



# LAKE MERRITT PLAZA AND TRANSIT OPERATIONS FACILITY

January 2018



merge  
conceptual design

rhaa  
LANDSCAPE ARCHITECTURE + PLANNING

# Acknowledgements

Many thanks to the Lake Merritt Plaza and Transit Operations Facility Working Group, representing local community based groups, institutions, public agencies, and other stakeholders, including:

- The City of Oakland,
- Asian Health Services
- East Bay Local Development Corporation (EBALDC)
- Laney College
- Oakland Museum of California
- Asian Pacific Environmental Network (APEN)
- Chinatown Chamber of Commerce
- Tai Chi users
- Bike East Bay
- Chinatown Improvement Initiative
- Transform
- Jack London District Association

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# 1 INTRODUCTION

Much of BART's current transit system management facilities are located in the Lake Merritt Complex, underneath the Lake Merritt Plaza. The existing facilities require increased physical space and state of good repair improvements to achieve state-of-the-art functionality, support improved BART operations, and accommodate operation of planned BART extension projects over the next 40 years, including the extension to Silicon Valley. Therefore, BART is currently proposing to design and construct a new Transit Operations Facility (TOF) to modernize current operations control infrastructure and technology to support system expansion.

The new TOF will be a 3-story secure facility, with opportunities for retail and/or community uses at the ground floor. A study was undertaken to select the site for the TOF, and the Lake Merritt Plaza was identified as the preferred alternative location due to its central location, the availability of space, and colocation with related systems. The TOF will be constructed where the BART Administration building was previously located. Construction is projected to begin in 2019/2020.

In coordination, BART is undertaking a complementary project to develop a conceptual design for the TOF facade and the Lake Merritt Station Plaza. The primary focus of this conceptual design process was to work with the community to develop a conceptual design for the plaza, and provide a more comprehensive design exploration of the TOF relationship to the neighborhood and the plaza.

This project presents an exciting opportunity to modernize the plaza to serve as an enhanced transportation hub and to support the vision of the Lake Merritt Station Area Plan, adopted by the City of Oakland in 2014. The Plan envisions the BART blocks as catalytic sites that establish an active neighborhood hub, provide pedestrian-oriented spines along 8th and 9th, and connect neighborhood assets – including BART, Chinatown, Laney College, the Oakland Museum of California, and the Jack London District, among others. The Plan also envisions high-rise transit-oriented development (TOD) for the BART parking lot block and the MetroCenter block, which will be designed and developed through a separate process in the future.

This report summarizes the community process to establish a vision for a redesigned plaza that meets the goals and objectives outlined by BART and the community and presents the proposed Lake Merritt Plaza conceptual designs. The concept and alternative presented here will be further developed and refined, taking into account additional community input and feasibility analyses. Further design advancement will include construction costs and engineering of design.



T'ai chi users at the existing plaza, facing east



Existing plaza facing west towards Madison Park

## Purpose + Objectives

The purpose of this project is to develop a conceptual design of the entire Lake Merritt plaza block which includes both the new TOF and the publicly accessible plaza spaces. The design was approached in part as an urban design study on a broader scale, to better connect the building and plaza to the community. At a smaller scale, the study imagines the TOF and the new plaza as a single concept that would communicate a consistent architectural language. BART aims to accomplish several objectives with this project, including: using this project as a catalyst for creating future redevelopment opportunities; reflecting Chinatown's historic role in and around the plaza location; and evolving this site into a critical hub of activity, commerce, accessibility & safety. In addition to the conceptual designs for the plaza spaces, this effort included a study of the building massing, scale, programming and floor layout to create a more pedestrian friendly TOF, and research into architectural facade options that can unify the entire plaza as a single design, including the TOF, station entrances and other plaza elements.

These broad ideas are consistent with the Lake Merritt Station Area Plan Vision. Key excerpts of the vision statements that help guide this effort include:

- Create an active, vibrant and safe district
- ...equitable, sustainable and healthy
- .... accommodate a diverse community.....
- Increase job and improve access...
- Provide services and retail options...
- Establish the...area as a model with innovations in community development... transportation... sustainability...

BART also established the following design framework, organized around the station modernization goals of: Make Transit Work, Create Place, and Connect to Community.

### MAKE TRANSIT WORK

- Design and build a new state of the art Facility
- Incorporate sustainability (LEED building, photovoltaic rooftop)
- Ensure building and staff security (layering and hardening)
- Incorporate & connect to existing infrastructure
- Ensure robust operability now and 40 years into future

### CREATE PLACE

- Demonstrate design excellence that is sensitive to the current & future context
- Create an inviting, safe, & flexible public space for the community
- Activate public realm through art, retail, programming
- Prioritize safety (clear sight lines, lighting)
- Integrate building & plaza design
- Set stage for TOD and other private investment

### CONNECT TO COMMUNITY

- Engage with the community
- Reflect the character and history of the community (Chinatown, Oakland Museum of California - OMCA, Laney)
- Preserve space for current activities in new plaza
- Optimize transit access and visibility (e.g. bike station)
- Provide strong connections to existing community assets (i.e. Chinatown, Madison Park, Laney, OMCA) and future TOD

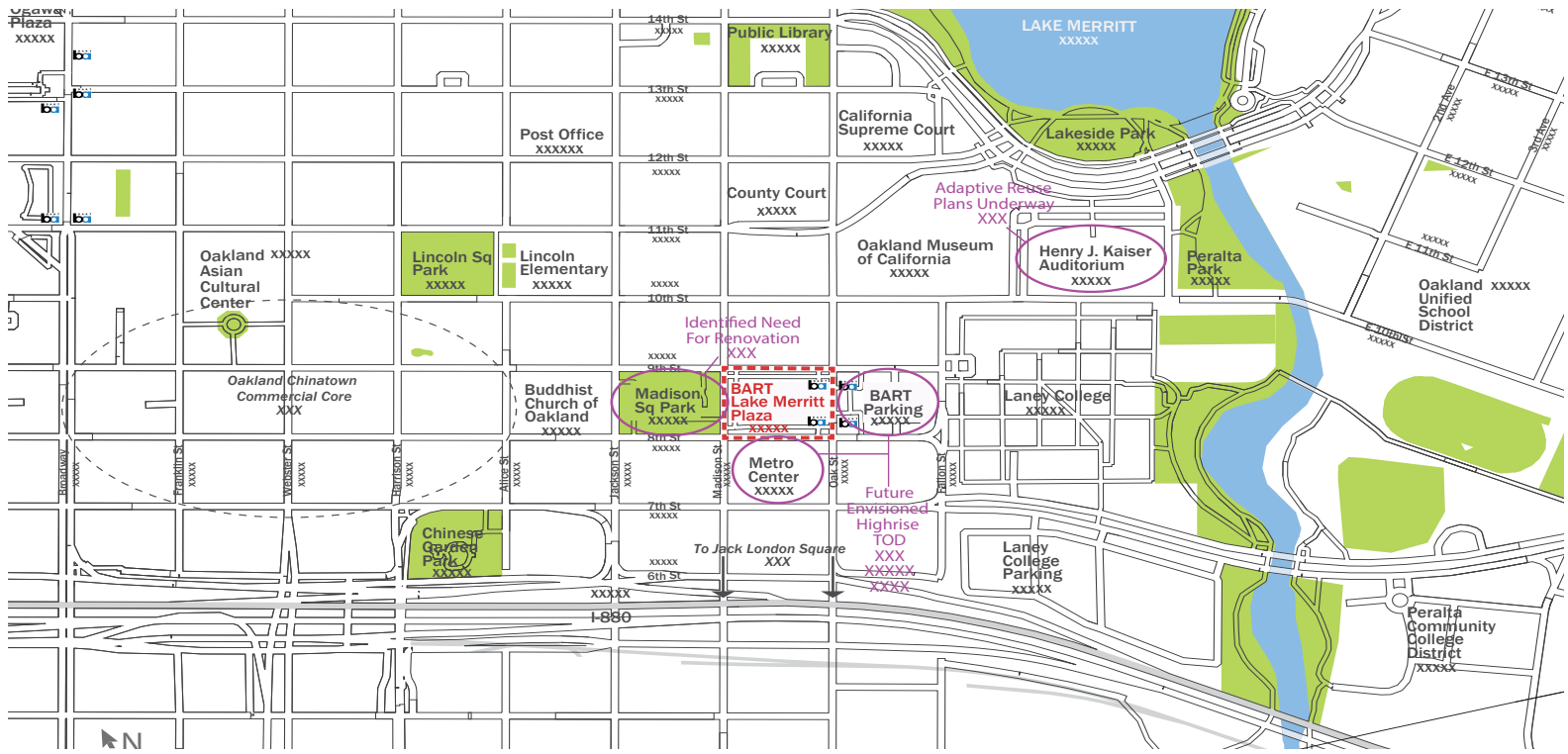
Through the development of the concept in coordination with the community, the following design objectives were also identified:

- Catalyze & Activate
- Connect & Integrate
- Safe & Welcoming

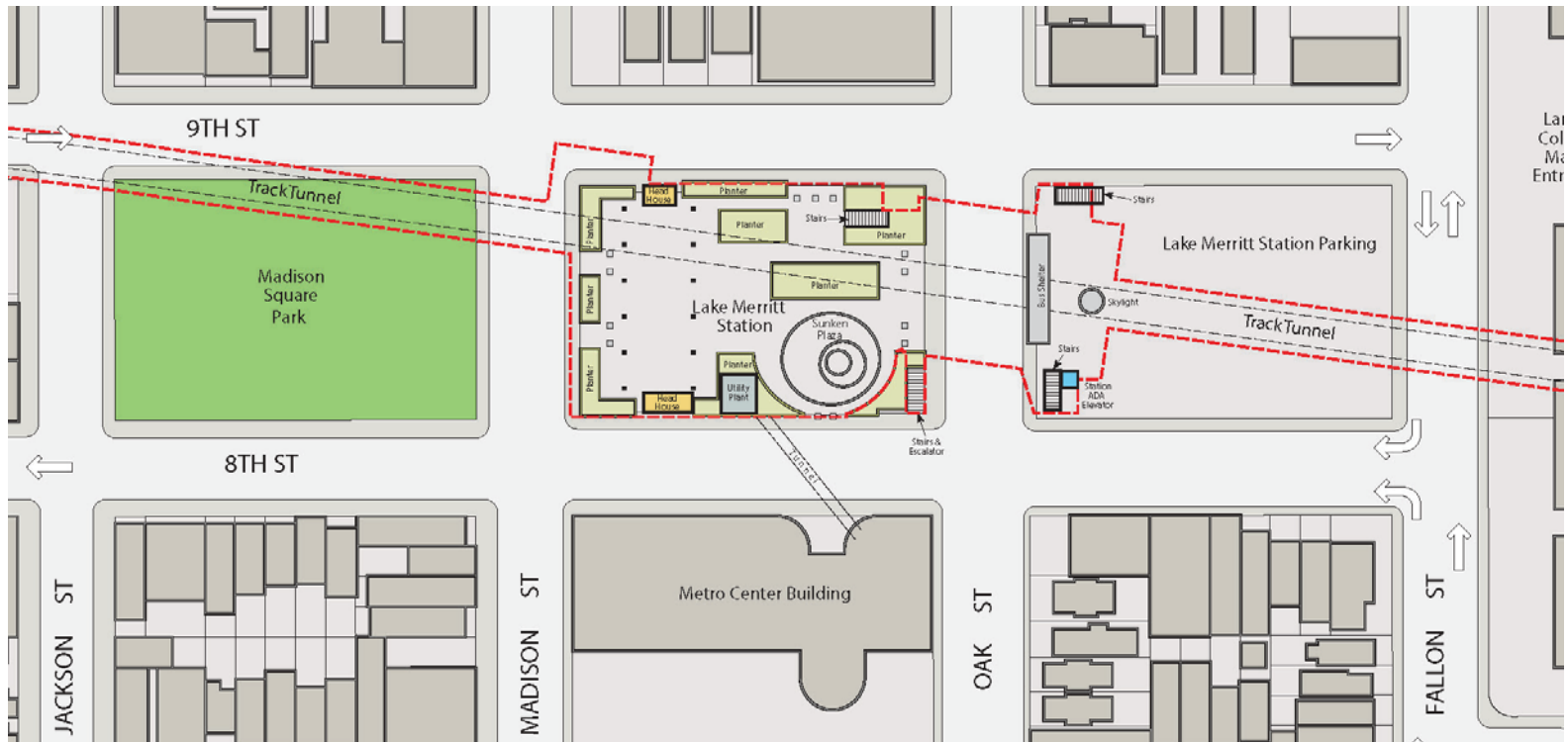
## Project Site

The BART Lake Merritt plaza is located in Oakland California at 800 Madison Street. The plaza is framed by 8th, 9th, Oak, and Madison Streets. The station is located below the plaza. West of the plaza is Madison Park, a well-used City park. To the North are apartment buildings. East of the plaza is a BART commuter lot. The BART Lake Merritt plaza is located in Oakland California at 800 Madison Street. The plaza is framed by 8th, 9th, Oak, and Madison Streets. The station is located below the plaza. West of the plaza is Madison Park, a well-used City park. To the North are apartment buildings. East of the plaza is a BART commuter parking lot. And South of the plaza is the Joseph P. Bort MetroCenter, an office complex that currently houses BART Police and Asian Health Services. The streets around the

VICINITY MAP



AREA + UNDERGROUND MAP





Existing plaza facing west towards Madison Park



Existing plaza facing east towards Laney College

plaza block are one way only. In the broader context, the plaza is located on the eastern end of Chinatown, south of Lake Merritt, and within a few blocks of the Oakland Museum of California and Laney College. Interstate 880 runs two blocks south of the site.

Future envisioned development will significantly change the context of the plaza. Most notably both the BART parking lot and the MetroCenter are designated as future TOD high rise sites as indicated in the Lake Merritt Station Area Plan.

From a public use perspective, the plaza in the current condition generally serves two functions: commuter access to the station below and casual activities by the local community. The site is regularly used by the neighborhood for tai chi, dancing, chess, and other casual uses. However, the current level of use is less than the use prior to the demolition of the administration building. The site is currently cluttered with unused planter boxes, BART infrastructure, and bike parking limiting more extensive public use and activation. BART infrastructure on the site include:

- Station entrance near Oak and 9th St
- Station entrance near Oak and 8th St
- Emergency exit and ventilation structure near Madison and 9th St
- Vent shaft next to station entrance near Oak and 8th St
- Freight elevator near 8th and Madison
- Utility plant
- Several smaller ventilation and utility elements located in planter boxes

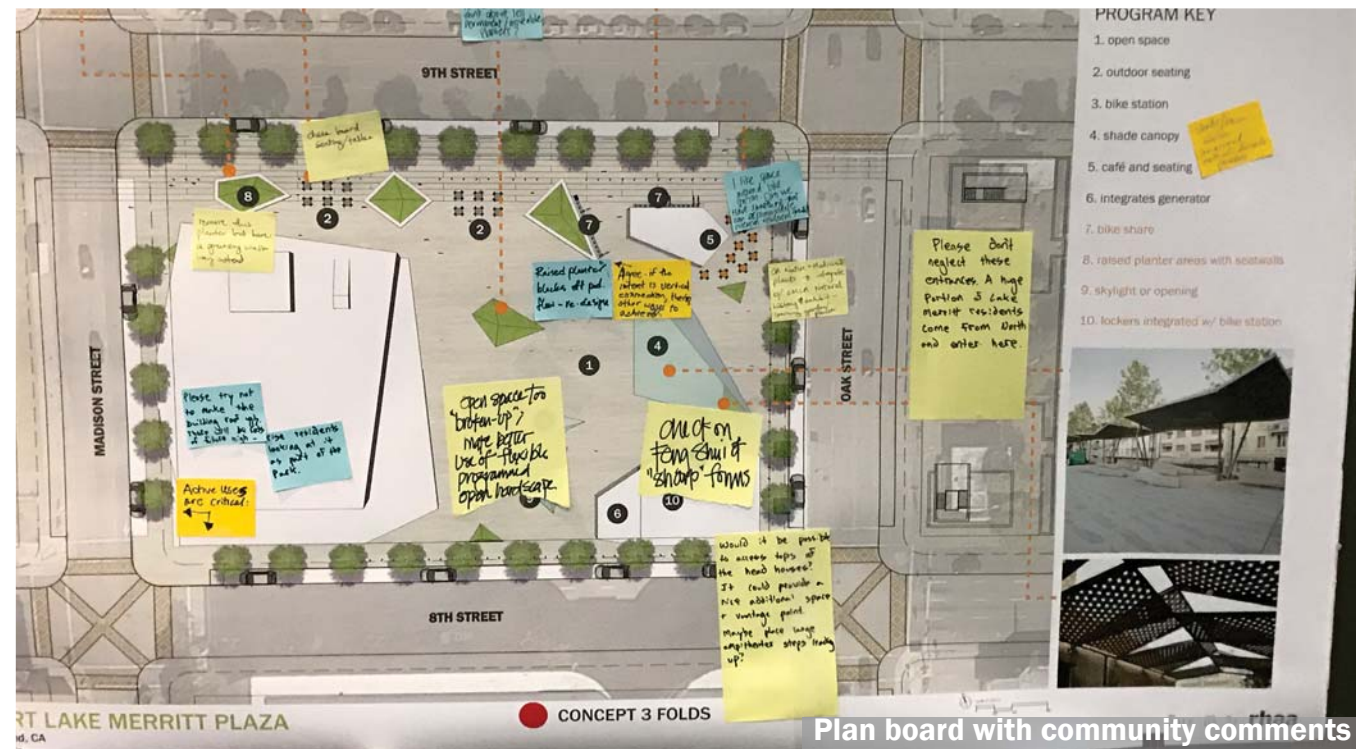
As described in the introduction, the goals would address many of the observed challenges regarding the site by improving circulation and wayfinding, increasing visibility and safety, and supporting a variety of neighborhood uses on the site to promote activation.



