



Bay Area Rapid Transit Walnut Creek Station

Modernization & TOD Access Improvements Project | Conceptual Station Plan | May 1, 2019



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A Joint Venture

DLR Group | KwanHenmi

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INTRODUCTION & PROJECT BACKGROUND

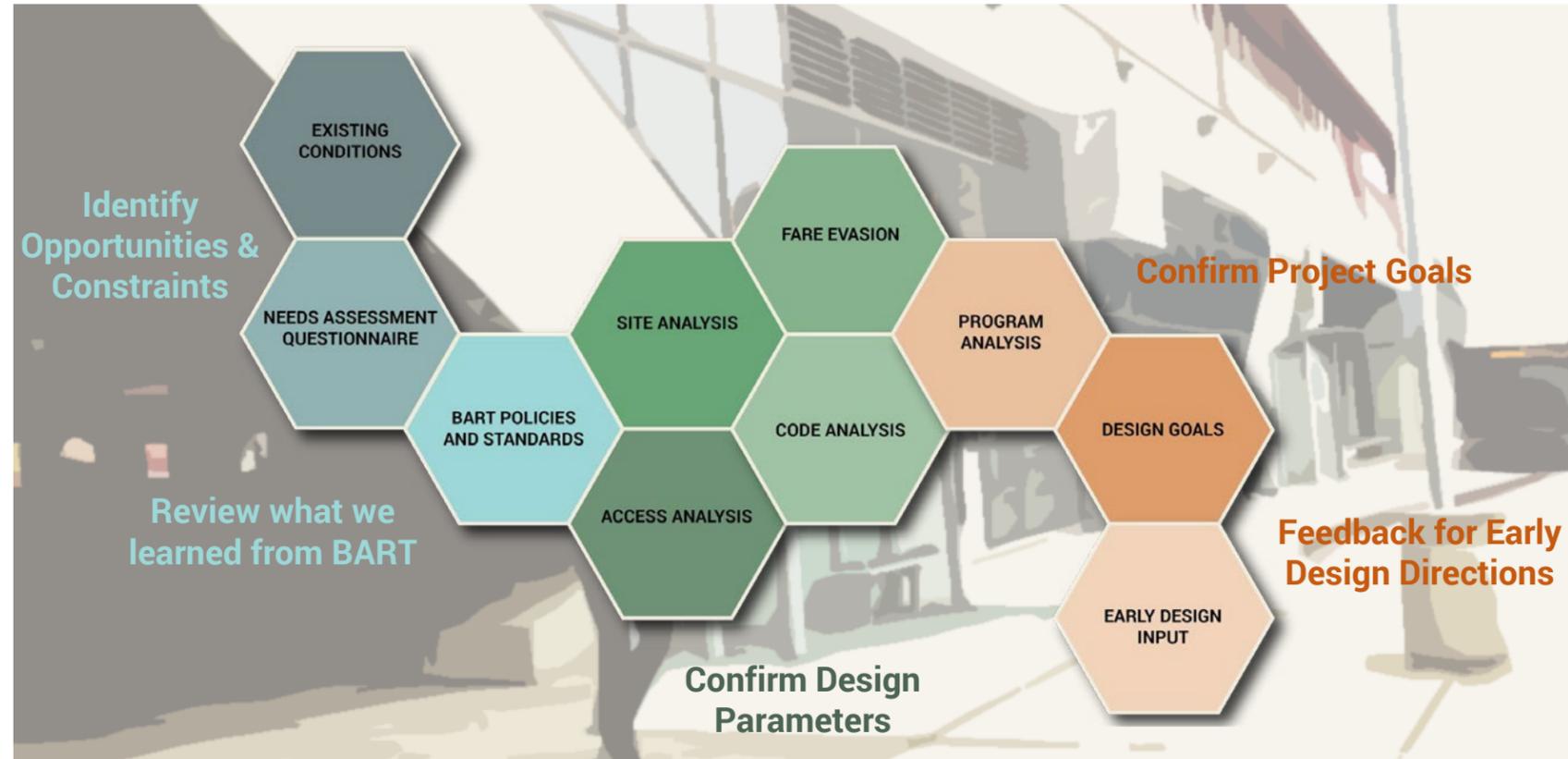
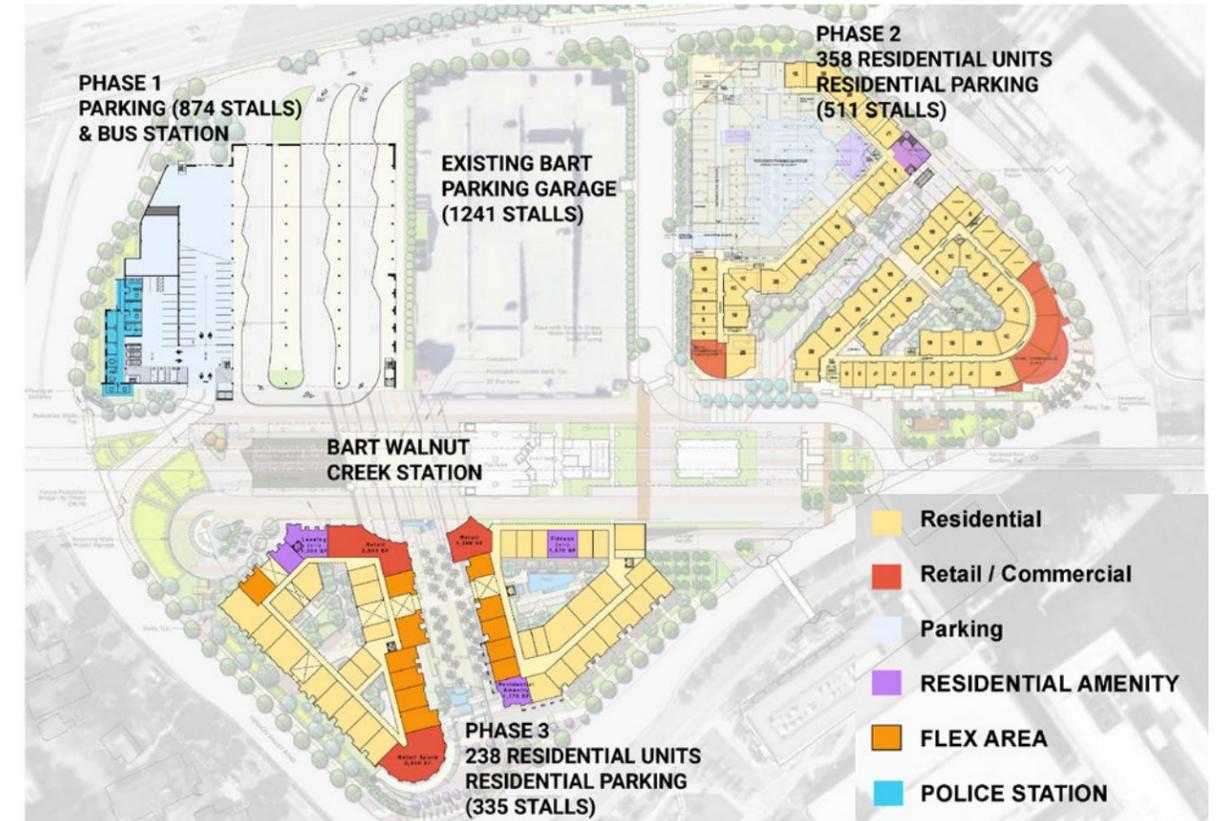


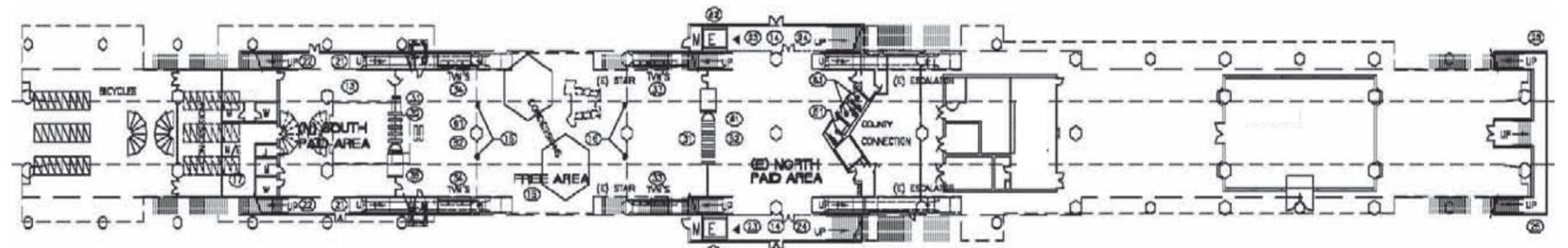
Diagram of tasks undertaken early in the design process



Phases of the Walnut Creek Transit Village, a Transit-Oriented Development project being constructed on both sides of the existing station. (compiled from 2011 Transit Village Plan with overlaid annotations)

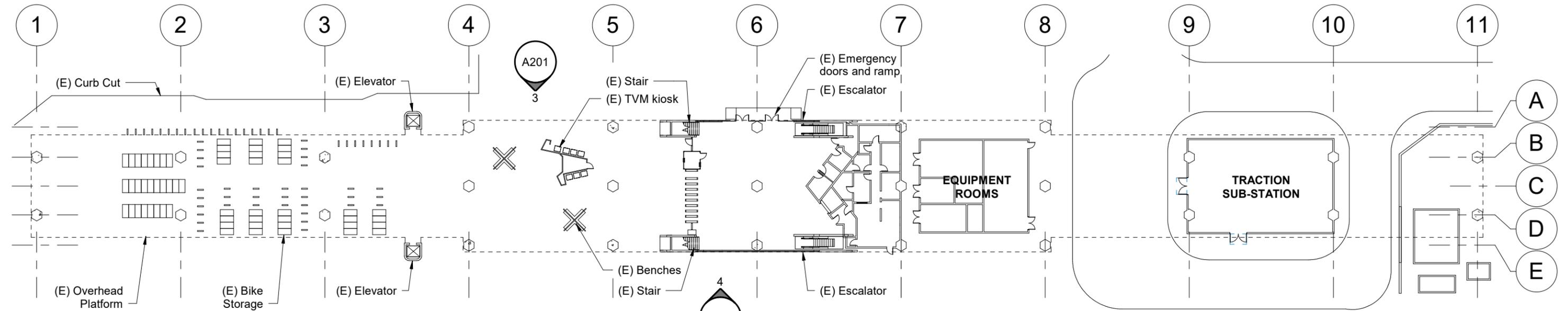
BART Walnut Creek Station is an important intermodal station that is at a unique point in its history; Walnut Creek Transit Village Transit-Oriented Development (TOD) will transform the station area, putting the station at the heart of a dense new mixed use development. The modernization of the station must seamlessly connect the station to the new development and its wider context, improve the passenger experience, and prepare the station for future growth.

This modernization plan builds on a number of previous BART studies, including the 2004 *Walnut Creek Comprehensive Station Plan* and the 2013 *Walnut Creek BART Station Access Study*. This plan focuses on improvements to areas that will remain within BART's control over the long term, and excludes areas being improved as part of the Walnut Creek Transit Village project (see image above right). The diagram above maps the steps the team took to gather and analyze existing information as well as input from various BART stakeholders. This process and findings are described in the Existing Conditions Report, which is an appendix to this Station Plan. Pages 4-5 show the layout of the existing station in mid-2019, anticipating the completion of Phase 1 of the Walnut Creek Transit Village Project.

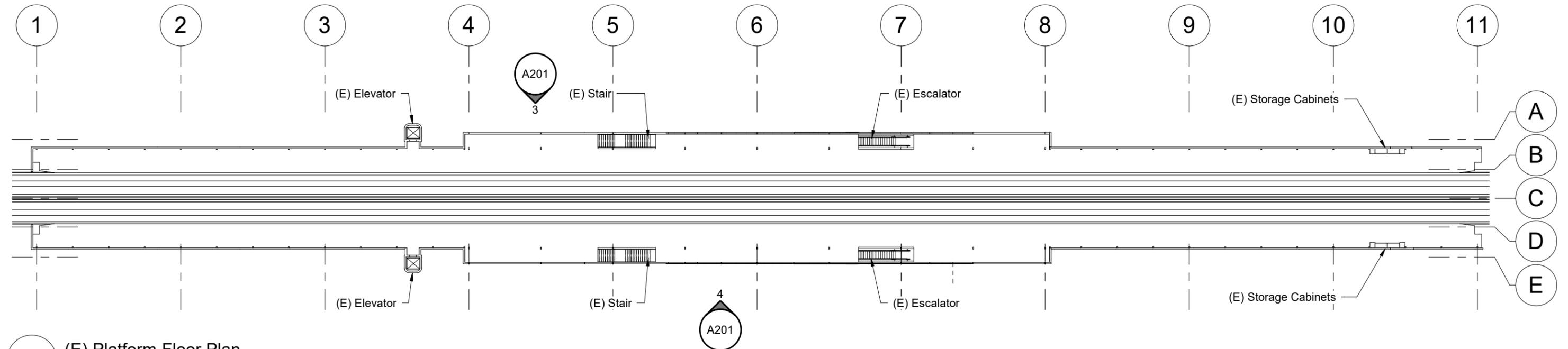


Concourse Plan from the 2004 Walnut Creek Comprehensive Station Plan

PROJECT BACKGROUND | EXISTING PLANS

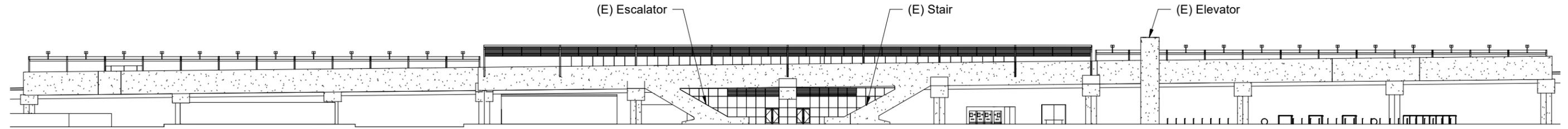


1 (E) Ground Floor Plan
Scale: N.T.S.

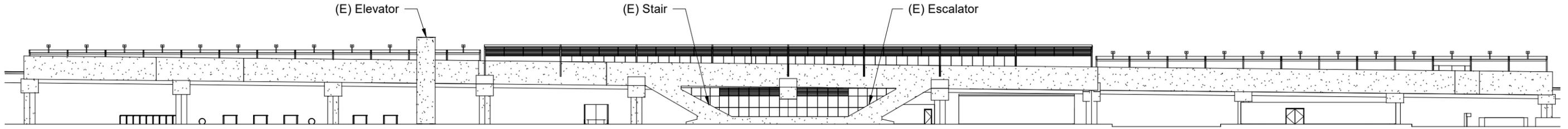


2 (E) Platform Floor Plan
Scale: N.T.S.

PROJECT BACKGROUND | EXISTING ELEVATIONS



3 (E) North West Elevation
Scale: N.T.S.



4 (E) South East Elevation
Scale: N.T.S.

PROJECT DESIGN GOALS

Project Design Goals were developed with input from BART stakeholders who formed a Technical Advisory Committee for the project, and within the framework of BART’s policy goals:

- **Connect to Communities:** Improve access for all users to station for all uses, including pedestrians, cyclists, transit users, automobile users, and people with disabilities
- **Provide an Excellent Customer Experience:** Create a sense of arrival, improve wayfinding, enhance safety, reduce clutter, integrate art and placemaking features.
- **Make Transit Work:** Maintain the station in a good state of repair, upgrade the station to support ridership growth, modify the station to reduce fare evasion.

