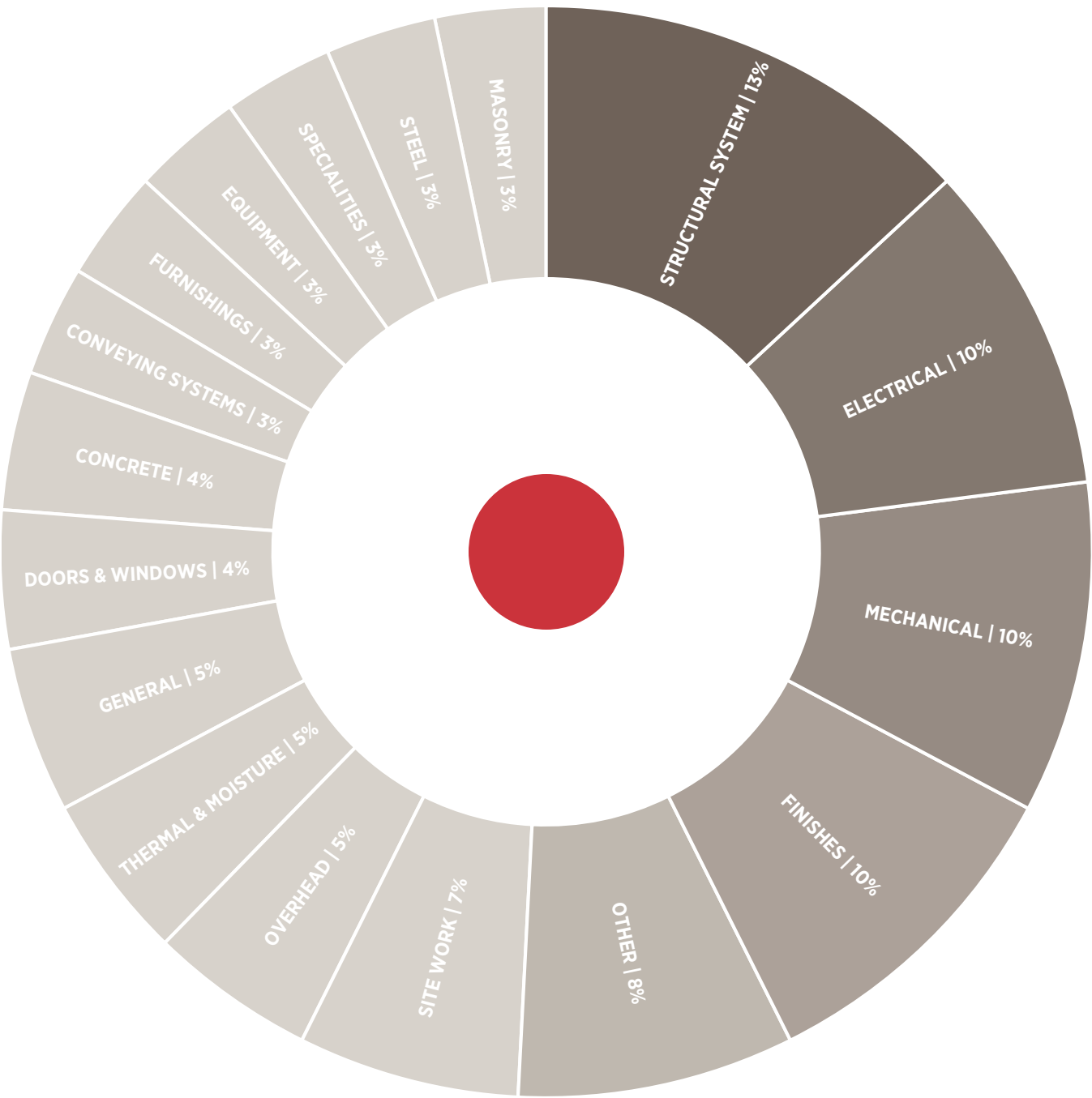
TARGET VALUE DESIGN

Set a construction budget and design to target values.
Don't design first and hope for the best. Keep the budget
in the forefront.

Making cost containment the driving constraint can be impactful, challenging, and even enjoyable. Think of it as a puzzle. The contractor slices up the budget into Target Values for each major part of construction. Next, designers conceptualize each factor using those Target Values. You can swap funds between components, but the project total must stay under the constraint.

This philosophy encourages humility and creativity amongst design teams. It sets the project up for success by asking them to design to the budget, not hope the budget matches the design.

Simple, thoughtful designs achieve efficient building. How do material/product constraints impact the design or Target Values? What are new design opportunities that save money?





DESIGN EFFICIENT, REPEATABLE UNITS

Include everything you need and nothing you don't. Cover the basics—kitchen, bath, bed, storage—and significantly limit the number of unit types.

These components will become the building blocks for the project, repeated 100, 200, or even 300 times. Expensive decisions will have a significant impact, but so will savings, which is why simple, conscientious designs are critical. Some tips: limit the number of corners and doors; test how small units can be while maintaining livability; repeat bathroom and kitchen layouts for all unit types; most importantly, rigorously limit the amount of unit types.

By adhering to simplicity and repetition, the efficiency of the design will be obvious to bidding sub contractors and their proposals will reflect it.



USE 24" MODULES

Design around common construction material dimensions—plywood, gyp board, framing, etc.

Adhering to the standard modules of construction materials speeds up building and decreases waste, it's both a cost efficient and sustainable method. Utilize the common two foot modules of building materials, like plywood or gypboard, which means building elements such as foundation formwork and project bays have two foot lengths and heights. If measurements need to vary slightly, 10 foot wide bays would be more efficient than nine foot wide or 10' 3/4".

Choose base floor to floor heights per standard sheathing dimensions or base floor to ceiling heights using gyp board dimensions.

Of course, this system means it is critical to verify that all of your building components align with the project's construction modules.



ASK THE TRADE EXPERTS

Concrete workers, framers, MEP installers, roofers, drywall hangers—these skilled people know the specifics of what makes building uncomplicated.

Not only can subcontractors help install or build, but they can also offer invaluable advice from their specialized well of experience. Start asking them questions early on to prevent future problems or reduce costs, and continue seeking guidance throughout construction.

Nobody knows better where design inefficiencies can hide than those who build them. Subcontractors involved from the get-go often lower their final bids because they already understand the project's efficiencies.

Ask the experts: What do architects/owners request that adds costs? How can we minimize your trade's waste? Where can we be more efficient? If you were in charge, how would you do it?



ENSURE EASY APPROVALS

Take the path of least resistance to design approval with the Authority Having Jurisdiction (AHJ). Work within approved paths and prioritize compliance first.

A lengthy, multi-appearance review process costs time—and money. It is more efficient to focus design effort on anticipating what the AHJ expects and finding a clear path to project approval, rather than proposing designs that obviously do not comply with requirements and redesigning them. Designs that necessitate multiple visits or time consuming exhibits are not worth it.

Just as working within cost constraints can be thought of as a puzzle, adhering to AHJ approval constraints should be understood as a challenge that can drive better designs and solutions.



MUP



DR/DAR



DESIGN REVIEW

Rigorous commitment.
Collaborative teamwork.
Clear vision.

Applying these cost efficient principles means we can
build more affordability into quality housing.

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Collaborative teamwork.
Clear vision.

Applying these cost efficient principles means we can
build more urgently needed affordable housing.

Explore beyond.

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