AERIAL MAP



Project site with outline of the TOF



Plan board with community comments



Community members reviewing design options

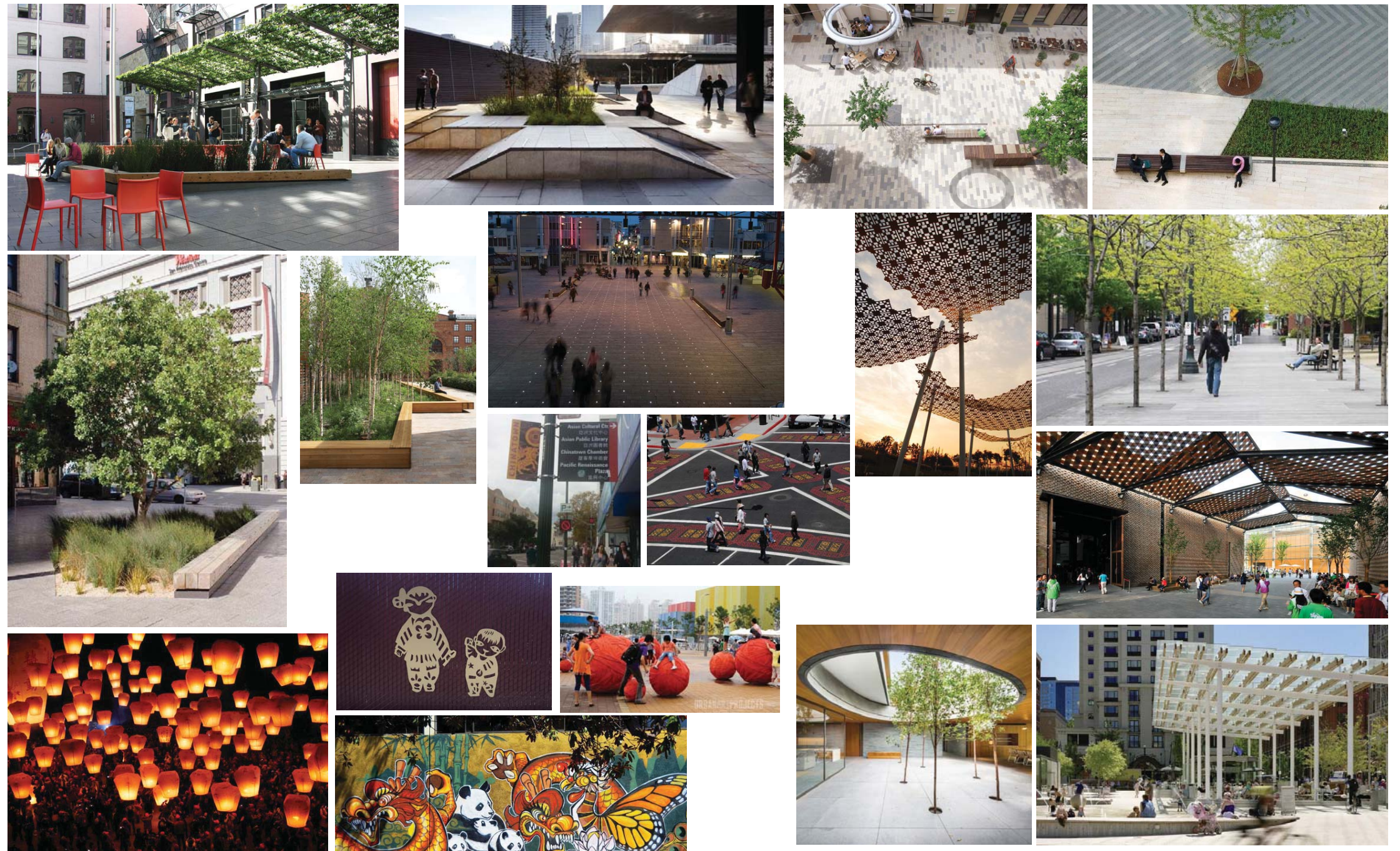
## Community Engagement

BART worked closely with the community to establish a shared vision for the site that supports BART, better serves the neighborhood and creates a safe and welcoming place for all ages. An iterative design process allowed feedback on a variety of design elements and refinements were made at each stage to reflect feedback received. More details on this process are included in Appendix A. Opportunities for community input included three Working Group meetings, one large community open houses, and stakeholder meetings:

- **Working Group 1:** at this meeting, the design team provided an overview of the project and discussed plaza design goals and elements with Working Group members. The group provided feedback summarized as:
  - Catalyze & Activate
  - Connect & Integrate
  - Safe & Welcoming
- **Working Group 2:** at this meeting, the Working Group members provided feedback on three design concepts for the plaza - the two preferred options have been refined for feedback at our upcoming open house.
- **Community Open House:** a series of stations were set up to introduce the project and present the draft conceptual designs. A survey was provided at the meeting and online for members of the public to share their preferences on the design.
- **Working Group 3:** at this meeting, the design team presented a refined plaza design based on Open House feedback, and presented initial design ideas and inspiration on the building facade for discussion.

See Appendix A for detailed information on the community meetings and feedback.

CONCEPT DESIGN PRECEDENT  
IMAGES



The design team started with images of sites throughout the neighborhood or from other successful urban public spaces to begin to develop concepts for the plaza



# 2 PLAZA CONCEPTUAL DESIGN

## Plaza Design Summary

The Plaza Concept seeks to better serve the community by activating the space and creating more usable public space. The concept also celebrates Lake Merritt Plaza as a critical transportation node by recognizing the underground BART line on the plaza surface. This diagonal spine organizes the plaza into 2 spaces: a large open plaza and a smaller, more intimate area for sitting and socializing. The spine emphasizes the pedestrian connection from the corner of Madison and 9th Street through the core of the plaza as well as along 9th Street, emphasizing the east/west connection between Chinatown, BART, and Laney College. The existing plaza fountain opening is closed to maximize plaza space, with skylights allowing natural light into the station. The plaza and the TOF are also designed to be spatially and geometrically complementary with each other. Details on material options and plantings are included in Appendix B.

## DESCRIPTIONS OF KEY PLAZA ELEMENTS

Large open plaza area with shade canopy

- The large open plaza is designed as a flexible space to accommodate large groups and multi-use activities including exercise and t'ai chi. The paving is large format concrete pavers with a special gradient pattern using light and dark gray pavers to highlight primary circulation paths.
- A large shade canopy anchors the east end of the open space.
  - The community voiced a strong desire for a large shade canopy that can provide shade for various uses.
  - The shade canopy connects the two station entrance structures visually into one structure. Combining all these elements into a larger architectural gesture helps to counteract the feeling of a cluttered space. The canopy is positioned to work with the ground floor of the TOF building to create a space that opens towards the inside of the plaza, and narrows towards 8th St to create a more pleasant / sheltered feeling on the plaza.
  - The faceted shade canopy design relates to the angled architecture of the other architectural elements.



Concept model view aerial facing southwest towards Madison Park

- The shade canopy is intended to be a light-weight structure (e.g. custom perforated aluminum panels that allow wind to pass through), supported by columns that are resting on the plaza without additional foundation work. Additional structural analysis will be required to confirm this approach. The canopy is assumed to provide shade only; it is not intended to be a rain shelter. This will help to keep the structure light (lower wind loads, no rain water collection & gutters).

#### Streetscape

- Basic streetscape improvements include new street trees, pedestrian-scaled lighting, and improved paving.
- The Lake Merritt Station Area Plan proposed street circulation improvements on Oak, Madison, 8th and 9th Streets that could include one to two-way conversion and/or lane reduction/street narrowing. Streets in this area are also being considered in Oakland Downtown Specific Plan. This project will incorporate some streetscape improvements, such as pedestrian scale lighting, greenery, and widened sidewalks where sidewalks can be widened into the plaza; further improvements that impact the street right-of-way (including bulb-outs) will wait until the City process is complete. The plaza design is intended to be consistent with either future circulation outcome.
- Trees are set-back from Oak Street to allow an enhanced transit hub between BART and AC Transit on Oak if the two-way conversion option is pursued.
- The proposed concept includes crosswalk striping that reflects the scramble intersection pattern in the Chinatown commercial core, with the intention of establishing a visual reference to the Chinatown community and to improve safety and visibility.
- Enhanced 9th street streetscape connecting Madison Park to the plaza.
  - 9th street is an important link between the BART plaza and Madison Park. This link also serves as a connection between Chinatown and Laney College. The streetscape here is enhanced by widening the pedestrian sidewalk and providing an enhanced urban experience with adjacent “living rooms” consisting of seating areas and planters with wood benches. The paving material would be upgraded to concrete pavers. See Appendix B for more detail on materials.
- The design elements of the plaza are carried over across Madison Street to the Madison park side. This gesture reinforces the connection between the two blocks. The same gesture is made across Oak street towards the BART Parking lot, but with a more modest layout of similar paving. Both adjacent blocks warrant a more comprehensive design effort, the intention of including

the design elements in this study is to inform those future efforts.

#### Pedestrian promenade experience through the plaza

- The diagonal promenade created by the layout of living rooms and special pavement draw pedestrians beyond the TOF from Madison Street and towards the open plaza area. Pedestrian scale lighting illuminates this promenade. A special inground light running the length of this diagonal spine would create a community connection to the BART lines below.

#### “Living Room” areas for gathering and social activities

- The living room areas are designed with opportunities for different ways of sitting and social interaction. The different bench configurations and moveable café tables/chairs allow flexibility. Game tables are also provided and the game table location is strategically located where the TOF will provide afternoon shade. Planting areas provide separation between different rooms. Pavement would be wood decking. See Appendix B for more detail on materials.

#### Transit Access

- A new bike station for at least 150 bikes is designed into the new transportation plaza, integrated into the station entrance on Oak and 8th Street. The bike station as shown could either accommodate 165 bikes with a valet and bike repair shop, or 200 bikes in a self-park configuration. A bike station on street level is most functional for bike riders, however options on the concourse level were also considered.
- Bike share parking is located at the northeast corner of the plaza, configured in a double row to reduce the overall length of the amenity.
- The station entrance at Oak and 8th St will be redesigned at the 8th Street edge to improve the western connection to the plaza.
- The roof of the bike station / station entrance is extended toward 8th Street to form a canopy over this area to serve as a small bus shelter with a bench, serving the AC Transit stop at this location.
- Street trees are setback along Oak Street to provide flexibility for future transit needs over time.

### CONCEPTUAL PLAZA DESIGN

#### PROGRAM KEY

- 1 enhanced streetscape improvements include widened sidewalks, special pavers, and new street trees
- 2 special crosswalk treatment at all four intersections
- 3 activated streetscape with benches on both sides of Madison St.
- 4 bike station
- 5 bike share parking
- 6 trees in raised planters
- 7 back up generator
- 8 open plaza space 21,000 sq. ft.
- 9 shade structure
- 10 movable seating
- 11 kiosk / cafe
- 12 low planting areas with seatwalls
- 13 special paving throughout plaza with emphasis on BART line running below plaza level
- 14 sunken courtyard is enclosed; glass paving allows light to below
- 15 game tables w/ possible shade element
- 16 bus bench
- 17 modified head house entry and landing - to be studied





Concept model view near 9th Street facing southeast



Concept model view near Oak and 8th Street facing north

#### Opportunities for community and retail facilities

- Active uses are incorporated into the ground floor of the TOF in two locations:
  - At the corner of 8th and Madison, wrapping along the Madison St edge in order to activate this crucial interface with Madison Square park.
  - Along the plaza edge.
- A small coffee kiosk, community use space, or storage area is integrated with the station entrance and generator structure at Oak and 9th St. This will provide an active use at the corner, and create a friendlier, open façade than the station entrance and generator structure would otherwise have.

#### Architectural façade modifications to existing station entrances

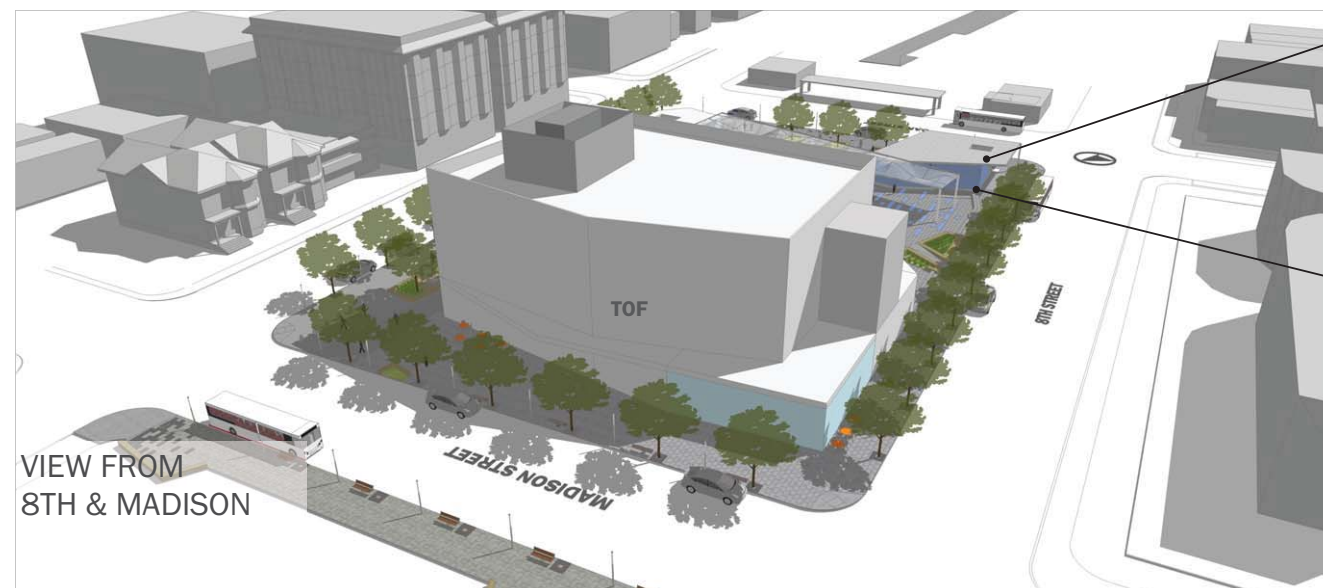
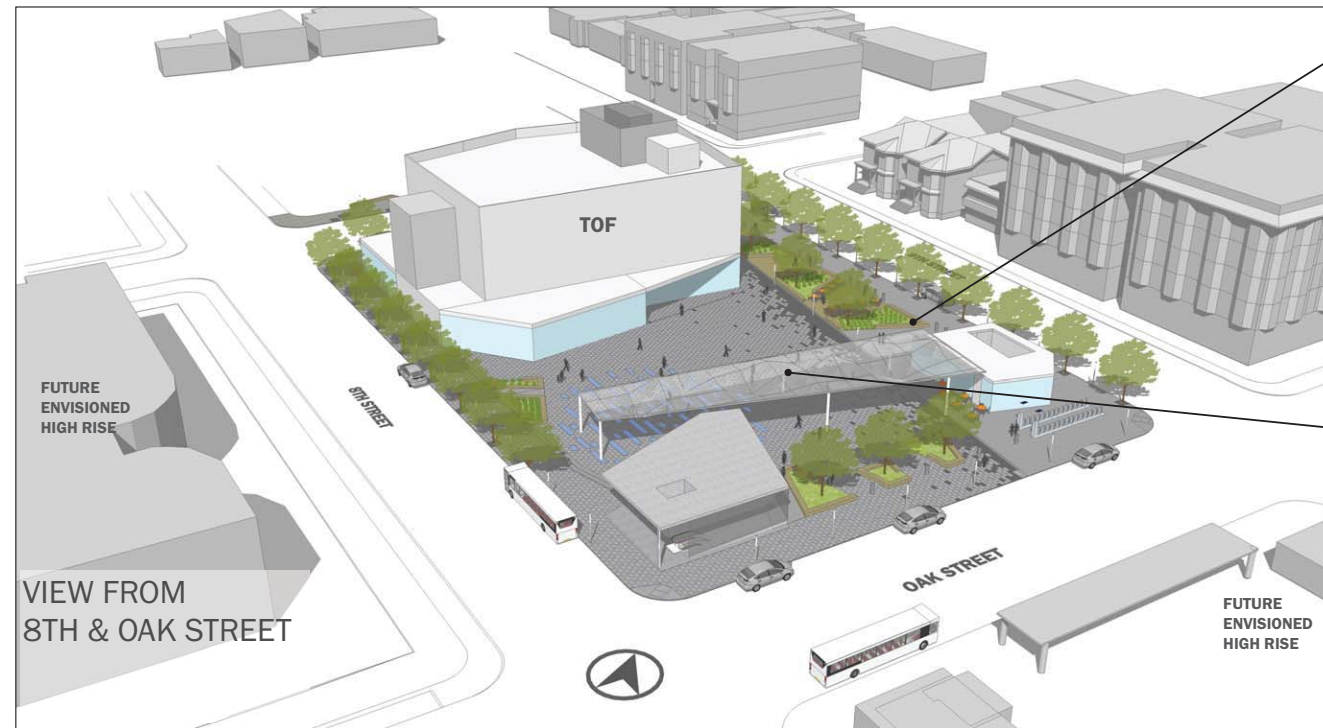
- The shape of the station entrance structures are redesigned to carry the same language as the TOF and the plaza. The station entrance structures integrate other plaza uses (generator, bike parking) and provide a cohesive frame for the shade canopy. As the façade design of the TOF evolves it is recommended that the station entrance structures reflect a complementary aesthetic.

#### Enhanced site and landscape elements

- Landscape planters and seating
- Trees and planting are consistent with the City of Oakland's street tree list and with primary criteria for plantings at BART, but will need to be further refined during the next phase for consistency with BART Standards. Key criteria for plantings at BART are:
  - Low water use
  - Plants that thrive in a Mediterranean climate
  - Hardiness
  - Low maintenance (including minimal leaf litter)
  - Maintain clear walkway and/or clear sight lines as BART's objectives (though the trees presented here are not on the BART list). Key objectives are: low maintenance, drought tolerant.
- Bollards
  - Security bollards will be required for the site to ensure safety and security. The design of these features will be such that they are consistent with the plaza design palette. These features will be developed in greater detail in the next phase of design.



CONCEPT SKETCH VIEWS



planters with bench seating



shade structure



bike lockers below canopy



bike station

CONCEPT SKETCH VIEWS

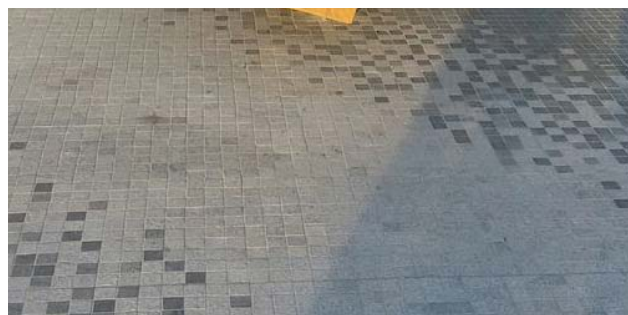
movable seating



low planting areas with seatwalls



special paving



BART blue in-ground lights



VIEW FROM  
MADISON & 9TH



VIEW FROM  
9th & OAK STREET

FUTURE  
ENVISIONED  
HIGH RISE

- Game tables & outdoor furniture
  - Movable chairs are included in the design; identifying the appropriate owner/manager of the chairs will be essential to the success of this component
  - Game tables, located in area that will be shaded by the TOF in the afternoon
- Ramps and steps
  - Ramps and steps along the plaza edges are necessary to ensure accessibility on the plaza which is sloped, and to transition to the sidewalks. The design team used the elevation points as noted on the existing BART “As-Built” drawings and plaza level elevations and side walk elevations and underground need to be confirmed through a survey to verify and refine ramp locations.
- Lighting
  - Plaza lighting consists of a variety of lighting elements in order to create a safe and pleasant environment in the evenings / nights. Pedestrian scaled light fixtures should be used, and installed in a variety of ways. Recommended elements include:
    - Light poles
    - Light bollards
    - Light fixtures installed at the underside of the shade canopy
    - Landscape lights
    - Light projecting down from benches, etc.
  - A linear LED light fixture is integrated into the plaza paving showing the alignment of the BART train crossing the plaza below. An idea to explore in future design phases is whether this light feature can animate as trains pass underground.
  - Lighting design can also be tailored to reflect the community.
  - Light should be considered as a special element in the façade design of the TOF building, in order to create an attractive night / evening presence for the building. The focus should be to light the façade in a warm light at night, or to create an interesting lighting strategy that interacts with the architectural elements of the façade. The design team recommends avoiding flood lighting the whole plaza with large lighting fixtures mounted at a higher elevation on the TOF building, since this would create a stadium like / unpleasant atmosphere and would significantly limit the flexibility of the exterior space for nighttime activation.
  - Further design development will require photometric studies to refine the lighting program.

#### Art

- Art is an opportunity to activate the plaza and to reflect neighborhood identity. There are many opportunities for placemaking and art in the Plaza, and on the streets leading towards core Chinatown. The intention is to incorporate art as an integral element of the design rather than single specific art piece, in coordination with community feedback. BART will engage an artist through BART’s Art Program.