The table below lists the specific issues to be addressed under each goal category:

CONNECT TO COMMUNITIES	EXCELLENT CUSTOMER SERVICE	MAKE TRANSIT WORK
<ul style="list-style-type: none"> • Pedestrian access • Bike access • Transit access • TNC drop-off access • Parking access • Universal access 	<ul style="list-style-type: none"> • Sense of arrival/place • Intuitive circulation • Work well with TOD open spaces • Enhance safety • Effective SAB location • Minimize crowding • Visibility • Reduce clutter • Opportunities for art and design 	<ul style="list-style-type: none"> • Pigeon-proofing • Meet ADA requirements • Emergency egress requirements • State of good repair • Address fare evasion

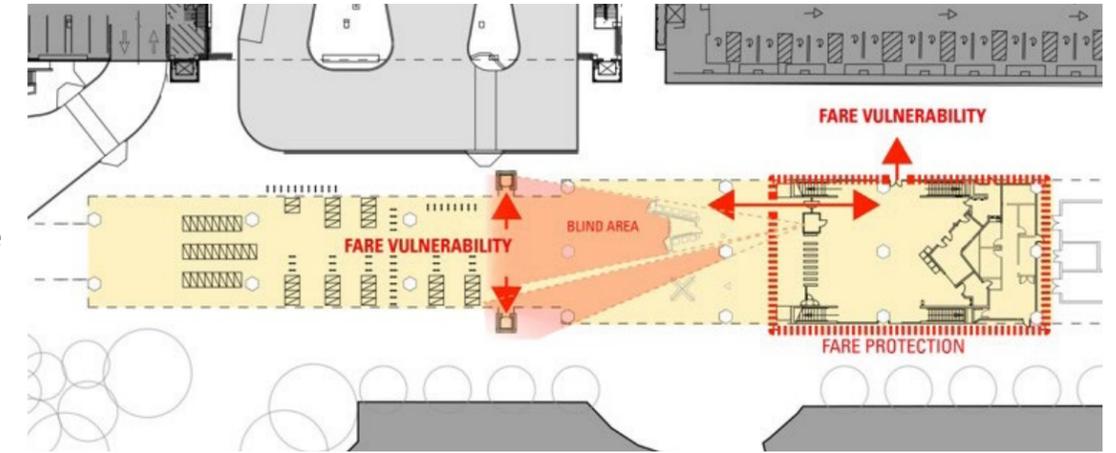
Goals and considerations specific to the ‘back of house’ station support spaces and to the overall project are listed in the table below:

BACK OF HOUSE	PROJECT OVERLAY
<ul style="list-style-type: none"> • Optimize support spaces • Encourage efficiency • Provide for future growth 	<ul style="list-style-type: none"> • Cost O&M • Capital cost • Phaseability • Sustainability

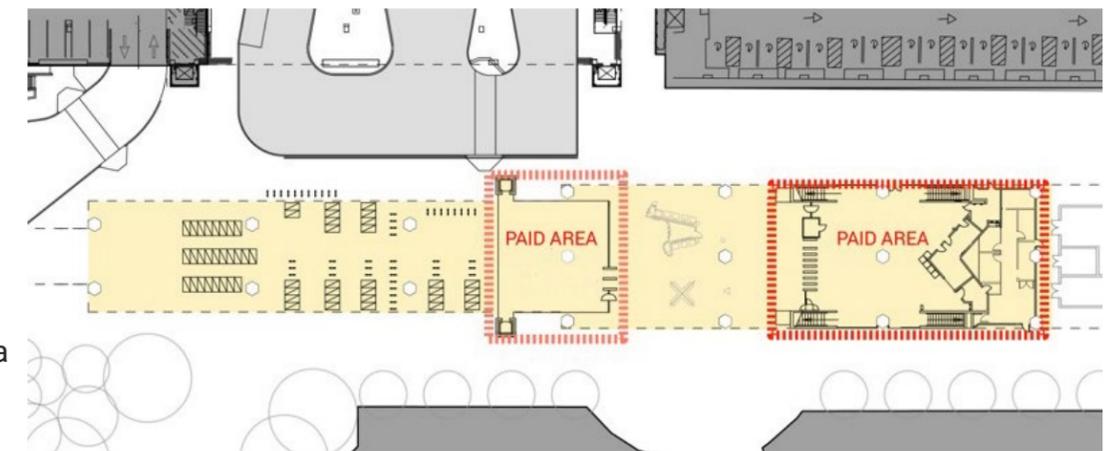
From the considerations tabulated above, the following specific issues emerged as priorities and drivers of the project. They are illustrated in the diagrams below.

- **Increase capacity and modernize egress, access**
- **Fare Evasion**
- **Sightlines**
- **Entry as central connector**
- **Pigeon nuisance**
- **Declutter public spaces**

Fare Security and sight-lines: Fare evasion at the unenclosed elevators is an ongoing issue, together with vulnerability at the swing gate and exit doors. Limited sightlines from the Station Agent Booth (SAB) contributes to fare evasion and other security issues.



Increase Capacity: With regional growth and increased local residential density come increased ridership. Adding to the paid area allows new vertical circulation elements to increase the egress and operational capacity of the station. A second paid area also protects the existing elevators from fare evasion.

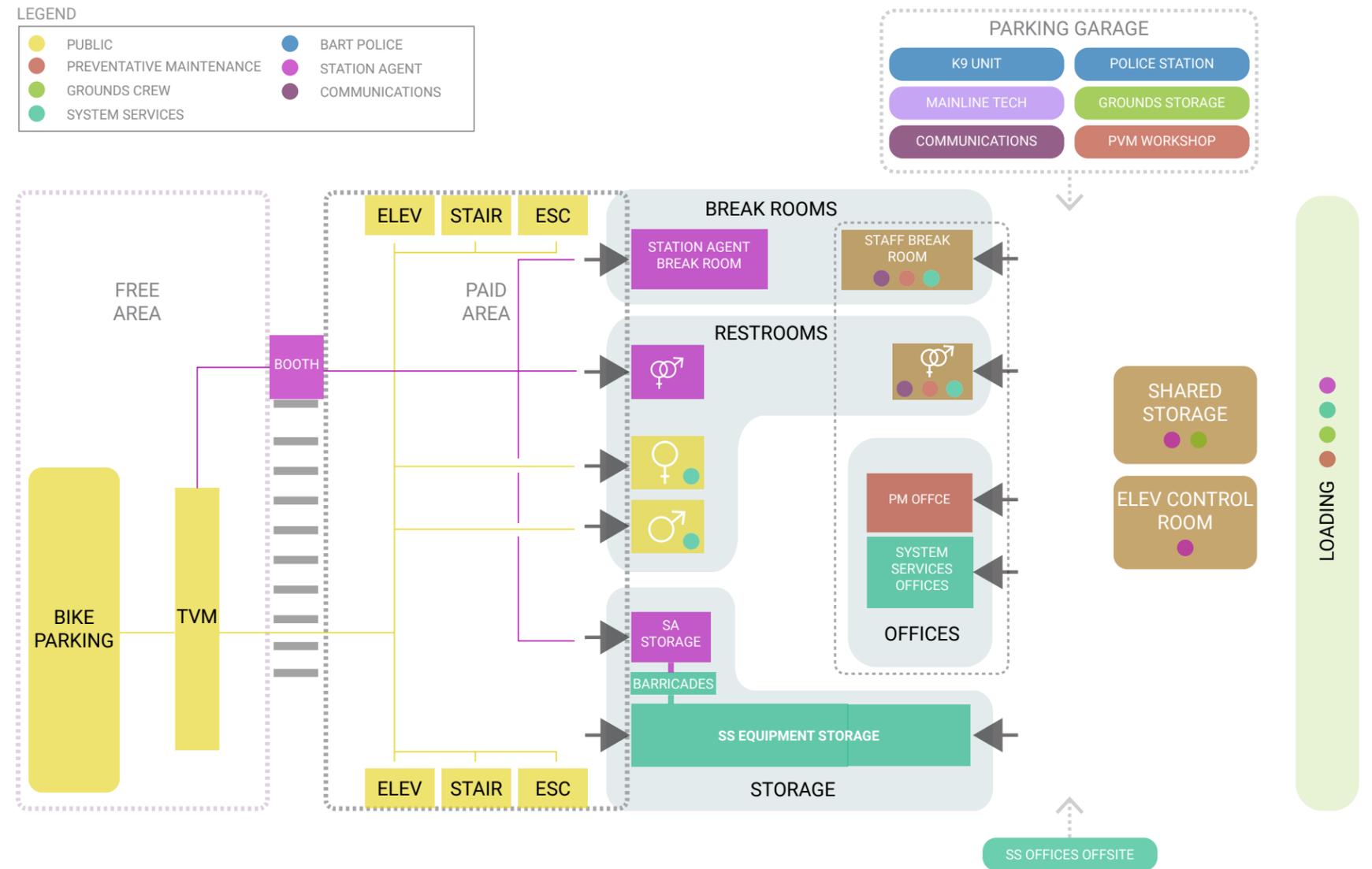


Station as connector: Within its new context, the station entrance is a potential barrier that separates two halves of the new Transit Village. The concourse unpaid area design should rather be designed as a connector which facilitates and welcomes the flow through the site.



INITIAL STUDIES | PROGRAMMING

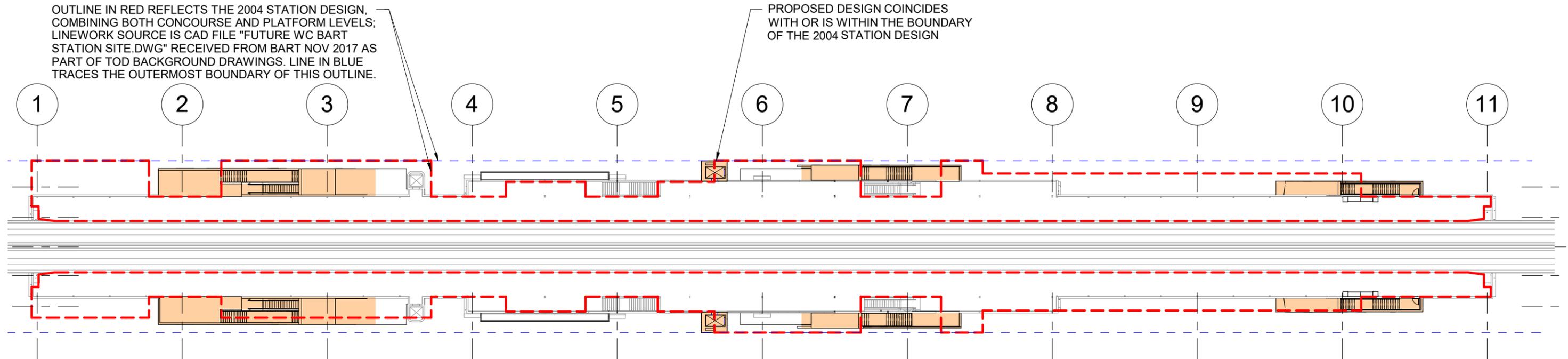
KEY ELEMENTS	EXISTING	PROPOSED	NOTES
Station Agent Booth	1	Plan for upgraded station booth per BFS R3.1.1; no change in number	Although proposed design will include an additional paid area, BART staff directed the team to provide for a single SAB with good sightlines to both paid areas.
Faregates	9 (includes 1 accessible)	increase	More faregates are needed to relieve some congestion at peak times. The exact number of faregates depends upon the proposed configuration. Each paid area will be provided with one accessible faregate.
Service Gate	1	No change	BART staff indicated that the single service gate should be located next to the SAB; the new proposed South paid area (which does not have a SAB) should not have a service gate.
Ticket Vending Machine (TVM)	7 (includes 1 bill changer)	No change	Consider providing for future additions
Add Fare/parking	6	10 (+4 in new paid area)	The number of machines at the existing station seems high, but were likely installed because of the number of parking spaces at the station. Number of machines per paid area should be revisited when more recent parking patterns can be better understood.
Roll-down grilles	Perpendicular to faregates	Perpendicular to faregates, to secure both paid and the free area in between them. Separate small roll-down to secure relocated TVMs	SAB, Faregates, & TVMs must be secured behind gates such as roll down grilles. Transparent grilles are preferred to solid gates for visibility even when grilles are down. Note various configurations were considered with BART, TOD and City stakeholders but the one shown is considered the one that best satisfies safety & maintenance issues.
Elevators	1 per platform	2 per platform	New, code-compliant elevators shall be constructed; existing elevators should be maintained for redundancy.
Escalator	1 per platform	2 per platform	Vertical circulation elements to be added to meet current egress code requirements, and to improve pedestrian circulation and use of the entire platform. <i>Please see 'Initial Studies / Vertical Circulation' page below for discussion.</i>
Public Stair	1 per platform	2 per platform	
Egress-only Stair	none	1 per platform	
Stair to track	2 per platform	No change	
Public Restrooms	2	No change	Restrooms will be changed to unisex.
Staff Restroom	2	2	The two restrooms to be accessible from both the paid area and the offices.



The project team collected program information based on site visits, interviews, and a survey sent to all department heads with current program uses at Walnut Creek Station. Information such as operations and maintenance observations, current and projected work functions, workstation and storage requirements, and special equipment or environmental requirements such as privacy, security, and ventilation were compiled.

More information on how the program was developed can be found in the Existing Conditions Report, included as an appendix to this plan.

INITIAL STUDIES | VERTICAL CIRCULATION



The size, layout and location of required new vertical circulation elements (VCEs) are major design drivers. The following issues all played a role in determining the layout of the station:

1 Required egress width: All of the additional stairs and escalators shown in the proposed plan contribute to the additional egress width required by the National Fire Protection Association (NFPA) publication 2017 NFPA 130 and the 2016 California Building Code (CBC). Egress width is addressed in the *Station Egress Capacity Analysis*, which is an appendix to this report.

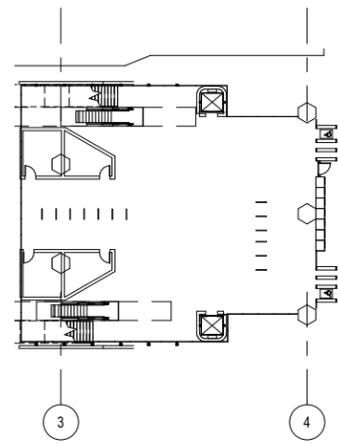
2 Platform end stairs: The new stairs and escalators between gridlines 2 and 3 at the south ends, and between gridlines 9 and 11 at the north ends of the platform are located to comply with the requirements of the 2017 NFPA 130 Section 5.3.3.5, which states that "A common path of travel from the ends of the platform shall not exceed 25m (82ft) or one car length, whichever is greater". In the case of Walnut Creek Station, this means that the egress path from the very ends of a platform towards the middle must reach the nearest exit within 82ft. The egress elements in work groups A and F in the plan above are therefore required, even if calculations show that the interim required egress width between phases is met elsewhere.

3 Passenger Distribution: The existing stair and escalator are located between gridlines 5 and 7, which causes crowding at the center of the platform. The proposed plan distributes the VCEs along the length of the platform so that more of its length is used by those waiting to board, and to allow those leaving the platform to do so with minimal walking.

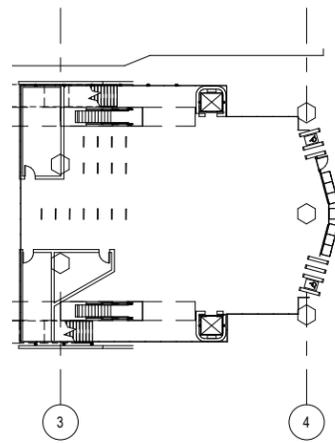
4 Elevator requirements: The existing elevators do not meet the size requirements of the 2016 CBC. Replacing the elevators would mean removing them from use during construction, which would render the station inaccessible to people who use wheelchairs and others dependent upon elevators. BART stakeholders agreed that the flexibility, redundancy, and increased capacity provided by a second elevator for each platform are valuable improvements to station operations and access. The need to enclose the existing elevator into a paid area is also a driver of the proposed layout.

3 Setback requirements: Requirements for emergency vehicle access have been established as part of the entitlement process for the Walnut Creek Transit Village. The proposed station plan stays within the boundaries (in red above) of the 2004 Comprehensive Station Plan that provided the Transit Village station context assumption, and is compliant with the setback requirements that had been agreed upon as part of the TOD design process. The dimensions of the proposed changes to the station, including the width of the additional VCEs, are limited by the boundary shown as a blue dashed line in the plan above.

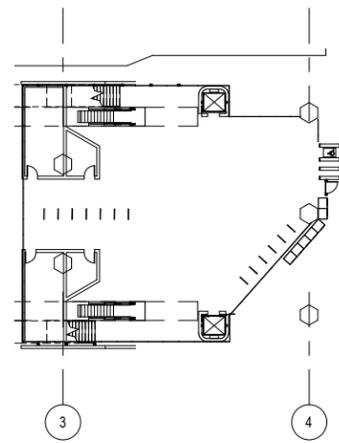
INITIAL STUDIES | FUNCTIONAL LAYOUT OPTIONS



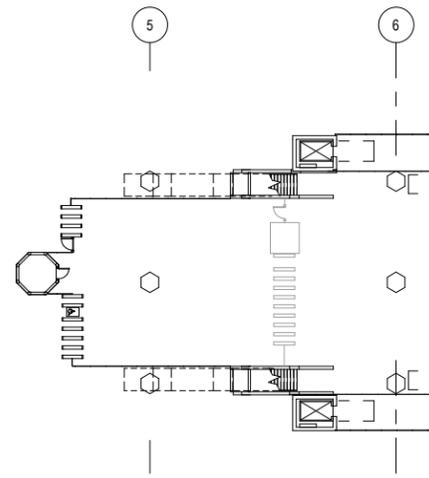
South Option - A
Scale: 1/32" = 1'-0"



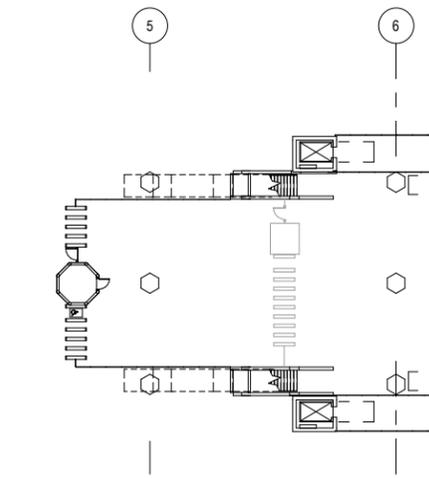
South Option - B
Scale: 1/32" = 1'-0"



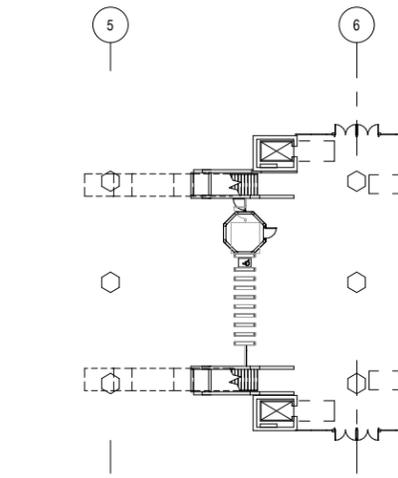
South Option - C
Scale: 1/32" = 1'-0"



