

APPENDIX B

CONSTRUCTION ASSUMPTIONS

- Construction Assumptions**
- Rope Pulling and System Testing**

Memorandum

APPENDIX B

CONSTRUCTION ASSUMPTIONS

- Construction Assumptions



April 8, 2022

David DeRosa
Associate Vice President
AECOM
900 South Grand, Suite 900
Los Angeles, CA 90071

Re: Los Angeles Aerial Rapid Transit Project: Construction Assumptions

Dear Mr. DeRosa:

Aerial Rapid Transit Technologies LLC (“ARTT”) proposes to construct the Los Angeles Aerial Rapid Transit Project (“LA ART” or “Project”).

Construction Phasing and Anticipated Closures

Construction of each station, junction, and tower is anticipated to occur over several phases: construction of piles, foundations and columns; structural steel and gondola equipment erection; vertical circulation, hardscape, landscape, interior work, and the required roadway asphalt and re-striping to support the Project. An overview of this phasing and area conditions, including anticipated closures, is included as Exhibit 1 to this memorandum. For each of the Project components (Alameda Station, Alameda Tower, Alpine Tower, Chinatown / State Park Station, Broadway Junction, Stadium Tower, and Dodger Stadium Station), Exhibit 1 includes detail on each phase of construction and provides additional information as to the anticipated duration of each phase, potential closure conditions and descriptions, estimated structural details, anticipated construction and staging zones, estimated foundation and pile locations, and potentially impacted utilities. The information about potential closure conditions and descriptions was coordinated with Fehr & Peers.

Alameda Station

As shown in Exhibit 1, there are two potential options for construction of Alameda Station, depending on whether or not Metro’s Lot B, an existing approximately 60-space parking lot in front of the Union Station Terminal and the future location of the Union Station Forecourt (“Lot B”), may be utilized for construction staging and location of the crane to be used during Alameda Station’s construction. If ARTT utilizes Lot B, the construction would include the installation and use of a temporary deck spanning over Alameda Street during the structural steel and gondola equipment erection phase. Two additional construction phases are included under this option for the temporary deck’s installation and its subsequent removal. Once installed, the temporary deck would allow certain lanes to remain open full-time during the structural steel and gondola equipment erection phase, and provide protection for pedestrians on Alameda Street. If

Lot B is not utilized for staging, the temporary deck would not be able to be installed due to the required proximity of the crane to the construction zone. For the structural steel and gondola equipment erection phase, this option would require the closure of additional lanes during construction hours so that the crane could be assembled and remain in the road until the phase is complete. During non-construction hours, certain lanes would remain open that were not impacted by the location of the crane.

Under either option, construction of Alameda Station would not impact pedestrian access to Union Station.

Broadway Junction

Construction of the Broadway Junction will also utilize a temporary deck in order to reduce lane closures along Bishops Road and North Broadway. Two phases of construction are included for the deck's installation and its subsequent removal. Once installed, the temporary deck would allow certain lanes to remain open full-time during the structural steel and gondola equipment erection phase, and provide protection for pedestrians on Bishops Road and North Broadway.

Construction Equipment, Number of Construction Workers, Shuttle and Truck Trips, Excavation and Haul Amounts

Assumptions regarding construction equipment (including type, quantity, and frequency of use), typical number of truck trips, typical number of construction workers, typical number of shuttle trips for construction workers, peak number of truck trips during either concrete pour or steel delivery, excavation depths, depths of site work, excavation amounts, haul amounts, and amount of materials (including soils) reused on site for the construction of LA ART are included in Exhibit 2 (including the assumptions for construction with the temporary deck at Alameda Station) and Exhibit 3 (including the assumptions for construction without the temporary deck at Alameda Station) to this memorandum.

Construction Power Draw Estimates

PCL estimates that construction of the Project would result in a demand of approximately 864,544 kWh of electricity from the grid, with a peak day total of approximately 1,977 kW. This demand would be temporary, and in some cases would supplant electricity that would have otherwise been provided by an alternate energy source (e.g., diesel generators).

Construction Worker Parking and Staging at the Dodger Stadium Property

PCL anticipates that construction worker parking would be provided on- and off-site depending on the phase of construction and the availability of on-site parking. Off-site parking facilities could include parking lots close to construction sites. The Dodger Stadium property may also be used for construction worker parking and construction staging. When construction worker parking is off-site, or construction workers are parked at Dodger Stadium, but are working on

station components elsewhere along the Project alignment, a temporary shuttle may be operated for construction workers to and from the designated off-site parking location. Limited on-site parking will be made available for site visitors, deliveries, and inspectors.

The Dodger Stadium property may be used as a construction staging location, including for staging of the gondola system. Included as Exhibit 4 is the potential location for construction and gondola system staging on the Mesa Lot. Construction staging would include construction trailers for construction management use with corresponding parking for construction management, use during construction hours, and a laydown area. Gondola system staging on the Mesa Lot would include receipt of containers containing the gondola system and assembly and staging of the gondola system. If locations closer to the construction sites are able to be utilized for construction staging, they may also be used as a possible staging location.

