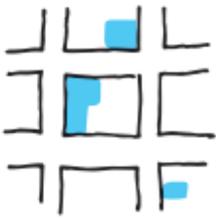


1. Site Planning



The most impactful design decisions are often made during the site planning phase, laying the groundwork for a project that positively contributes to the lives of its residents and to its neighborhood, and creating the framework for the rest of the design development. The placement and positioning of a project should respond to neighborhood context, adjacent infrastructure and activities, and, in some cases, consider flexibility for future development. Design and development teams, City agencies, and community partners must coordinate site planning early in project development to ensure that projects integrate with existing built fabric and work to further enhance neighborhoods.

- Consider vehicular, bike, and pedestrian circulation through and around the site...
- Consider prominent view corridors and physical intersections...
- At corner or full block developments, consider concentrating any commercial activities along main thoroughfares and allow for residential and more passive uses along side streets...
- At midblock or infill sites, consider small-scale strategies, such as orientation and screening, to mitigate suboptimal conditions, such as noise, traffic, and unpleasant views...

Long Term Implementation

- Consider widening sidewalks as much as possible, and locating primary building entrances inset from the sidewalk to provide ample space for ingress and egress while also minimizing congestion on the adjacent sidewalk itself...
- Consider expanding bike infrastructure...
- For buildings with larger unit-counts, consider multiple “primary” entrances to disperse circulation hotspots, and consider separating primary pedestrian and bike entrances from vehicular entrances for added safety...
- At **midblock sites**, consider distancing or offsetting primary building entrances from vehicular entrances and adjacent entrances that are heavily trafficked (e.g. provide separation between a residential entrance and a grocery store or corner market to buffer the residential entrance from pedestrian market traffic and queuing)...
- At **full block** or **larger infill developments**, consider mixed-use developments with a focus on essential provisions and services (e.g. passive open-space, food, pharmacies, health-clinics). Furthermore, consider how flex or community spaces can be designed to be adaptable to health or testing centers, as needed, and based on availability of essential services in the neighborhood...
- At **full block sites**, consider multiple pedestrian through-site circulation routes that provide adequate width and shade, as well as wayfinding and amenities like seating areas...
- At areas with **clustered developments**, consider utilizing multiple sites to provide a diversity of essential services (e.g. supermarket at one site, health-clinic at another) ...

2. Massing



The mass of a building—its form and size—accommodates interior program while also providing a sense of identity and presence on the street. Massing articulations, such as varied building heights and setbacks, can visually connect a building to adjacent structures and respond to a neighborhood’s character and scale. Thoughtful and well-designed massing can help to make even a large residential building sensitive to the pedestrian scale and feel like home. Working within zoning constraints, the mass of a building should be designed to take advantage of a site’s best features—including views and connections to neighboring buildings —while also mitigating any challenging conditions.

- Consider breaking up the scale of overall massing to relate to lower or adjacent building heights...
- Consider using setbacks to optimize views and public outdoor spaces, such as yards and terraces...
- Consider the relationship of building height and setbacks to street width and pedestrian experience on the sidewalk...
- At corner or full block developments, consider concentrating bulk adjacent to existing buildings with height, and integrating lower heights adjacent to open spaces and pedestrian thoroughfares...
- At midblock or infill sites, consider concentrating bulk at the center of the building, and stepping down toward adjacent lower buildings and the street...

Long Term Implementation

- Consider introducing additional setbacks and terraces that can be utilized to provide open-space for various scales of users (building-wide, floor-wide, per-unit)...
- Consider building setbacks to pull building circulation off the street, and carved courtyards or rear-yards to provide protected and dedicated open-space areas for residents...
- Consider maximizing floor-to-ceiling heights to increase window sizes and improve interior unit conditions...

3. Materiality



Both aesthetic and functional, building materials can enhance a development's massing and façade strategy, while also contributing to overall building identity. Materials also contribute to a development's environmental impact, constructability, and durability. By selecting sustainable materials as part of a high-performance building envelope, designers can reduce environmental impact and energy costs. Materials should be selected with local construction expertise in mind, noting that a well-designed building requires quality construction. Durable, easily-maintained materials can contribute to the longevity of a building; up-front investment in materials and construction details often results in cost savings over time by reducing the need for renovations.