#### Wayfinding

- BART currently has a wayfinding program that implements basic signage identifying the station and providing some neighborhood direction. While the proposed concept design includes elements that promote connections to the neighborhood (paving, art, etc), an additional more comprehensive neighborhood wayfinding program may be warranted as a separate/future design effort.

#### Programming

- Active use of the plaza would ideally be supported by programming of plaza uses. The approach in the concept design is essentially to set the stage for such uses. Additional development of how programmed uses could be achieved in a sustainable way on the site will need to be considered in future phases of project development.





**rhaa**  
LANDSCAPE ARCHITECTURE + PLANNING

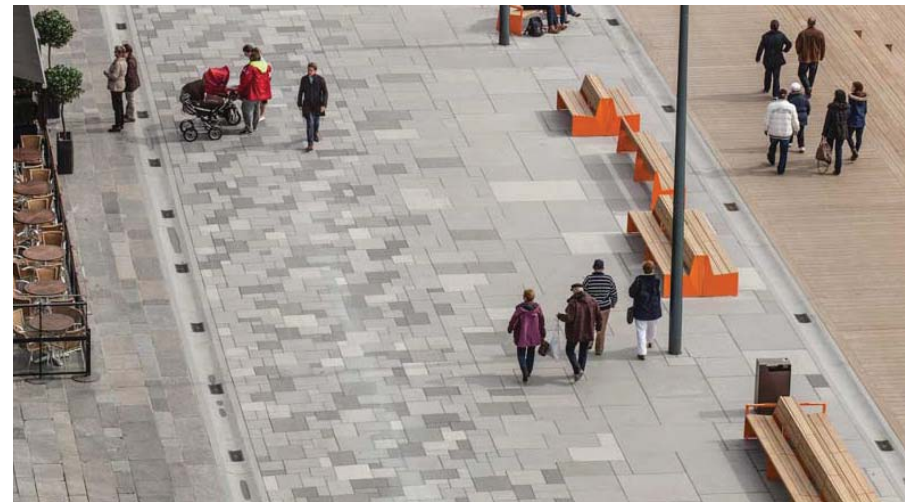
Vignette near Madison and 9th Street facing east



**rhaa**  
LANDSCAPE ARCHITECTURE & CIVIL ENGINEERING

Vignette near 8th Street facing northeast

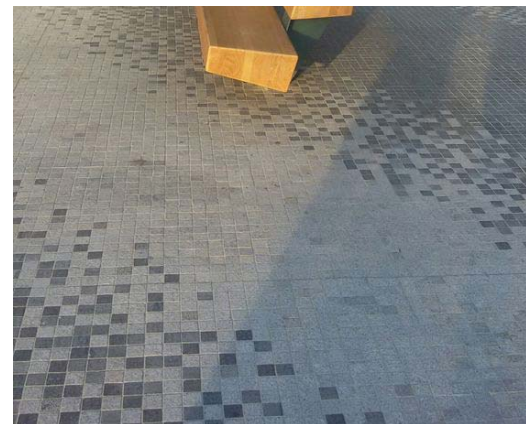
CONCEPT DESIGN PLAZA  
ELEMENTS



Gradient paving pattern



Shade structure



Gradient paving pattern



Plaza large scale paver with skylight option



Shade structure



In ground decking option for social rooms



Wood planter & bench with underlighting

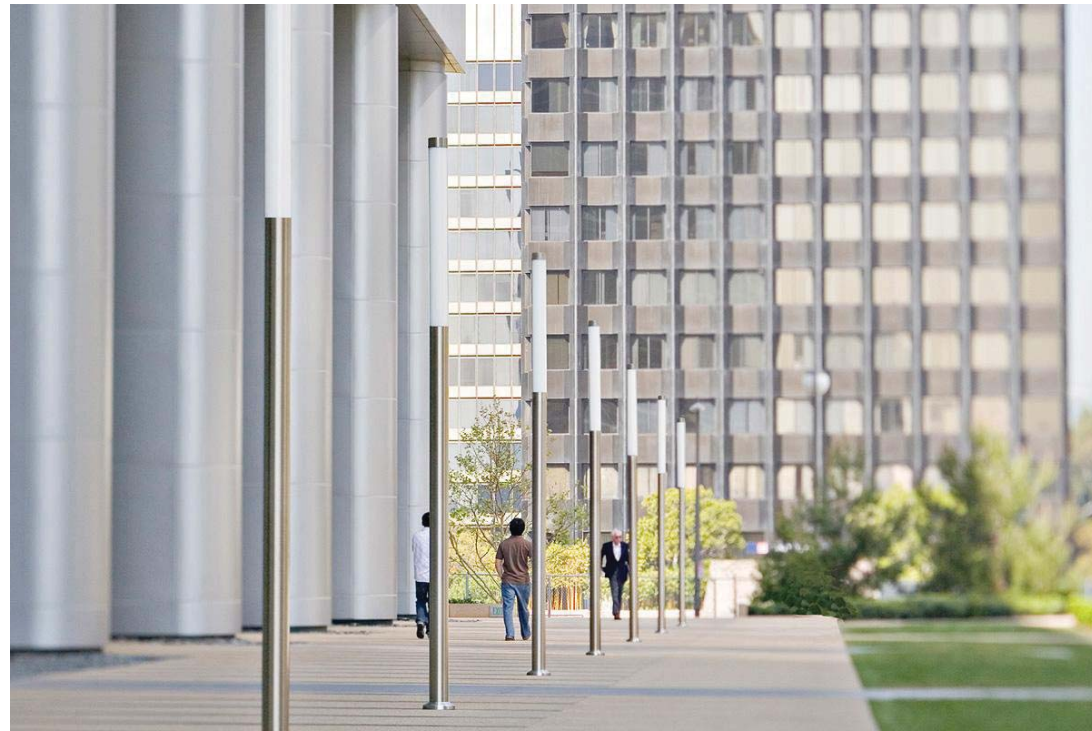


Game tables



Moveable seating tables and chairs

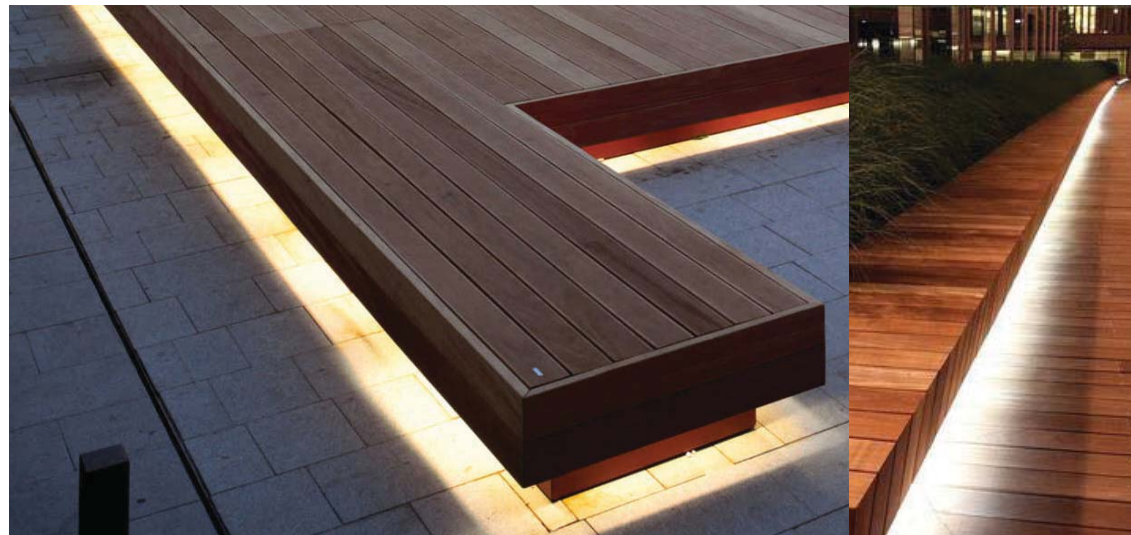
CONCEPT DESIGN LIGHTING  
IMAGES



Light Column Pedestrian by forms+surfaces



Custom light bollards



Wood bench underlighting



BART blue In ground led strip lighting



CONCEPT DESIGN PLANTING  
IMAGES



Ginkgo tree



www.cirrusimage.com  
Red Maple



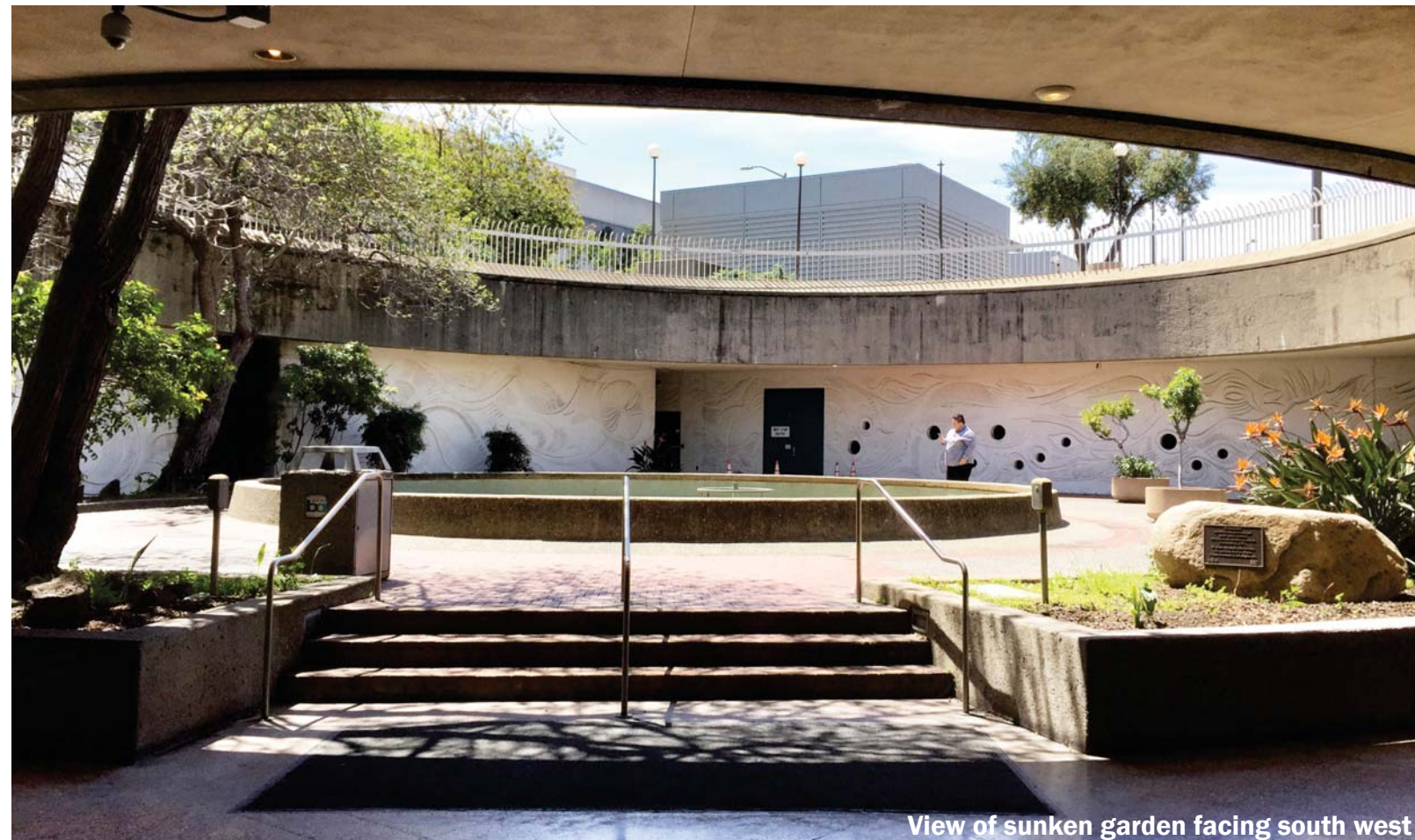
	SCIENTIFIC NAME	COMMON NAME	HEIGHT	SPREAD	WATER USE
<b>TREES</b>	ACER RUBRUM 'OCTOBER GLORY'	RED MAPLE	30'-40'	30'-40'	MODERATE
	ACER RUBRUM 'AMSTRONG'	RED MAPLE	30'-40'	10'-15'	MODERATE
	GINKGO BILOBA	MAIDENHAIR TREE	50'-80'	30'-40'	MODERATE
<b>PLANTING</b>	CHONDROPETALUM TECTORUM	CAPE RUSH	2'-4'	2'-4'	LOW
	LEYMUS CONDENSATUS 'CANYON PRINCE'	CANYON PRINCE WILD RYE	2'-3'	RUNNING	LOW



Leymus (Wild Rye Grass)



Compact Cape Rush



View of sunken garden facing south west



View of sunken garden from plaza level facing south east

## SUNKEN PLAZA AREA

The “sunken plaza” area with fountain was originally designed as a tranquil “sunken garden” to allow daylight into the underground station. The fountain located in this area is currently out of operation. The existing “sunken plaza” area is assessable via a glass door from the station concourse level and provides access to BART’s underground Lake Merritt Complex. Glass doors for security were installed in 2015. A 180-degree wall mural / relief by the British artist William Mitchell depicting Lake Merritt water fowl is a key visual element of this space, and an important piece in the BART art collection. The mural is visible from the plaza level looking down, as well as from the concourse level, and is well maintained. The design process considered different options to cover or utilize the sunken plaza area.

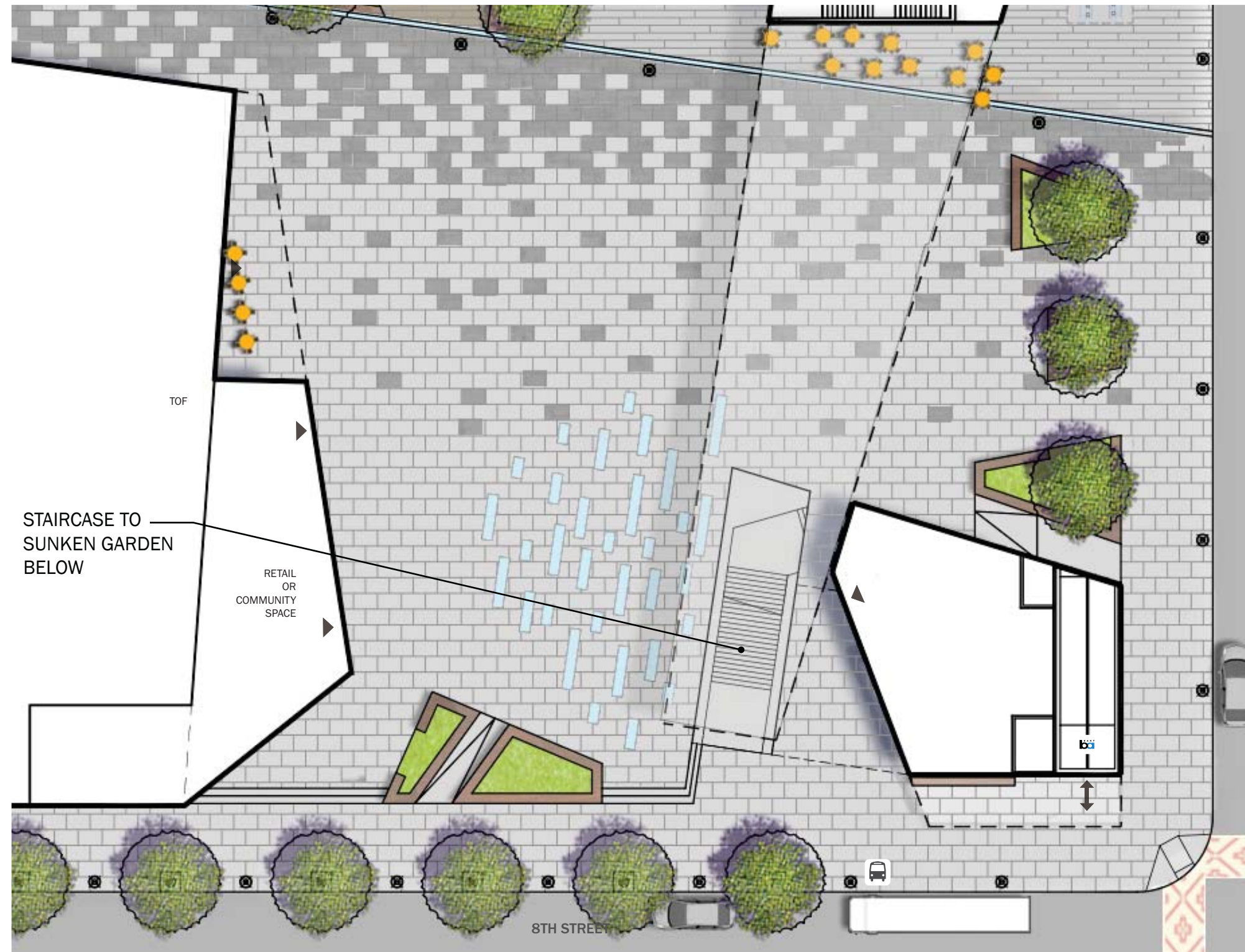
### Base Concept Sunken Plaza Area

- The community expressed a clear preference for enclosing the sunken plaza area and maximizing usable space at the street level. Recognizing the impact to natural light reaching the concourse level, walkable sky lights / glass pavers would be integrated into the ceiling to allow some natural light to continue to penetrate the concourse level.
- Fully enclosing this area will, however, significantly reduce the ability to view the artwork from the plaza level.
- A large ventilation shaft opening is located on the south wall of the sunken plaza / fountain area. Preliminary information indicates that enclosing the area will still allow adequate ventilation but a detailed air flow analysis will be required to confirm this assessment.
- The structural feasibility of enclosing the sunken plaza / fountain area, including the glass pavers, needs to be studied further.