Parking spaces will be temporarily removed at Dodger Stadium for Project construction. For construction of Dodger Stadium Station, 105 spaces would be removed during the Foundations and Columns and Structural Steel and Gondola Equipment Erection phases, and 252 spaces would be removed for the Vertical Circulation/Hardscape and Landscape/Interior Work phase. In addition, the Mesa Lot would be used for overall Project construction and gondola system staging, including construction trailers, laydown, and staging areas. 713 parking spaces would be temporarily removed in the Mesa Lot. Additional parking spaces at Dodger Stadium would also be temporarily closed for construction worker parking.

Overview of Estimated Utility Relocation Details

Utility relocations are anticipated to occur prior to the start of the construction. Exhibit 2 (including the assumptions for utility relocations with the temporary deck at Alameda Station) and Exhibit 3 (including the assumptions for utility relocations without the temporary deck at Alameda Station) include an overview of the required utility relocations that are anticipated for the construction of the Project. The following table provides an overview of estimated utility relocation details for LA ART, including the utility relocation duration for each component, maximum depth of excavation, amount of excavation, and amount of materials exported:

Estimated Utility Relocation Details

Component	Utility Relocation Duration (Weeks)	Maximum Depth of Excavation (Feet)	Amount of Excavation (Cubic Yards)	Amount of Materials Exported (Cubic Yards)
Alameda Station	7	10	1,000	1,000
Alameda Tower	2	10	160	160
Alpine Tower	3	10	1,000	1,000
Chinatown / State Park Station	2	10	160	160
Broadway Junction	8	10	111	111
Stadium Tower	3	10	3,500	3,500
Dodger Stadium Station	5	10	1,600	1,600

Schedule

Construction of LA ART stations, junction and towers may partially overlap in schedule, especially since construction would occur at physically separated sites, with consideration of available materials, work crew availability, and coordination of closures. Construction is anticipated to take approximately 25 months, including construction, cable installation, and system testing.

A graphic description of the potential construction schedules are included as Exhibit 5 to this memorandum.

Overview of Construction Details

The following table provides an overview of construction details for LA ART, including the construction duration for each component, maximum depth of drilled piles beneath the pile cap, maximum depth of excavation, amount of excavation, and amount of materials exported:

Construction Details

Component	Construction Duration (Months)	Maximum Depth of Drilled Piles Beneath Pile Cap (Feet)	Maximum Depth of Excavation (Feet)	Amount of Excavation (Cubic Yards)	Amount of Materials Exported (Cubic Yards)
Alameda Station	17	125	10	2,728	2,295
Alameda Tower	12	120	10	2,850	2,292
Alpine Tower	11	120	10	3,606	2,887
Chinatown / State Park Station	19	80	10	6,267	4,567
Broadway Junction	19	120	7	6,407	5,379
Stadium Tower	12	120	7	1,286	1,202
Dodger Stadium Station	20	55	42	44,313	44,001

Sincerely,

PCL Construction Services, Inc.



