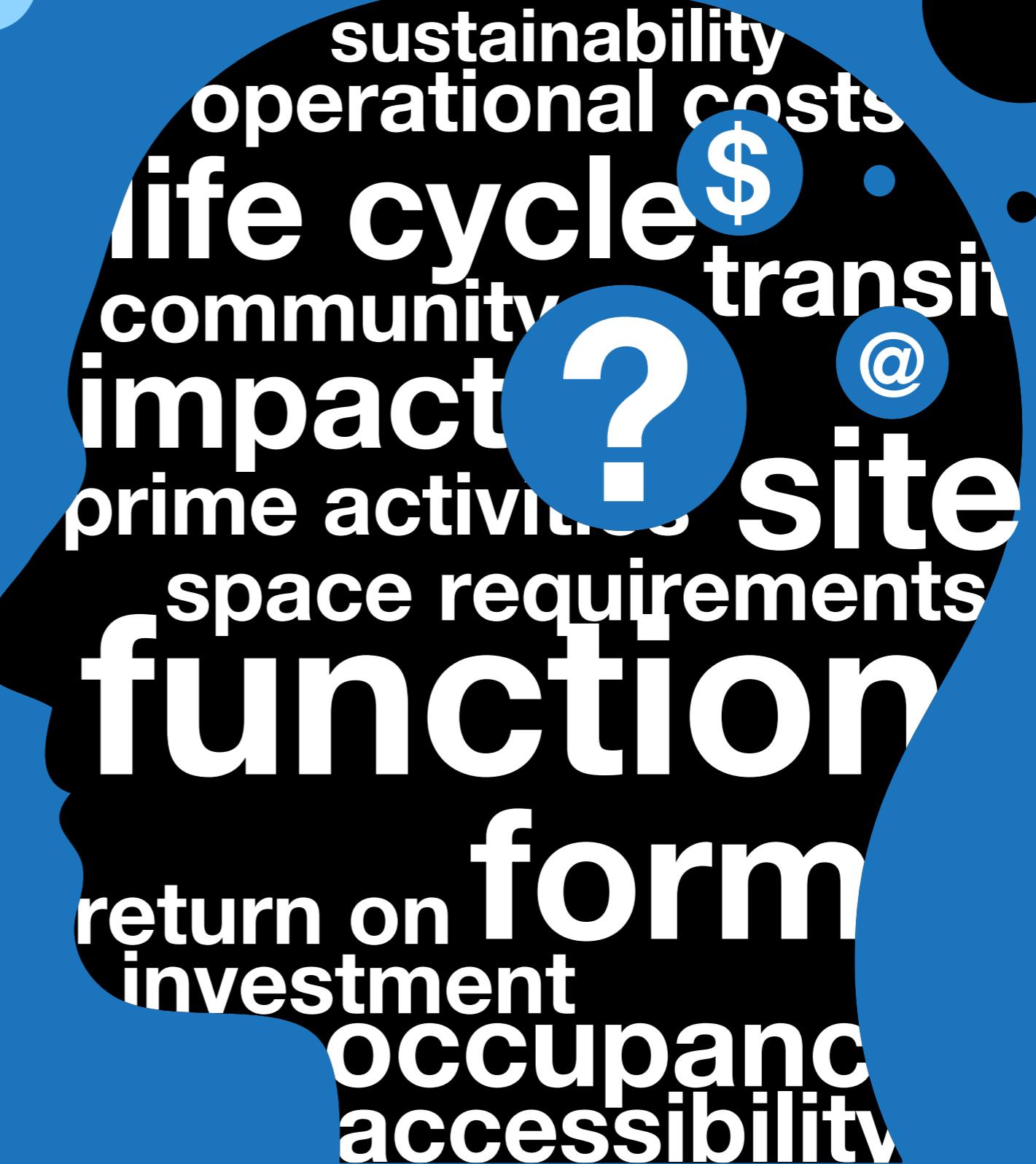




THE AMERICAN
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What Architects Do.

Planning + Design Phase



sustainability
operational costs
life cycle \$
community transition
impact @
prime activities site
space requirements
function
return on form
investment
occupancy
accessibility

Programming

Function

Efficiency
Biotic site elements
Environmental response
Efficient land use
Community relations
Community improvements
Physical comfort
Life safety
Social/psychological environment
Individuality
Wayfinding
Projected image
Client expectations

Form
People
Activities
Relationships

Economy
Extent of funds
Cost effectiveness
Maximum return
Return on investment
Minimizing operating costs
Maintenance and operating costs
Reduction of life cycle costs
Sustainability

Time

Past
Present
Historic precedencies
Static/dynamicities
Change
Growth
Occupancy date
Availability of funds

Statistical data
Area parameters
Personnel forecast
User characteristics
Community characteristics
Organizational structure
Size of potential loss
Time-motion study
Traffic analysis
Behavioral patterns
Space adequacy
Type/intensity
Physically challenged guidelines

Goals

Site analysis
Soil analysis
FAR and GAC
Climate analysis
Code survey
Surroundings
Psychological implications
Point of reference/entry
Building or layout efficiency
Initial Budget
Equipment costs
Operating Costs
Area per unit
Life cycle Costs

Significance
Space parameters
Activities
Projections
Durations
Escalation factors

Facts

Cost parameters
Maximum budget
Time-use factors
Market analysis
Energy source costs
Activities and climate factors
Economic data
LEED rating system
ICCC & other codes

Adaptability
Tolerance
Convertibility
Expansibility
Linear/concurrent scheduling
Phasing

Concepts

Enhancements
Special foundations
Safety
Neighbors
Home base/officing concepts
On-premise: fixed, free, group
Off-premise: virtual office
Orientation
Accessibility
Character
Quality control

Escalation
Time schedule
Time/cost schedule

Area requirements—
by organization
by space type
by time
by location

Parking requirements
Outdoor space requirements
Functional alternatives

Site development
Environmental influences on costs
Building cost/SF
Building overall efficiency factor

Budget estimate analysis
Balance budget
Cash flow analysis
Energy budget
Operating costs
Green building rating
Life cycle costs

Cost control
Efficient allocation
Multifunction/versatility
Merchandising
Energy conservation
Cost reduction
Recycling

Implications of changes and growth on long-range performance

Problem

Major form considerations that will affect building design

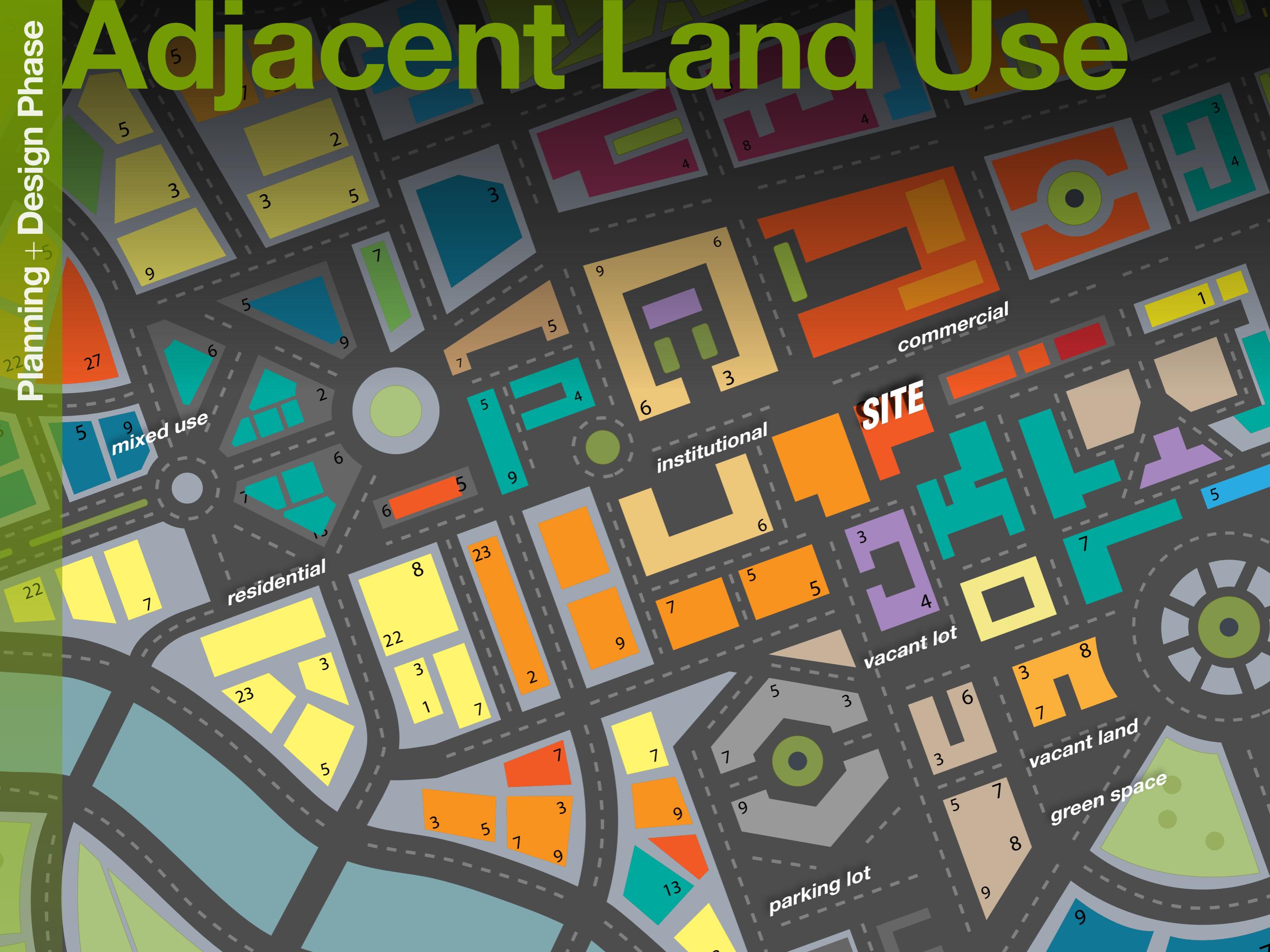
Attitude toward the budget and its influence on the fabric and geometry of the building