### Alternative Concept Sunken Plaza Area

- While the base Concept encloses the sunken plaza completely so it is no longer viewable from the plaza level, the alternative partially encloses the sunken plaza and adds a new staircase connection from the street plaza level to the station concourse. This would increase street to concourse station capacity and create another entrance oriented toward making a connection with the Chinatown core. It would also maintain a public connection to the art work.
- The staircase in this alternative would be located below the shade canopy. The new staircase would need to be accessible during all BART operations hours and secured at night at the street/plaza level. If an escalator were considered

ALTERNATIVE CONCEPT WITH STAIRCASE



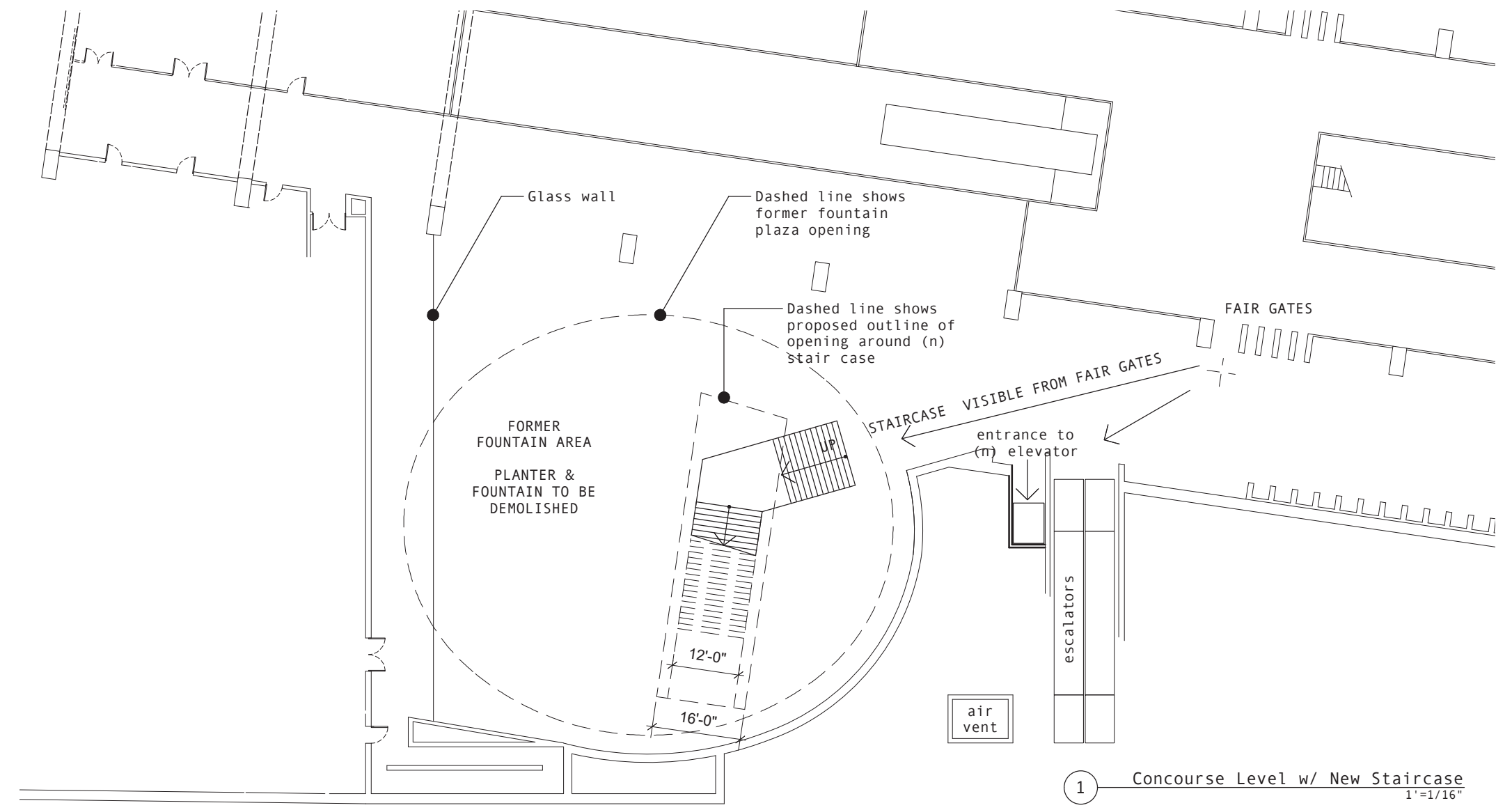


View of sunken garden art wall

instead of a stair in this location, full protection from the elements would be required. Any railing and gate elements will need to be designed to be secure but as visually unobtrusive as possible.

- The exact alignment of the staircase was discussed at the last Working Group meeting #3. The design team revised the layout to show an option with a stair run that turns towards the fare gates at the concourse level, so that the stair would create a more direct connection with the station faregates and be more inviting to exiting passengers.
- If a staircase becomes part of the sunken plaza area, it might be feasible to convert the existing staircase at the station entrance at Oak and 8th St into a second escalator. Currently this station entrance features one staircase and one escalator. It needs to be studied whether the new staircase and the existing station entrance can be counted as “one exit structure.” If not, the existing staircase in the station entrance would need to remain.
- A proposed new glass wall, shown running parallel to the existing exterior wall of the Lake Merritt Complex, provides sheltered access to several BART spaces as an additional security layer, allowing removal of the current glass wall between the station concourse and fountain area.
- The future use of the area on the concourse level needs further exploration. The following options have been discussed for future use of the space:
  - Introducing a new staircase leading up to the plaza would keep the concourse level of the sunken plaza / fountain area publicly accessible and increase foot traffic through the space which may inhibit potential loitering. The areas of the sunken plaza / fountain area that are enclosed and are not taken up by the staircase can be used for informal community activities, e.g. exercising in the rain. The artwork will remain prominently visible to the public.
  - Locate the bike station in the area: The round configuration is not ideal for bike storage and numerous stored bikes would significantly impact the visibility and enjoyment of the existing artwork. Further, bike parking at the street level is more convenient for bike riders. This option is redundant with the bike station currently shown on the plaza level.
  - Any layout would need to continue to provide access to the concourse level BART office spaces.

PARTIAL SUNKEN PLAZA  
ENCLOSURE / NEW STAIR  
ALTERNATIVE



SK o5  
merge

## BART Infrastructure on the Plaza

In order to achieve the goals of the design it was critical to study and reorganize existing and proposed new BART infrastructure. Many of these structures needed to be consolidated, moved, or otherwise adjusted in order to best achieve the design goals, in particular as related to circulation and wayfinding. The following structures studied include:

### Emergency exit and ventilation structure near Madison and 9th St

- The ventilation function of the existing structure is proposed to be incorporated into the TOF on the north side of the building. In order to achieve a simple building massing, ventilation shafts were extended to the roof line of the TOF building. Exact ventilation requirements need to be confirmed in design development.
- The staircase is proposed to be reconfigured to fit within the new building envelope. The alignment of the staircase runs changes from the platform level to the concourse and plaza level to accommodate this.
- With the two changes outlined above, the existing structure near Madison and 9th St will no longer be necessary and can be removed.

### Emergency generator / Station Entrance near Oak and 9th St

- An emergency back-up generator is required as part of the TOF project, and is integrated into a single structure with the station entrance at Oak and 9th St in the proposed concept. A simple, new structure will combine these elements into one cohesive building. This location was selected based on generator site requirements (near the street edge for re-fueling and on solid ground), and because it will avoid additional clutter on the plaza. The station entrance structure configuration is also designed to relate to the adjacent large shade canopy.

### Freight Elevator near 8th and Madison

- The freight elevator will remain at its current location.
- The architectural skin of the elevator will be removed to integrate the elevator with the new TOF building.
- The minimum height of the elevator enclosure will determine the one-story roof line of all other one-story portions of the building as it wraps around the

building, e.g. a retail space and community use space.

### HVAC Equipment for Lake Merritt Complex

- The large freestanding structure along 8th street that houses the AC and mechanical equipment for the existing underground Lake Merritt Complex will be removed and integrated onto the roof of the TOF.
- To minimize the impact [height] of the proposed structure on the new roof, the next design phase should study the potential to drop the equipment lower into the structure of the building, to be at least partially concealed within the building envelope.

### Station Entrance near Oak and 8th St

- The station entrance at Oak and 8th Street will be combined with a new bike station, a new redundant passenger elevator, and a new bus shelter. A simple, new structure will combine these elements into one cohesive building.
- The building configuration is designed to relate to the adjacent large shade canopy.
- If the partial fountain closure/new stair alternative is selected, the vertical circulation elements in the station entrance can either remain as they are (one escalator, one staircase) or could potentially be expanded (stairs converted to two escalators).
- The entrance will be redesigned at the street edge to improve the western connection to the plaza and maximize the exiting area along 8th Street and accommodate bus transfers. Additional review of code requirements will be required to finalize this design.

### Vent shaft next to Station Entrance at Oak and 8th St

- The location of an existing air vent shaft on the West side of the station entrance needs to be considered in the redesign of the area. The proposed concept shifts the vent shaft slightly to the east to be located directly against the station entrance exterior wall to make room for the Bike Station.

# 3 TRANSIT OPERATIONS FACILITY (TOF)

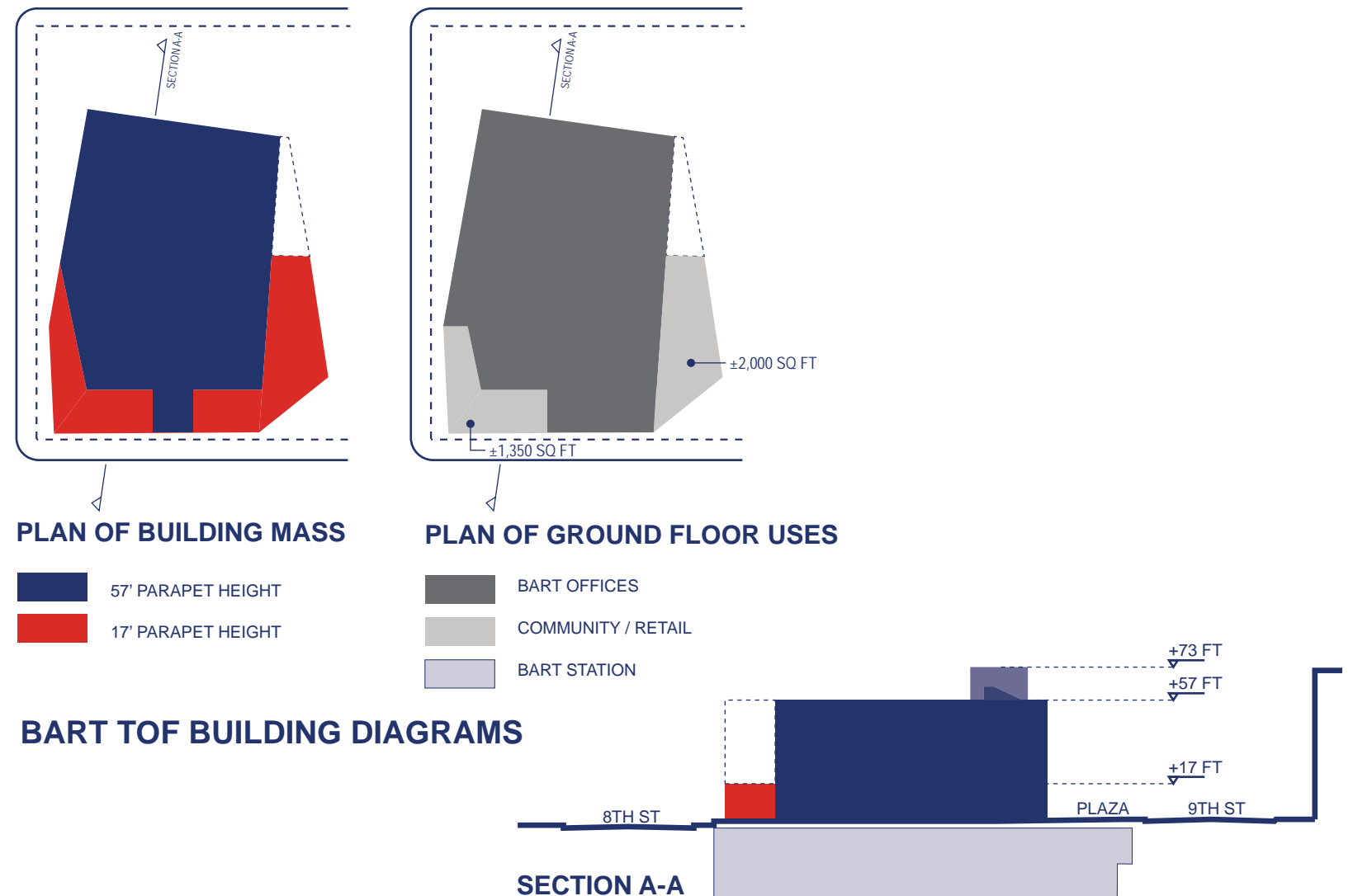
## TOF Building Massing

The layout & design for the new Plaza and the building's massing & façade were developed simultaneously in order to work together to create a vibrant urban transportation hub that serves the surrounding community.

The building's overall size is determined by its function. The new TOF building will utilize the existing foundations of the former (demolished) BART administration building. The building mass is designed to be as compact as possible, while meeting the required functionality of the facility, to maximize the openness of the Plaza. Furthermore, the building is pushed towards the corner of Madison and 8th St in order to allow a connection between the Plaza and Madison Park. The building's height is determined by its function and required structural system. The height and massing requirements of the building will continue to be studied in the next steps.

As described in Section 2, the Concept Plan integrates most of the existing utilitarian structures that are currently scattered over the Plaza into the new building, and, if they could not be integrated into the building, to consolidate them with the two re-designed station entrances. This will counteract the cluttered appearance that currently dominates the plaza.

The design team conducted several massing studies in physical models as well as computer models. The complex relationship to the underground (vertical circulation elements and foundations are existing) and the building's functional requirements, result in several design constraints.



The following additional considerations guided the building massing:

- The design team's focus is to reduce the "imposing" appearance of the building by creating a horizontal faceted / angled facade.
- For security reasons, BART operations cannot be stacked over building portions used by retail or community. However, a lower ground floor active use "wrap" around the BART building can house these functions. It will make the TOF building active at the street level and more approachable to the general public. Furthermore, this "wrap" can also integrate some existing structures, such as the freight elevator along 8th Street.





## Facade Development

### TRANSPARENT BASE / ENCLOSED TOP

Conceptual approaches for the TOF building façade were developed to address the building’s scale and location. The following considerations guided the building facade initial concepts:

- The upper floors of the building will be largely windowless, as their function permits only limited amounts of daylight; this is especially true for the building façade facing Madison. In order to counteract the closed facade of the upper building portion, it is juxtaposed with an “open” transparent ground floor facade.
- Both upper and lower portions of the building form a clearly defined envelope. Any additional elements protruding from this envelope were avoided.
- The design approach of a transparent base with an enclosed top portion will help guide deliberate detail and material decisions in the next design steps.
- Final façade selections will be made based on the quality of the interface with the community as well as the weight, cost, and maintenance requirements.



Université Paris Descartes, Lecture Hall, Paris, France  
AZC Architects  
Wood siding, glass



Archive of the Evangelical Lutheran Church of Bavaria, Nuremberg, Germany  
Gerkan, Marg & Partners Architects  
Copper siding, glass, sandstone



Tel Aviv Museum of Art, Tel Aviv, Israel  
Preston Scott Cohen Architects

## TEXTURE / MATERIALITY / LIGHT

- The choice of the façade material, its texture, lighting, color, and details will refine the appearance of the building so that it will become an interesting asset to the surrounding urban space.
- The façade treatment should mediate the large scale of the building to a pedestrian experience.
- The facade should reflect the fact that this building is located in the Chinatown community.
- Any chosen cultural references for the design of the façade should stay away from simplification of cultural stereotypes.
- Any façade treatment should be coherent in its application, and should include all sides of the building to create a cohesive building envelope.
- Material weight and long-term maintainability of any chosen façade treatment needs to be considered.

The following pages show examples and precedent images for alternative options as they can relate to cultural content, materials, and textures for the upper portion of the TOF building facades.



**MATERIAL INSPIRATION : BRICK**

Brick is a building material that is widely used in traditional Chinese architecture. It continues to be used in contemporary construction in innovative ways. Brick has the potential to provide rich texture, patterns, and an inter-play of shadow and light on the façade, e.g. modern parametric design software for brick surfaces allows designers to translate images into a brick layout.

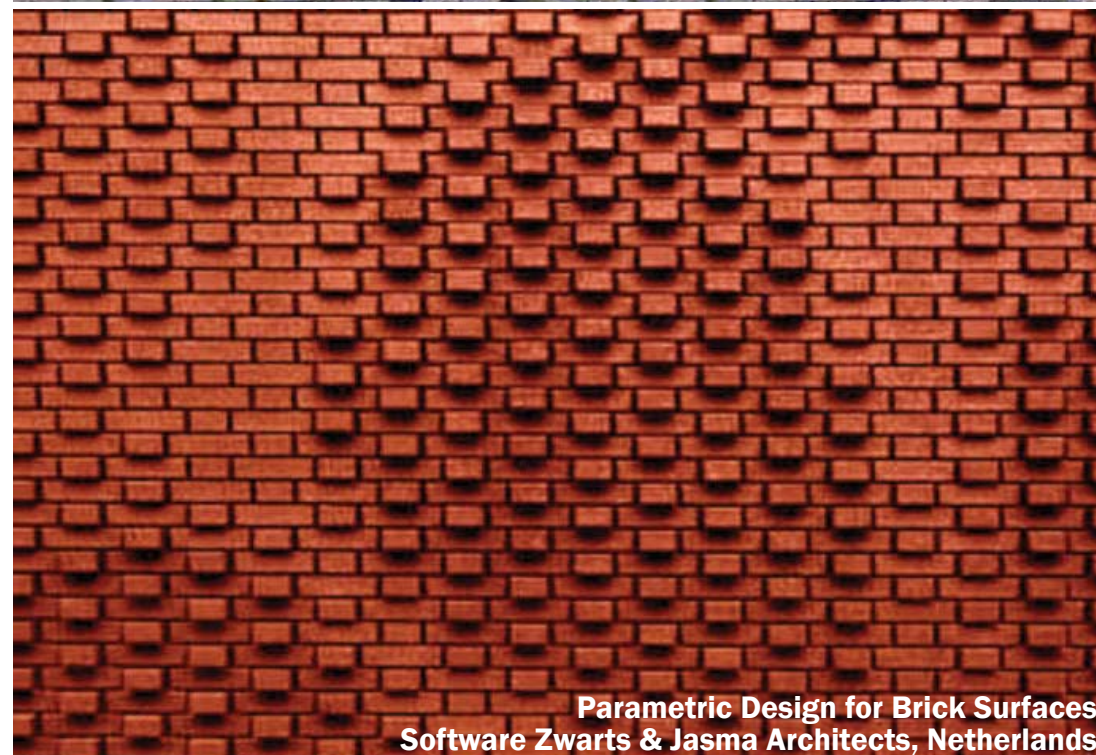




**MATERIAL INSPIRATION: BRICK TEXTURES & SHADOWS**



**MATERIAL INSPIRATION: BRICK IMAGES & PATTERNS**



## MATERIAL INSPIRATION: BAMBOO

There are over 500 different species of bamboo in China. Bamboo is at the heart of many traditions and customs and is used as a building material in both permanent and temporary construction.

In a figurative sense, bamboo can be a beautiful metaphor for the resilience of the Chinatown community. In her book “Bamboo Women - Stories from Ming Quong”, Nona Mock Wyman writes “fortunately the teachers at Ming Quong had taught us the suppleness of bamboo mentality”. We knew how to compromise, to yield, but to move forward unbroken.” The Ming Quong Home for Girls was formerly located at the BART parking lot across the street from the transportation plaza’s site. Bamboo can be used directly as façade material as shown on the attached examples, or it can be translated into another, inorganic material.