Austin Wheelon
Preconstruction Manager

AGW

cc: EM, AY

EXHIBIT 1
Overview of Construction Phasing and Area Conditions

Alameda Station with Temporary Deck | Existing

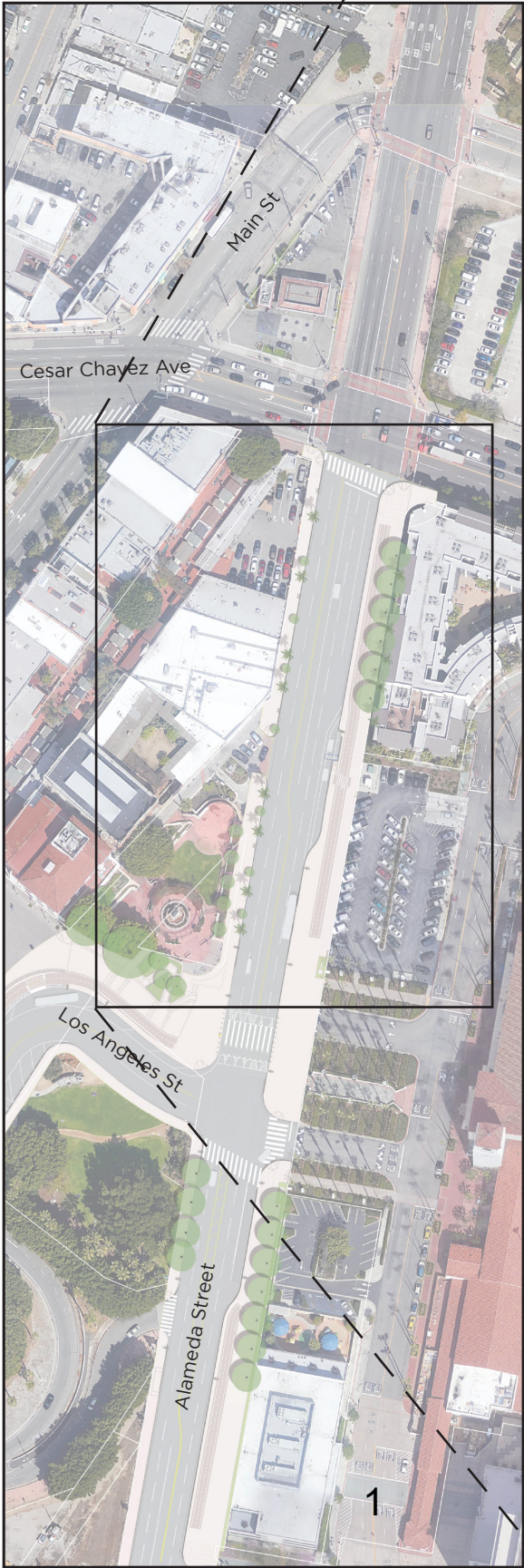
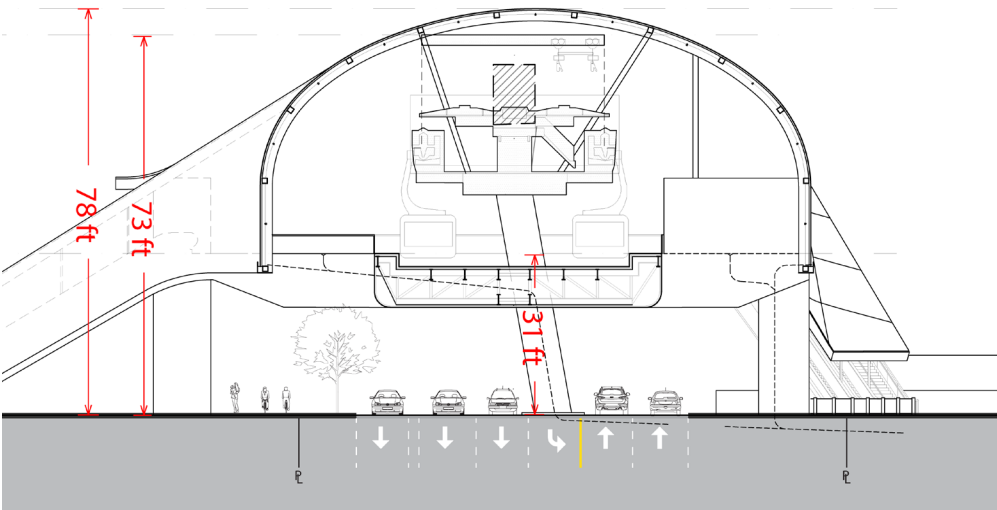
Existing Conditions with Esplanade

Planned conditions for Metro’s proposed Esplanade at the proposed location for Alameda Station:

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/ NB curbside drop off lane
- 2 SB through lanes

Existing conditions for Cesar Chavez Avenue at the proposed location for Alameda Station:

- 1 EBL turn lane
- 2 EB through lanes
- 1 EBR turn lane
- 1 WBL turn lane
- 2 WB through lanes
- 1 WB through-right lane



Alameda Station with Temporary Deck

Foundations and Columns 16 weeks

Required area for Construction
48,600 sqft

Alameda Street

Portion of lanes shortened but not closed

- 2 NB through lanes

Lanes and sidewalks closures

- 1 NBL turn lane
- 1 SB through lane
- NB curbside drop off

Lanes and sidewalks to remain open

- 1 NB through-right lane
- 1 SB through lane
- Both sidewalks
- Esplanade 2-way bike path