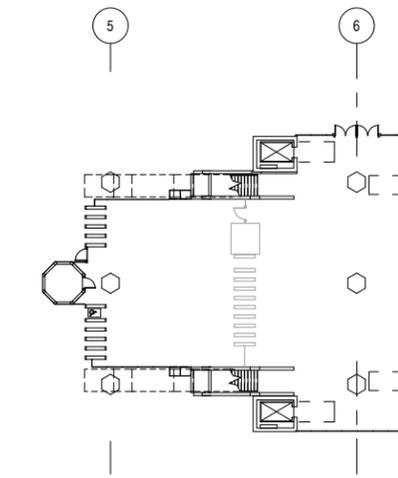
North Option - 2
Scale: 1/32" = 1'-0"



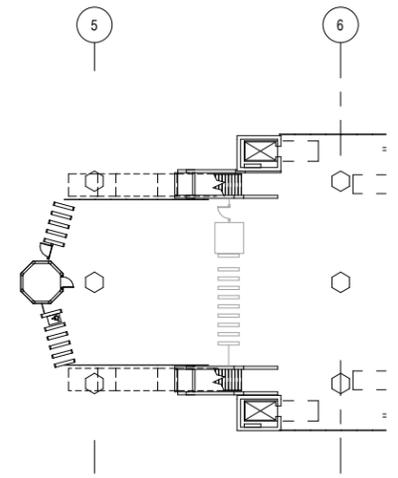
North Option - 1
Scale: 1/32" = 1'-0"



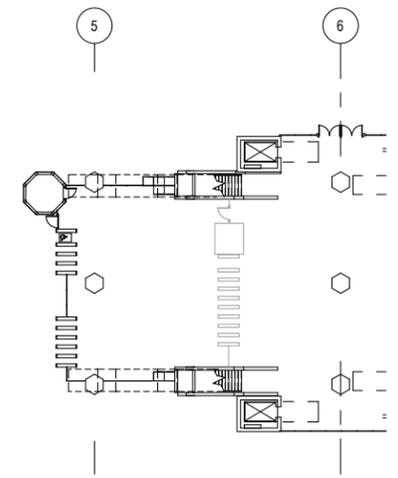
North Option - 4
Scale: 1/32" = 1'-0"



North Option - 3
Scale: 1/32" = 1'-0"



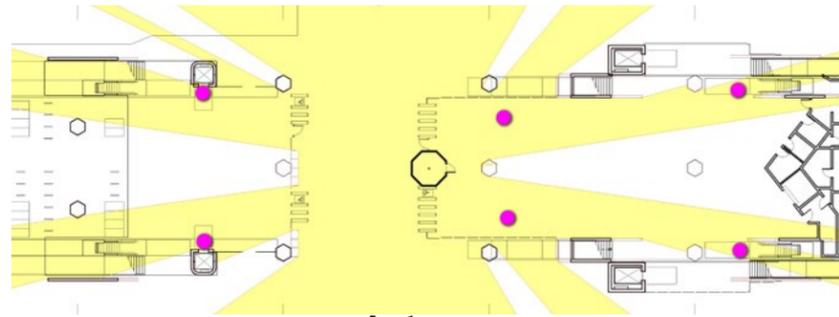
North Option - 6
Scale: 1/32" = 1'-0"



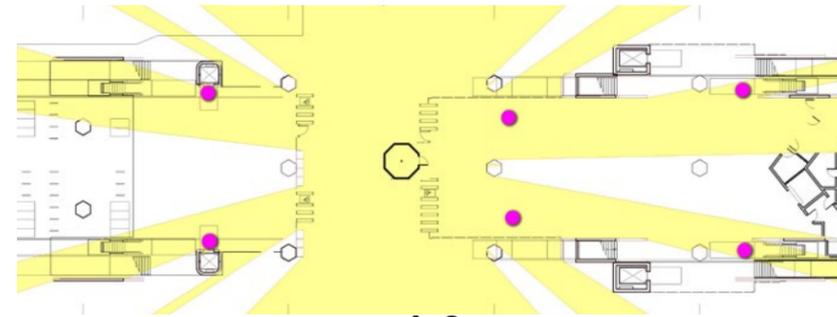
North Option - 5
Scale: 1/32" = 1'-0"

To combine the goals of enclosing the existing elevators while allowing unpaid access across the station entrance, several alternative station layouts were considered, including providing a single continuous paid area. These studies are included in Appendix E. Based on the overall long-term station programming needs, as well as the context of the surrounding Transit Village project, BART stakeholders concluded that it is necessary to plan for a second paid area rather than, for example, to expand the existing paid area. BART stakeholders agreed that a single station agent booth would need to serve both of these paid areas. Several options for the North (designated by number) and South (designated by letter) paid area layouts were then considered.

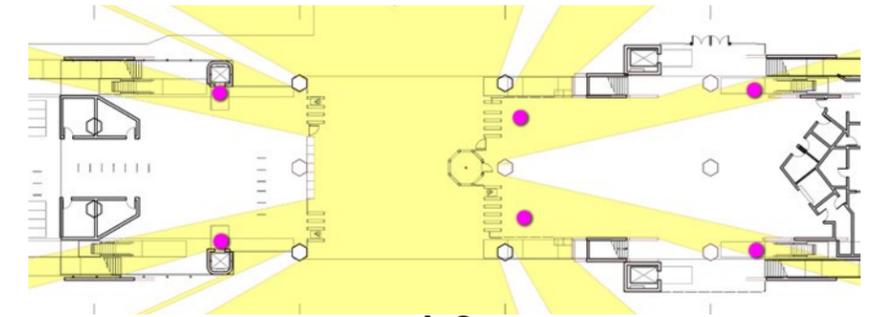
INITIAL STUDIES | VIEW DIAGRAMS



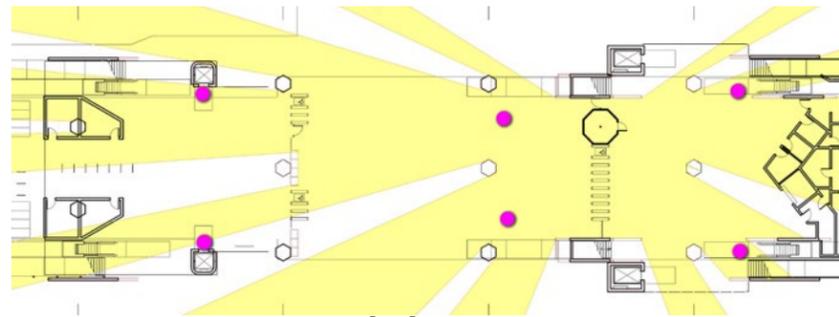
A-1



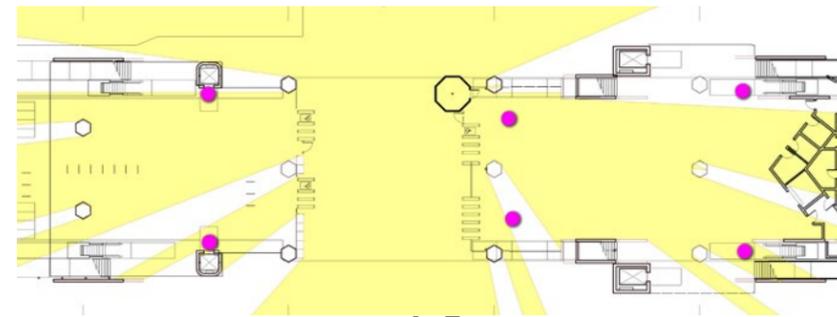
A-2



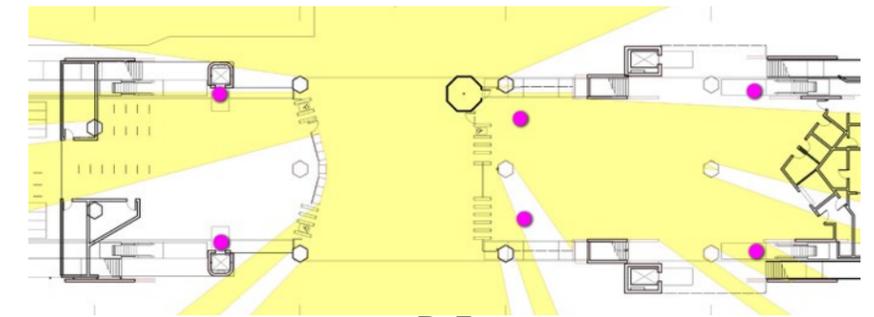
A-3



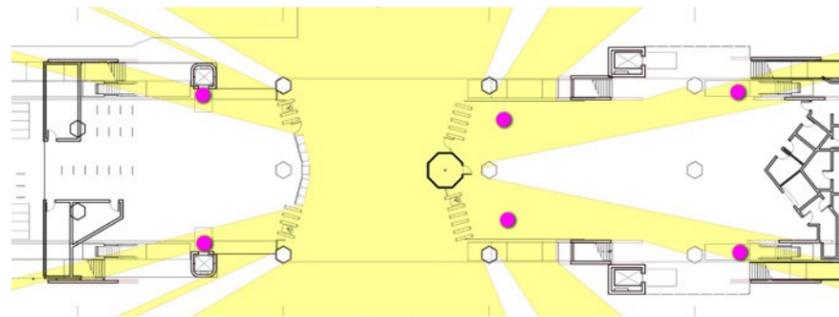
A-4



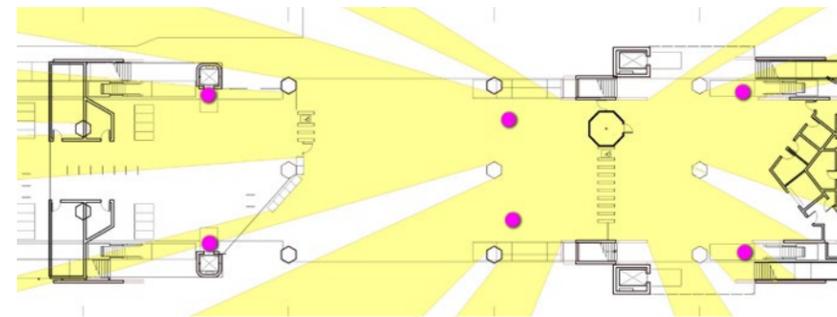
A-5



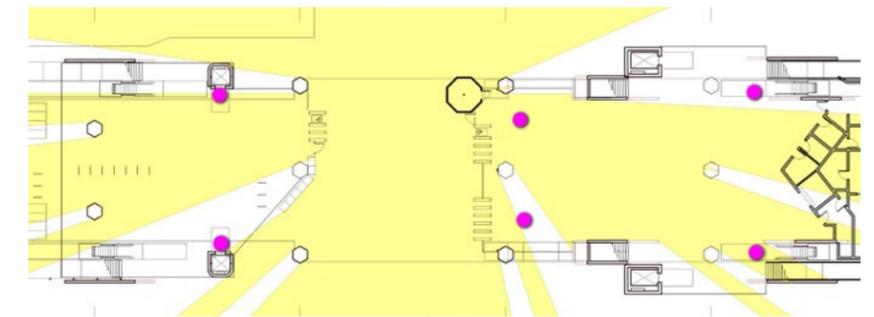
B-5



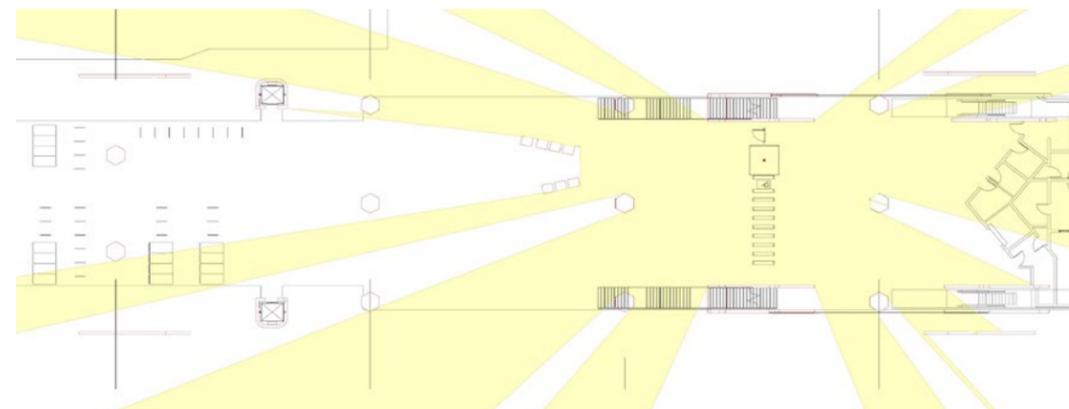
B-6



C-4



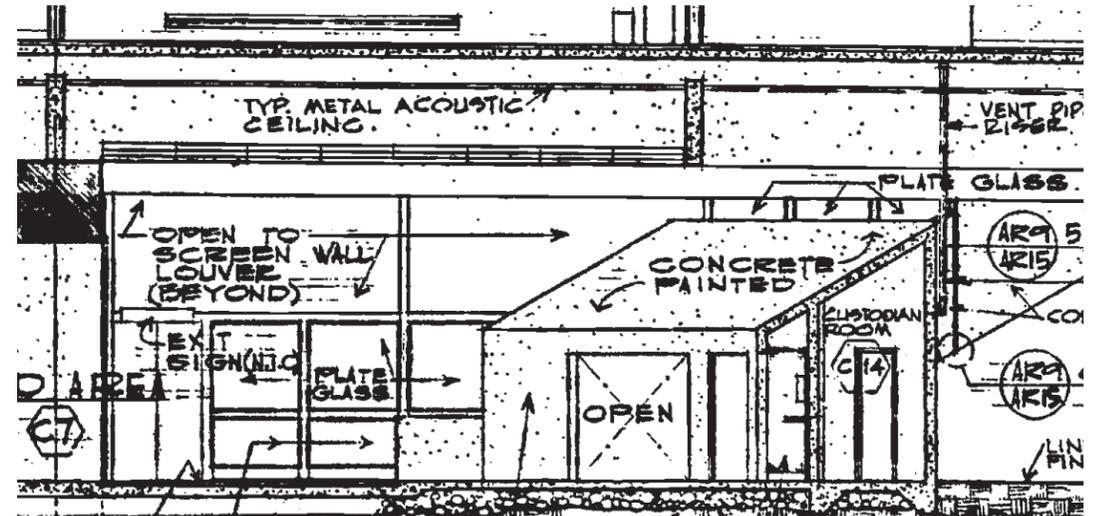
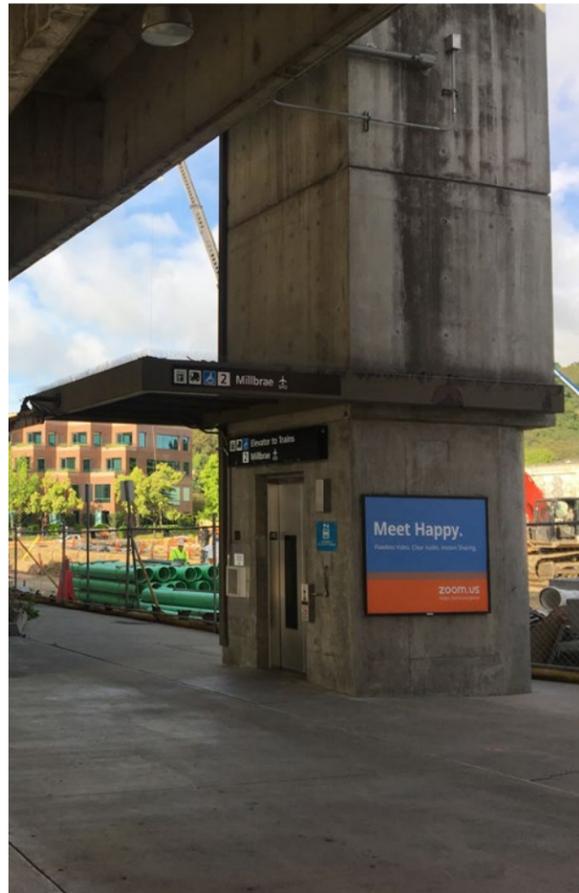
C-5



Existing Condition

The various combinations of north and south paid area configurations described above were tested for visibility of key elements such as the elevators, vertical circulation elements, TVMs, and faregates. Combination A-5, which eventually emerged as the preferred option, showed the best results in terms of key elements and zones of the station that were visible from the station agent booth.