Site Analysis



Adjacent Land Use

Planning + Design Phase



Zoning

Planning + Design Phase



Architectural Forms

Planning + Design Phase



non-contributing²



modern

SITE

romantic

post-modern

victorian

colonial

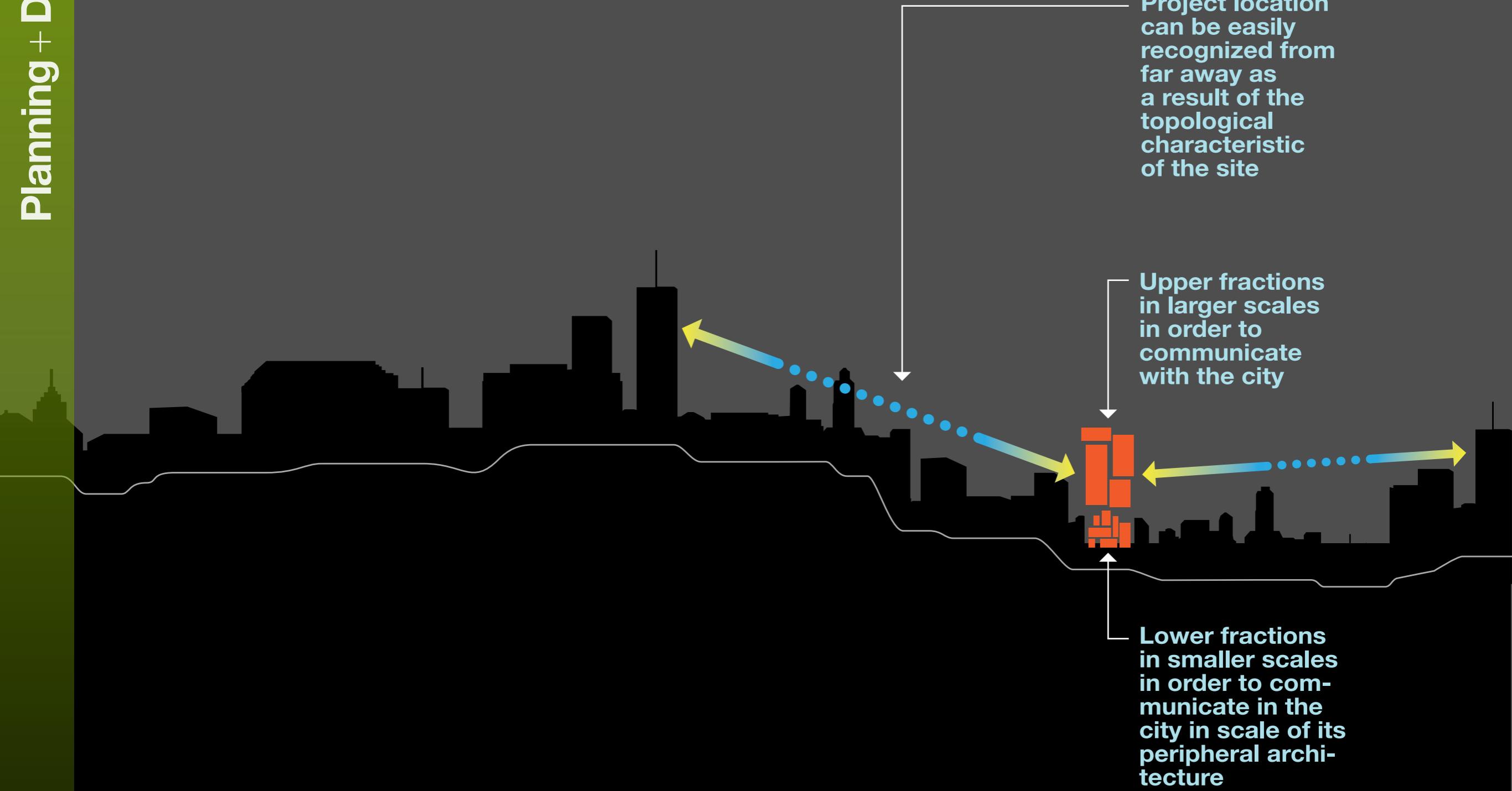


eclectic



Planning + Design Phase

Scale



Transit Access

Planning + Design Phase



Views + Visual Impact