Cesar Chavez Avenue

Lanes and sidewalks closures

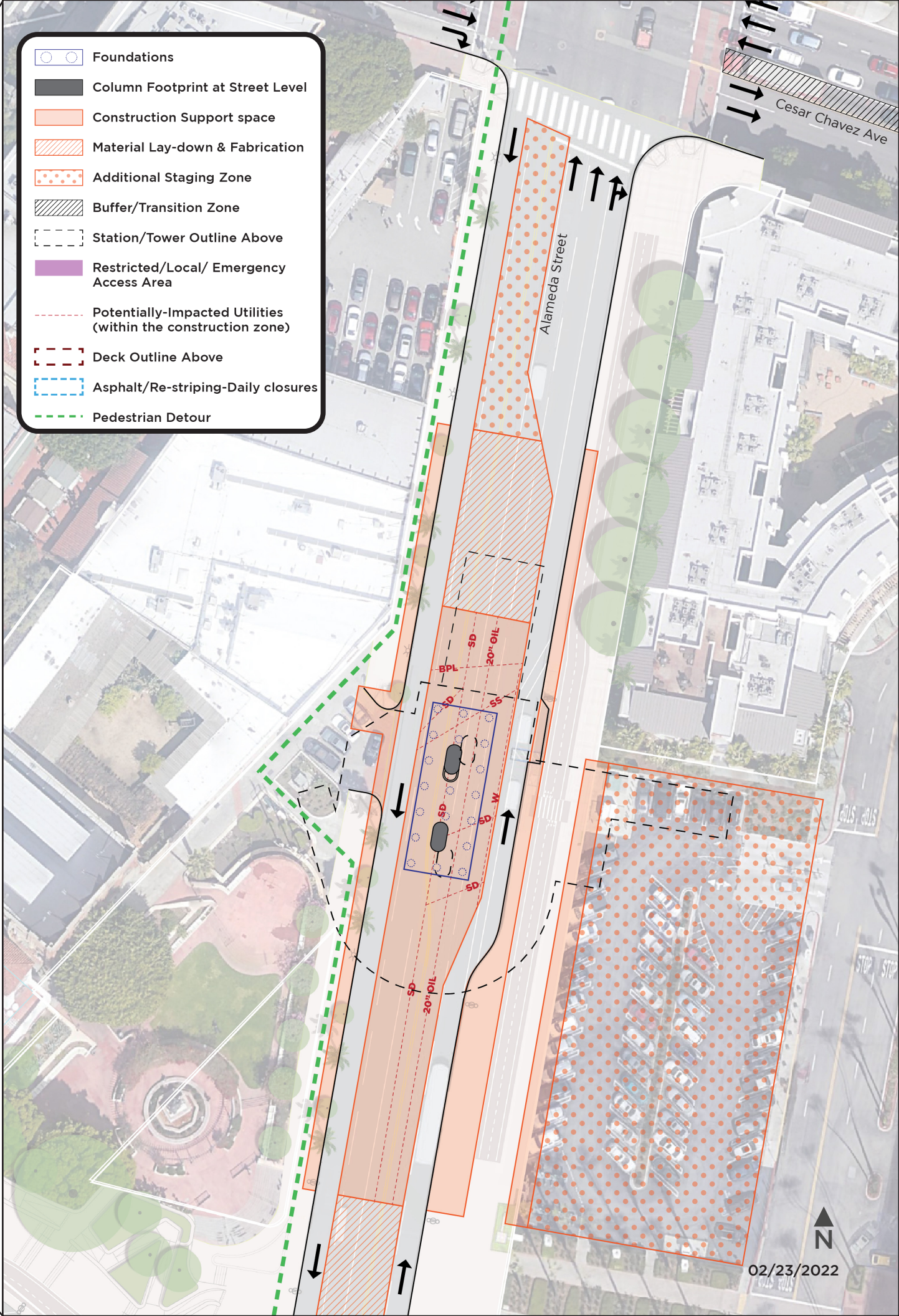
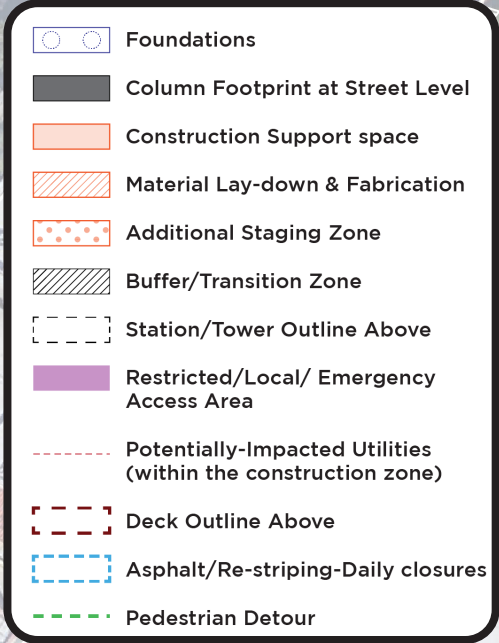