- Consider materials that complement rather than strictly match adjacent buildings...
- Consider using a combination of materials to help articulate the façade, enhance massing, and distinguish programs at the interior...
- Consider materials with low environmental impact that are easily maintained...
- Consider the life expectancy of a building, and how materials selected will change over time...

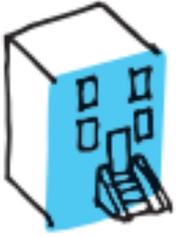
Short and Mid Term Implementation

- Consider using copper fixtures or other antibacterial finishes in high-touch areas such as building and unit entrances, door handles, bathroom finishes, and brail signs...
- Consider integrating touchless fixtures as much as possible, such as faucets, flush valves, and soap or sanitizer dispensers...
- In common areas, consider materials that are warm and inviting but also durable to withstand increased sanitation measures, including high-frequency washing...

Long Term Implementation

- Building-wide, consider materials that will minimize heat gain and maximize acoustic separation within units themselves...

4. Facade



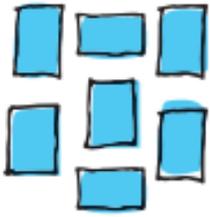
Façades are a building's "faces" to the neighborhood, bringing together massing and material decisions to create presence and character. While a street-facing façade can help to create a welcoming identity for the building and its residents, buildings often have visible rear and side façades, giving additional opportunities for design. The façades of a building should be designed with colors, materials, and articulations that form a coherent image. Different faces should be designed in response to interior programs and site conditions. It may be appropriate, for instance, to have distinct and complementary façade designs for street- and rear-facing sides of a building. A beautiful façade can help give residents and neighbors a sense of dignity and feeling of home.

- Consider how façade design can help enhance a building's character and identity both in the existing community and for its residents...
- Consider how each façade uniquely responds to adjacent programs and conditions...
- Consider avoiding co-planar material connections to further break down the overall massing...
- Consider using functional components, such as sunshades or window frames, to provide depth and shadow lines...

Mid and Long Term Implementation

- Consider undulating, offset, or splayed balconies to create visual interest, provide a balance of sun and shade, and provide opportunities for physically distanced social interaction...
- When introducing balconies and terraces, consider how the design can be integrated into the façade design to further break down the overall massing and enhance the presence on the street. Furthermore, consider balcony depths that allow sufficient space for use...

5. Windows and Doors



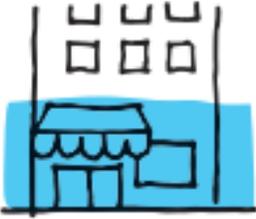
While windows and doors are primarily functional, they also help to establish visual connections between interior programs and the surrounding site, and can contribute to a sense of security. A central challenge is to maximize access to natural light and air while meeting energy efficiency goals and providing a sense of privacy for areas like bedrooms and bathrooms. Fenestration—the arrangement of windows and doors on the façade of a building—should be designed to enhance a building’s light control and energy efficiency. The location of windows and doors on the façade directly affects the quality of light and flexibility of space at the interior. These elements should be designed to promote visual connections between the sidewalk and interior shared spaces while also providing privacy at private and support areas.

- Consider how placement of windows and doors can promote visual and physical connections between the interior and exterior...
- Consider impacts of the patterning, size, and geometry of windows and doors on interior spaces and programs...
- Consider window size, frames, and sunshades as both functional and decorative elements...
- Consider integrating HVAC louvers into window framing to simplify detailing...