Planning + Design Phase

- relevant lines of sight IN
- relevant lines of sight OUT

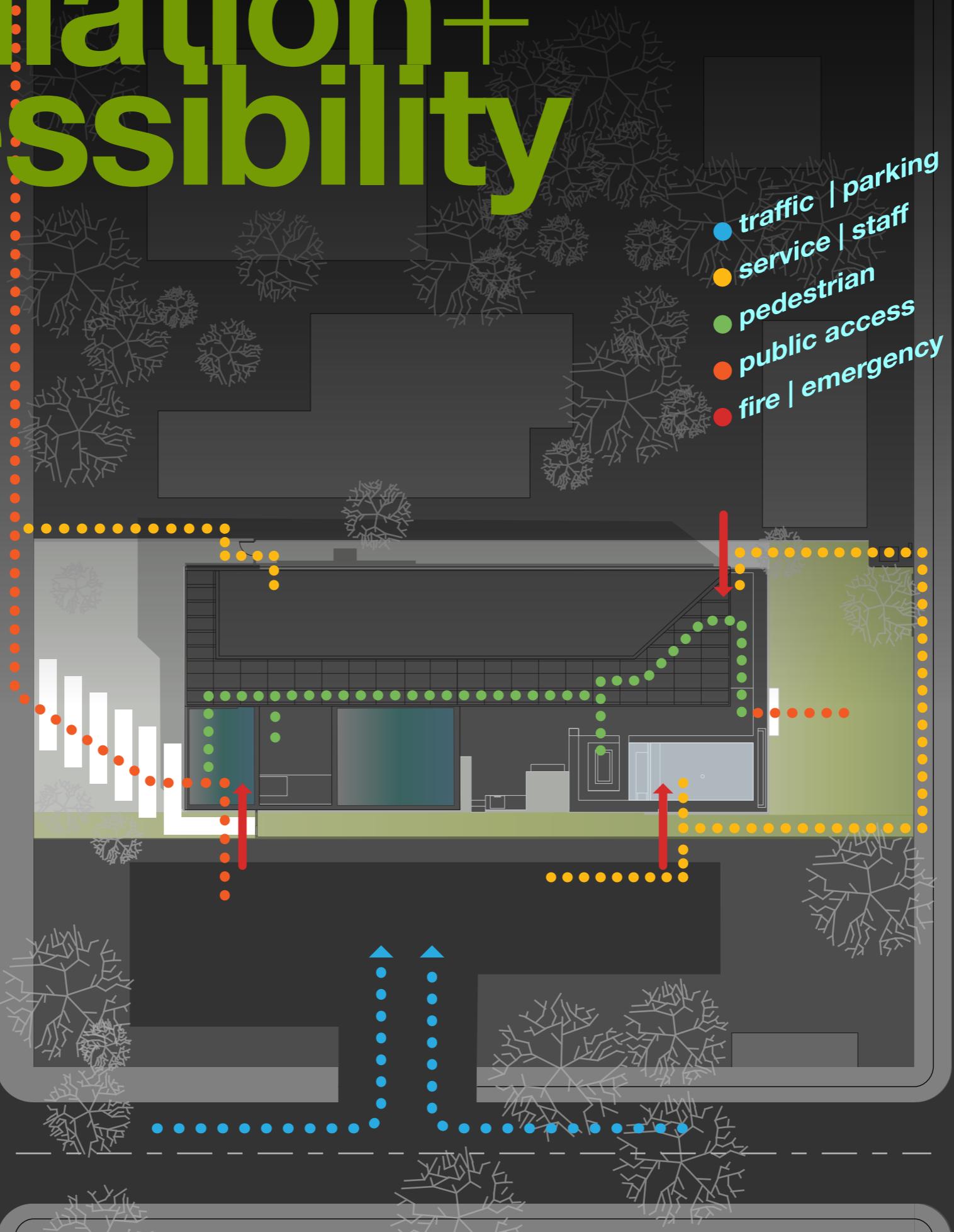


Sun Path + Breezes

Planning + Design Phase

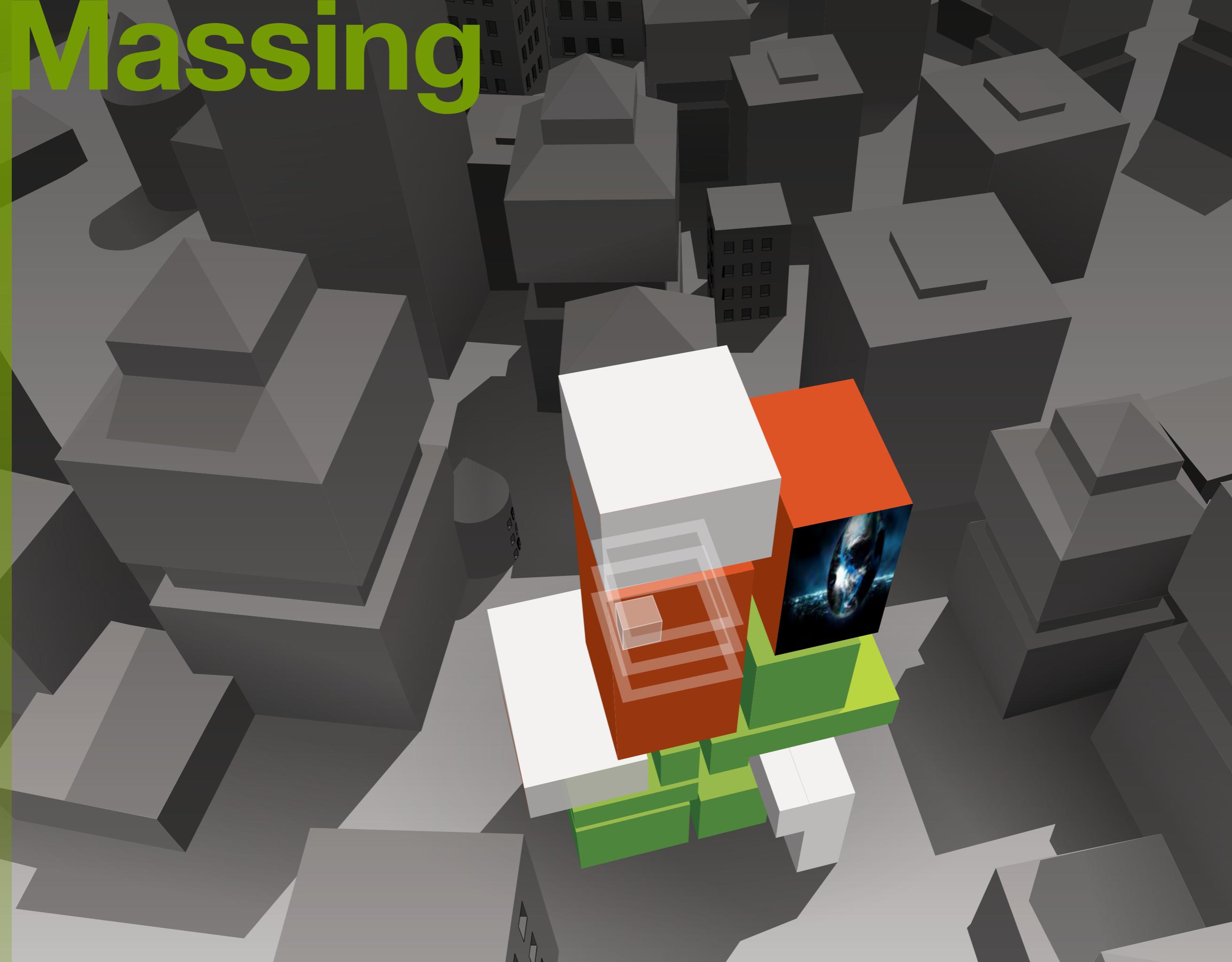


Circulation + Accessibility

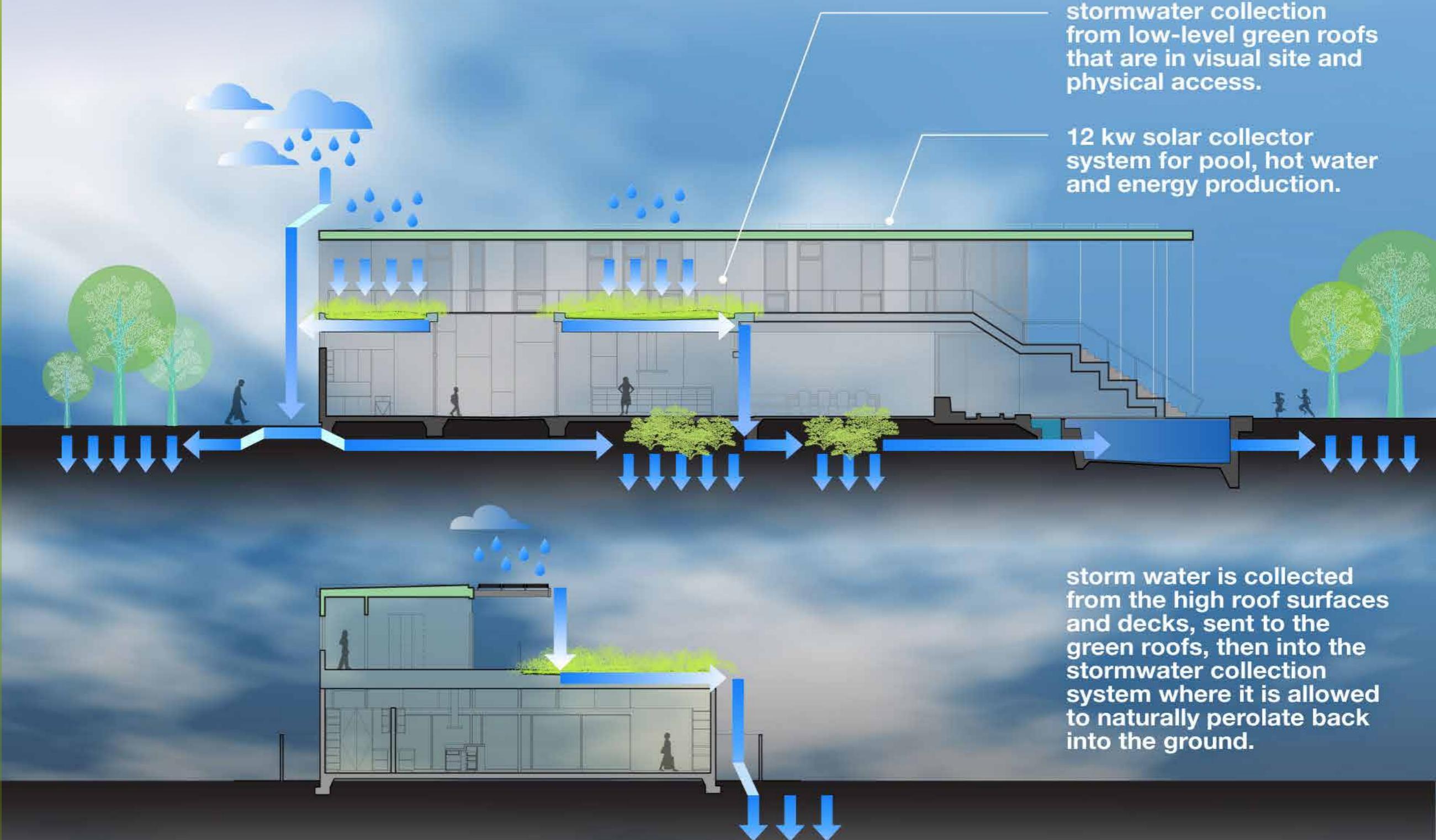


Massing

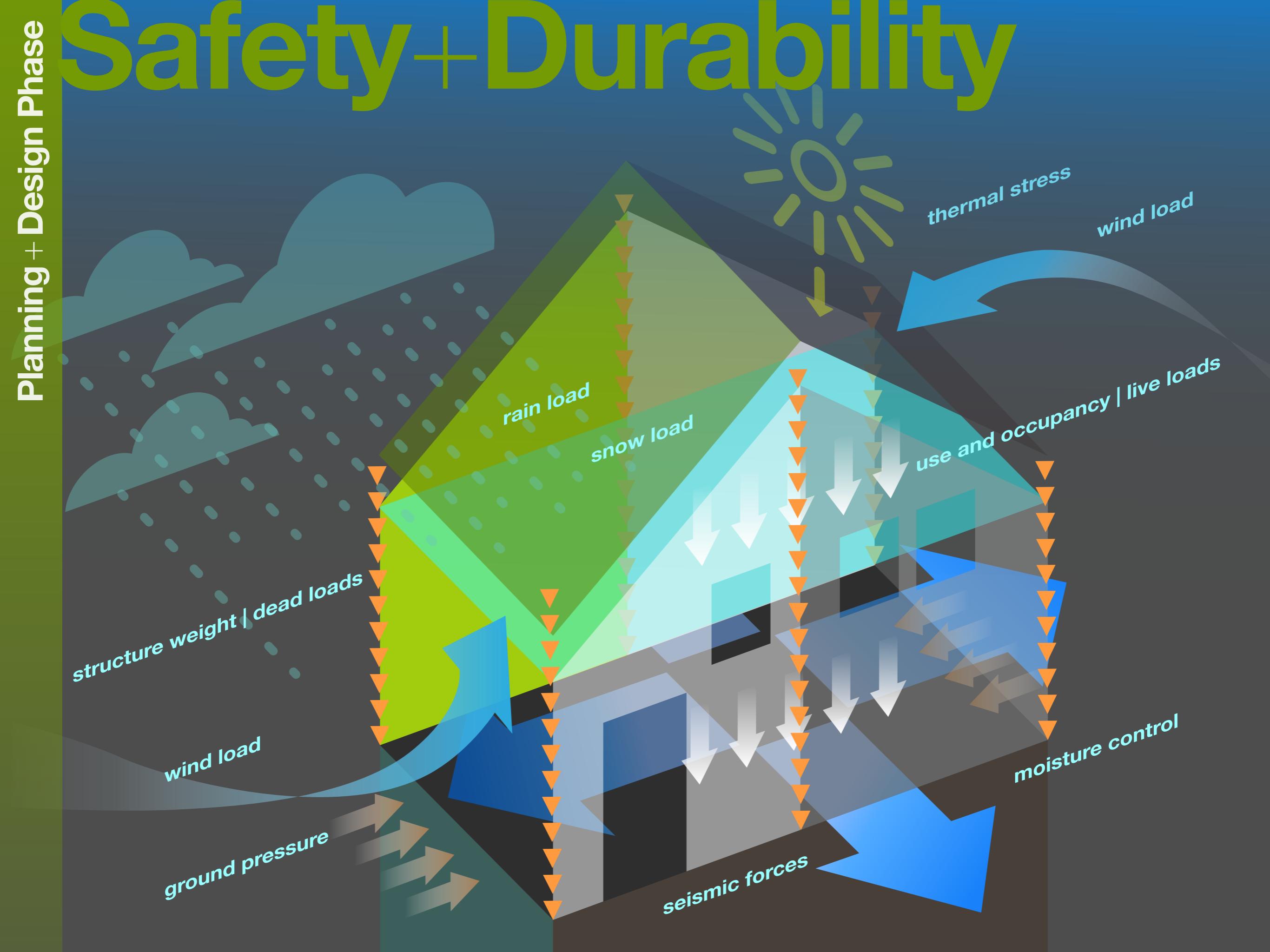
Planning + Design Phase



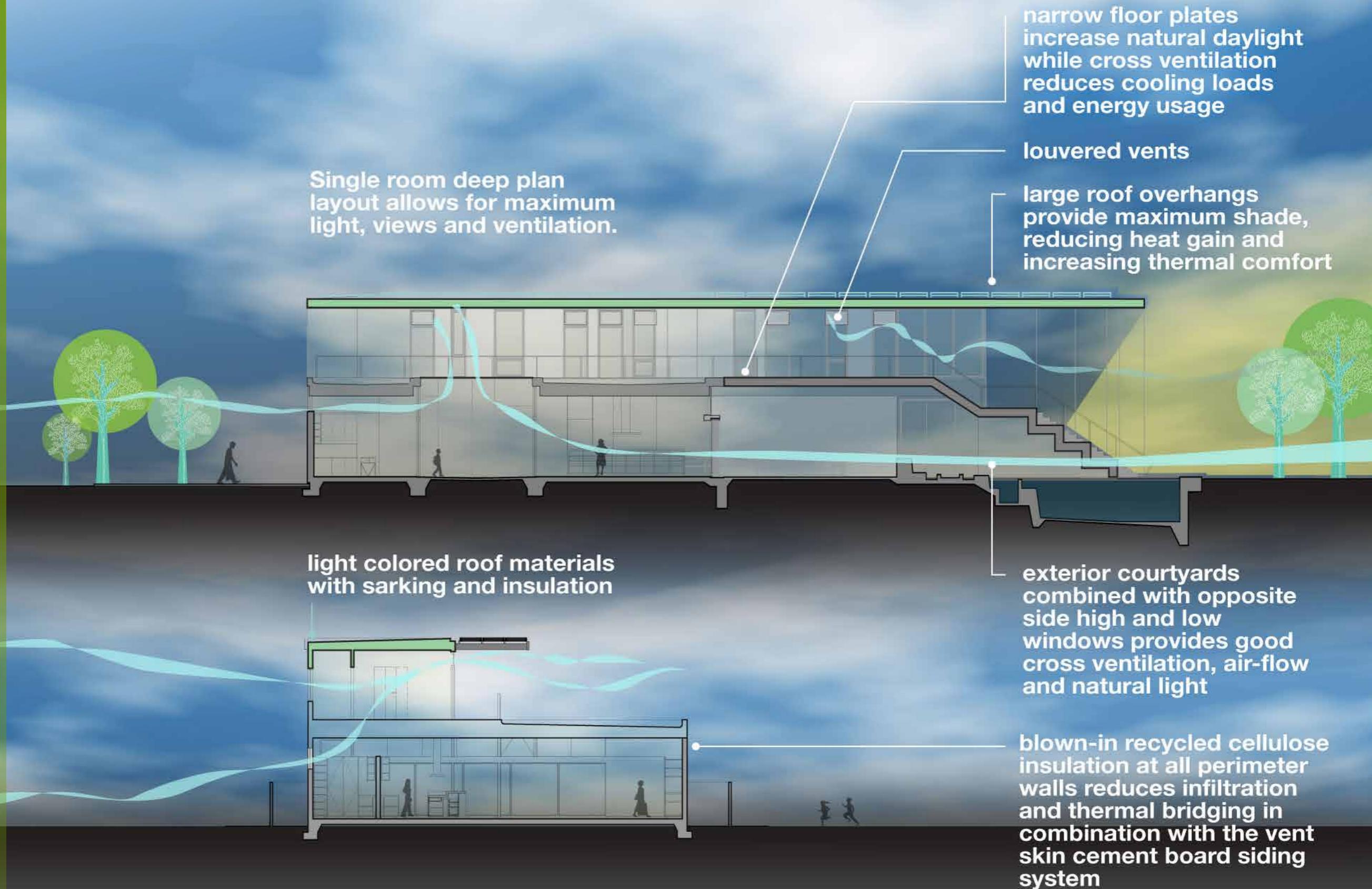