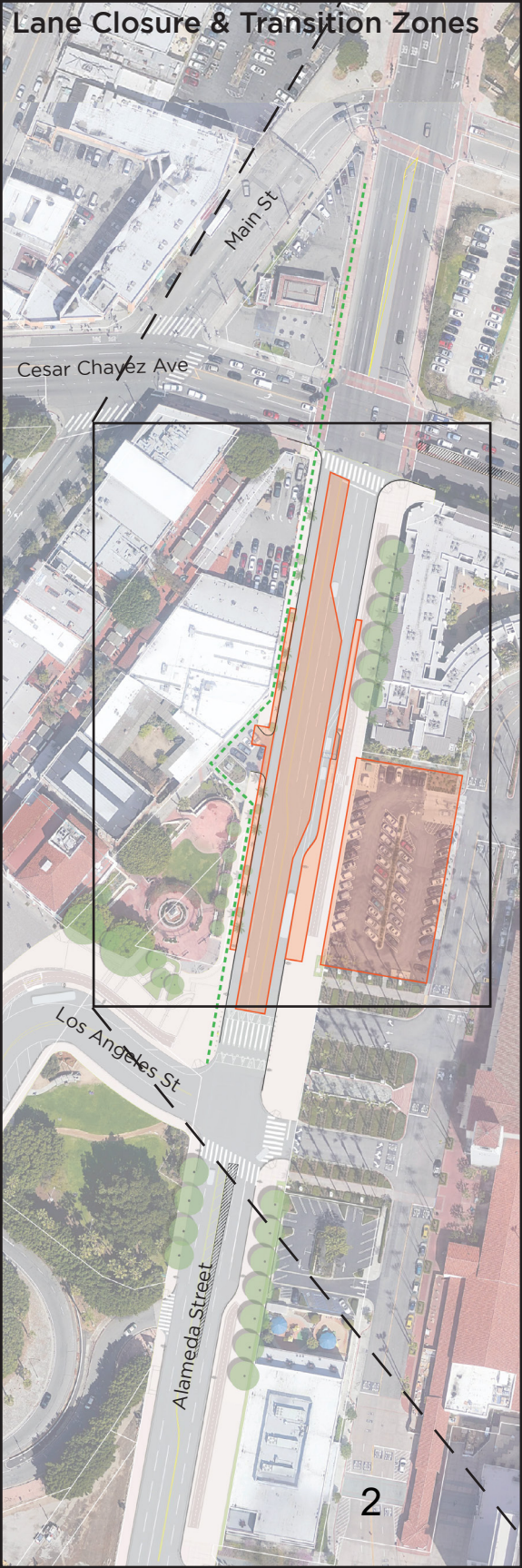
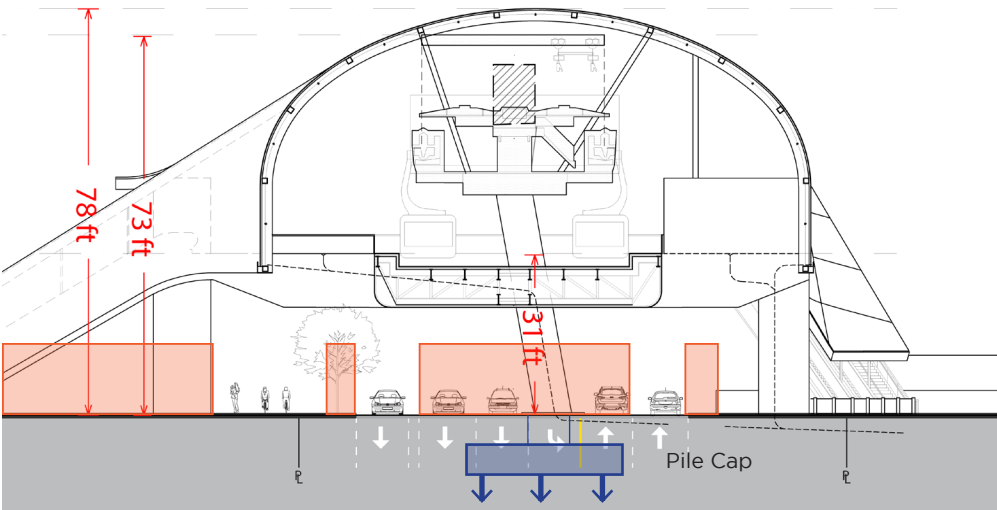
- 1 WBL turn lane