Residents of the Mong Quong Home, formerly located at BART Park and Ride Lot



Hostel Buildings, Bamboo Biennial, Baoxi, China Anna Heringer

**MATERIAL INSPIRATION: BAMBOO TEXTURE**

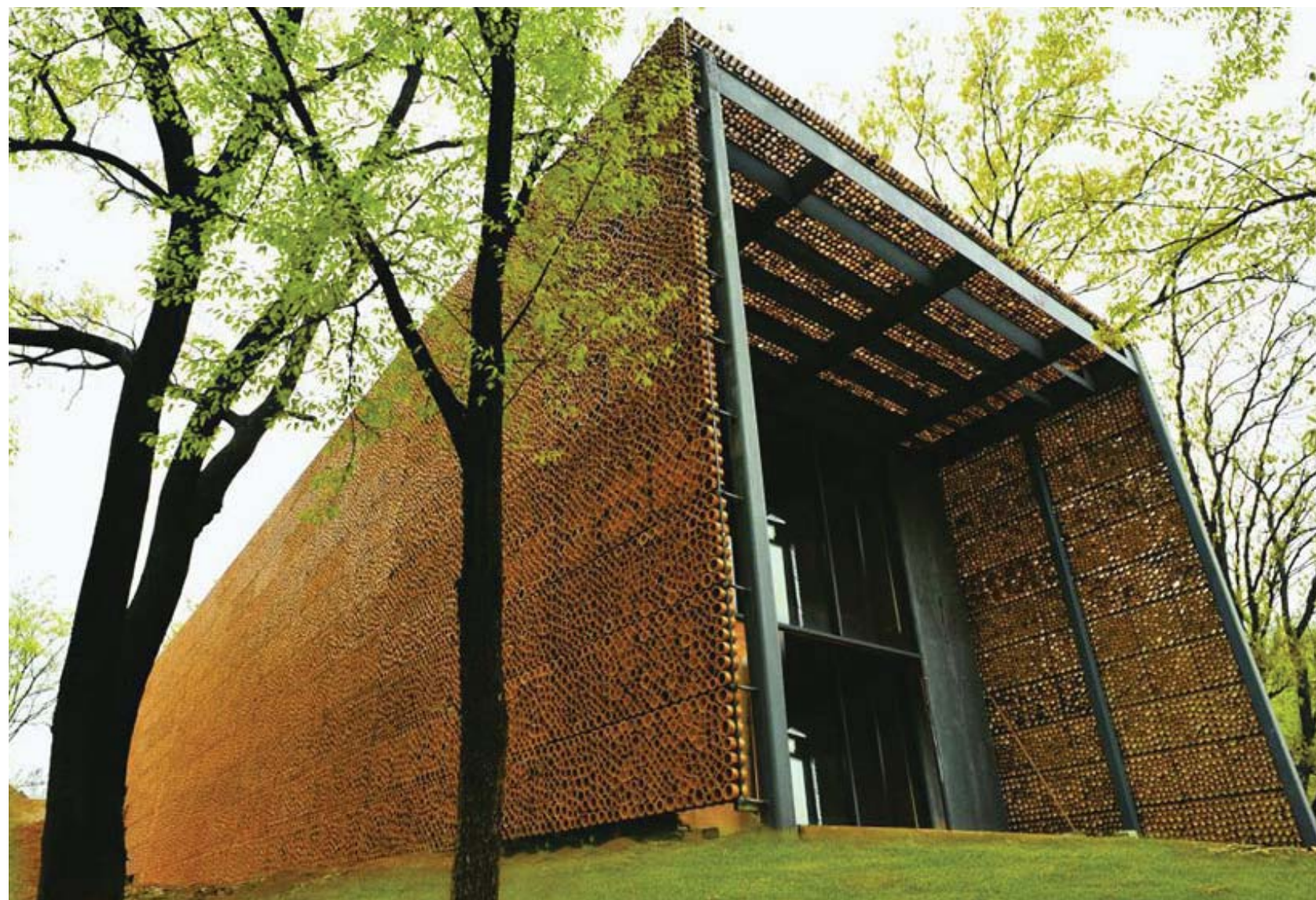


**Kantha Bopha Conference Center, Siem Reap, Cambodia  
Asma Architects**



**Bamboo Facade, Brazil**

MATERIAL INSPIRATION: BAMBOO TRANSPARENCY & LIGHT



Sean Godsell Architects, Chinese International Practical Exhibition



**MATERIAL INSPIRATION: BAMBOO SPACE**



Community Green Station, Hong Kong  
Hong Kong Architectural Services Department

**MATERIAL OPTION: BAMBOO ORGANIC / INORGANIC**

The image / concept of bamboo could also be evoked with an inorganic material, like perforated metal panels and etched concrete elements.



Police Station, Les Mureaux, France  
Ameller, Dubois & Associates





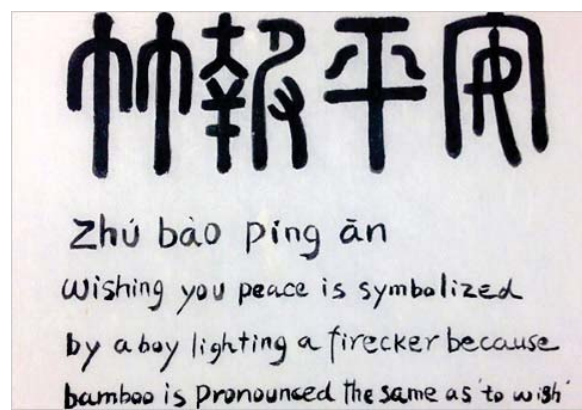
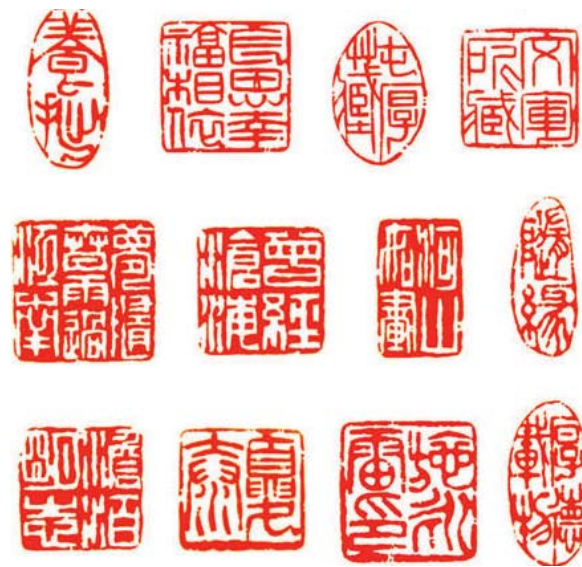
Furniture Showroom, Florence, Italy  
Studio 63 Architecture



## INSPIRATION: CALLIGRAPHY

Calligraphy is a beautiful traditional art form that is still practiced in the community. Seal Script - one of the script styles practiced - is a more stylized calligraphy form; it is less legible to most Chinese, and it is often used in decorative engravings and seals. Its graphic appearance lends itself to decorative applications.

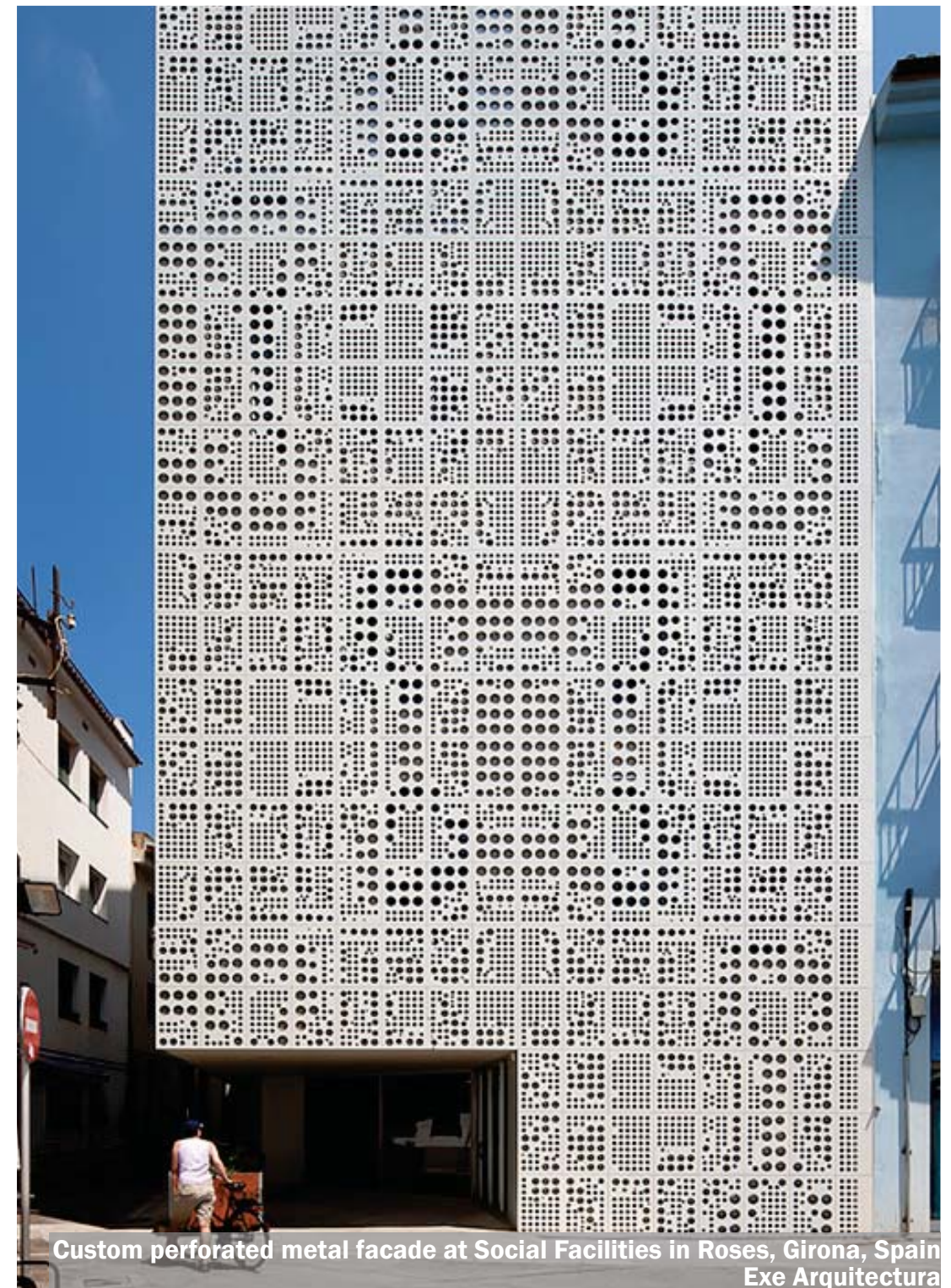
Seal script could be used in custom perforated metal panels to create a patterned and textured façade, that can literally tell a story to those who can decipher it.



Calligraphy by Shu Yi Liu  
Oakland Asian Cultural Center

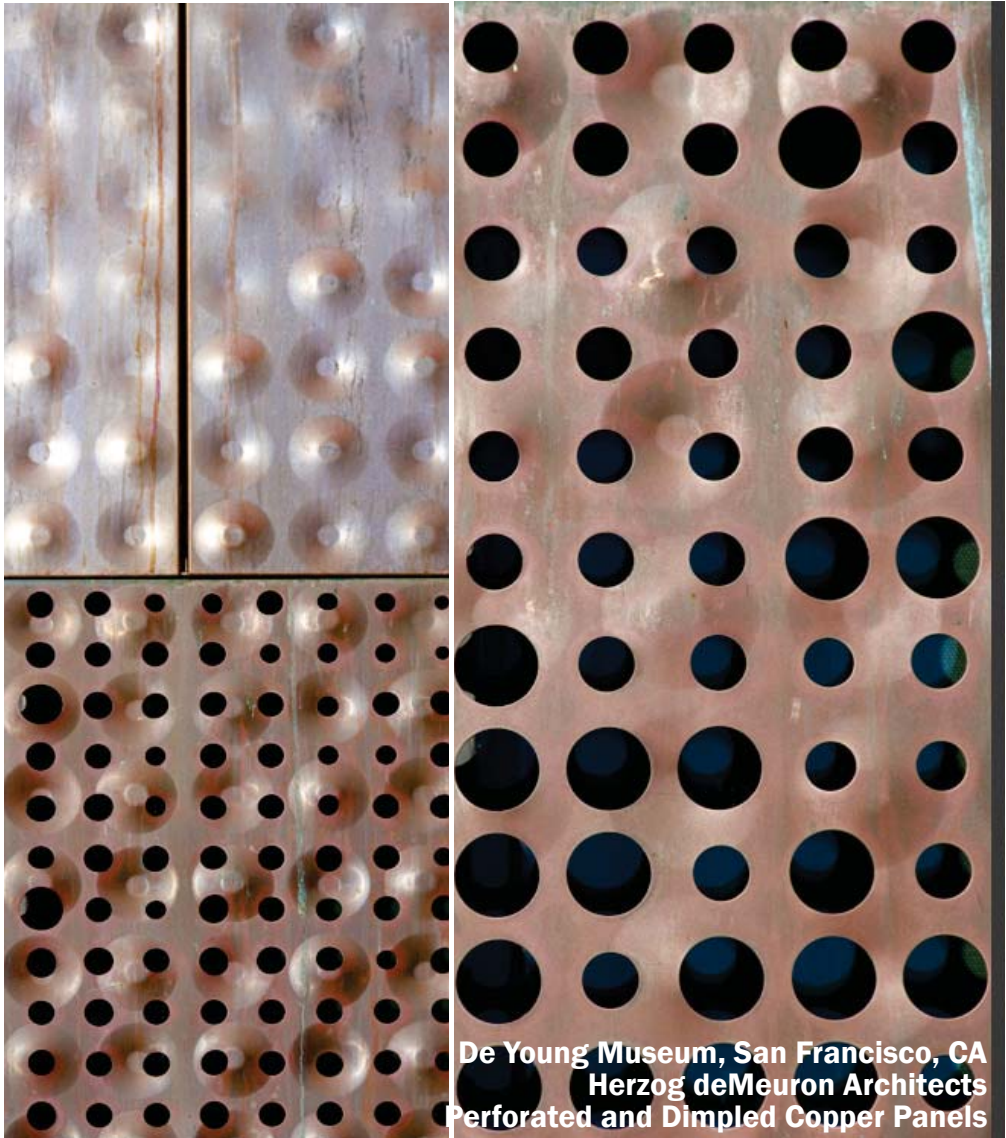


Traditional Seals and Zodiac  
Signs in Seal Script

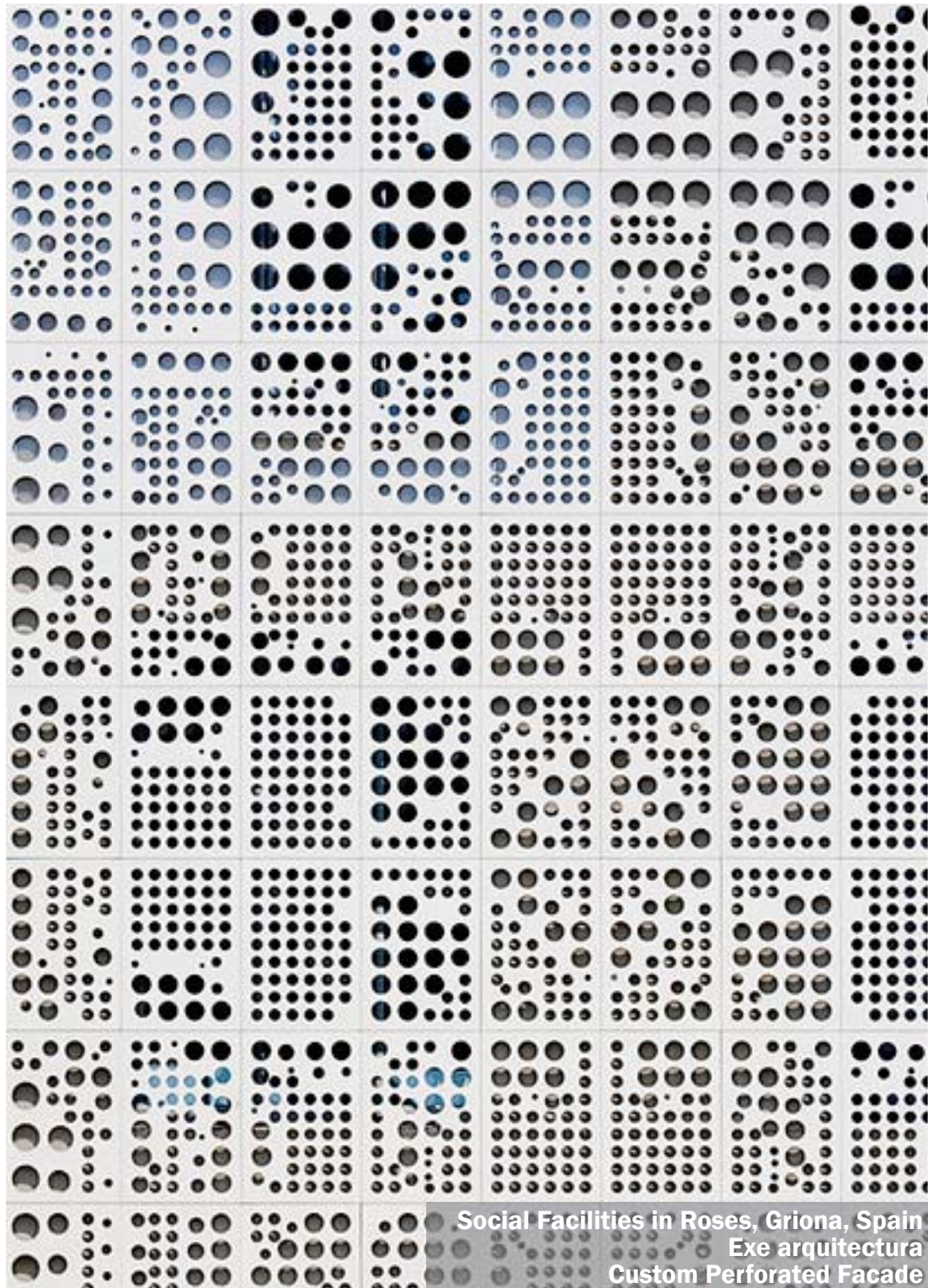


Custom perforated metal facade at Social Facilities in Roses, Girona, Spain  
Exe Arquitectura

MATERIAL INSPIRATION: CALLIGRAPHY \* TEXTURE - PERFORATED METAL



De Young Museum, San Francisco, CA  
Herzog deMeuron Architects  
Perforated and Dimpled Copper Panels



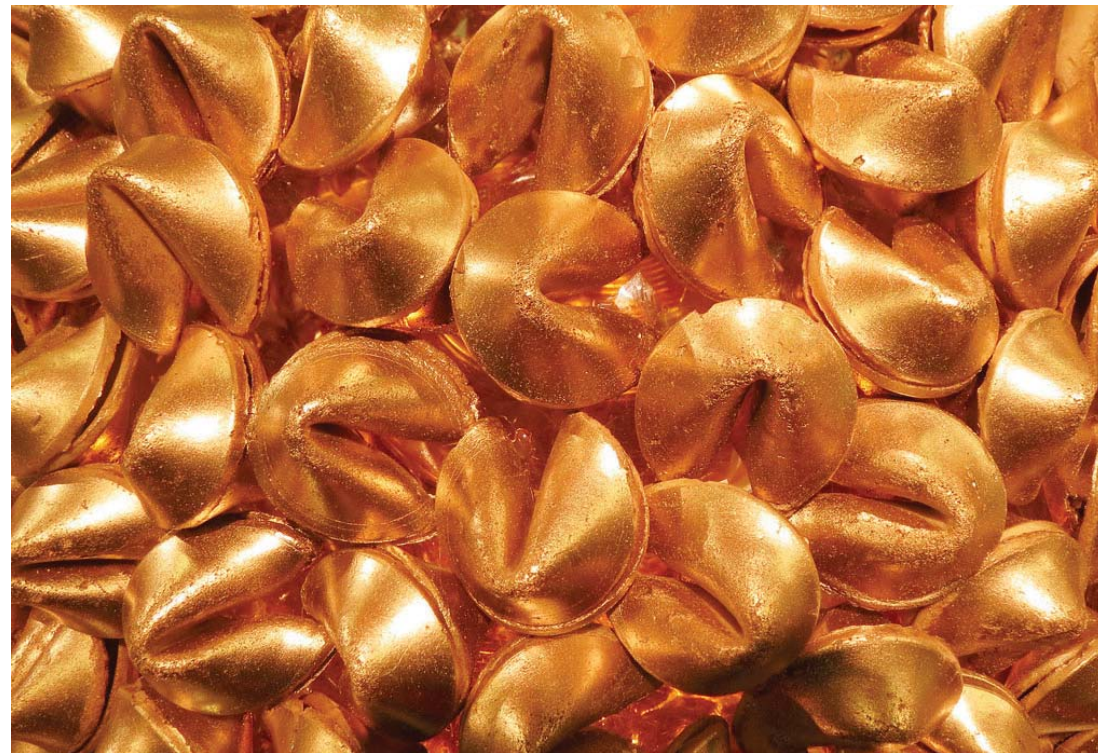
Social Facilities in Roses, Girona, Spain  
Exe arquitectura  
Custom Perforated Facade