DESIGN CONSIDERATIONS | EXISTING STATION DESIGN



The existing station architecture has many positive attributes; some of them have been obscured by dirt, ad-hoc additions or clutter, but in a thoughtful modernization they can be preserved, celebrated and made apparent:

- Raw “brut” concrete
- Functional design
- Simple geometric forms
- Daylight, connection to outdoors
- Warmth of worn brick

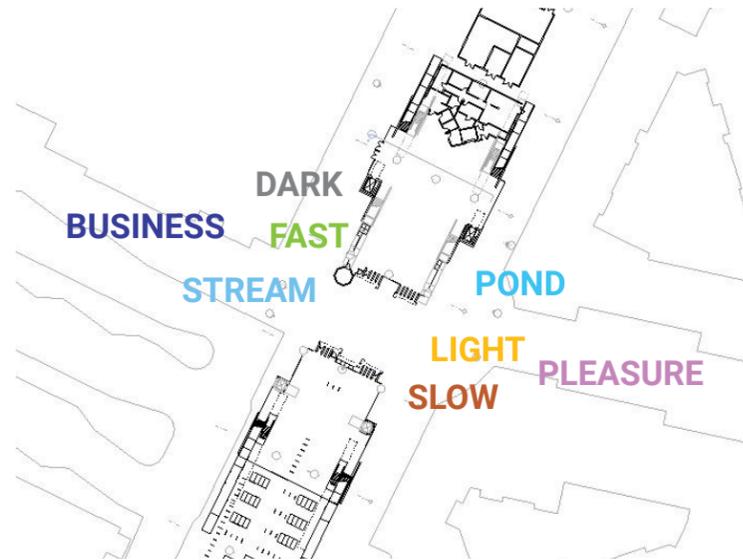
DESIGN CONSIDERATIONS | CONCEPTS

The following concepts helped the design team focus the direction of the design:



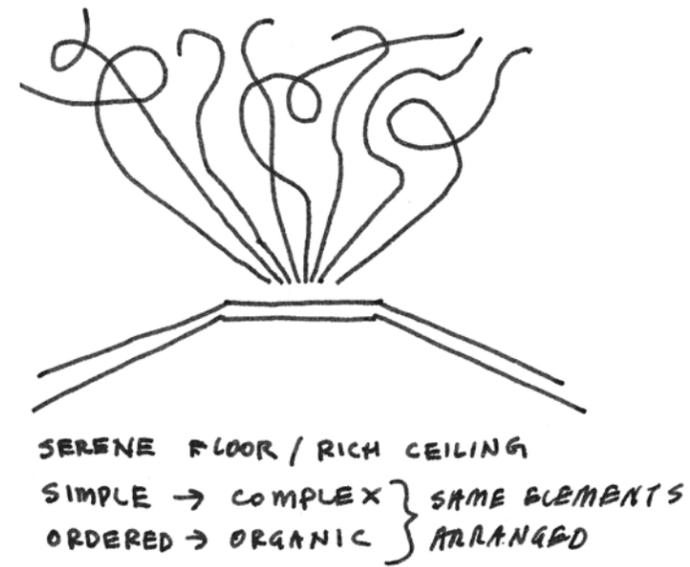
Express the organic and the human scale:

The current station expresses the strength and drama of the trackway. The interventions of the modernization should help bridge the scale between industrial and human. Forms and materials that evoke nature may increase the sense of serenity at the station, and complement the colors and textures of the raw concrete.



Emphasize the asymmetry of the site:

The two sides of the station differ from each other in function, level of congestion, and building type. The station design should celebrate and facilitate these differences where appropriate, while also maintaining a sense of unity and balance.



Keep the floor clear, use the ceiling:

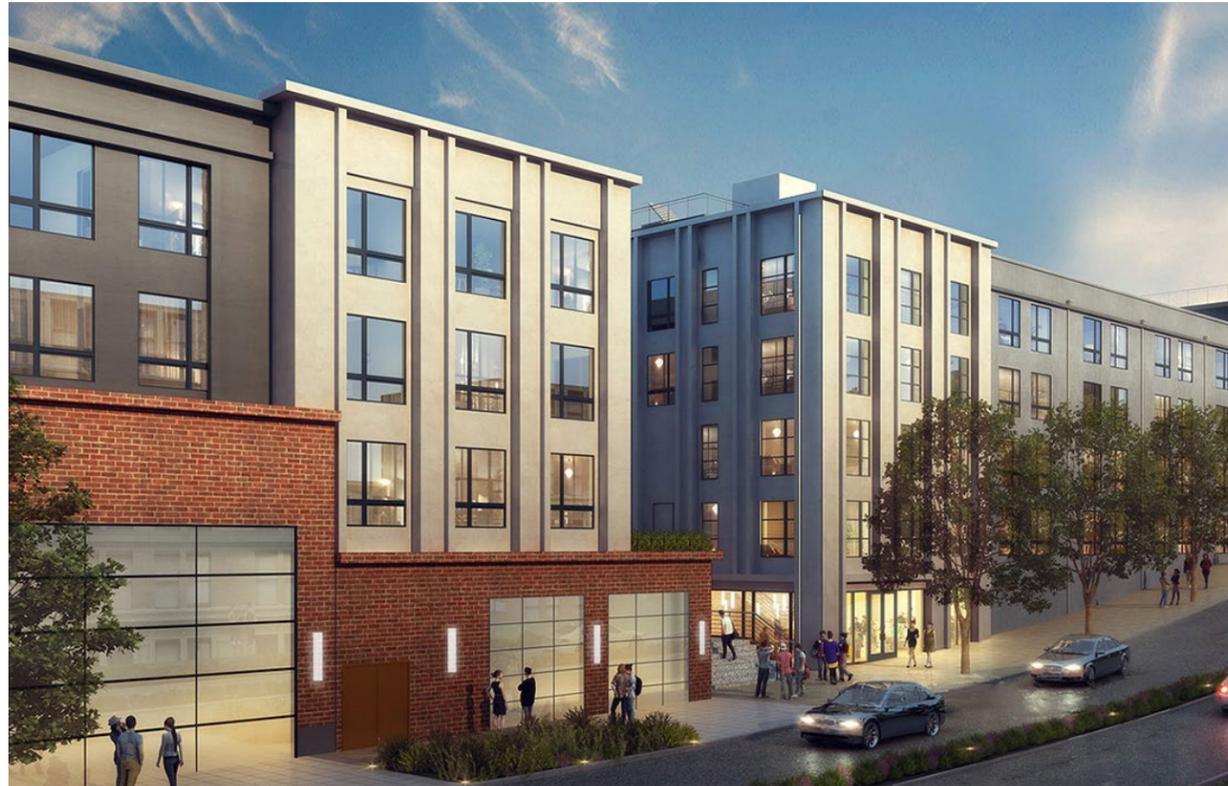
Transit stations are busy, dynamic places. Floor spaces should be kept as open and clutter-free as possible. The ceiling should provide a matrix that supports lighting, signage, and wayfinding. It is also a design opportunity including a potential site for art.



Contextual Design:

The current station, its relationship with the aesthetics of the other BART stations, the Transit Village, approaches to the station area, and the city of Walnut Creek itself provide rich and varied physical and conceptual contexts for the architectural design of the station.

DESIGN CONSIDERATIONS | TRANSIT VILLAGE ARCHITECTURAL STYLE



The Walnut Creek Transit Village will provide the new immediate context for the BART station. To gain a better understanding of this ongoing project, the design team studied drawings from all three phases of the project, and met with the Transit Village architect (BDE), together with representatives of the developer and of BART Real Estate.

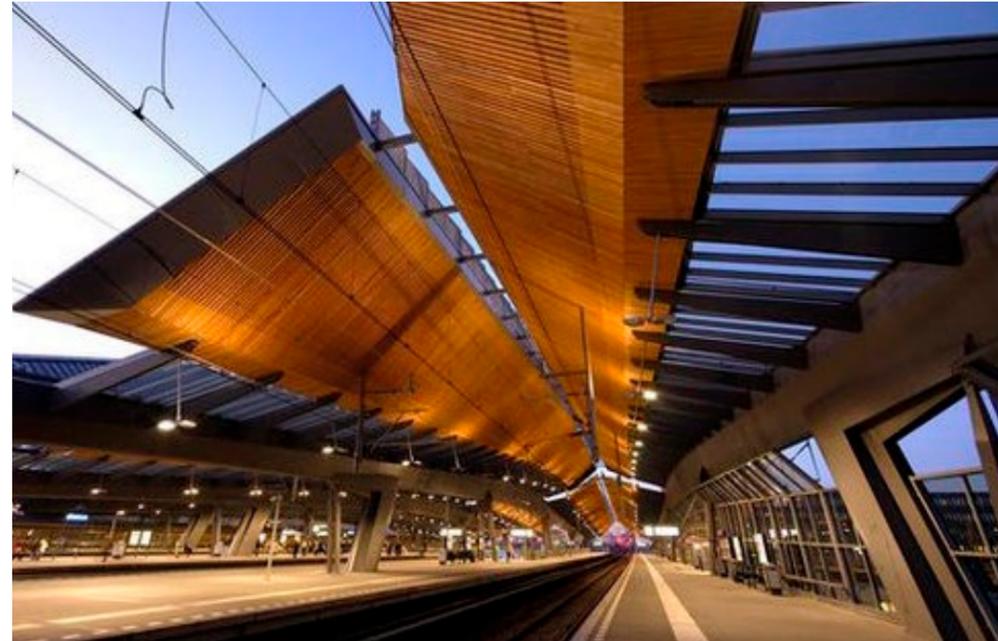
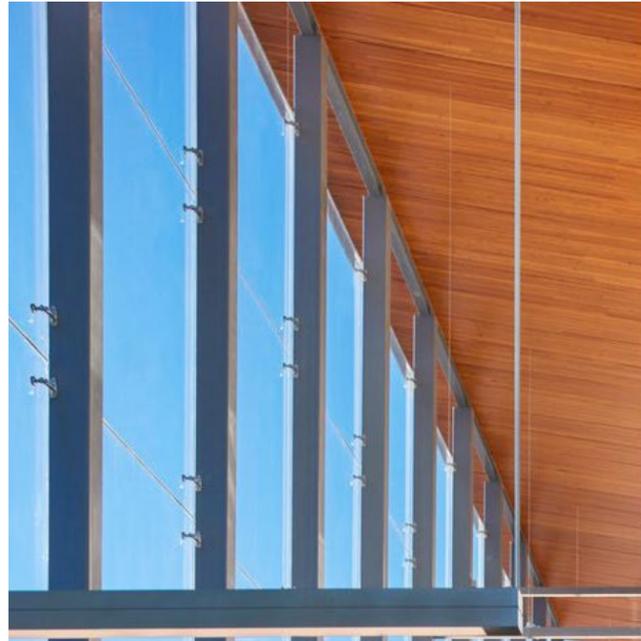
The layout of the Transit Village was developed with the BART's 2004 proposed station plan as one of the assumptions, and as such works both with the current station layout and one expanded with additional vertical circulation.

Its architectural style might be described as 'transitional'; it blends aspects of traditional architecture such as cornices, decorative balconies, and brick, with the simple massing and generous glazed openings of contemporary styles. The color palette is based on warm neutral tones and 'natural' colors like green and earth tones.

The proposed station design formal language and material palette should complement those of the Transit Village, while being clearly distinguishable from it.

Images are from the following sources: <https://www.wctransitvillage.com/>, <https://bdearch.com/>

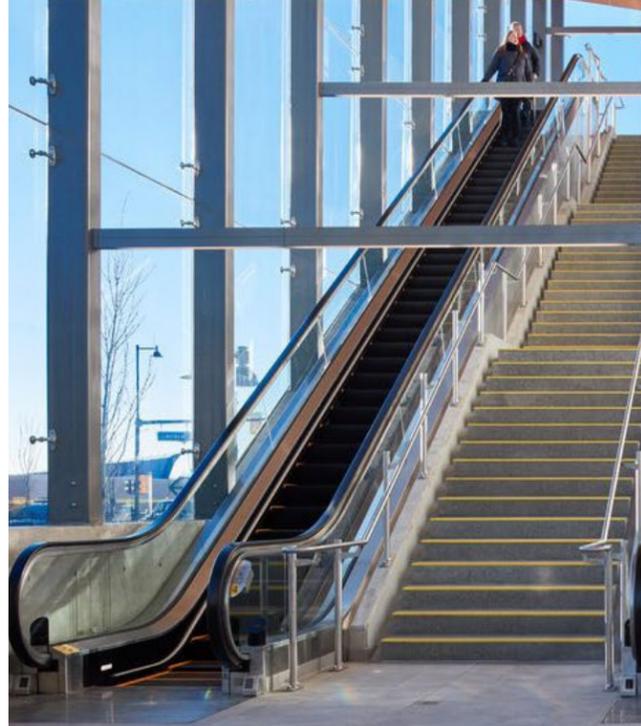
DESIGN CONSIDERATIONS | PRECEDENT IMAGERY



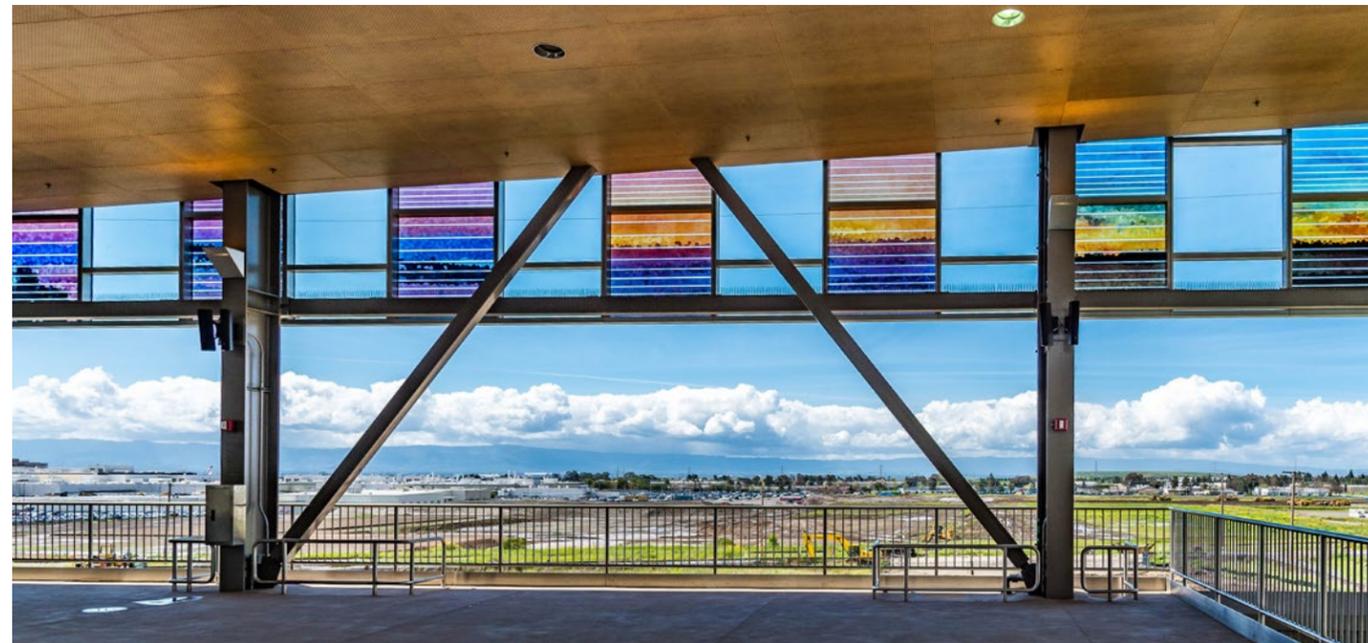
Amsterdam Bijlmer Arena Station



Montreal Stade de Soccer



BC SkyTrain Lincoln Station



BART Warm Springs Station

The precedent images express some of the proposed architectural design goals, including how the project might look and feel to users:

- Strong connections with the outdoors, with daylight or open forms
- Warm tones of wood or wood-like materials
- High-quality traditional materials such as wood and standing seam metal combined with sculptural forms that feel fresh and contemporary
- Artwork integrated with the architecture, and sensitive to the natural and built context

DESIGN CONSIDERATIONS | FINISH MATERIALS



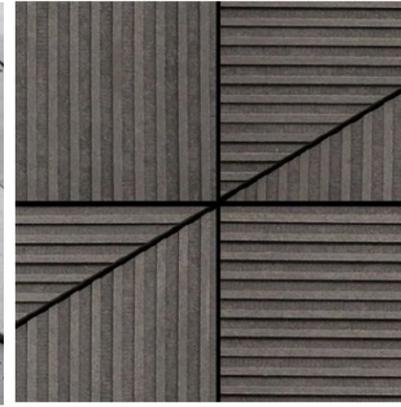
Wood-textured metal ceiling: while the use of natural wood remains controversial due to fire rating considerations, even a wood-like coloring or texture provides warmth and texture that is calming and uplifting.



Zinc alloy standing seam metal cladding: standing seam metal is an extremely durable roof materials that can also be used for wall cladding. It is expressive of traditional craft yet can be used to clad contemporary, sculptural forms. The dark, neutral coloring of zinc alloy is both contemporary and neutral, and complements both the concrete of the existing station structure and the stucco and brick of the Transit Village.



Metal mesh (metal fabric): while transparent to moisture and light, a metal mesh ceiling, if detailed correctly, can prevent pigeon roosting while providing a finished, clean surface. Where needed, access panes may be built into the ceiling system. Metal mesh or metal fabrics are also effective alternatives to glass fare barriers.



Other cladding considered: To the right are alternative cladding materials considered (from left): textured glass fiber reinforced concrete (GFRC) panels, precast concrete panels, and composite metal panels. Each of these can be attractive alternatives to the standing seam metal panels, but are likely to require a more robust structural wall system to support it.



Glass: laminated glass barriers on a concrete and metal base with minimal metal fixtures provide a high level of transparency for fare barriers and elevator shafts. Functional glass barriers can also be opportunities for art integration.



image source: <http://www.robertminervini.com/>

The painter Robert Minervini was selected to provide artwork for Walnut Creek Station through a process led by the BART Art Program Manager. He was selected through an open call process by a panel that included representatives from the City of Walnut Creek, the Transit Village, the District Architect, and the BART station design team.