Short Term Implementation

- Consider increasing the amount of operable windows, increasing window sizes, and arranging windows to enable cross-breeze and passive ventilation as much as possible. Furthermore, consider how these adjustments can increase desirable sight lines and visibility to exterior open space while also allowing for in-unit privacy...
- At south facing windows, further consider sunshades and other forms of screening to minimize heat-gain within units...
- At high-traffic areas, consider hip-activated or no-touch doors (at building entrances, elevators, amenity or utility rooms). Furthermore, at stairwells, consider integrating operable windows to optimize light and air, provide natural ventilation, and encourage stair use over elevator use...
- Consider window screens across all window types and locations, and especially within units...

6. Ground Floor Condition



The ground floor is where a building meets the street, where residents enter their home, and where neighbors interact with a development. Whether a building contains retail and public programs on the ground floor, or is purely residential, the ground floor should be as welcoming as possible. The design of a ground floor, including fenestration, landscaping, and materials, should enhance a building's presence on the street and accommodate interior programs. Ground floors should be programmed to be as activated as possible, considering shared spaces for residents and visual connections to the street. If a building is in a flood zone, the ground floor should integrate flood resilient strategies and materials.

- Consider a welcoming arrival threshold with a space designed for residents to gather...
- Consider large windows to promote visual connections between the ground-floor activity and the street...
- Consider shared residential or public ground floor usages that enhance presence and street life...
- Consider plantings or unique design elements to buffer the street wall...
- Consider integrated screening of trash and service areas, and if security screening is necessary, consider designs that connect the screening to the overall building character...

Short Term Implementation

- Consider introducing dedicated areas for building-wide announcements (message boards or spaces for flyers) to facilitate non-digital communication to residents...
- Consider allocating dedicated areas for sanitizer dispensers and PPE equipment, such as masks and gloves, near entrances...
- Consider additional areas for no-contact delivery and additional bike racks for food delivery personnel...

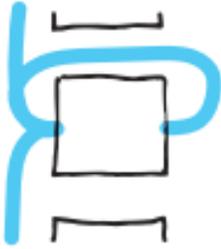
Mid Term Implementation

- Consider enlarging vestibules to provide a physical buffer between the street and lobby, but also allow for further protection for no-contact deliveries etc...
- Consider enlarging lobby spaces and incorporating seating and tables to provide infrastructure for "transition zones" (e.g. areas where residents can put bags down to sanitize hands, adjust masks, etc. before going outside or back inside to their home)...
- Consider integrating dedicated package or delivery rooms, and flex spaces that can be used as sanitation areas or pop-up clinics. Furthermore, consider direct and dedicated access to these spaces so that additional people do not need to pass through resident lobbies...
- Consider adding hand-washing stations (in addition to sanitizer dispensers) at building entrances...

Long Term Implementation

- Consider locating primary building entrances inset from the sidewalk to provide ample space for ingress and egress while also minimizing congestion on the adjacent sidewalk... *(duplicate from site planning section)*
- If ground floor units are required, consider raising the units as much as possible, or incorporating additional privacy and buffering measures to ensure that residents are separated from sidewalk and entrance congestion as much as possible...

7. Circulation



The paths that allow people to move through and around a development can help form well-used public and shared spaces, and provide visual connections between interior programs or between buildings and the street. Often viewed as secondary space, circulation can be used to promote healthy living by making it easier or more inviting to walk, exercise, or climb stairs. Through-site pedestrian circulation can encourage connections between new developments and existing neighborhood communities. Integrating with larger-scale transit infrastructure, such as subway lines and bike lanes, can connect a development's pathways with larger circulation systems.

- Within a development, consider vehicular, bike, and pedestrian circulation through and around the site...
- Within a building, consider integrating circulation, such as stairs, into shared and public spaces to encourage active use and enhance the visual connection between spaces...
- Consider using warm and welcoming materials, natural lighting, and educational graphics to promote use...
- Consider that visual connections promote physical connections, and use visual corridors to highlight through-site and through-building circulation...