Lanes and sidewalks to remain open

- 1 EBL turn lane
- 2 EB through lanes
- 1 EBR turn lane
- 2 WB through lanes
- 1 WB through-right lane

Pile Overview

21 total piles; each 4' DIA, up to 125 ft deep below the pile cap



Alameda Station with Temporary Deck

Deck Shoring, Cribbing & Erection 2 weeks

Required area for Construction
51,500 sqft

Alameda Street

Lanes and sidewalks closures

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/
NB curbside drop off lane
- 2 SB through lanes

Lanes and sidewalks to remain open

- No lanes open
- Both sidewalks (Pedestrian traffic will be controlled)
- Esplanade 2-way bike path

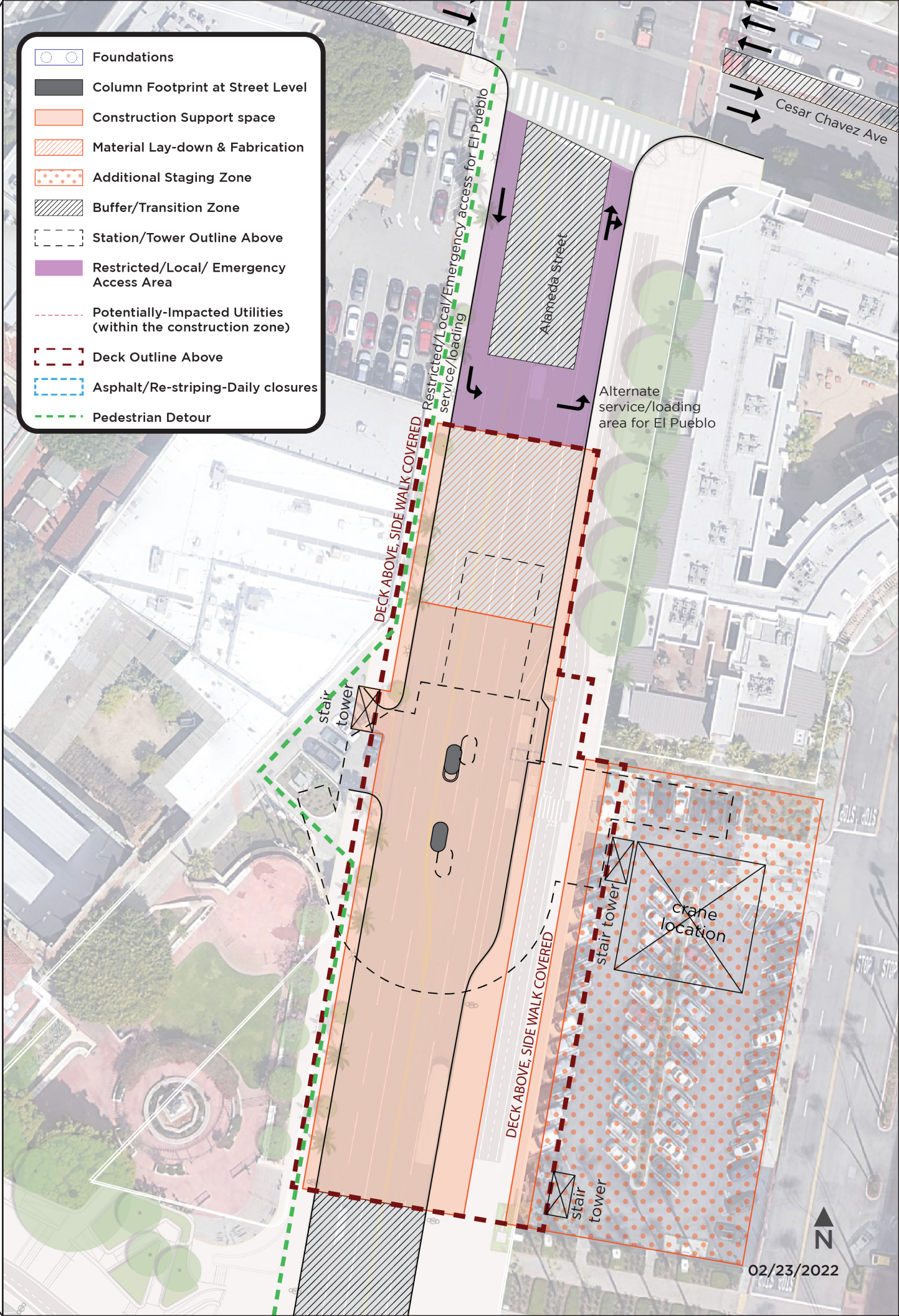
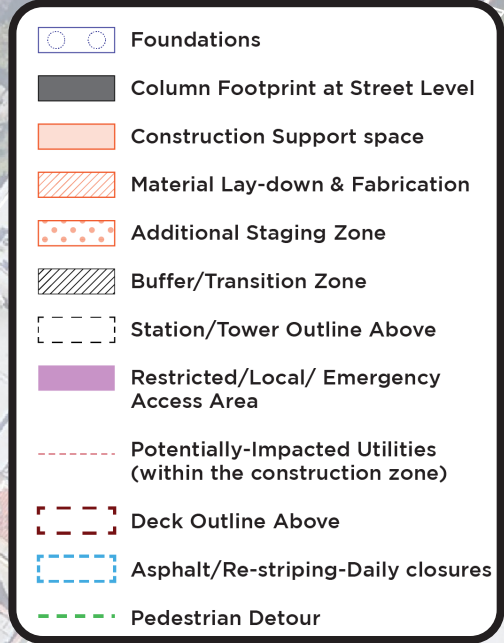
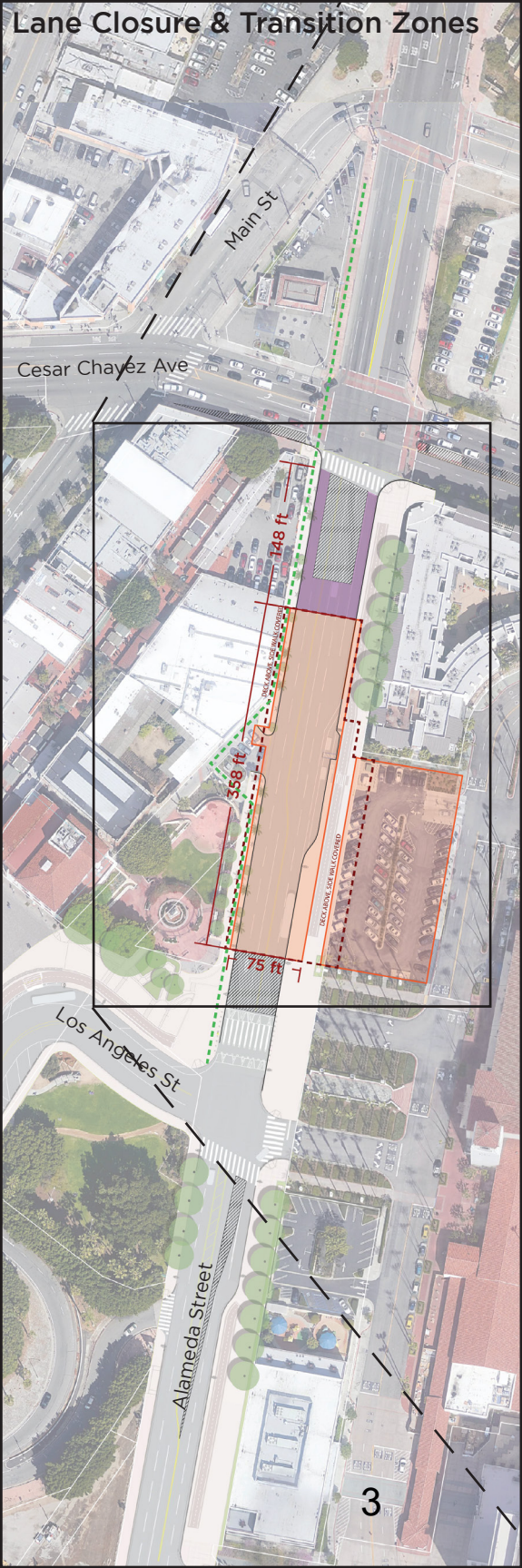
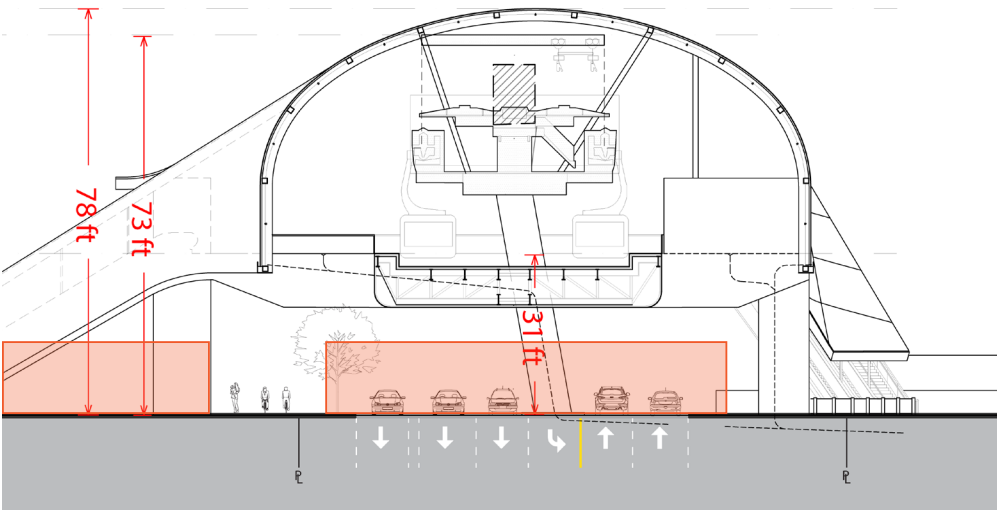
Cesar Chavez Avenue