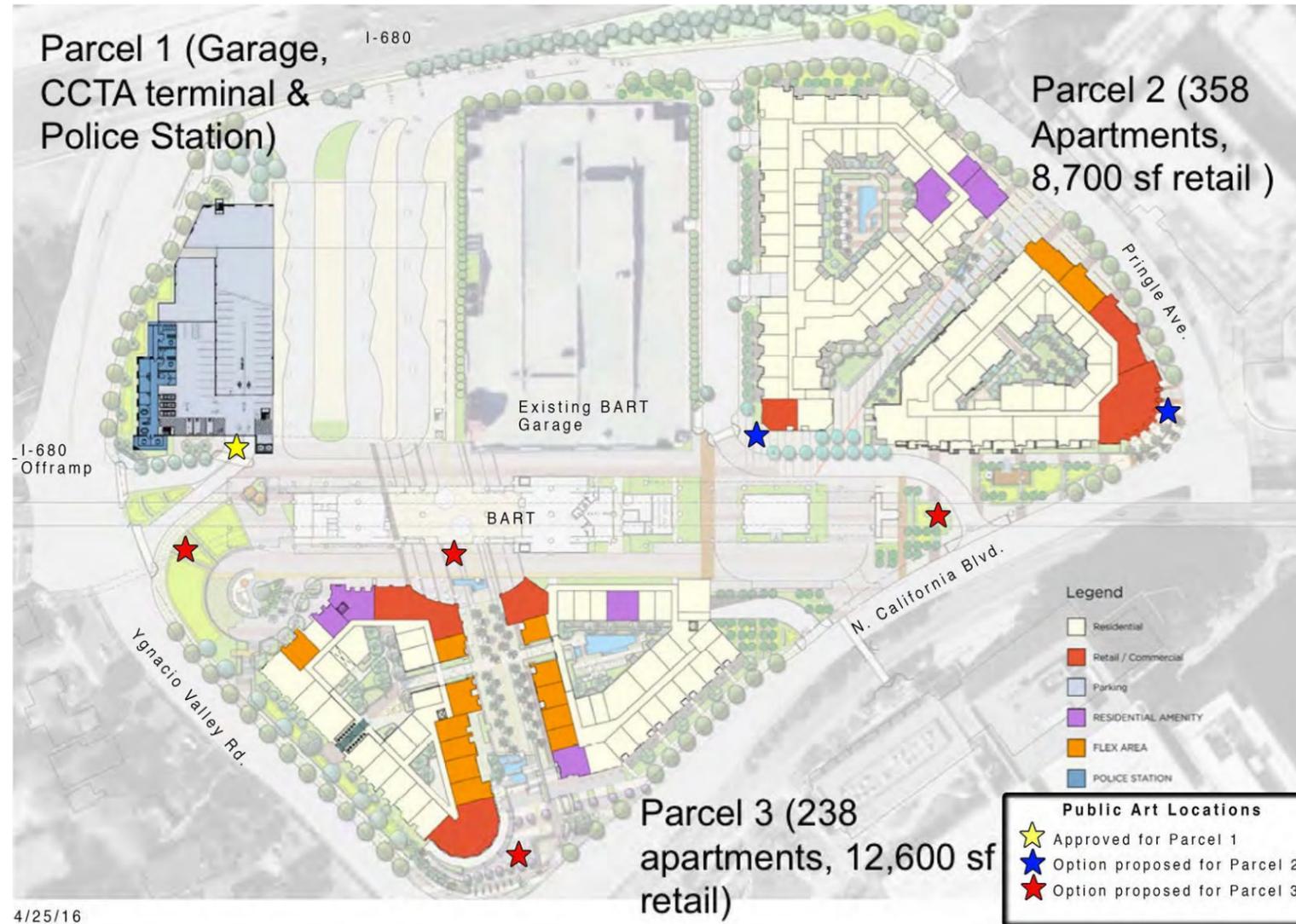
Robert Minervini (b.1981 Secaucus, NJ) is an artist working in painting, drawing, printmaking, murals, and site-specific public art. His work examines spatial environments and notions of utopia in large-scale cityscapes, landscapes, and floral still-life arrangements, which addresses the ecological impact of humanity. (from the artist website)



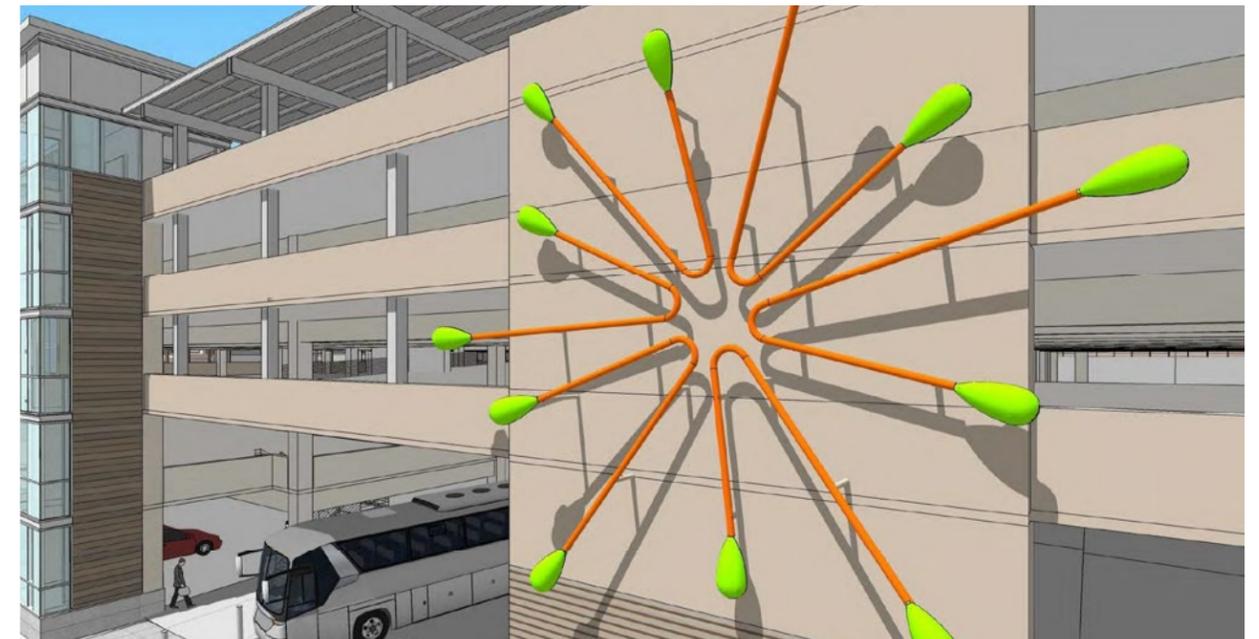
The station design and art opportunities were discussed during a meeting in February 2019 that included the artist, BART Art Program Manager, and the architectural design team. The following art opportunities were discussed. Further discussion is required to choose which opportunities to develop during final design. It is intended that Minervini will develop a custom art piece for Walnut Creek Station as part of an initial phase of project implementation. Images shown in this document are placeholder sample images only.

- 1 Full-height wall at South end of new paid area (illustrated with placeholder in renderings below)
- 2 Vertical ceiling surfaces at unpaid station entrance (illustrated with placeholder in renderings below)
- 3 Glass guardrail at platform edge
- 4 Structural bents above faregates
- 5 V-shaped wall at north end of paid areas, perhaps with a backlit wall to hide or work with the sloped ceiling

DESIGN CONSIDERATIONS | PUBLIC ART PROGRAM



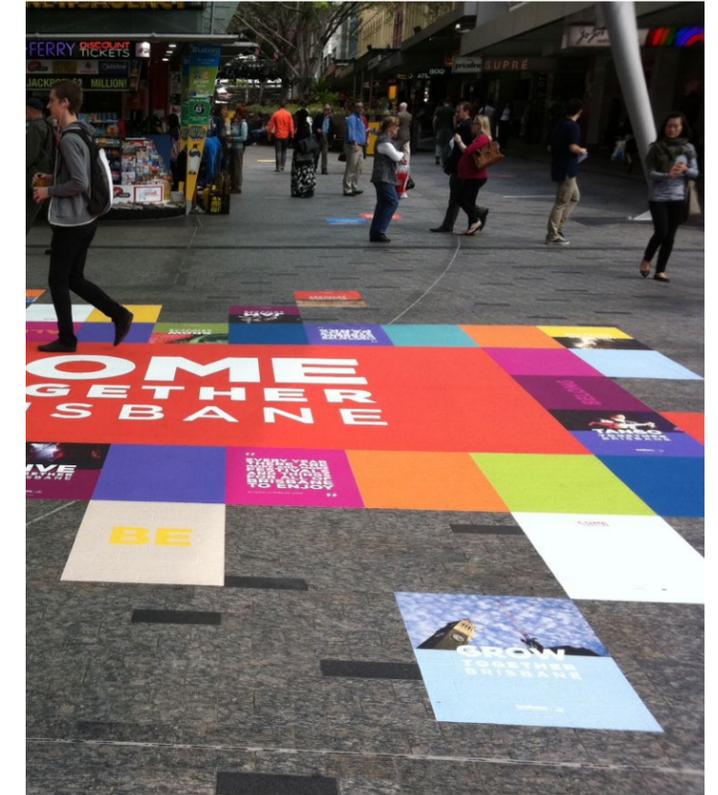
TOD Public Art locations proposed by Transit Village team



Approved concepts by Dan Corson implemented by TOD project in fulfillment of City public art requirements

The Walnut Creek Transit Village development includes an art program that will be implemented as the phases are completed. The station approach and entrance can benefit greatly from the visibility, wayfinding and delight that this art program can bring, especially as the station design team continues to work with the selected artist and the BART Art Program manager to coordinate the designs.

DESIGN CONSIDERATIONS | ADVERTISEMENT LOCATIONS



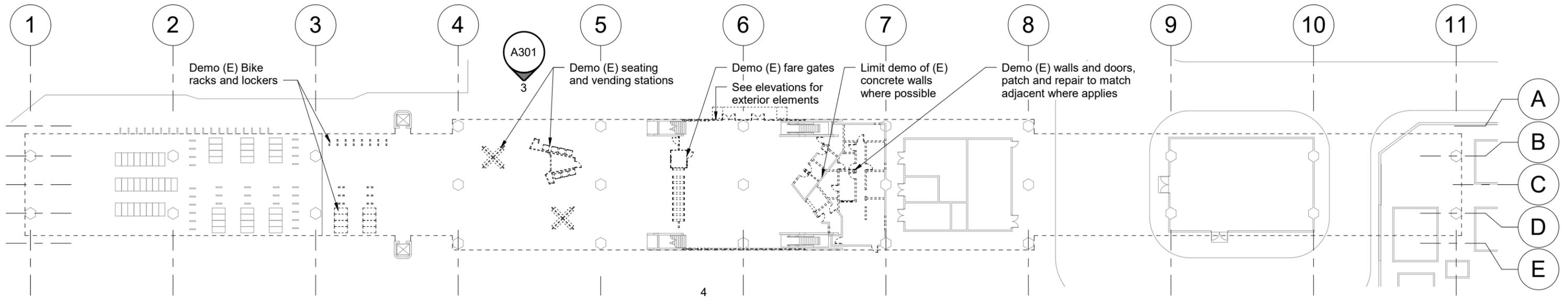
The station modernization includes the following advertisement-related design goals, derived from the BART Station Experience Design Guidelines:

- Declutter and streamline the existing advertising platforms
- Provide advertising platforms that elevate the customer experience
- Integrate and coordinate ads with other station elements such as art, lighting, signage, and TVMs.

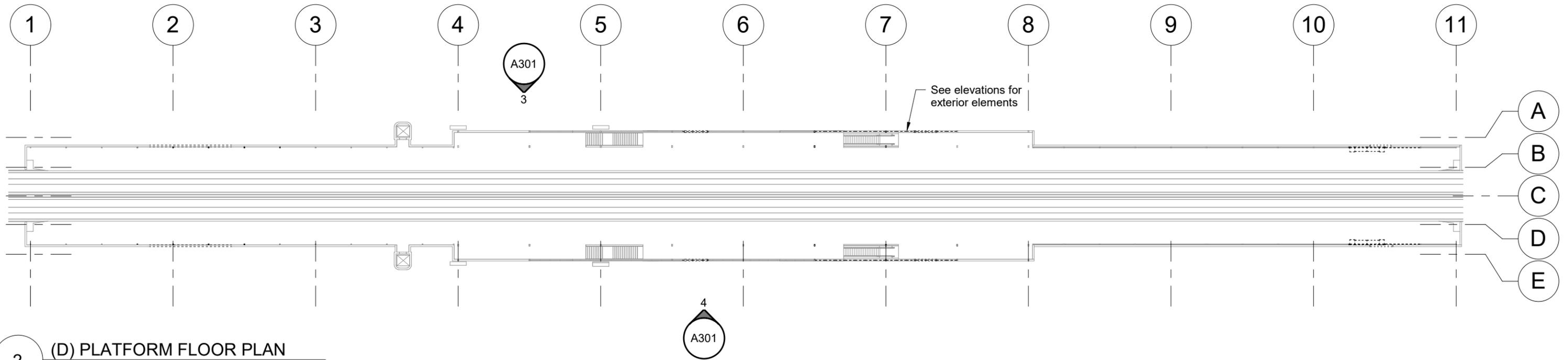
There is currently a BART Capital Improvement Project to install digital screens at Walnut Creek Station. The final design of the station will include coordination with the BART Advertising program to coordinate the following:

- Digital screen locations and any changes required
- Consider advertisement opportunities inside and outside the station, especially those that are prominent and perpendicular to the pedestrian traffic flow.
- Mitigation of revenue loss due to construction, including review of BART specification 01 35 11

ARCHITECTURAL DRAWINGS | DEMOLITION PLANS

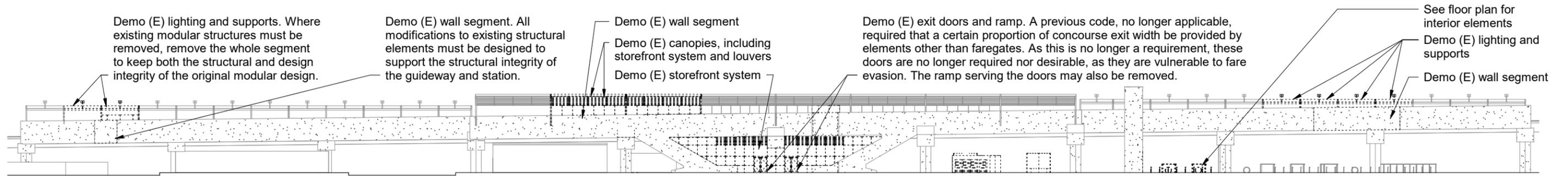


1 (D) GROUND FLOOR PLAN
Scale: N.T.S.

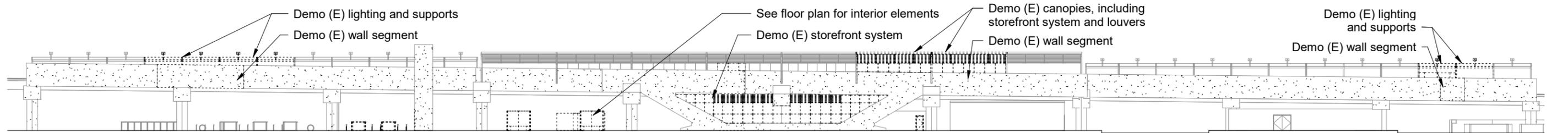


2 (D) PLATFORM FLOOR PLAN
Scale: N.T.S.

ARCHITECTURAL DRAWINGS | DEMOLITION ELEVATIONS

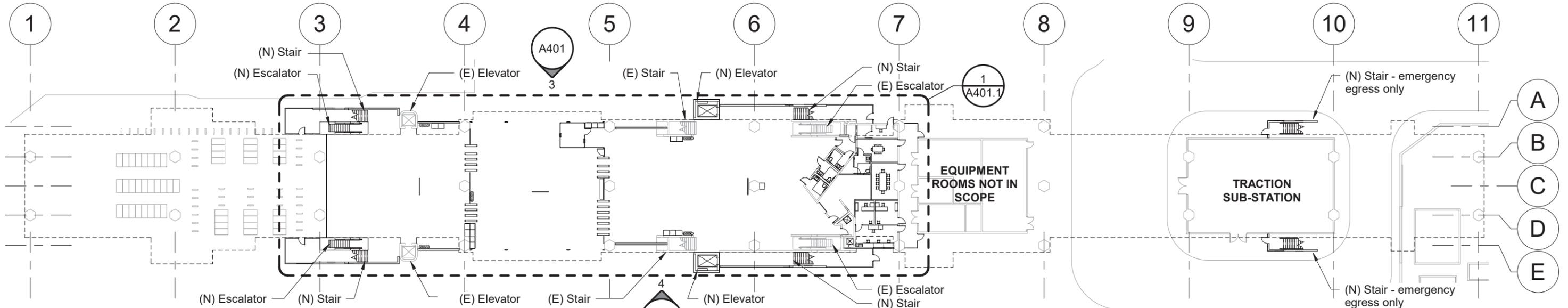


3 (D) NORTH WEST ELEVATION
Scale: N.T.S.