Mid Term Implementation

- At double-loaded corridors, consider incorporating a natural source of light and air for ventilation (e.g. operable windows), and offsetting unit entrances so doors do not open onto one another...
- Consider offsetting or eliminating unit entrances from areas across or adjacent to elevators and stairs to minimize exposure...
- Consider enlarging entrances to elevators and stairwells to allow for adequate distancing...
- Consider minimizing circulation pinch points like tight corners...
- Consider enlarging corridors that are more heavily trafficked (e.g. widening through-ways that lead to both units and an open space)...

Long Term Implementation

- Consider single-loaded corridors with operable windows to minimize congestion and introduce natural ventilation...

8. Open Space Design



Outdoor open spaces are critical amenities for residents, and can also provide benefits to the general public. Extending from interior common spaces, front and rear yards, as well as other kinds of open space, such as terraces, are vital design components that can help connect a new building with adjacent development and existing urban fabric. Front yards often provide a semi-public threshold between a private development and the street, while rear yards, courtyards, terraces, and rooftops are typically favorite places for residents to gather. Open spaces should be designed and landscaped to accommodate residents' and neighbors' desired uses, and to contribute to sustainability and resiliency goals.

- Consider plantings to strategically buffer from street activity and adjacent lot line building walls, and to provide privacy where needed at the ground floor...
- Consider seating to connect various programmed areas or to help create distinct zones...
- Consider places for tot play and passive seating for seniors...
- At terraces, consider programmatic and visual connections to link to larger open spaces adjacent or below...
- At large open spaces, consider designs that maximize flexible use...

Short and Mid Term Implementation

- Consider how terraces and balconies can be designed to allow for physical distancing while also providing opportunities for social interaction...
- Consider providing flexible work-from-home infrastructure such as moveable tables and chairs, or planters with integrated useable surfaces...
- At larger open spaces, such as rooftops, consider providing areas for both large gathering and smaller gatherings with adequate separation in between (e.g. space between tables, moveable furnishings that can be adjusted, or larger passive areas that allow for more flexible use)...
- Across all open spaces, further consider comfort and ease of access for seniors above and beyond universal accessibility standards...

Long Term Implementation

- Consider introducing dedicated open-space areas for each scale (building, floor, unit) to allow for safe and secure access to the outdoors and maximize occupiable open space as much as possible...
- Consider balancing sun and shaded areas, but ensure adequate shaded areas are provided to act as outdoor respite in summer months...
- Consider balancing areas for occupiable and intensive green roofs, as intensive green roofs can reduce building heat loads...
- Consider multiple opportunities for open space within a development site and within a massing (e.g. courtyards, unenclosed voids, podium decks, rooftops, terraces, balconies, inset porches)...

9. Units

Short Term Implementation

- Consider maximizing storage at unit entrances as much as possible (e.g. a coat closet, as this can be treated as a flex sanitation area)...
- Consider maximizing kitchen storage (including refrigerator and freezer space) as much as possible to minimize trips or deliveries needed for food...
- Consider integrated ways to provide ample work-surfaces for both children and adults (e.g. consider extension of countertop surfaces, or if through-wall PTAC units are used, consider an integrated window-desk or shelf as a PTAC enclosure)...

Mid Term Implementation

- Consider maximizing operable windows in kitchen and bathroom spaces in addition to living and bedroom spaces...
- If per-unit open spaces (terraces/ balconies) are not possible, consider large operable windows, or Juliet balconies (that are thoughtfully integrated into the building design)...
- Consider acoustics and sound attenuation across the building and within units to provide quiet areas that can be used for home-school or work-from-home set-ups...

Long Term Implementation

- Consider enlarging unit sizes to allow for distancing within units...
- In single-bedroom units, consider locating the bathroom entrance near the unit entrance, or at least separating it from the bedroom entrance to allow for within-unit distancing if required...
- In two-bedroom, single-bath units, consider including a half-bath to further allow for separation and sanitation between residents...
- Where possible, consider including operable windows in bathrooms to allow for ventilation and also prevent mold and mildew issues...
- Consider in-setting unit entrances from hallways to provide protected transition zones (i.e. personal vestibules) between the public and private spaces...
- Consider enlarging entrance thresholds at the interior of units to provide an additional buffer zone and space for residents to sanitize upon-entry or store goods waiting to be sanitized...
- Consider further study on public health measures and considerations for micro-unit and co-living models...