**INSPIRATION: FOLDING**

Folding is a strategy that can be used to facet the building's exterior, thus making it appear less massive. This strategy can be used with a variety of building materials. There are several cultural references that can be evoked in relation to "folding":

Fortune cookies appeared in the United States in the 1900s. This was not a tradition imported from China. The cookie's origin is believed to be Japanese, yet it has become synonymous with Chinese American cuisine. Fortune Cookie Factories in Oakland Chinatown include:

- Fortune Cookie Factory, 261 12th St
- Kar Mee, 221 7th St (closed)
- Tom's Bakery Fortune Cookies, 295 9th St
- Inventor of Fortune Cookie Folding Machine: Oakland resident Shuck Yee, 1973

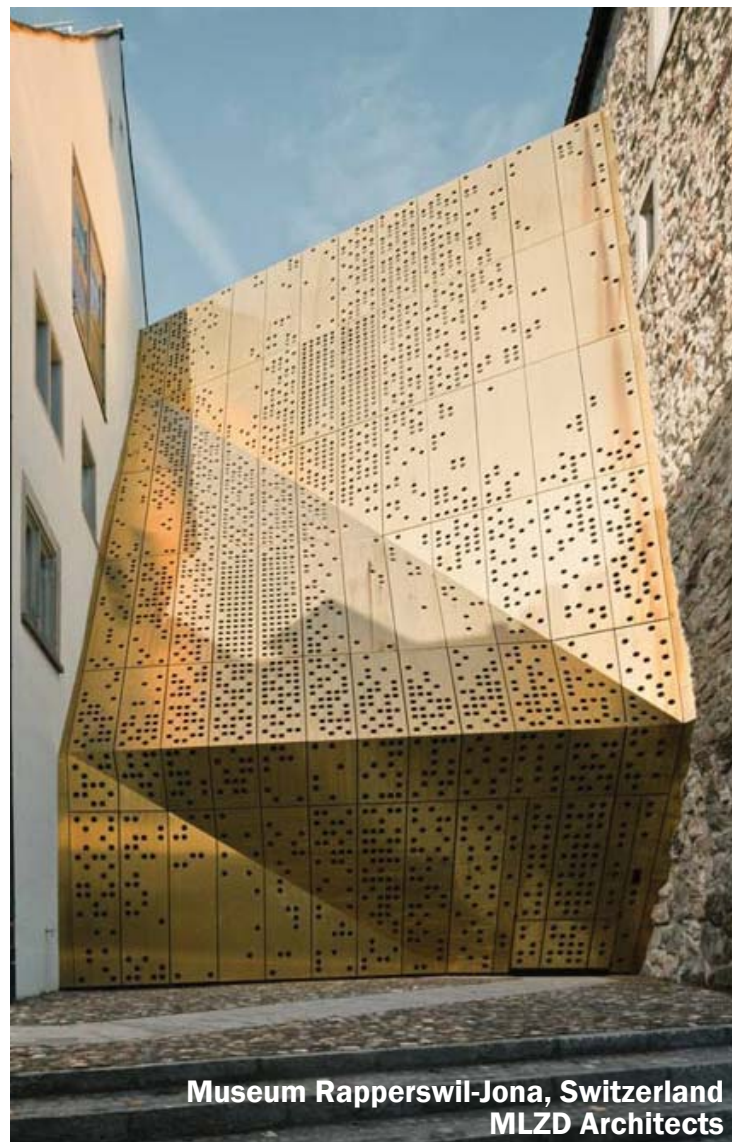


Chinatown's population includes immigrants from various Asian communities. One Japanese American tradition that is practiced in the community is origami paper folding (i.e. origami classes are taught at the Oakland Asian Cultural Center).

Folded Paper Flowers: CACA (Chinese American Citizens Alliance) was selling paper flowers for support of China during WWII, which speaks to the fact that paper folding was also part of the Chinese community.



INSPIRATION: FOLDING & FACETS - METAL

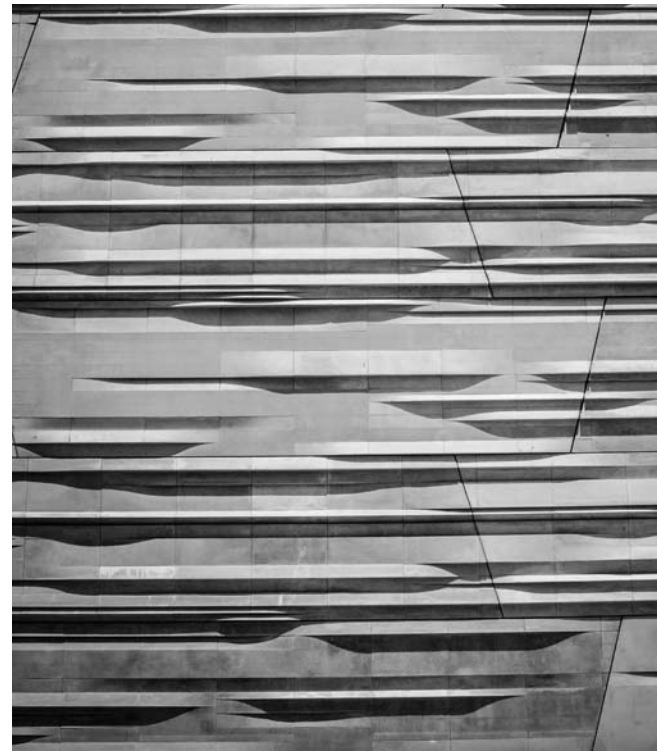


Museum Rapperswil-Jona, Switzerland  
MLZD Architects



Dalian International Conference Center, Dalian, China  
Coop Himmelblau

INSPIRATION: FOLDING & FACETS - PRECAST CONCRETE



Perot Museum of Nature and Science, Dallas, TX  
Morphosis Architects



Sun Devel Energy Center at Arizona State University, Tempe AZ  
Machado and Silvetti Associates

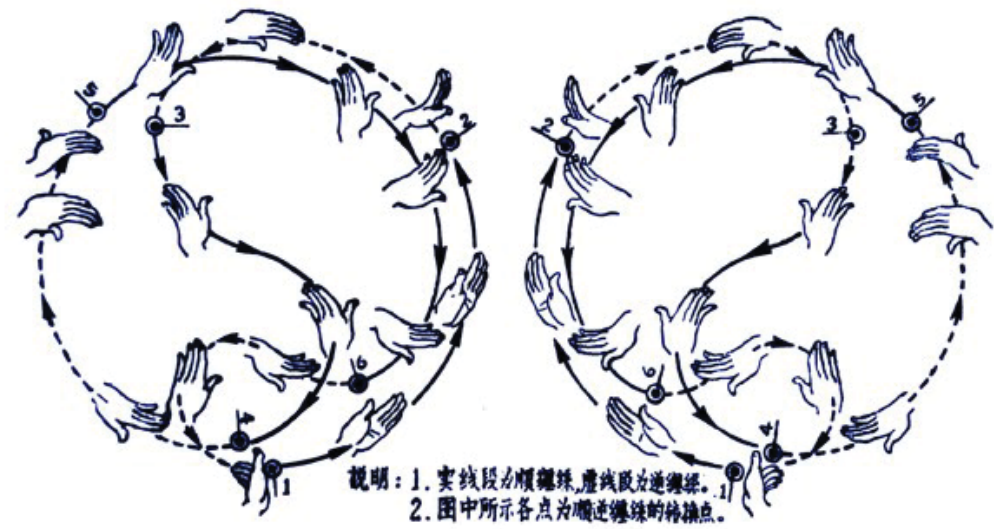
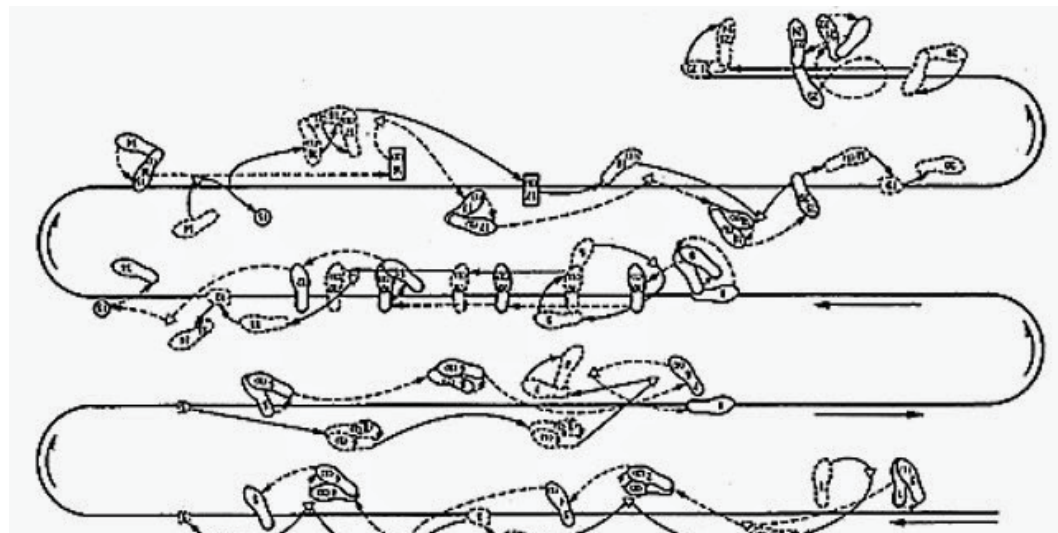


**ADDITIONAL INSPIRATIONS**

Several other topics emerged in site research as potential inspirations to be referenced in plaza or building elements. Among these were T'ai Chi, and the story of Oakland's aviation pioneer Fung Yue.

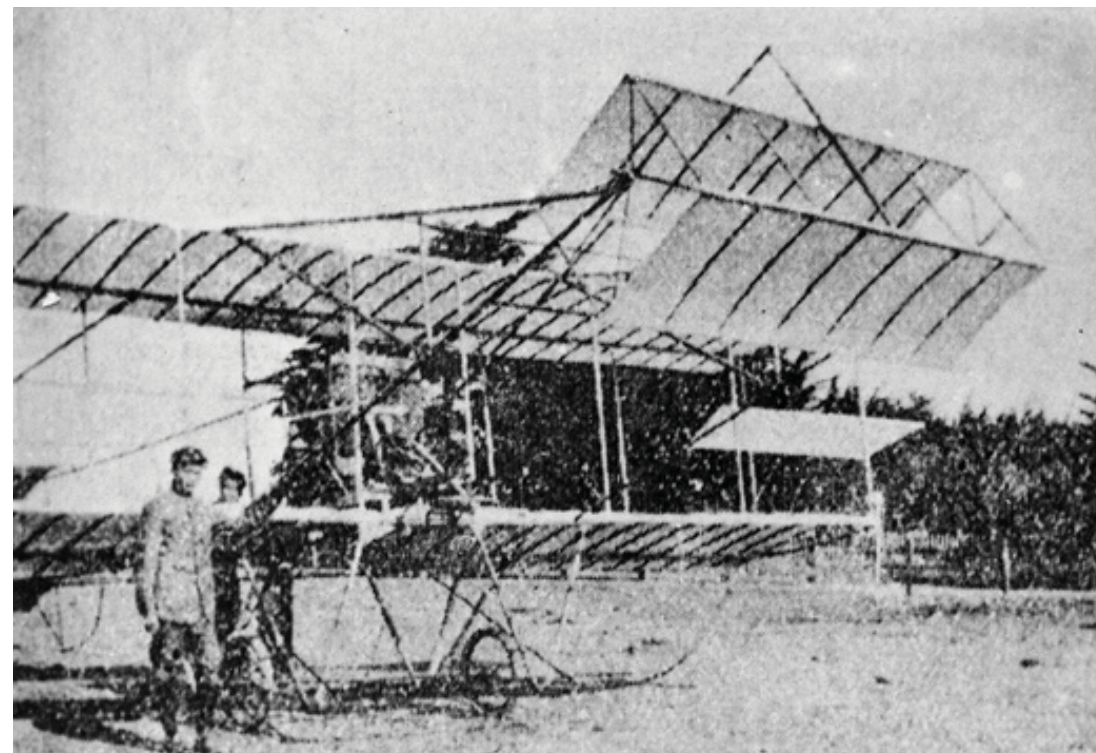
T'ai Chi:

- T'ai Chi is a movement form practiced by many community members at Madison Park as well as the BART Plaza.
- T'ai Chi is a pivotal, spiraling, or coiling force that transforms the neutrality of wuji (ultimate; boundless; infinite) to a state of polarity depicted by the taijitu (diagram of "supreme ultimate").



Fung Yue - aviation pioneer:

- 1906 opened an airplane manufacturing shop "Guangdong Air Vehicle Company" at 359 E 9th St
- First flight on the West Coast (take off from Laney College field) 09/22/1909
- Moved back to China in 1911 and became the "Father of Chinese Aviation"





# 4 APPENDIX A - COMMUNITY OUTREACH

The conceptual design process consisted of community engagement through a series of three Working Group meetings, a stakeholder meeting at Lincoln Recreation Center, and a community open house. The Working Group (WG) consisted of approximately 15-25 stakeholders representing local businesses, community groups, institutions, and public agencies, including:

- The City of Oakland,
- Asian Health Services
- East Bay Local Development Corporation (EBALDC)
- Laney College
- Oakland Museum of California
- Asian Pacific Environmental Network (APEN)
- Chinatown Chamber of Commerce
- Tai Chi users
- Bike East Bay
- Chinatown Improvement Initiative
- Transform
- Jack London District Association

The role of the Working Group was to provide critical input throughout the process.

## **WORKING GROUP 1      02.15.2017**

The first WG meeting allowed BART, the design team, and the WG to have a discussion about the site, and for the team to listen to the stakeholders and gain a better understanding of their hopes and concerns about the TOF and plaza location. The WG provided valuable insight and recommendations. A site walk was included as part of this meeting. The group provided feedback summarized as:

- Catalyze & Activate
- Connect & Integrate
- Safe & Welcoming

Questions for the community to make the space a place:

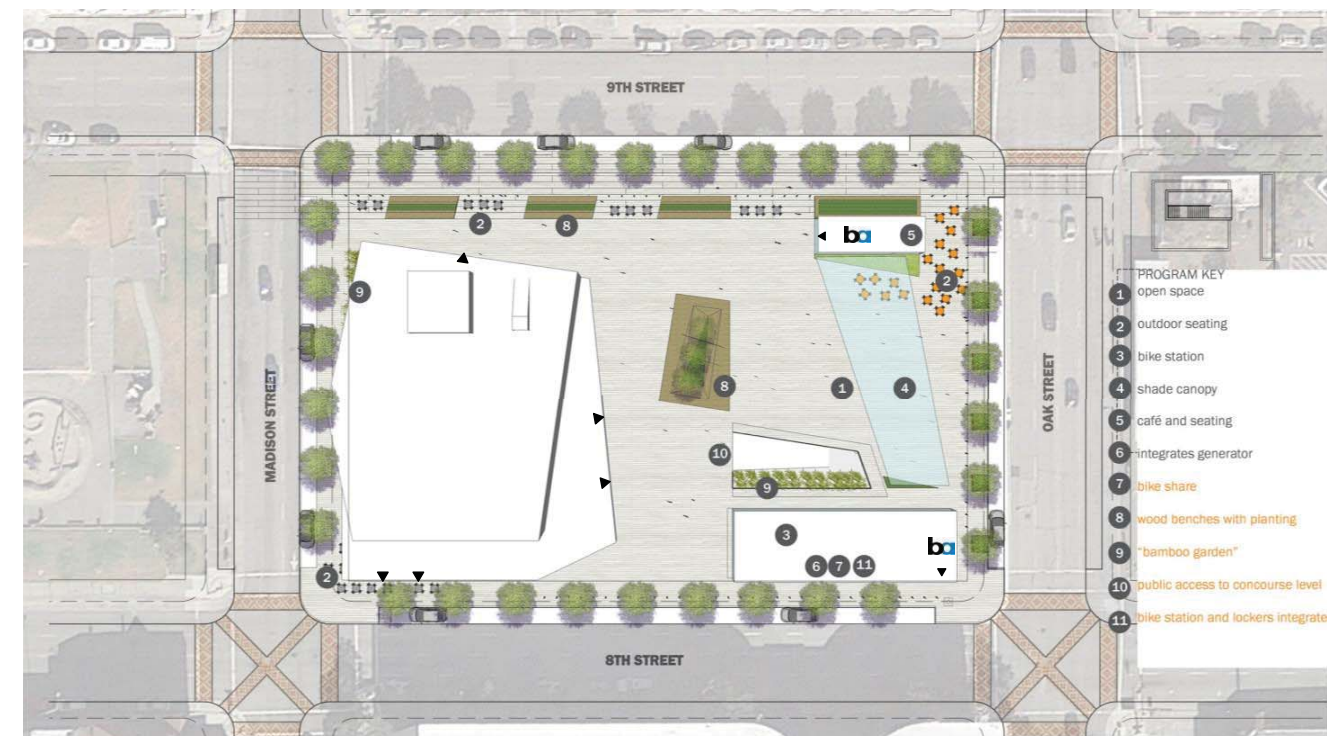
- 1** What is your personal relationship to the site, i.e. do you live near or use the Bart station, do you use the plaza for activities?
- 2** For how long have you lived or worked here?
- 3** What is your favorite location in the neighborhood and why?
- 4** What is something that no outsider knows about your neighborhood, but that is special to you about your neighborhood?
- 5** What are the stories you would like to tell about this place?
- 6** What other places or features of other places are you drawn to or are memorable?
- 7** What concerns do you have? What do we need to be sure to address?