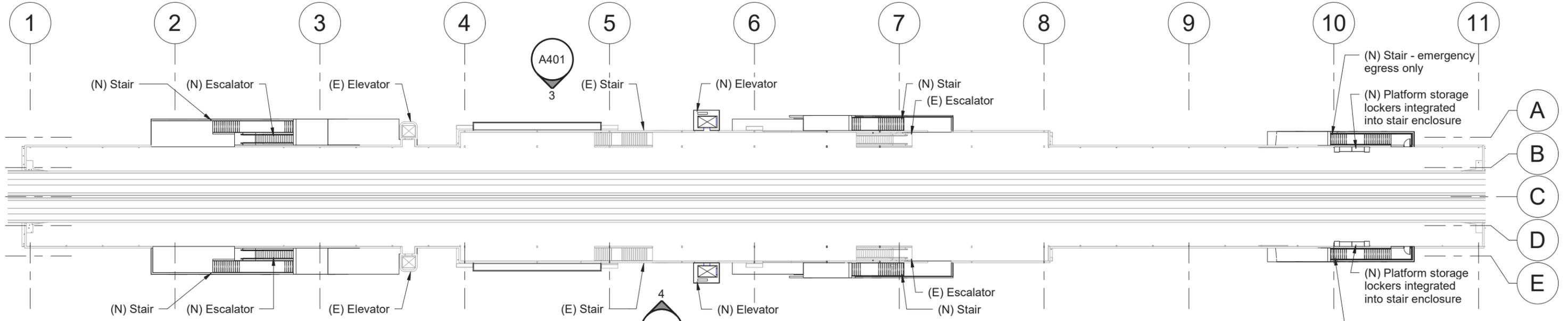


4 (D) SOUTH EAST ELEVATION
Scale: N.T.S.

ARCHITECTURAL DRAWINGS | PROPOSED PLANS

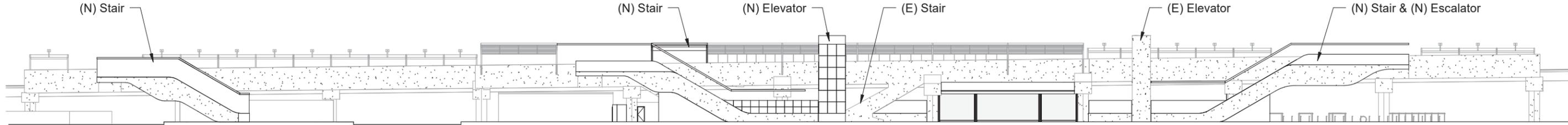


1 (N) Ground Floor Plan
Scale: N.T.S.

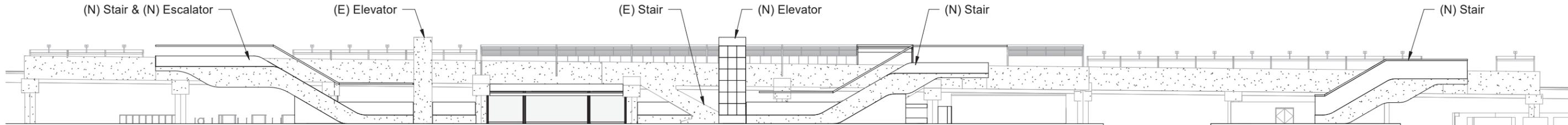


2 (N) Platform Floor Plan
Scale: N.T.S.

ARCHITECTURAL DRAWINGS | PROPOSED ELEVATIONS

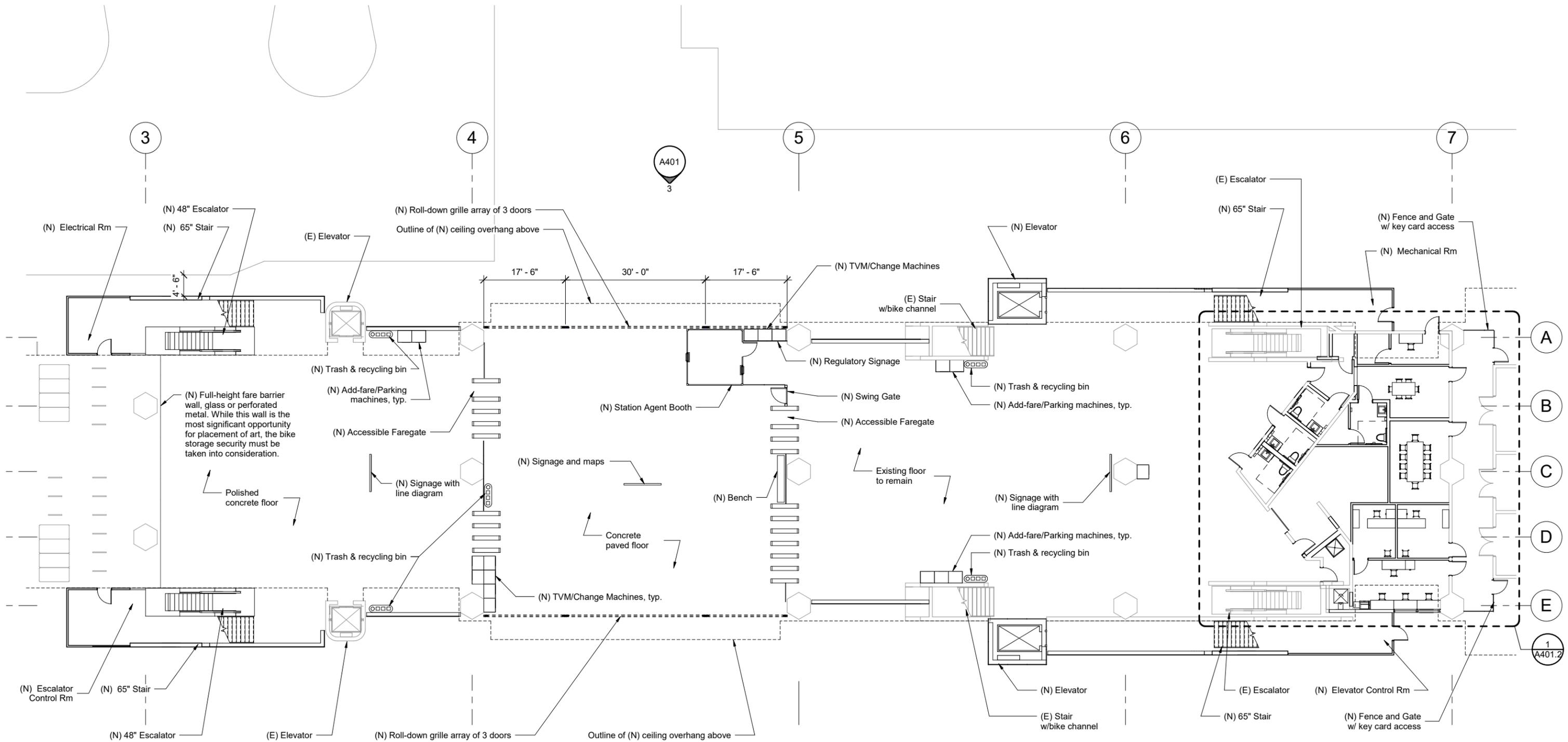


3 (N) North West Elevation
Scale: N.T.S.

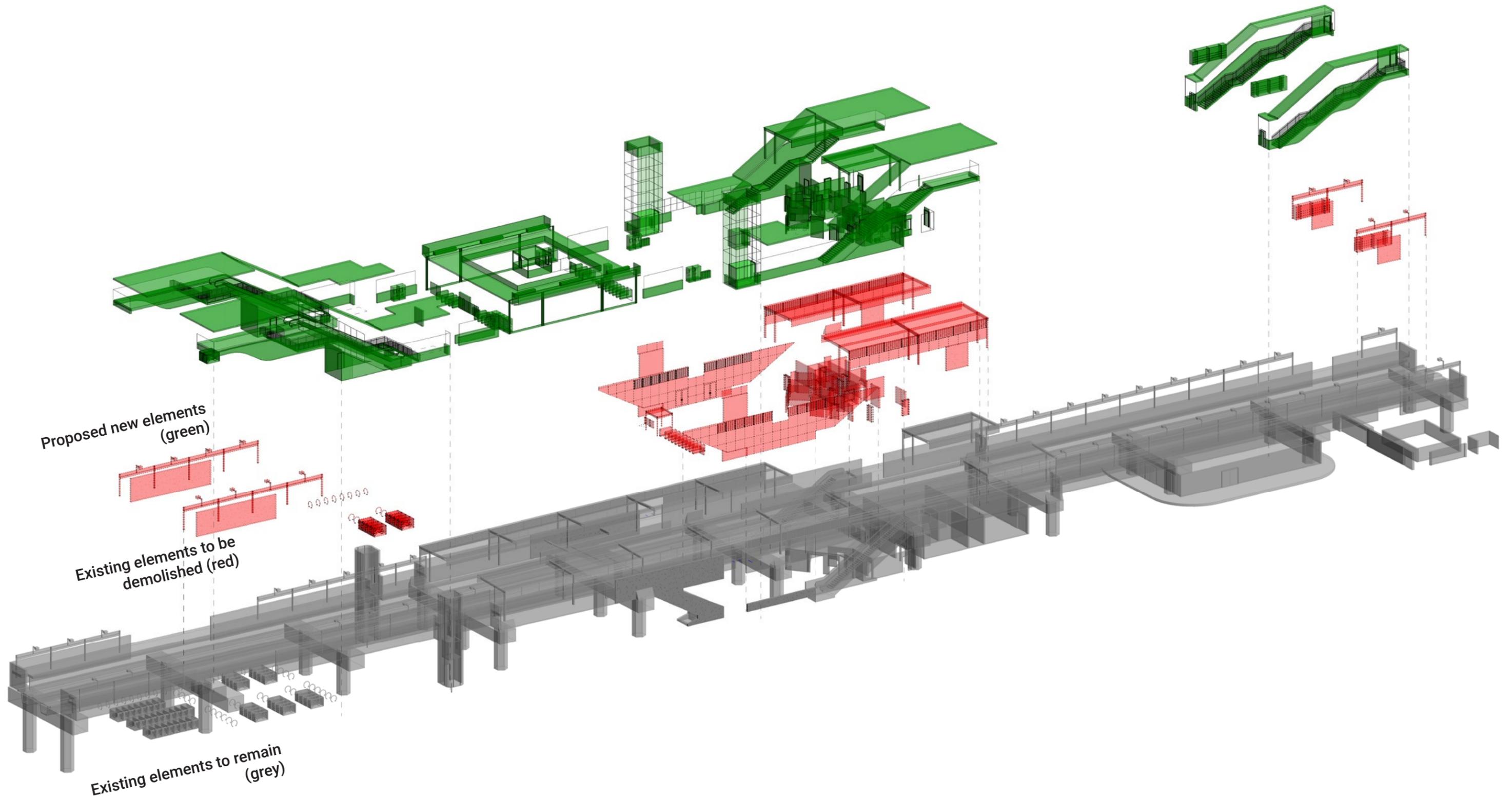


4 (N) South East Elevation
Scale: N.T.S.

ARCHITECTURAL DRAWINGS | PROPOSED CONCOURSE PLAN, ENLARGED



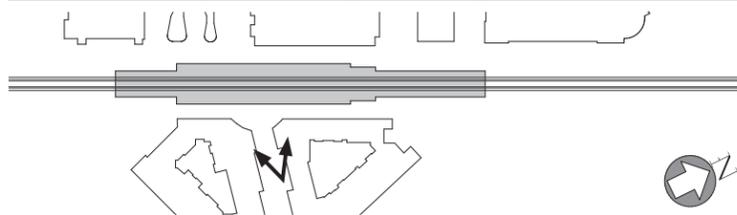
ARCHITECTURAL DRAWINGS | EXPLODED DIAGRAM: EXISTING, DEMO, AND NEW ELEMENTS



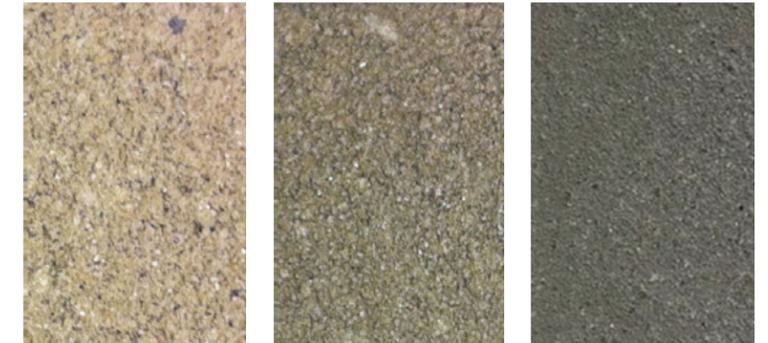
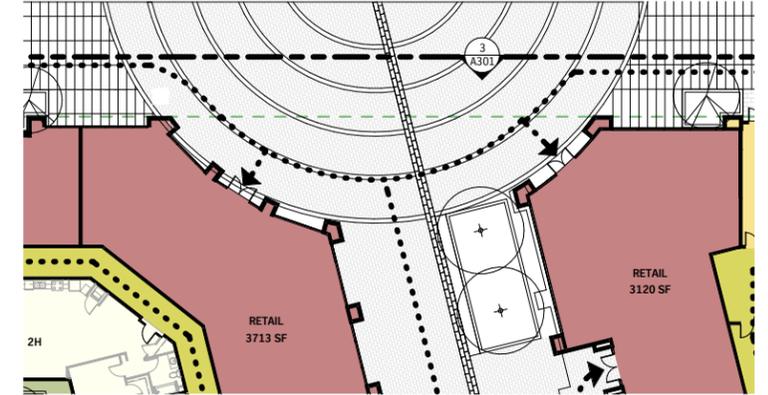
ARCHITECTURAL DRAWINGS | VIEW FROM PASEO (EAST)



The station approach from the Paseo reveals a framed view of the station entrance. From a distance, customers identify the station name and begin to locate the station agent booth, faregates, and TVMs.

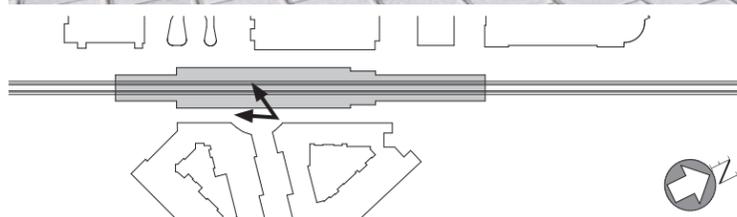


ARCHITECTURAL DRAWINGS | VIEW FROM PLAZA (EAST)

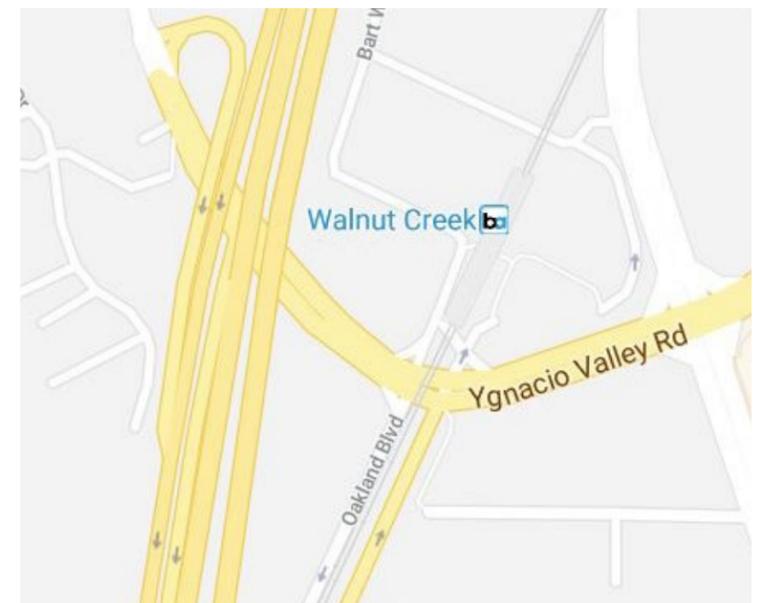


The Paseo ends in a semi-circular plaza from which customers can see the station entrance elements and get a visual sense of the vertical circulation layout. The open layout and transparent fare barriers allows customers to see the garage and bus terminal beyond.

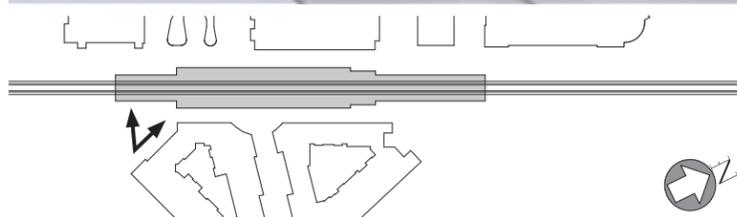
The edge of the semicircular plaza is the edge of the Transit Village development; in this rendering it is expressed as a change in pavement pattern. As the station design and Transit Village phase 3 landscape designs develop, it will be possible to use the same paver style and pattern for the entire entry area, creating a more expansive and unified station approach plaza.