10. Interim Vacant Lots and Existing Open Space

Short Term Implementation

- Evaluate existing parks and open spaces in the community for improved access and provision of amenities, including reopening and staffing closed parks or public plazas...
- Consider the utilization of NYCHA open spaces for improved resident use...

Interim solutions for vacant lots pre-development (Short and Mid Term)

- Consider balancing sun and shaded areas, but ensure adequate shade is provided to act as outdoor respite in summer months (e.g. large planters with trees or cloth canopies can provide shaded areas within the lot)...
- Consider providing areas for both large gathering and smaller gatherings with adequate separation in between (e.g. space between tables, moveable furnishings that can be adjusted, or larger passive areas that allow for more flexible use)...
- At larger lots, consider providing infrastructure for essential services and pop-ups, such as food markets or testing sites, and consider co-benefits that could be promoted by utilizing these interim spaces...

Sections #9 and #10 (recommendations for units and interim vacant lots) were not included in the DNY: QAFH guidelines

Additional Considerations...

Rooftops & Balconies

- If a building needs to be retrofit with additional structure in order to add roof access, only 8" of roof thickness is currently allowed as a permitted height obstruction. Depending on the condition (e.g. if the building is already built-out to the maximum height, or already in non-compliance) this may pose an issue. Zone Green added the additional height allowance for insulation, but this was not necessarily intended to capture the support of live loads required to add roof access.
- Space on a roof is generally allowed to count as #open space# in places that require it, as long as it is below the Dwelling Unit Factor (DU). For example, if on a campus setting, a low slung community space was added in the #open space#, and replaced with an accessible roof, that would be allowable, but the definition of open space would require the space to be accessible to everyone within the zoning lot (i.e., all the other buildings). This has been contentious and the point of litigation for infill in campus settings.
- LL 92 and LL94 mandate green roofs or solar on all new or rebuilt roofs, with an exception for "recreation space." There is competition between these different uses of rooftop space, and it is unclear if DOB construes all accessible roof area as "recreation space." Industry voices may be helpful in figuring out how people are navigating these requirements.
- Zoning improvements made for balcony allowances will likely almost exclusively impact new construction, not existing building retrofits.
- The design of balconies must take thermal bridging into account, per code.

Units

- There are further opportunities for HPD BLDS to look into process for unit and floor plan reviews to optimize public health considerations.

Technology & Building Systems

- Consider RFID access cards for access to package rooms or lockers, entrances, and elevators...
- Consider elevator scheduling, such as through a RFID kiosk or a front desk, to eliminate button selections...
- Consider digital sign-up sheets to regulate safe access to communal facilities such as building amenities or programmed open space areas...
- Consider enhanced mechanical ventilation and high-efficiency low-carbon cooling systems across all buildings...
- Consider increased and enhanced access to broadband for all residents...

Retrofits

- Consider how older buildings can be retrofit for co-benefits to not only respond to COVID-19, but also to improve overall conditions of units and circulation spaces, thermal efficiency, and ease-of-use by seniors or residents with impaired mobility...

Passive House

- Consider how this set of recommendations can be adapted to provide specific guidance for passive house standards, which prioritize performance efficiency and may limit window operability...

Additional References:

- The city of London has developed dwelling unit standards that require individual units to have access to private open space. Additional information on the requirements and design guidelines can be found in Chapter 4, Section 10 (p. 59-60) of the linked London Housing Design Guide: https://www.london.gov.uk/sites/default/files/interim_london_housing_design_guide.pdf
- Both the AIA NYC Housing Committee and Citizens Housing Planning Council NYC have been undertaking research and inquiry into post-pandemic housing implications. Both organizations could be engaged for stakeholder review if these recommendations are moved forward.
- Parsons' Healthy Materials Lab could be a good partner and/or resource to engage to inform material choices more broadly: <https://healthymaterialslab.org/>