Water Management



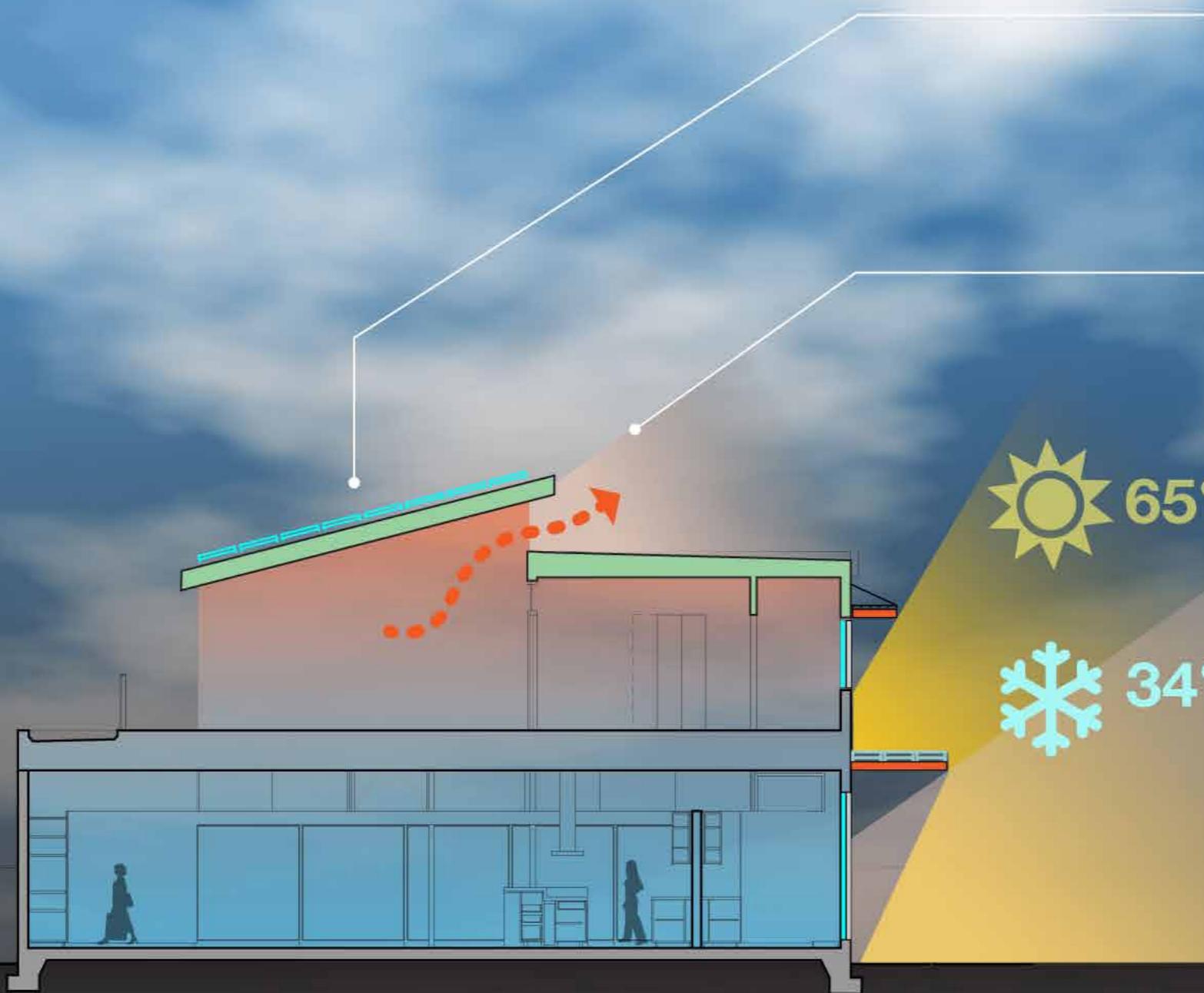
Safety + Durability



Ventilation+Air Quality



Maximizing Daylight to lower operational costs



solar collection
on high roof

panels also provide roof
shade to reduce heat
gain and increase cool
roof life.

high ceiling creates
chimney effect for
cooling in summer
months; winter sun
enters at 34°