WORKING GROUP 1 PLACEMAKING  
QUESTIONNAIRE

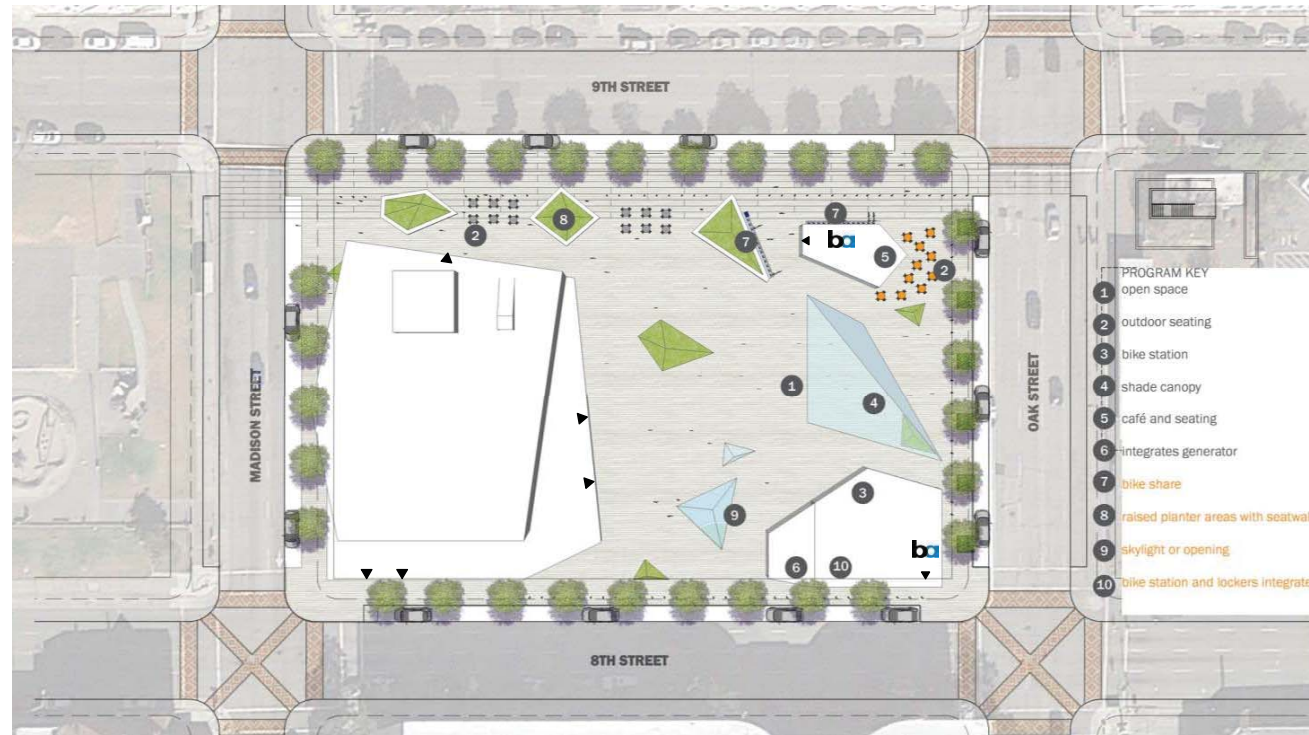
**WORKING GROUP 2      03.27.2017**

The Design Team shared 3 plaza concepts as well as a massing study of the TOF. The WG provided feedback on the three design concepts which narrowed down the designs to two preferred options that were then refined based on WG comments for the Community Open House.

**CONCEPT 1**

**CONCEPT 2**


**CONCEPT 3**



**WORKING GROUP 2 CONCEPT MATRIX**

Element	1 - Surface	2 - Rooms	3 - Folds	4 - Open Circle
Pedestrian Connection	Plaza emphasis	9 <sup>th</sup> St emphasis	9 <sup>th</sup> St emphasis	Diagonal
Fountain Treatment	Closed with glass paving	Partial Open with Stair	Closed with Skylight	Open with spiral stair
Design theme	Triangular	Rectangular	Pyramid	Oval
Large Open Plaza Area Size / Total plaza Area	11,000 sf	9,000 sf	9,000 sf	10,000 sf
Café spaces/ outdoor seating	Café at 9 <sup>th</sup> & oak oriented towards plaza	Café at 9 <sup>th</sup> & oak oriented towards Oak street	Café at 9 <sup>th</sup> & oak oriented towards Oak street	Café at 9 <sup>th</sup> & oak oriented towards plaza
Bike Station Location	Next to café at the corner of 9 <sup>th</sup> and Oak	Integrated with head house along 8 <sup>th</sup> street	Integrated with head house along 8 <sup>th</sup> street	Next to café at the corner of 9 <sup>th</sup> and Oak
Shade Element	Shade from plaza trees and canopy on east side	Shade from canopy on east side	Shade from canopy on east side	Shade from canopy on east side
Primary Seating	Café chairs & benches with low planting	Café chairs & wood platform benches	Café chairs and concrete seatwalls	Café chairs & benches with low planting

**COMMUNITY OPEN HOUSE 05.10.2017**

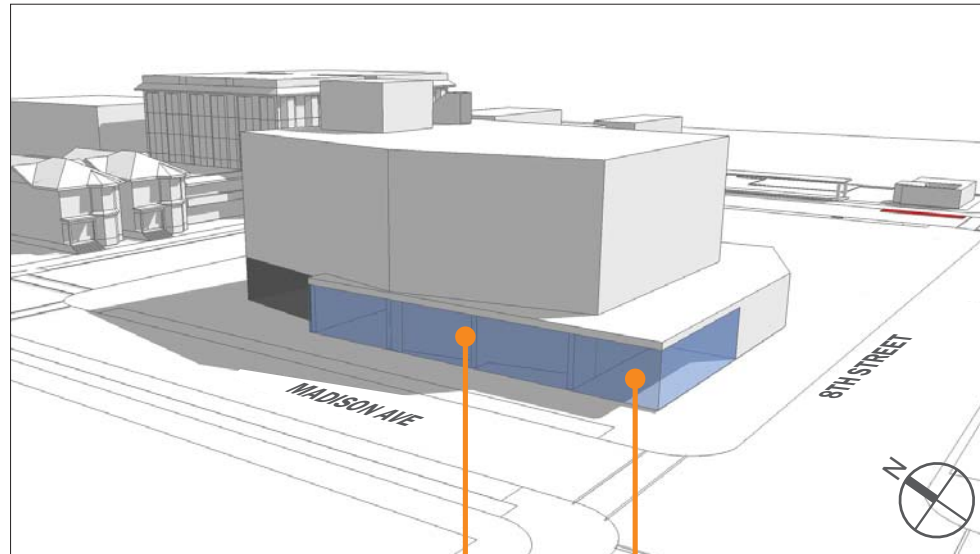
The Community Open House was held at the Metro Center Auditorium at 101 8th St, in Oakland. The purpose of this meeting was to introduce the new Transit Operations Facility and Plaza Redesign project to the public, share two concept alternatives for the Lake Merritt Plaza, and secure their feedback on the project via the use of survey handouts. The Open House was noticed via flyers, email, and BART's website.

Several Stations were setup with design team and BART staff available to discuss and answer questions. The community was encouraged to move around the stations and then fill out their surveys for submittal. Surveys were submitted as hard copies and also online via the BART website and Survey Monkey. The result of the surveys was compiled into a summary report. The community feedback supported one of the concepts for further advancement. Overall 98 people signed in at the meeting and 90 people submitted a hand-written survey form. Subsequent to the May 10 meeting we received an additional 48 survey forms online for a total of 138 completed surveys. Individual surveys were submitted in 3 languages from the community.



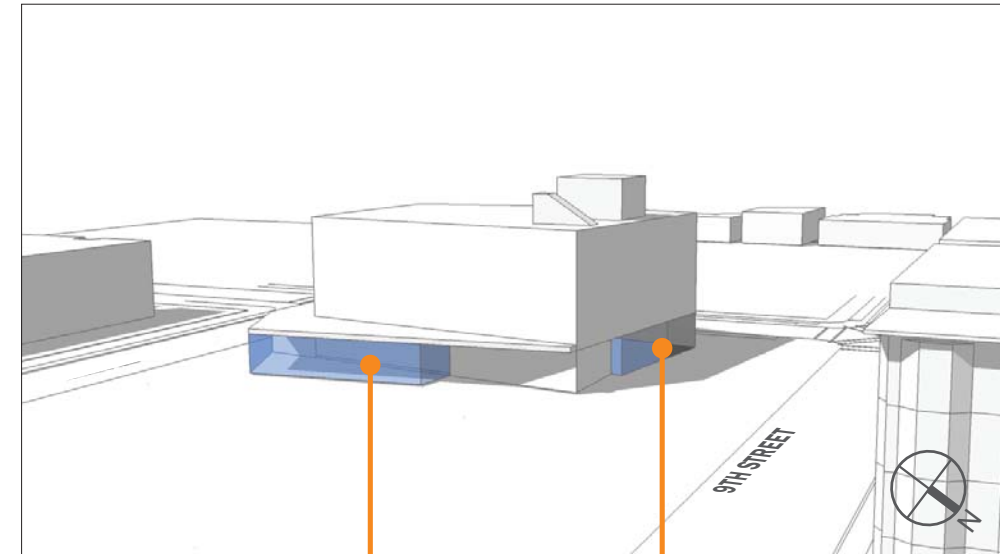
Community Open House in progress

TRANSIT OPERATIONS FACILITY  
 CONCEPT MASSING PRESENTED AT  
 THE COMMUNITY OPEN HOUSE



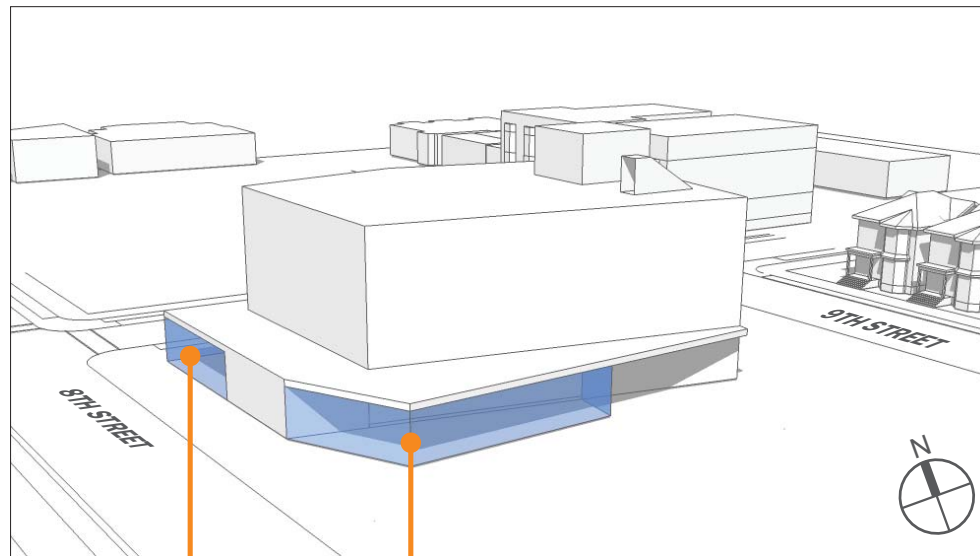
**TRANSIT OPERATIONS FACILITY**  
 交通營運設施

**RETAIL AT CORNER**  
 (e.g., cafe, coffee shop)  
 角落零售商店  
 (如咖啡店)



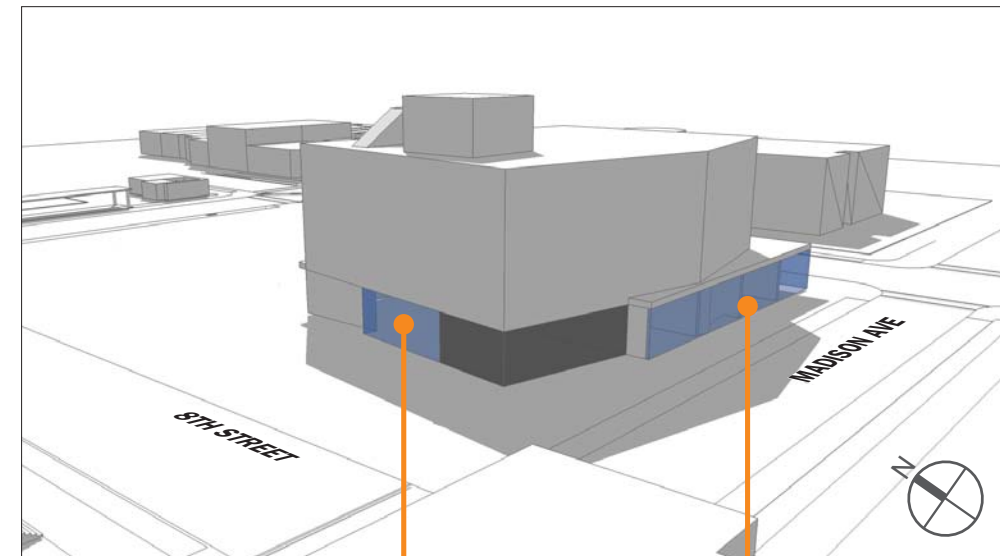
**LEASABLE COMMUNITY SPACE**  
 可租賃社區空間

**POTENTIAL RETAIL KIOSK**  
 可能設販賣機



**LEASABLE COMMUNITY SPACE**  
 可租賃社區空間

**RETAIL AT CORNER** (e.g., cafe, coffee shop)  
 角落零售商店 (如咖啡店)



**POTENTIAL RETAIL KIOSK**  
 可能設販賣機

**TRANSIT OPERATION FACILITY**  
 交通營運設施

Concept 1 celebrates Lake Merritt Plaza as a critical transportation node by recognizing the underground BART line on the plaza surface. This diagonal spine organizes the plaza into 2 spaces: A large open plaza, and a smaller, more intimate area for sitting and socializing. The spine emphasizes the pedestrian connection from the corner of Madison and 9th Street through the core of the plaza. The existing plaza fountain opening is closed to maximize plaza space with skylights allowing natural light into the station.

PROGRAM KEY 計劃代號

- 1 streetscape improvements include widened sidewalks, pedestrian bulb-outs, and new street trees  
街景改善部分包括人行道拓寬、增設半球形路邊延伸，以及新種路樹
- 2 special crosswalk treatment at all four intersections  
四個十字路口都會做特別的斑馬線處理
- 3 activated streetscape with benches on both sides of Madison St.  
在 Madison St 兩側用長凳活化街景
- 4 bike station  
單車站
- 5 bike lockers beneath canopy  
單車寄放櫃附頂篷
- 6 bike share parking  
公用單車停車處
- 7 back up generator  
備用發電機
- 8 open plaza space 12,000 sq. ft.  
開放廣場空間 12,000 平方呎
- 9 shade structure  
遮蔭設施
- 10 movable seating  
可移動式座椅
- 11 kiosk / storage  
販賣機 / 儲物櫃
- 12 low planting areas with seatwalls  
設有可坐式矮牆的低密度植栽區
- 13 special paving throughout plaza with emphasis on BART line running below plaza level  
整個廣場都將特別鋪設地面，以強調穿過廣場下方的 BART 軌道路線
- 14 sunken courtyard is enclosed; glass paving allows light to below  
下凹式中庭廣場四周封圍；地面鋪設玻璃讓光能向下照射
- 15 tree planters with bench seating  
花壇附長凳
- 16 game tables  
桌遊區

BART 美麗湖廣場  
BART LAKE MERRITT PLAZA

NARRATIVE

Concept 1 celebrates Lake Merritt Plaza as a critical transportation node by recognizing the underground BART line on the plaza surface. This diagonal spine organizes the plaza into 2 spaces: A large open plaza, and a smaller, more intimate area for sitting and socializing. The spine emphasizes the pedestrian connection from the corner of Madison and 9th Street through the core of the plaza. The existing plaza fountain opening is closed to maximize plaza space with skylights allowing natural light into the station.

說明

概念 1 藉由在廣場地面上識別 BART 的地下軌道路線，彰顯美麗湖廣場作為一個關鍵交通樞紐的地位。這條對角線骨幹將廣場規劃為 2 個空間：一片大型開放式廣場，和一片較小而舒適的座位和社交空間。這條骨幹強調從 Madison 交 9 街處通達至廣場中心的人行道。現有的廣場噴泉將會關閉，以便擴大廣場上的天窗面積，讓自然光能照進車站。



概念 1 計劃  
CONCEPT 1 PLAN

year 2017 month 05 day 10





Concept 2 explores the idea of rooms and experiences inspired by traditional Chinese gardens. This concept uses planters as furniture to organize the plaza space into distinct areas: a large open plaza, several smaller plaza spaces, and a renovated concourse level with public access from the surface. This Concept emphasizes a strong pedestrian promenade along 9th Street. The furniture is also laid out to frame this promenade.

PROGRAM KEY 計劃代號

- 1 streetscape improvements include widened sidewalks, pedestrian bulb-outs, and new street trees  
街景改善部分包括人行道拓寬、增設半球形路邊延伸，以及新種路樹
- 2 special crosswalk treatment at all four intersections  
四個十字路口都會做特別的斑馬線處理
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在 Madison St 兩側用長凳活化街景
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- 5 bike lockers beneath canopy  
單車存放櫃附頂篷
- 6 bike share parking beneath canopy  
公用單車停車處附頂篷
- 7 back up generator  
備用發電機
- 8 open plaza space - 13,500 sq. ft.  
開放廣場空間 - 13,500 平方呎
- 9 shade structure  
遮蔭設施
- 10 movable seating  
可移動式座椅
- 11 kiosk / storage  
販賣機 / 儲物櫃
- 12 seat platforms with planting  
平台座椅與植栽
- 13 special paving throughout plaza with emphasis on 9th Street promenade  
整個廣場都將特別鋪設地面，以強調 9 街上的人行散步道
- 14 public access to BART station through sunken courtyard  
公眾可經由下凹式中庭廣場出入 BART 車站
- 15 concourse level garden  
大廳層花園

BART 美麗湖廣場  
BART LAKE MERRITT PLAZA

NARRATIVE

Concept 2 explores the idea of rooms and experiences inspired by traditional Chinese gardens. This concept uses planters as furniture to organize the plaza space into distinct areas: a large open plaza, several smaller plaza spaces, and a renovated concourse level with public access from the surface. This Concept emphasizes a strong pedestrian promenade along 9th Street. The furniture is also laid out to frame this promenade.

說明

概念 2 以傳統中式花園為靈感，探索不同房間和體驗的構思。這個概念採用花壇作為家具，將廣場空間規劃成各有特色的區域：一個大型開放式廣場、幾個較小的廣場空間，以及一個全新翻修、可讓公眾從地面出入的大廳。此概念強調 9 街沿路的人行散步道。家具的排列也會框架出這條散步道範圍。



概念 2 計劃  
CONCEPT 2 PLAN

year 2017 month 05 day 10



Key findings from the results of the community survey were:

- A preference for Concept 1 in terms of overall design, concept idea, and spatial layout. The single exception was the preference for the larger shade canopy shown in concept 2.
- Preferred plaza features that rose to the top included: 1. Improved Streetscape; 2. Large Open Plaza; 3. Places to sit / gather / meet; and 4. Green Landscaping.
- Recurring comments related to additional ideas and suggestions for the project included:
  - Provide adequate community space including active uses/retail, a restroom and space for tai chi, community events, activities, and performance (Program & Amenities)
  - Need for safety – including recommendations for a police station, improved lighting, clear visual paths, and addressing concerns related to homelessness (Safety)
  - Emphasize and recognize cultural significance of the site, including several recommendations to rename Station to Oakland Chinatown Station (Identity & Way finding)
  - Improving connections and circulation, making better connections to Madison Park and Chinatown, and improving the station drop-off areas
- Recurring themes related to concerns with this site or potential impacts as a result of this project included:
  - Need a restroom
  - Issues with building creating visual and physical barrier between the plaza and Madison Park/Chinatown core (Circulation & Access)
  - Connection to Madison Park and surroundings (Connectivity)
  - Final design/look and feel of the TOF building

**LET US KNOW WHAT YOU THINK!**

BART is starting work on a new Transit Operations Facility and redesign of the Lake Merritt Plaza to support improved & expanded BART operations and create an enhanced multimodal transportation hub and transit plaza. We'd like your feedback on the following questions to ensure the plaza better serves the neighborhood.