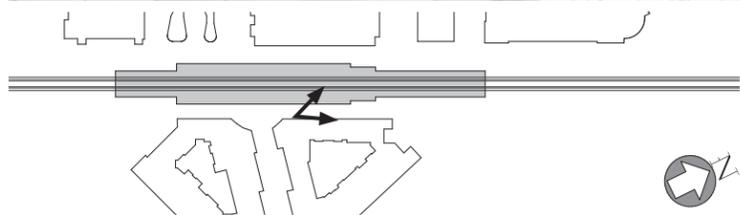


ARCHITECTURAL DRAWINGS | VIEW FROM YGNACIO VALLEY ROAD (SOUTH)

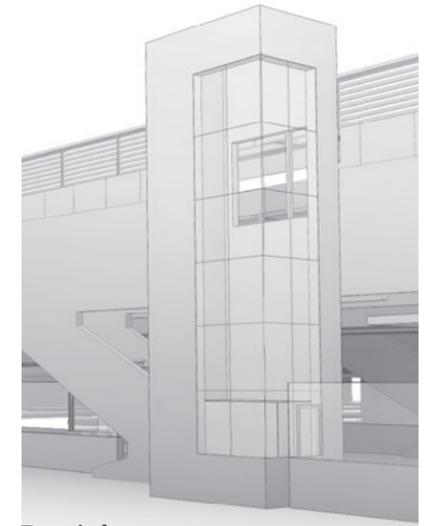


The vertical circulation elements are sculptural forms that express their function as well as playful organic geometry. The view of the station from this general angle would be visible from Ygnacio Valley Road, and so is one of the wider public faces of the station.

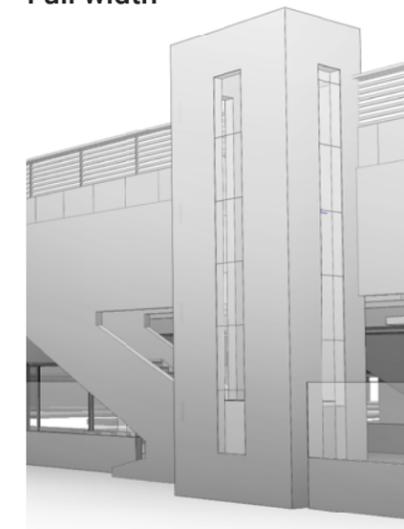




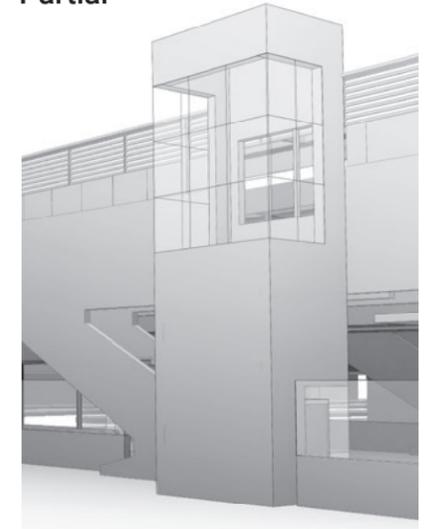
Full width



Partial



Narrow



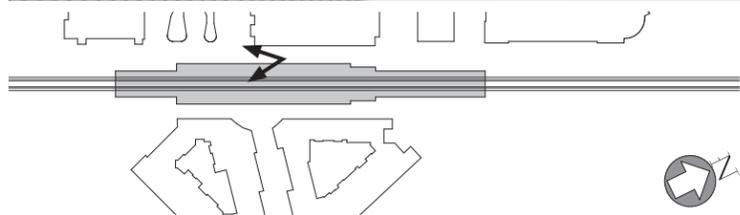
No glazing in unsecured area

The new elevators are tall elements visible from many angles on the site. Both the elevator cab and the shaft will be glazed to create a sense of security and visibility, and according to the BFS. While all BART stakeholders desire glazing, it will take further study to satisfy both the desire to maximize visibility and the need to limit glass in areas not visible to the station agent. The rendering shows how on the unsecured side glazing might be high up, where it can act as a lantern at night. The sketches above show alternative approaches. All should have larger glazed areas facing the paid area.

ARCHITECTURAL DRAWINGS | VIEW FROM EVA PASEO (WEST)



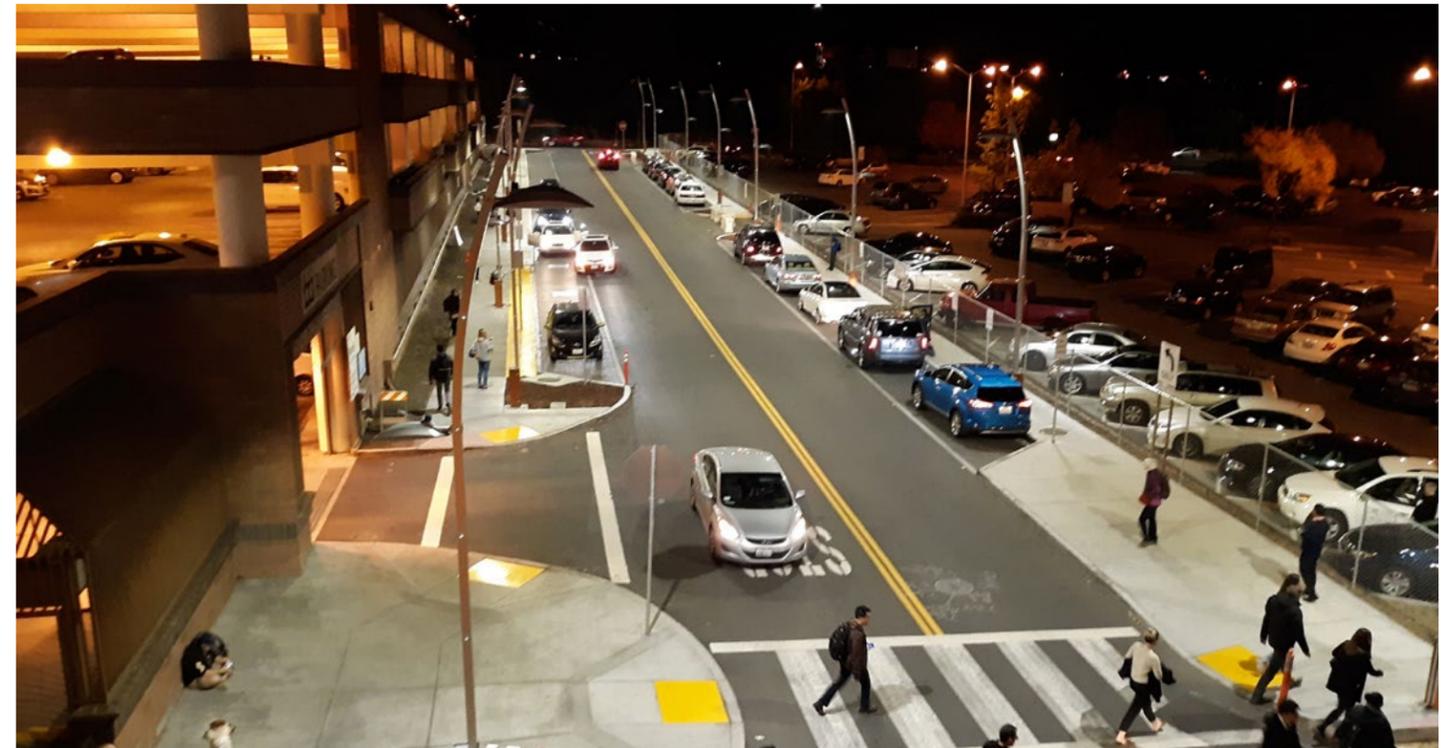
The canopy and signage help make the station entrance easily identifiable from a parallel or oblique approach, such as one from the EVA paseo or from the south end of the site. The station agent booth is positioned for easy access from this more navigationally complex side of the station.



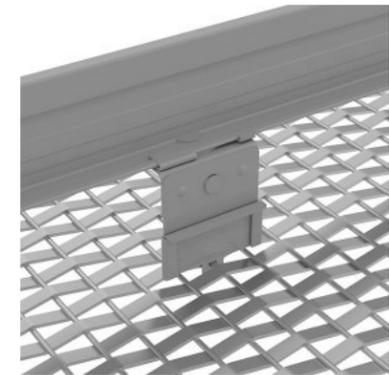
ARCHITECTURAL DRAWINGS | EVA PASEO

The “EVA Paseo”, the pedestrian and emergency vehicle passage along the West side of the station, is an important part of the station approach. This Paseo can be expected to be well used due to the new drop-off zone (pictured right below), Phase 2 Transit Village, and new developments to the north. It is wide and is finished in concrete pavers, which appear well-maintained. The following improvements should be considered, while maintaining the required clear width for emergency vehicles:

- **Accessibility:** the cross slope at the EVA Paseo, at 2.5%, exceeds the maximum allowed for an accessible path. The paseo requires regrading, repaving, and signage so that a fully wheelchair-accessible path of at least 4ft wide connects the dropoff zone with the unpaid area and the garage entrances.
- **Lighting:** pedestrian scale lighting is lacking. Using lighting of the same or similar style that is proposed for Phase 2 of the Transit Village would help unify the outdoor spaces for the station. Wall-mounted lighting is a good option for keeping the ground plan free of obstructions.
- **Color:** The existing fence is painted to blend in with the brick color of the exiting garage. A more contemporary color scheme would be a low-cost way to update the experience of the EVA Paseo.
- **Advertisement & Art:** Advertisement posters are currently attached to the garage fence, with some of the panels used for Public Art. Digital advertisement that shares time/space with art might be an appropriate way to brighten and enhance the paseo.

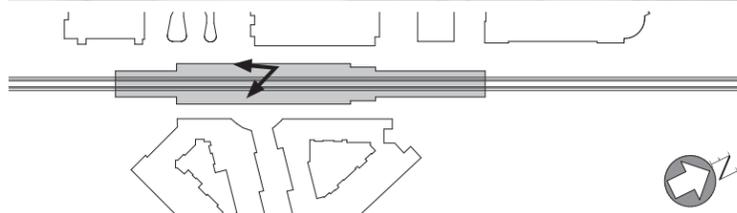


ARCHITECTURAL DRAWINGS | VIEW OF UNPAID STATION ENTRANCE



The unpaid area is kept as clear of obstructions as possible. The solid ceiling provides a location for light, signage and artwork, and encloses the roll-up grille housing. The ceiling at the center of the space is covered by metal mesh surface that extends just under the concrete beams.

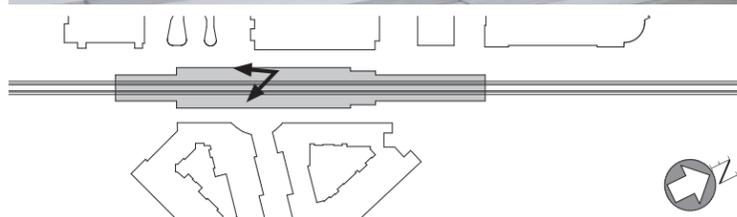
Here images of Robert Minervini's previous works are used as placeholders to help visualize the artwork opportunities.



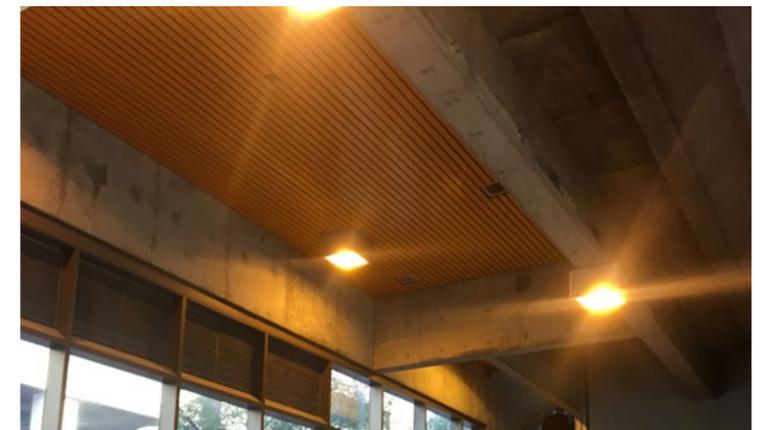
ARCHITECTURAL DRAWINGS | VIEW OF UNPAID STATION ENTRANCE



As an alternative to artwork at this location, the finish material would extend to the vertical faces of the ceiling form.

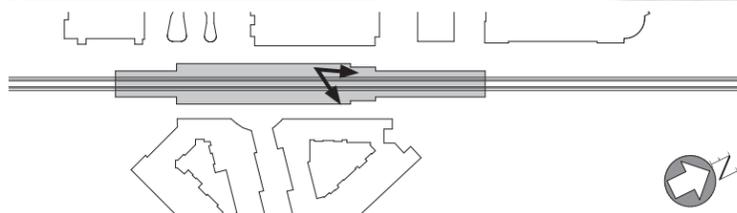


ARCHITECTURAL DRAWINGS | VIEW FROM EXISTING PAID AREA (LOOKING NORTH)



The existing paid area is expanded; here the existing escalators are flanked by the new stair. The original brick and acid etched floor are preserved. Lighting is linear and attached directly to the structural ceiling both to highlight the dramatic structure of the station, and to avoid pigeon roosting. In areas where utilities and other functional elements pose a pigeon issue, metal mesh ceilings (not shown in the rendering) would span between the structural beams.

The existing metal ceilings need further investigation to determine what is behind them and what purpose they fulfill.



ARCHITECTURAL DRAWINGS | VIEW OF NEW PAID AREA (LOOKING SOUTH)

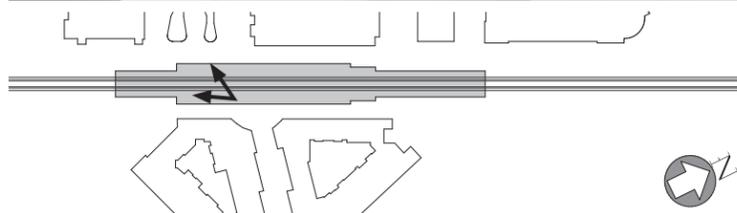


← Platform 1 Platform 2 →
 Yellow Line Antioch Yellow Line SFO Airport

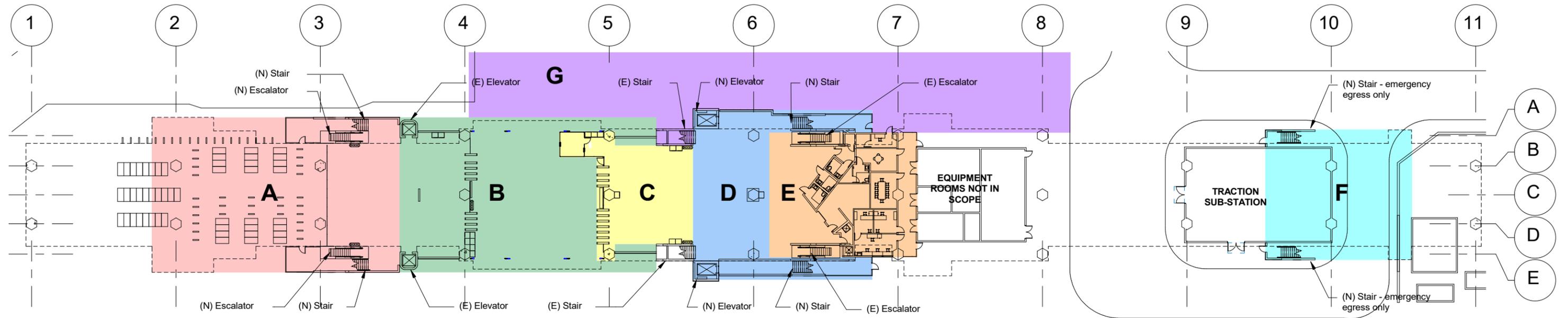
- | | |
|--|--|
| <ul style="list-style-type: none"> Millbrae San Francisco International Airport San Bruno Red Line Millbrae South San Francisco Colma Daly City Balboa Park Glen Park 24th St Mission 16th St Mission Civic Center/UN Plaza Powell Montgomery Embarcadero West Oakland Green Line Berryessa Blue Line Dublin 12th St/Oakland City Center 19th St/Oakland MacArthur Orange Line Berryessa Red Line Richmond Rockridge Orinda Lafayette Walnut Creek Pleasant Hill Concord N. Concord/Martinez Pittsburg/Bay Point Pittsburg Center Antioch | <ul style="list-style-type: none"> Millbrae San Francisco International Airport San Bruno Red Line Millbrae South San Francisco Colma Daly City Balboa Park Glen Park 24th St Mission 16th St Mission Civic Center/UN Plaza Powell Montgomery Embarcadero West Oakland Green Line Berryessa Blue Line Dublin 12th St/Oakland City Center 19th St/Oakland MacArthur Orange Line Berryessa Red Line Richmond Rockridge Orinda Lafayette Walnut Creek Pleasant Hill Concord N. Concord/Martinez Pittsburg/Bay Point Pittsburg Center Antioch |
|--|--|

The new paid area includes new vertical circulation at the back and the existing elevators, painted asymmetrically to make navigation easier. A large wall at the back provides an opportunity for art.

Here images of Robert Minervini's previous works are used as placeholders to help visualize the artwork opportunities.



PHASING CONCEPTS



The overall station plan was divided into seven groups of work, identified by the letters A-G:

- A: New fare barriers, new escalators and stairs (South paid area)
- B: New fare barriers and faregate array, TVMs, new paved floor, ceiling, canopy, station ID signage, and roll-down-grilles
- C: Enlarge existing paid area, move station agent booth and faregate array.
- D: Add new elevators and stairs to existing paid area
- E: Back-of-house improvements, public and staff restroom renovations
- F: Egress-only enclosed stair
- G: Regrade and repave the EVA paseo as needed to reduce the cross slope for accessibility; add pedestrian lighting.