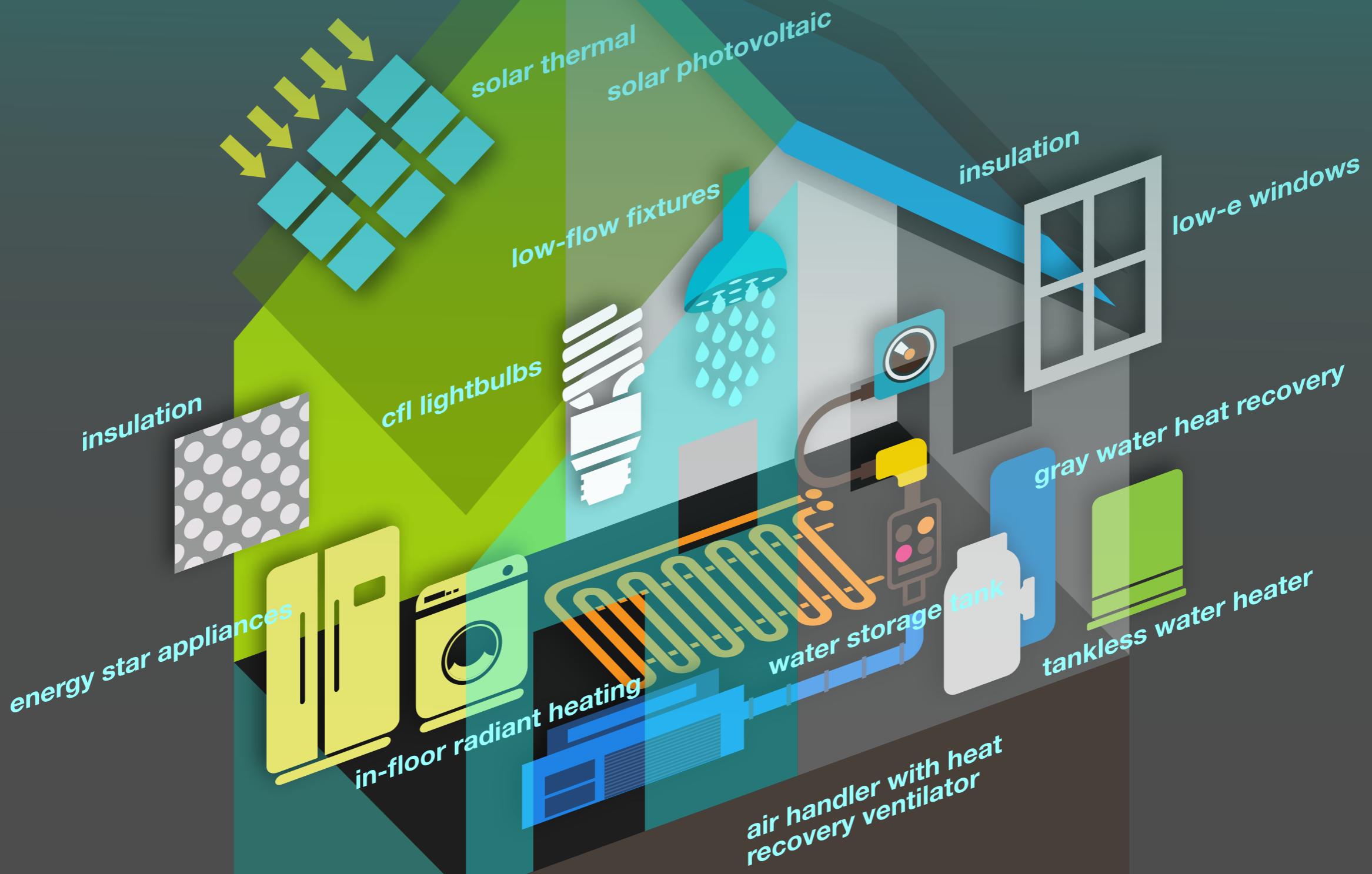
summer sun 65°
17 October - 26 February



winter sun 34°
19 July - 26 May



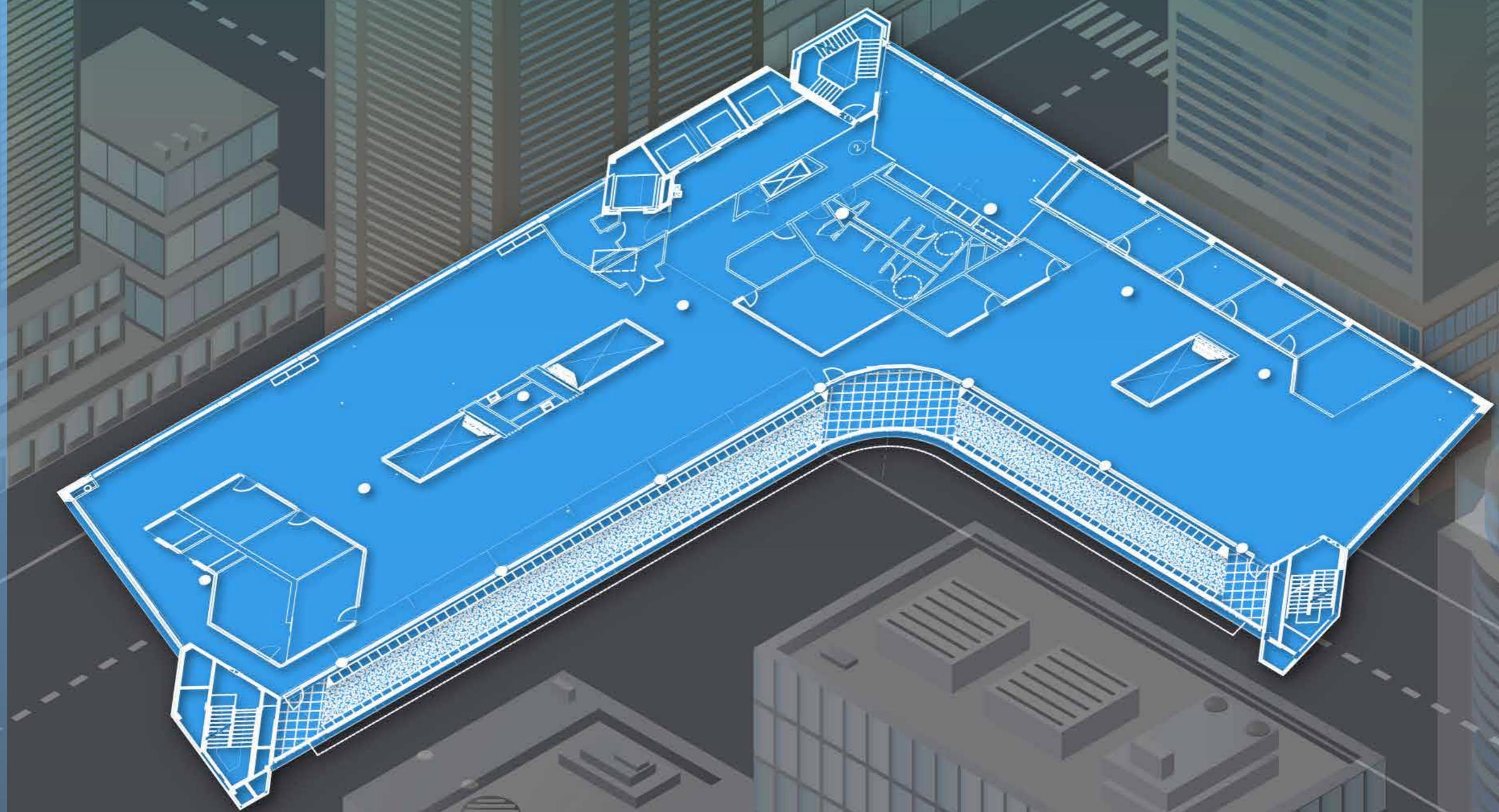
Integrating Technologies



Construction Documentation Phase **Instructions to Build**

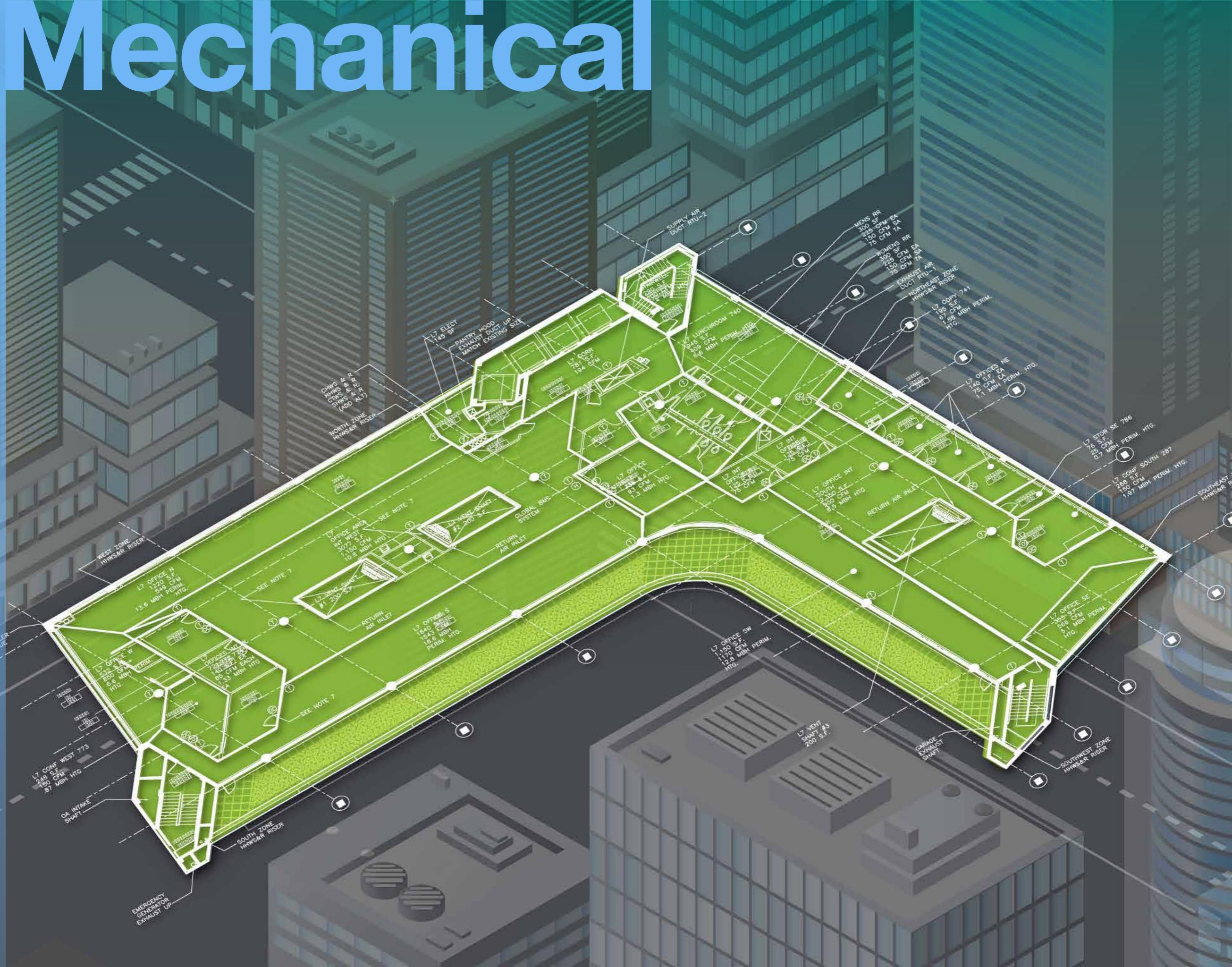
A photograph of a modern building under construction or recently completed. The building features large glass windows and a prominent steel frame. In the foreground, a white balcony with a glass railing is visible. The background shows a clear blue sky with some clouds. The overall image has a slightly faded, high-contrast look.