**CONCEPT 1**                      **CONCEPT 2**

Compare the two concepts and let us know which you prefer (check one in each row):

	Concept 1	or	Concept 2		
1.	<input type="radio"/> Emphasize diagonal pedestrian connection through transit plaza, reflecting BART tracks		<input type="radio"/> Emphasize pedestrian connection along 9th Street		
2.	<input type="radio"/> Fully cover the sunken courtyard to create a larger plaza, using glass paving to allow natural light into station		<input type="radio"/> Keep the sunken courtyard partially open to add access from plaza to BART Station concourse and allow light below		
3.	<input type="radio"/> Kiosk or cafe seating at 9th & Oak oriented toward plaza		<input type="radio"/> Kiosk or cafe seating at 9th & Oak oriented toward street		
4.	<input type="radio"/> Smaller shade structure		<input type="radio"/> Larger shade structure		
5.	<input type="radio"/> Seating with larger, low planting areas frame smaller gathering spaces within plaza		<input type="radio"/> Seating with smaller, integrated planters located throughout a more open plaza		
6.	Overall, which plan option do you prefer (check one)?				
	<input type="radio"/> Concept 1		<input type="radio"/> Concept 2 <input type="radio"/> No preference		
7.	Which of the following plaza features are most important to you? On a scale of 1 - 5 where 1 is "not important" and 5 is "extremely important", please rate how important each of the following is to you:				
	1 (not important)	2	3	4	5 (extremely important)
Large open plaza areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Places to sit / gather / meet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shade Canopy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spaces for retail, cafes or kiosks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved streetscape - wider sidewalks, lighting, trees, wayfinding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Green landscaping (plantings, trees)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bike Station	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bike Lockers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Please share any other ideas or suggestions for this project: \_\_\_\_\_
9. The Lake Merritt plaza is BART's preferred site alternative for the Transit Operations Facility. What impacts might this project have on you? What concerns, if any, do you have with this site?: \_\_\_\_\_
10. Would you like to receive email updates about this project?  
 Yes - Email: \_\_\_\_\_       No

**PLEASE TELL US ABOUT YOURSELF**  
 (your answers will help us evaluate how well we are reaching all the communities we serve).

11. Do you live or work within walking distance of Lake Merritt BART Station?  
 Yes, I live within walking distance of Lake Merritt BART Station       No  
 Yes, I work within walking distance of Lake Merritt BART Station
12. How often do you use the Lake Merritt BART Station?  
 6 to 7 days a week       2 to 3 days a week       A few days a month       Once a year or less  
 4 to 5 days a week       Once a week       A few days a year
13. What is your gender?  
 Male       Female       Another gender: \_\_\_\_\_
14. How old are you?  
 17 or younger       25 - 34       45 - 54       65 and older  
 18 - 24       35 - 44       55 - 64
15. Are you of Hispanic, Latino or Spanish origin?  
 No       Yes
16. What is your race or ethnic identification? Select all that apply. (Categories based on US Census.)  
 White       Black/African American       Other (specify): \_\_\_\_\_  
 Asian or Pacific Islander       American Indian or Alaska Native
17. Do you speak a language other than English at home?  
 No       Yes - Language: \_\_\_\_\_
18. If "Yes" to Question 17, how well do you speak English?  
 Very Well       Well       Not well       Not at all
19. What is your total annual household income before taxes?  
 Under \$25,000       \$35,000 - \$39,999       \$50,000 - \$59,999       \$75,000 - \$99,999  
 \$25,000 - \$34,999       \$40,000 - \$49,999       \$60,000 - \$74,999       \$100,000 and over
20. Including yourself, how many people live in your household?  
 1       2       3       4       5       6 or more
21. Do you own a smart phone?  
 No       Yes

**WORKING GROUP 3**

**09.21.2017**

The Design team summarized the highlights from the Community Open House and presented a refined version of a single preferred concept plan that was selected by the community and presented initial concepts related to the TOF building facade. An additional minor alternative concept was also developed to carry forward. The WG provided comments and suggestions on the concepts.

**PROGRAM KEY**

- 1 Enhanced streetscape improvements include widened sidewalks, special pavers, and new street trees
- 2 special crosswalk treatment at all four intersections
- 3 activated streetscape with benches on both sides of Madison St.
- 4 bike station
- 5 bike lockers beneath canopy
- 6 bike share parking
- 7 back up generator
- 8 open plaza space 21,000 sq. ft.
- 9 shade structure
- 10 movable seating
- 11 kiosk / cafe
- 12 low planting areas with seatwalls
- 13 special paving throughout plaza with emphasis on BART line running below plaza level
- 14 sunken courtyard is enclosed; glass paving allows light to below
- 15 game tables w/ possible shade element
- 16 bus bench

**NARRATIVE**

Concept 1 celebrates Lake Merritt Plaza as a critical transportation node by recognizing the underground BART line on the plaza surface. This diagonal spine organizes the plaza into 2 spaces: A large open plaza, and a smaller, more intimate area for sitting and socializing. The spine emphasizes the pedestrian connection from the corner of Madison and 9th Street through the core of the plaza. The existing plaza fountain opening is closed to maximize plaza space with skylights allowing natural light into the station.



**BART LAKE MERRITT PLAZA**

**CONCEPT 1A PLAN**

SEP 2017    NOV 09    DEC 21

**ba merge rhaa**  
conceptual design

PROGRAM KEY

- 1 Enhanced streetscape improvements include widened sidewalks, special pavers, and new street trees
- 2 special crosswalk treatment at all four intersections
- 3 activated streetscape with benches on both sides of Madison St.
- 4 bike station
- 5 bike lockers beneath canopy
- 6 bike share parking
- 7 back up generator
- 8 open plaza space 20,100 sq. ft.
- 9 shade structure
- 10 movable seating
- 11 kiosk / cafe
- 12 low planting areas with seatwalls
- 13 special paving throughout plaza with emphasis on BART line running below plaza level
- 14 sunken courtyard is partially enclosed with stairs allowing public access; glass paving allows natural light to the concourse level
- 15 stairs to access sunken courtyard below
- 16 game tables w/ possible shade element
- 17 bus bench



BART LAKE MERRITT PLAZA

CONCEPT 1B PLAN

2017 09 21



Massing precedent images

# 5 APPENDIX B - DETAILS (MATERIALS AND PLANTING)

## MATERIALS

- Concrete pavers are shown conceptually as large format rectangular dimensions. This should be selected with the plaza grading in mind, as well as the available structural section depth over the roof slab. The concept patterns and direction will need to be coordinated with various plaza elements including the special light design that runs diagonally across the plaza, as well as the glass pavers over the concourse level. The structural section will also need to consider potential maintenance or service vehicle loads on the plaza.
- The wood decking shown in the “living rooms” areas and for site benches, are intended to be high density exotic hardwoods. The use of hardwoods has had great success in public spaces due to their low maintenance properties and well as their ability to resist vandalism, either carving or marking. The value of a warm wood material is critical to the design of this project; however, this will need further study and discussion with BART regarding maintenance. Some information regarding wood options are included here.

### Ipe

- Parent wood: There are several species including trees with the genus *Tabebuia* and *Handroanthus impetiginosus*, both native to Central and South America.
- Untreated wood will age to a grey patina.

#### PROS

- Low maintenance without the need for staining if allowed to weather naturally
- Extremely dense – density discourages carving vandalism, resistant to rot and insect damage
- Does not absorb liquids well and therefore more difficult to markup

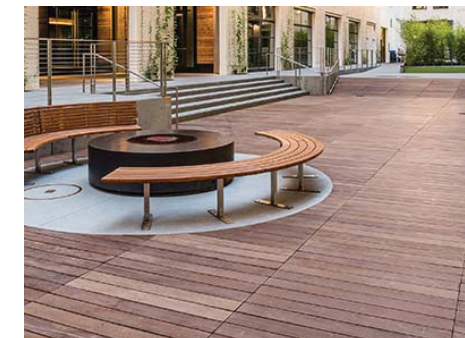
#### CONS

- Questions regarding verifiable FSC sourcing
- More labor intensive for custom wood working

#### Precedents



Airbnb Headquarters, San Francisco (Decking)



Market Commons, San Francisco (Decking)

#### Sources/Products

1. Deck San Francisco – Decking, lumbers, and siding (562-205-1872 <http://www.decksanfrancisco.com>)
  - a. Carry both FSC and non-FSC. FSC wood price is 30% more.
2. Economy Lumber Company – Decking only (510-261-6100 <https://www.economylumberco.com/>)
  - a. Located in Oakland.
3. Beronio Lumber – Decking (415-824-4300 <https://www.beronio.com/>)
  - a. Located in SF.



### Thermory (Thermally Modified Wood)

- The wood is treated to approximate 400°F with heat and steam (no chemicals). It adjusts the wood's cell structure.
- Parent wood: White ash (*Fraxinus Americana*)
- Untreated wood will age to a grey patina.

#### PROS

- Chemical-free thermal modified process
- Sourced from well-managed American and European forests; no rainforest wood
- Excellent dimensional stability
- In use for over 17 years

#### CONS

- Lack of precedents
- A very popular material in Europe with limited applications in the US.

#### Precedents



Memorial of the Battle of Puebla, Mexico



Sydhavnen School, Denmark

#### Sources/Products

4. Thermory – Decking, Cladding, Flooring (847-256-8828; [www.ThermoryUSA.com](http://www.ThermoryUSA.com))
  - a. Not FSC certified
  - b. Processed in Estonia
  - c. Company has been around the longest
5. EcoVantage <http://www.ecovantagewood.com/>
  - a. Located in Michigan
6. Arbor Wood Company <http://arborwoodco.com/#home-1>
  - a. Located in Minnesota



### Reclaimed Teak

- FSC Recycled 100% Teak salvaged from 100-300 year old structures in Indonesia
- Refined without any VOC or leeching glues
- Untreated wood will age to a grey/silver patina after 6 month

#### PROS

- Environmental benefits
- Has a positive story
- Extremely water resistant
- Requires little maintenance
- Easy to machine
- Holds shape very well

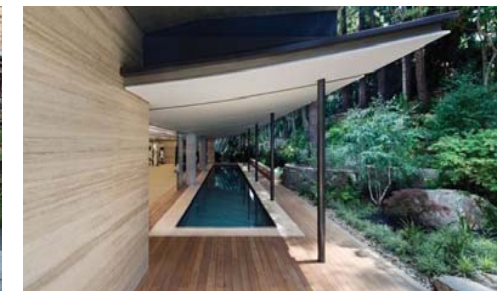
#### CONS

- Limited availability on larger sizes
- Defects in boards are replaced with glued in plugs
- More expensive than FSC Certified IPE
- Treated wood requires regular maintenance
- Color can be variable due to light sensitive pigment
- Lack of outdoor precedents. Seems to be mainly used for high end interior projects.

#### Precedents



NYC Highline, (finish not maintained)











Unknown



#### Sources/Products

IndoTeak Design  
<http://www.indoteakdesign.com/>

Local rep  
Matt Long (mat.long@longevityap.com)  
<http://longevityap.com/index.php>

Attributes	BLACK LOCUST	ACCOYA	KEBONY	THERMORY	JARRAH	IPE	ACETYLATED RED ALDER	RECLAIMED TEAK
<b>Durability/Mechanical Properties</b>	<ul style="list-style-type: none"> <li>1700 (hardness)</li> <li>Inconsistent performance</li> </ul>	<ul style="list-style-type: none"> <li>1484 (hardness)</li> <li>Good dimensional stability</li> </ul>	<ul style="list-style-type: none"> <li>1708 (hardness)</li> <li>Good dimensional stability</li> </ul>	<ul style="list-style-type: none"> <li>1320 (hardness)</li> <li>Good dimensional stability</li> </ul>	<ul style="list-style-type: none"> <li>1850 (hardness)</li> <li>Good dimensional stability</li> </ul>	<ul style="list-style-type: none"> <li>3684 (hardness)</li> <li>Superior properties</li> </ul>	<ul style="list-style-type: none"> <li>590 (hardness)</li> <li>Properties not available</li> </ul>	<ul style="list-style-type: none"> <li>1,070 (hardness)</li> <li>Good dimensional stability</li> </ul>
<b>Aesthetics/Look</b>								
<b>Availability/Sourcing</b>	<ul style="list-style-type: none"> <li>Difficult to source</li> <li>Variation in quality</li> </ul>	<ul style="list-style-type: none"> <li>Commercially available</li> </ul>	<ul style="list-style-type: none"> <li>Commercially available</li> </ul>	<ul style="list-style-type: none"> <li>Commercially available</li> </ul>	<ul style="list-style-type: none"> <li>Difficult to source in the US</li> </ul>	<ul style="list-style-type: none"> <li>Various sources</li> </ul>	<ul style="list-style-type: none"> <li>In R&amp;D phase</li> <li>Landscape Forms would be the provider</li> </ul>	<ul style="list-style-type: none"> <li>Check availability. Limited availability on larger sizes.</li> </ul>
<b>Decking Precedents</b>	<ul style="list-style-type: none"> <li>Most applications are for walkways</li> </ul>	<ul style="list-style-type: none"> <li>Limited precedents</li> <li>Boardwalks, decking, cladding</li> </ul>	<ul style="list-style-type: none"> <li>Limited precedents</li> <li>Boardwalks, decking, cladding</li> </ul>	<ul style="list-style-type: none"> <li>Limited precedents</li> <li>Boardwalks, decking, cladding</li> <li>Widely used in Europe</li> </ul>	<ul style="list-style-type: none"> <li>Limited applications in the US</li> <li>Very popular in Australia</li> </ul>	<ul style="list-style-type: none"> <li>Several applications similar</li> </ul>	<ul style="list-style-type: none"> <li>In R&amp;D phase</li> </ul>	<ul style="list-style-type: none"> <li>Limited precedents</li> </ul>
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>Better quality wood may come from old growth forests. 20% or less is furniture grade. Much of the wood comes from Hungary.</li> </ul>	<ul style="list-style-type: none"> <li>Monterey pine</li> <li>Chemically treated (acetylation)</li> <li>Sustainable sources</li> </ul>	<ul style="list-style-type: none"> <li>Monterey pine</li> <li>Chemically treated (alcohol polymerization)</li> <li>Sustainable sources</li> </ul>	<ul style="list-style-type: none"> <li>White ash</li> <li>Heat Treated</li> <li>Sustainable sources</li> </ul>	<ul style="list-style-type: none"> <li>Questionable sustainable sources</li> </ul>	<ul style="list-style-type: none"> <li>Questionable sustainable sources</li> <li>Tropical hardwoods banned from SF cit property</li> <li>Specify FSC-certified ipe, adds to cost</li> </ul>	<ul style="list-style-type: none"> <li>Red Alder</li> <li>Chemically treated</li> </ul>	<ul style="list-style-type: none"> <li>100% FSC Reclaimed</li> </ul>
<b>Cost</b>								

**Summary of Physical Properties**

Properties	Black Locust	Accoya	Kebony	IPE	Jarrah	Thermory	Teak
Janka Hardness, lbf	1700	1484	1708	3684	1850	1320	1,070
Density (lb/ft³)	43	32	48	64	50	42	41-55
Durability Class (EN 350)	1-2	1	1-2	1	2	1-2	1
Modulus of Elasticity (MM psi)	2.05	1.40	2.13	2.92	2.13	1.74	1.78
Shrink/Swell (radial)	3.7%	0.7%	2.2%	5.9%	5.0%	4.9%	2.6%
Shrink/Swell (tangential)	5.8%	1.5%	2.5%	7.2%	7.4%	7.8%	5.3%
Crushing Strength (psi)	10,800	NA	NA	13,010	8,870	NA	7,940

**Durability Class**

- Class 1 wood lasts for 25 years fully exposed, over 50 years when partly exposed and over 50 years when shielded from the elements
- Class 2 wood lasts for 15 to 25 years fully exposed, 30 years when partly exposed and over 50 years when shielded from the elements
- Class 3 wood lasts for 8-15 years fully exposed, 15 years when partly exposed and over 50 years when shielded from the elements

## TREE PLANTING

- Trees planted in the plaza area planters should be carefully coordinated with soil depth availability and drainage on the structural roof slab. The planters in the “living room” spaces were designed to be flush with adjacent pavement grades to maximize view corridors into and through the plaza. However, the design may require the planters to be raised in order to gain adequate soil root depth. A potential strategy might be to provide soil berming for the trees while giving adequate space behind the benches for user comfort.
- Trees planted in the streetscape along the curb or within the sidewalk are highly recommended to be installed using a soil containment system (such as deeproot Silva Cells or citygreen Stratavault or Stratacells). These systems should be specified in coordination with BART and the City of Oakland as they promote healthier urban trees by providing appropriate soil volumes and enhanced drainage, and help avoid heaving of the pavement/sidewalk.

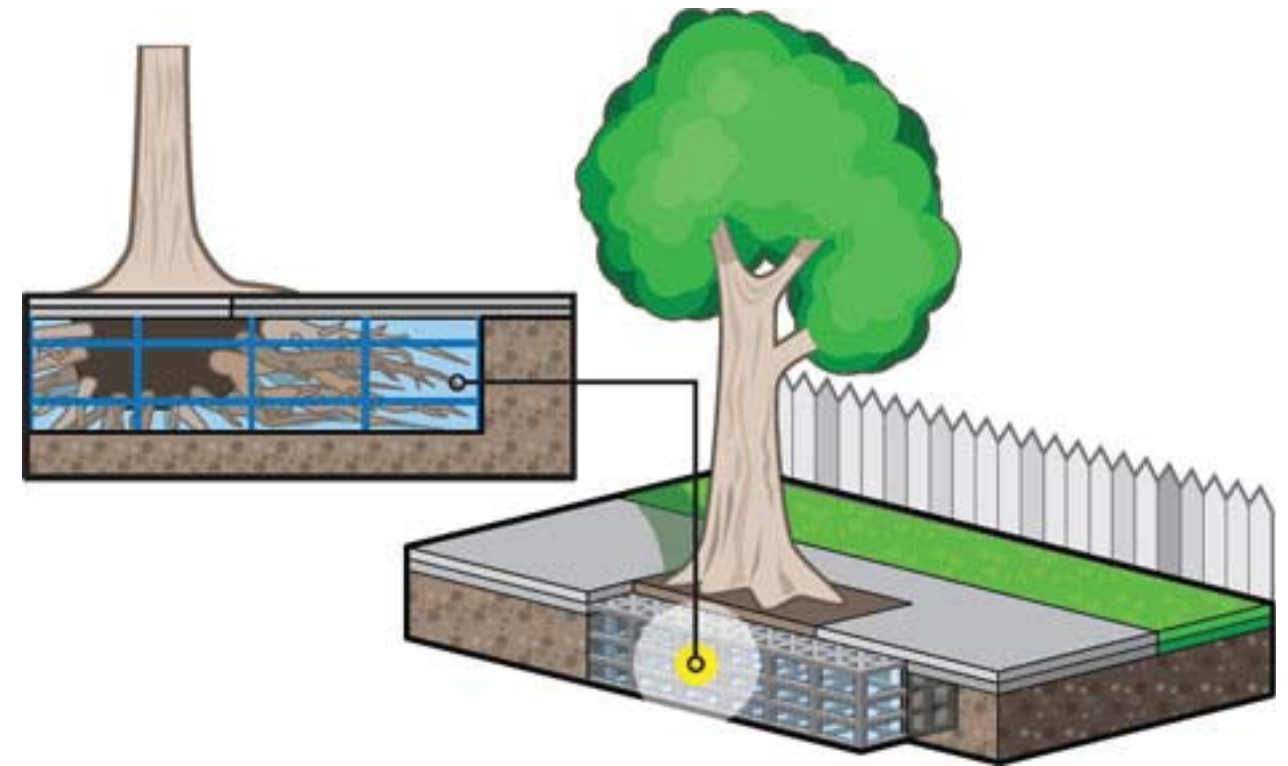


Diagram of tree root soil containment system





Model illustration of potential berming in planters



Model illustration of potential berming in planters