Phasing scenarios were developed with BART stakeholders with the following considerations:

- Station operations
- Cost
- Connection with the new Transit Village context
- Potential need for a temporary fare barrier at existing elevators, in every case where new paid area is not completed first.

The scenarios explored are listed here, and further explored in the following pages.

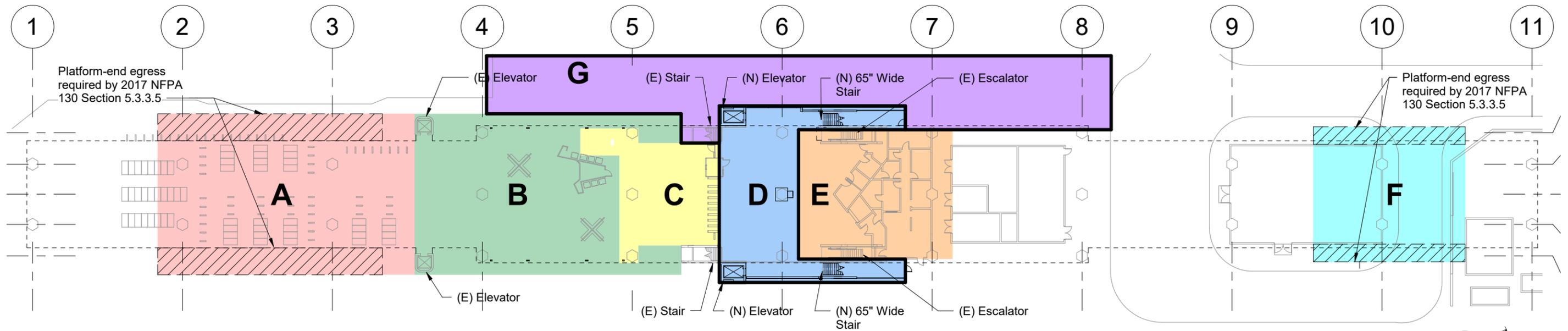
- Scenario 1:** "New elevator first" phase I= D+G
- Scenario 2:** "High impact, lower initial cost" phase I=B
- Scenario 3:** "New paid area, unpaid area first" phase I= A+B

It is important to note that none of the phasing scenarios are complete from a code compliance point of view; they require further safety, egress, and accessibility analysis:

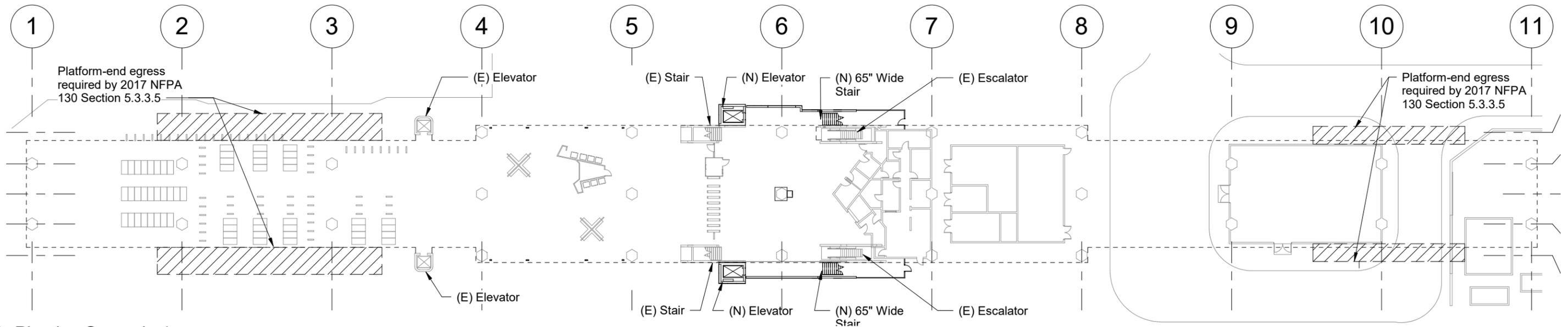
- **Common path of egress:** In the interim condition between phases, the phasing scenarios do not comply with 2017 NFPA 130 Section 5.3.3.5, which in effect requires an egress element within 82ft of the end of the platform. Platform-end stairs are provided in work groups A and F, but because of operational and cost considerations, these were not selected by BART stakeholders to be part of an initial phase. How this code requirement will be met while considering the budget, phasing, operational and policy constraints is an outstanding issue that must be addressed before a phasing plan can be finalized.
- **Egress width:** The total additional egress width required to bring the station into compliance with the 2017 NFPA 130 is calculated in the *Station Egress Capacity Analysis*, included as an appendix to this plan. The required egress width for the interim between project phases will be analyzed by BART once a phasing scenario is selected as part of the next steps to this modernization project. This calculation will inform and may modify the phasing scenarios selected.
- **Accessibility requirements:** Further research is required to determine whether known issues regarding accessibility— notably in the cross-slope of the EVA paseo— would impact the phasing plan.

Please see the *Initial Studies|Vertical Circulation* page above for more information on egress and vertical circulation.

PHASING CONCEPTS | SCENARIO 1



1 Phasing Scenario 1- work groups D & G as Phase 1
Scale: N.T.S.

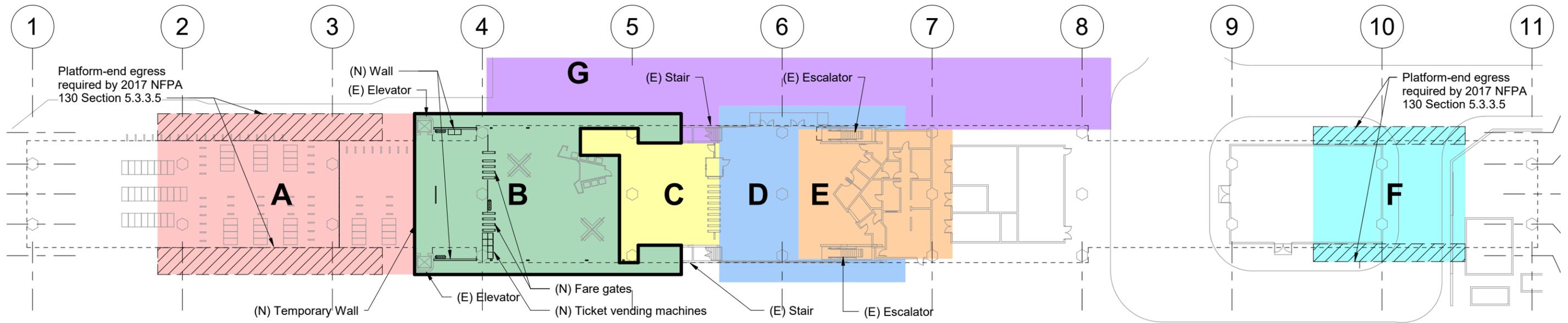


2 Phasing Scenario 1
Scale: N.T.S.

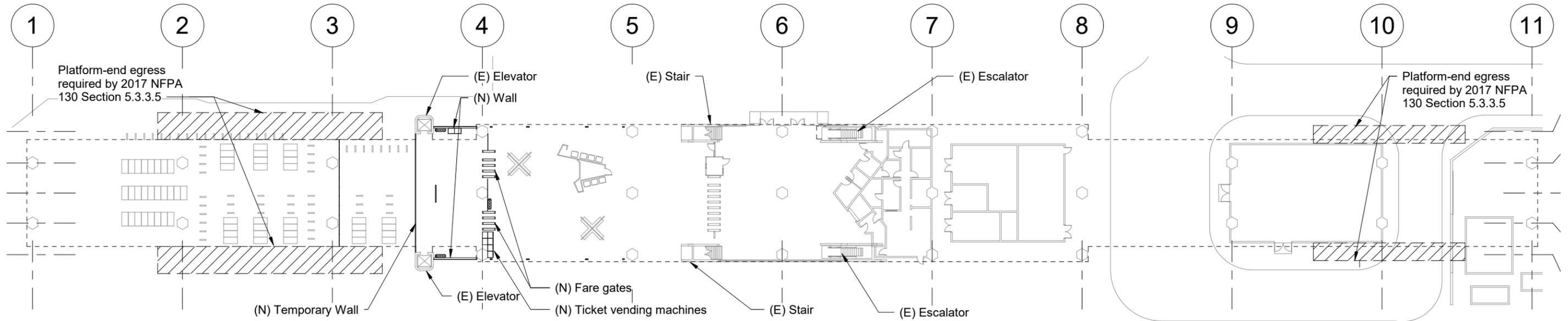
Scenario 1 "New elevator first"

- Phase I = D+G
- Phase II = A+B+C+E+F
- **Pros:** +builds new elevators before impacting those in existing unpaid area
+first phase adds exit capacity
- **Cons:** -initial phase includes potentially costly elevators rather than more impactful elements
-initial phase does not address Transit Village
-major impacts on existing customer circulation during construction
-initial phase does not include required egress at the platform ends

PHASING CONCEPTS | SCENARIO 2



1 Phasing Scenario 2- work group B as Phase 1
Scale: N.T.S.

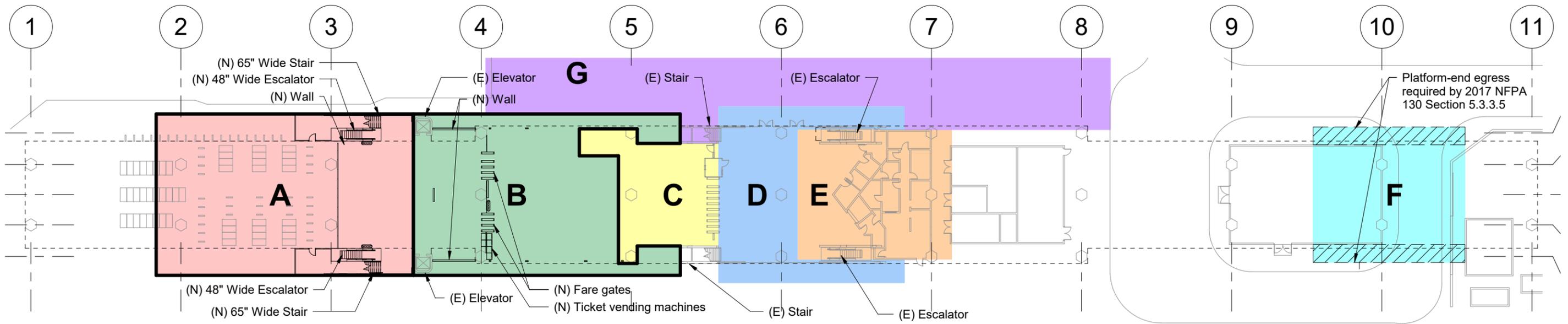


2 Phasing Scenario 2
Scale: N.T.S.

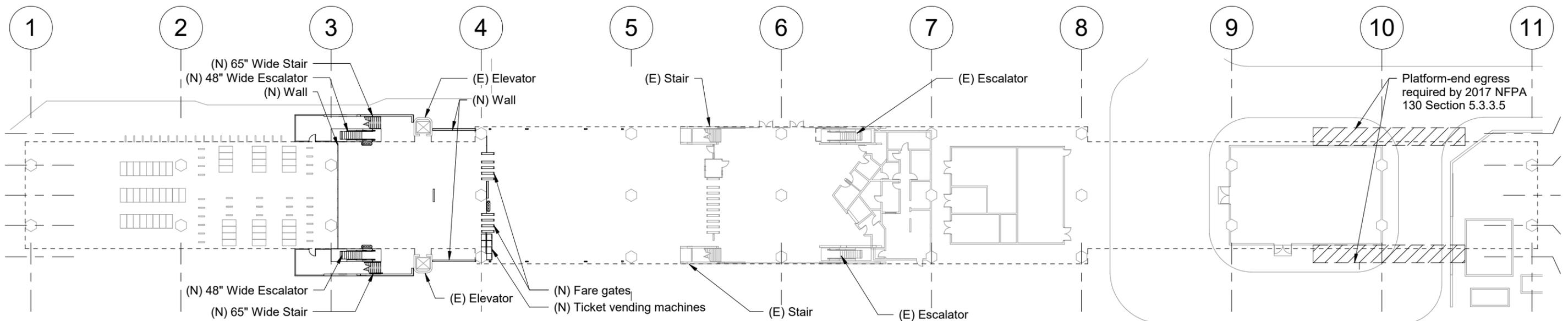
Scenario 2 "High impact, lower initial cost"

- Phase I= B
- Phase II = A+C+D+E+F+G
- **Pros:** +first phase improves interface with Transit Village
+first phase addresses fare evasion at existing elevators
- **Cons:** -initial phase does not add vertical circulation capacity
-initial phase does not include required egress at the platform ends

PHASING CONCEPTS | SCENARIO 3



1 Phasing Scenario 3- work groups A&B as Phase 1
Scale: N.T.S.



2 Phasing Scenario 3
Scale: N.T.S.

Scenario 3 "New paid area, unpaid area first"

- Phase I = A+B
- Phase II = C+D+E+F+G
- **Pros:** +builds new stairs and escalators before impacting those in existing paid area
+first phase improves interface with Transit Village
- **Cons:** -need to protect use of existing elevator through construction
-distance of new faregates from existing SAB
-initial phase does not include required egress at the platform north end

CONCEPTUAL COST ESTIMATE OVERVIEW

Estimate Summary			15% Design		rev. 3 02 28 2019			
CSI Code	Description	Unit of Work	Number	Quantity	Unit cost	Amount	COST GROUP TOTAL	BID GROUP TOTAL
Div 1	Mobilization / Demobilization						\$1,625,000	\$5,000,000
Div 2	Demolition						\$2,244,200	\$4,750,365
Div 3	Concrete						\$707,000	\$1,545,502
Div 4	Masonry						\$1,205,000	\$2,634,130
Div 5	Metals						\$2,738,000	\$5,985,268
Div 6	Plastic Fabrications						\$0	\$0
Div 7	Thermal & Moisture Protection						\$4,010,000	\$8,765,860
Div 8	Doors & Windows						\$600,500	\$1,312,693
Div 9	Finishes						\$579,840	\$1,267,530
Div 10	Signage						\$64,175	\$140,287
Div 12	Finishes						\$211,100	\$461,465
Div 13	Special Construction						\$325,000	\$710,450
Div 14	Conveying Systems						\$4,500,000	\$9,837,000
Div 20	Facilities and Systems						\$1,575,000	\$3,442,950
Div 21	Fire Suppression						\$28,000	\$61,208
Div 22	Plumbing						\$16,500	\$36,069
Div 23	Heat, Vent & Air conditioning						\$40,000	\$87,440
Div 26	Electrical						\$1,655,000	\$3,617,830
	Back of the House Modifications						\$192,620	\$549,926
TOTAL DIRECT CONSTRUCTION COST							\$22,316,935	\$50,205,973
INDIRECT COSTS								
	General Conditions				10%		\$2,231,694	
	Bonds & Insurance				2.50%		\$557,923	
	Contractor Overhead				15%		\$3,347,540	
	Contractor Office, Yard, Shop						\$250,000	
	Design Contingency				30%		\$6,695,081	
	Construction Contingency				10%		\$2,231,694	
	Work Hour Conditions				7%		\$1,562,185	
	Escalation (3% per year X 3 years)				10%		\$2,231,694	
	Safety enclosures during Construction						\$100,000	
	Differing Site Conditions						\$100,000	
	Upgrade to Code Compliance				5%		\$1,115,847	
	Design Changes				5%		1,115,847	
	BART System Delays				8%		1,785,355	
							0	
	Sub-Total Construction Cost						\$45,641,793	
	Profit				10%		\$4,564,179	
TOTAL CONSTRUCTION COST							\$50,205,973	\$50,205,973

Cost organized by work group and phasing scenario (See pages 35-38 above)

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	TOTAL	
Group BID Total	\$10,409,197	\$9,616,287	\$8,091,957	\$15,298,751	\$2,798,911	\$2,556,455	\$1,434,415	\$50,205,973	
TOTAL PROJECT BID	\$50,205,973	\$50,205,973	\$50,205,973	\$50,205,973	\$50,205,973	\$50,205,973	\$50,205,973	\$50,205,973	
Work not included in this Group	\$39,796,776	\$40,589,686	\$42,114,016	\$34,907,221	\$47,407,062	\$47,649,518	\$48,771,558		
SCERANIO GROUPING RECAP									OTHER WORK
Scenario 1				\$15,298,751			\$1,434,415	\$16,733,166	\$33,472,807
Scenario 2		\$9,616,287						\$9,616,287	\$40,589,686
Scenario 3	\$10,409,197	\$9,616,287						\$20,025,484	\$30,180,489

- Note:
- Detailed cost estimate detail shows the detailed break out of "BID" amount for each work item and combined value into divisions and then into groups
 - The detail estimate work sheet is broken down from cost summary.
 - All costs and bid are in 2019 dollars with escalation added to 2023.

DIRECT COST is the cost of a contractor to perform the direct task work including labor, equipment, materials and subcontractor costs.

INDIRECT COST items are listed which make up the cost of the project but not attributed to a specific direct item of work.

BID AMOUNT the sum of the direct cost work activities plus indirect support costs to present what an owner would see at the time of bid.

TOTAL CONSTRUCTION COST, or **BID PRICE** is the sum of the direct cost work activities plus indirect support costs.

This summary is extracted from the project conceptual cost estimate, which is attached as an appendix below. For definitions, clarifications and detail please see the estimate.