Architectural Floor Plan



Construction Documentation Phase—Instructions to Build

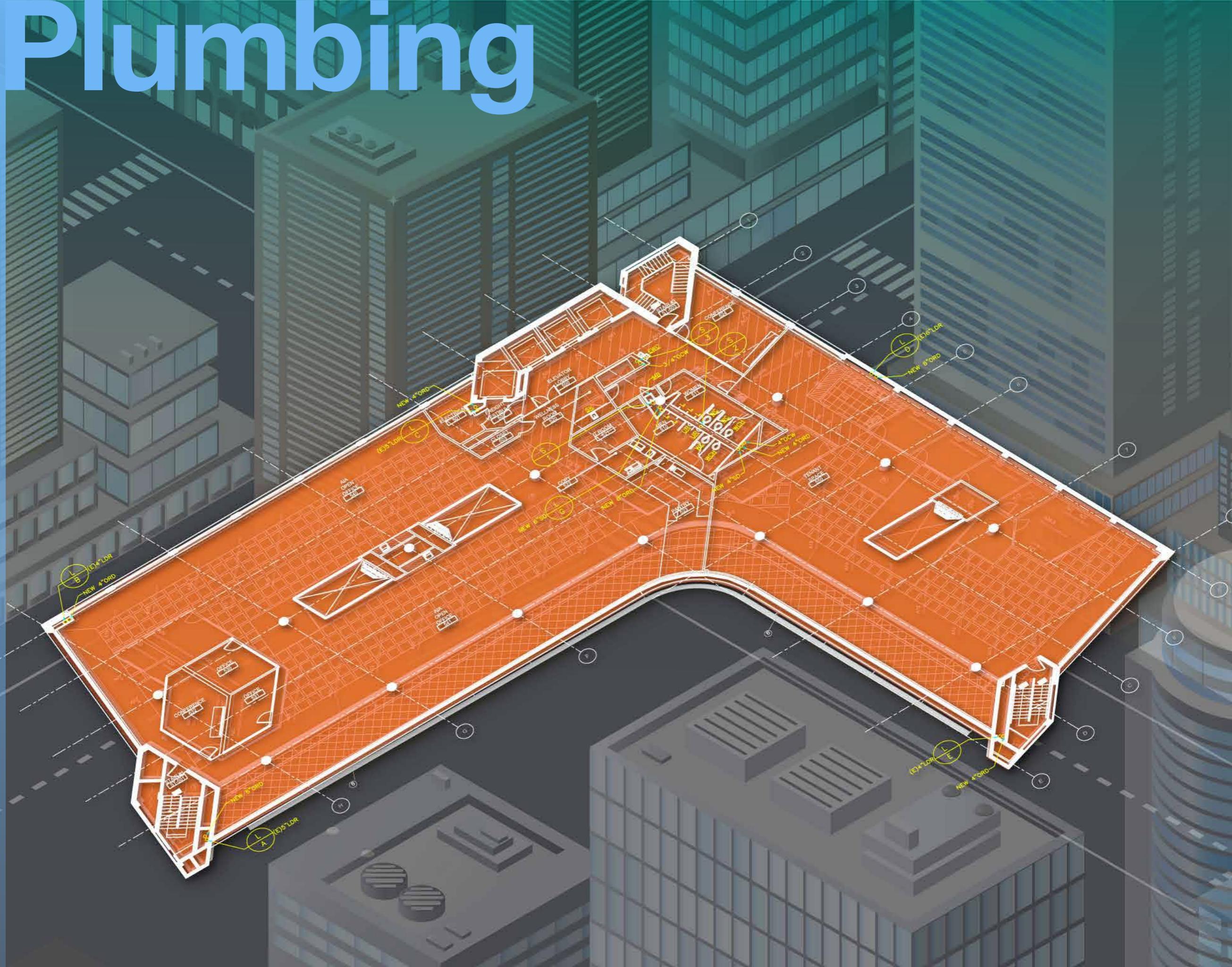
Mechanical



Electrical

Construction Documentation Phase—Instructions to Build

Plumbing



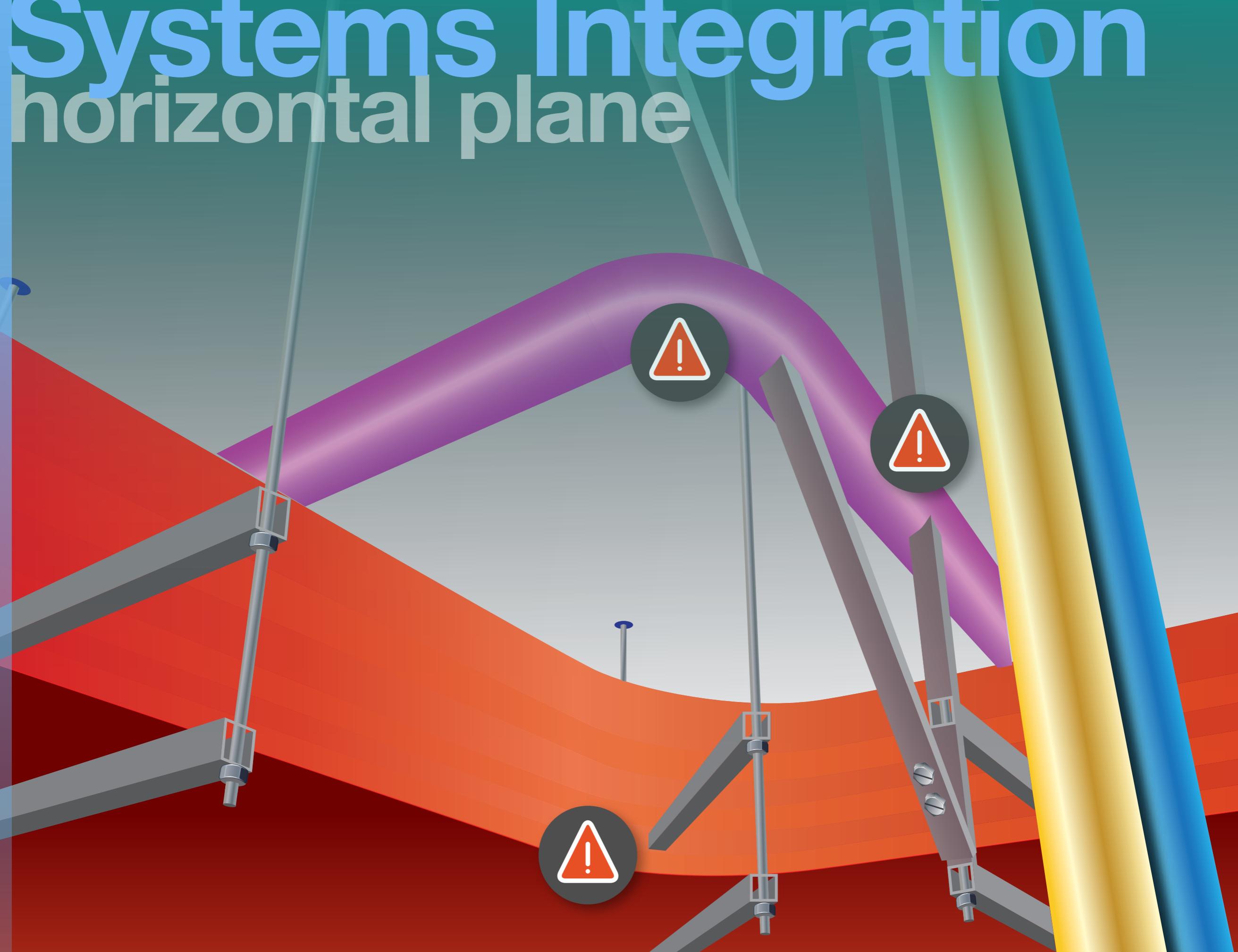
Systems Integration

vertical plane

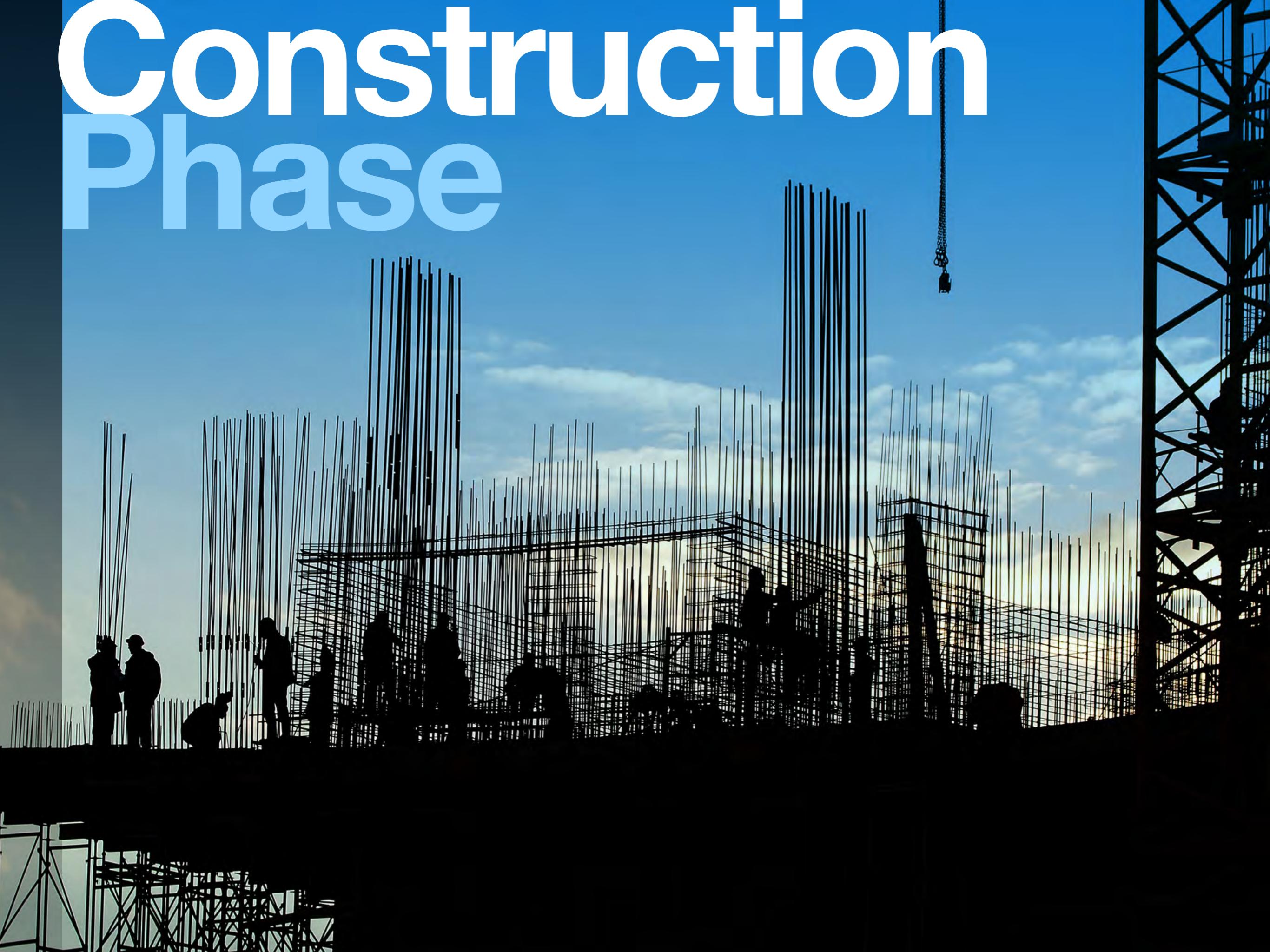
Systems Integration

horizontal plane

Construction Documentation Phase—Instructions to Build



Construction Phase



Phase I Permitting

Construction Phase



Interviewing Contractors



Coordinating Inspections



Managing Change Orders



Post-Construction Phase

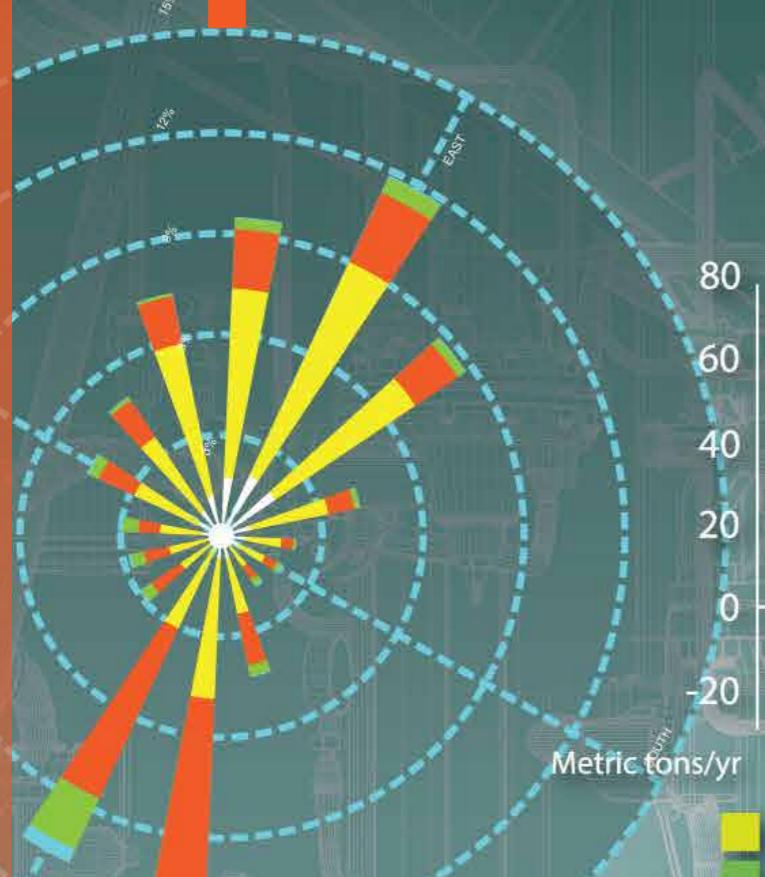


Final Construction Documents

reconciling differences
between the design and
actual construction

Maintenance+ Operation

Post-Construction Phase



ANNUAL CARBON EMISSIONS

Energy use



Net CO₂

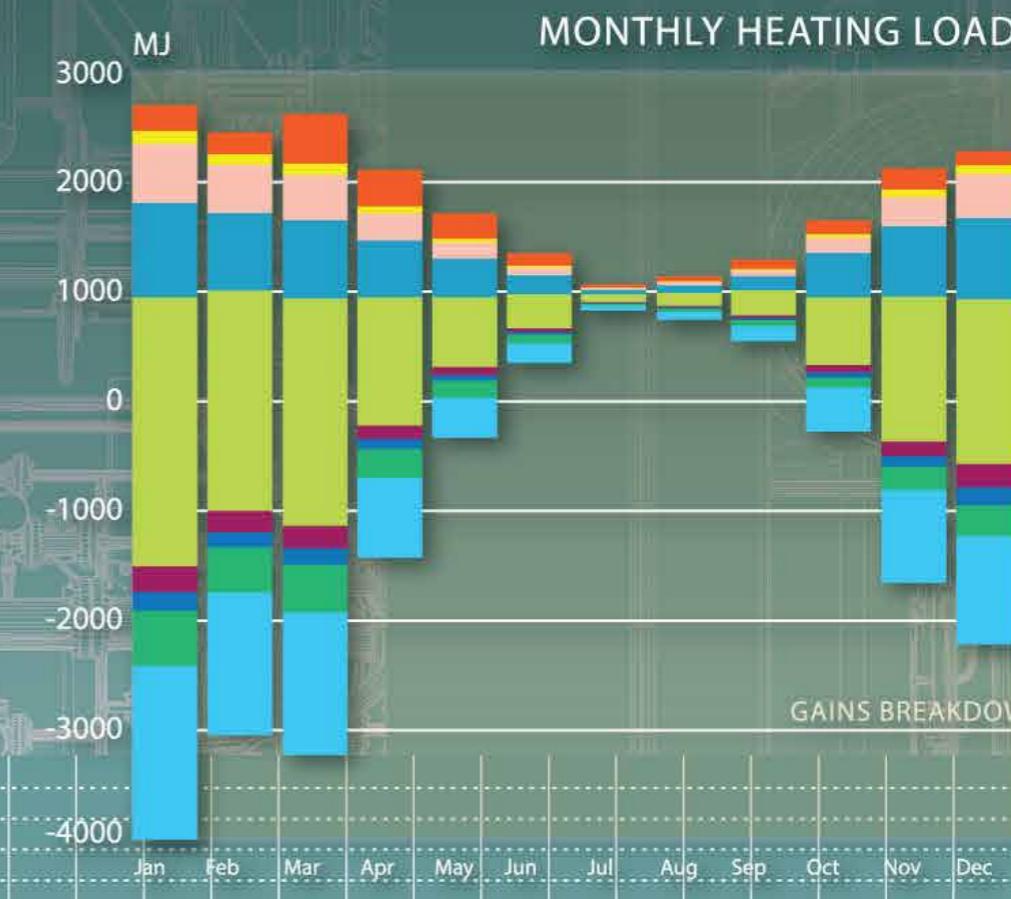
Electricity consumption

Fuel consumption

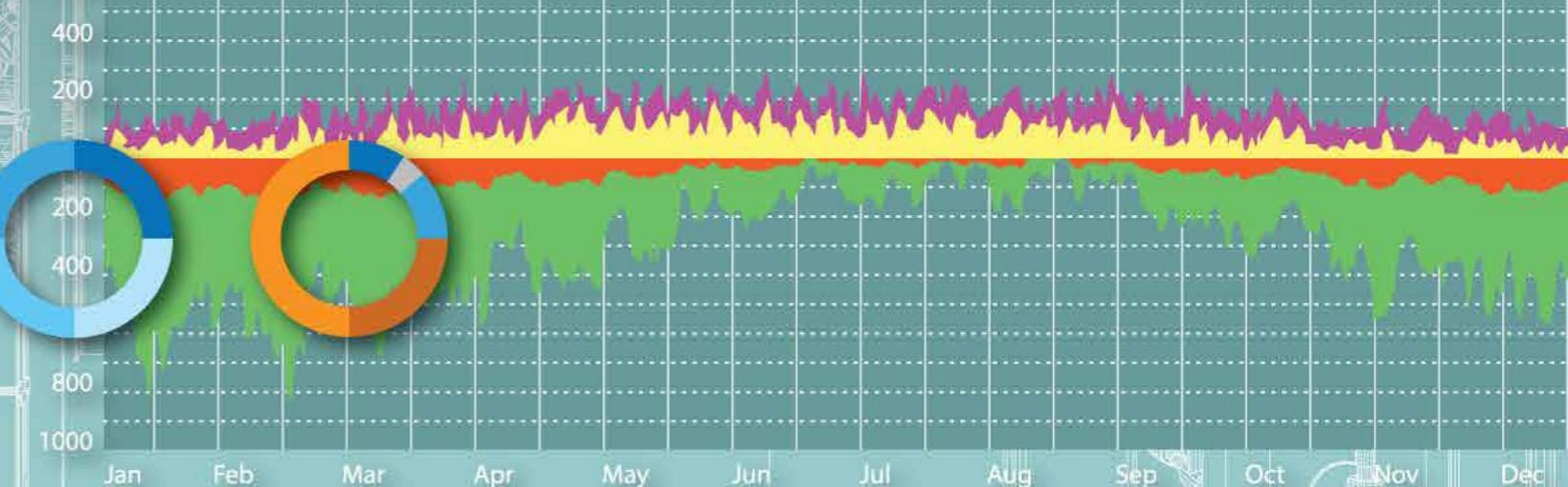
Roof PV potential (high efficiency)

Single 15° wind turbine potential

Net CO₂



GAINS BREAKDOWN | THERMAL ZONE



Thanks



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