Lanes and sidewalks closures

- 1 WBL turn lane
- 1 EBR turn lane

Lanes and sidewalks to remain open

- 1 EBL turn lane
- 2 EB through lanes
- 2 WB through lanes
- 1 WB through-right lane



02/23/2022

Alameda Station with Temporary Deck

Deck Removal

3 weeks (Overlaps with Vertical Circulation/ Hardscape and Landscape/ Interior Work)

Required area for Construction
55,600 sqft

Alameda Street

Lanes and sidewalks closures

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/
NB curbside drop off lane
- 2 SB through lanes
- Partial West sidewalk
detour required

Lanes and sidewalks to remain open

- No lanes open
- East sidewalk
- Esplanade 2-way bike path

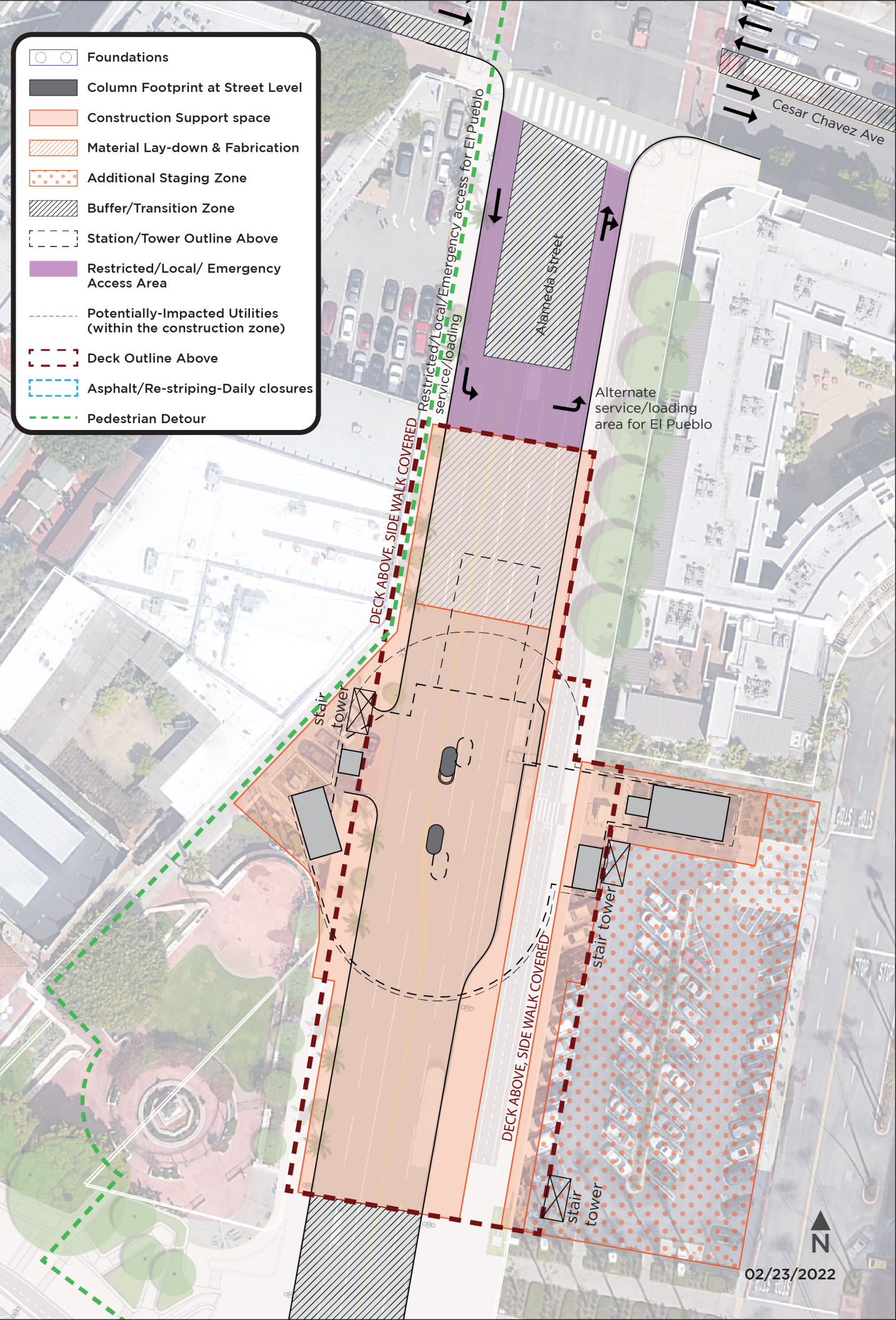
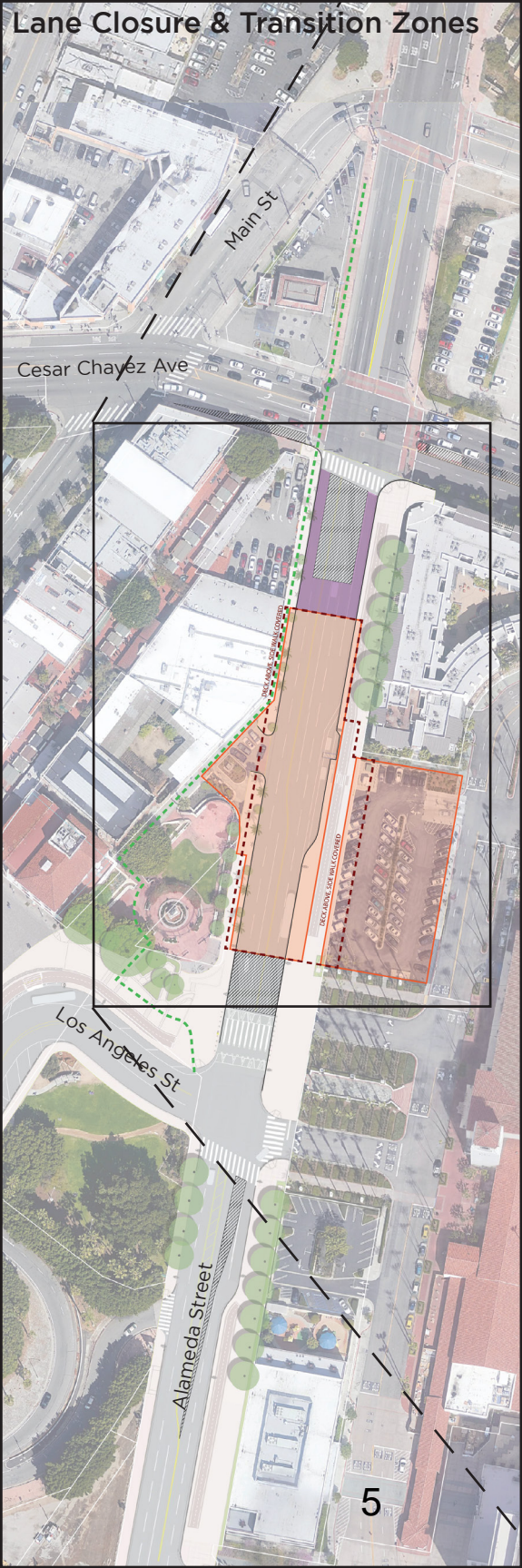
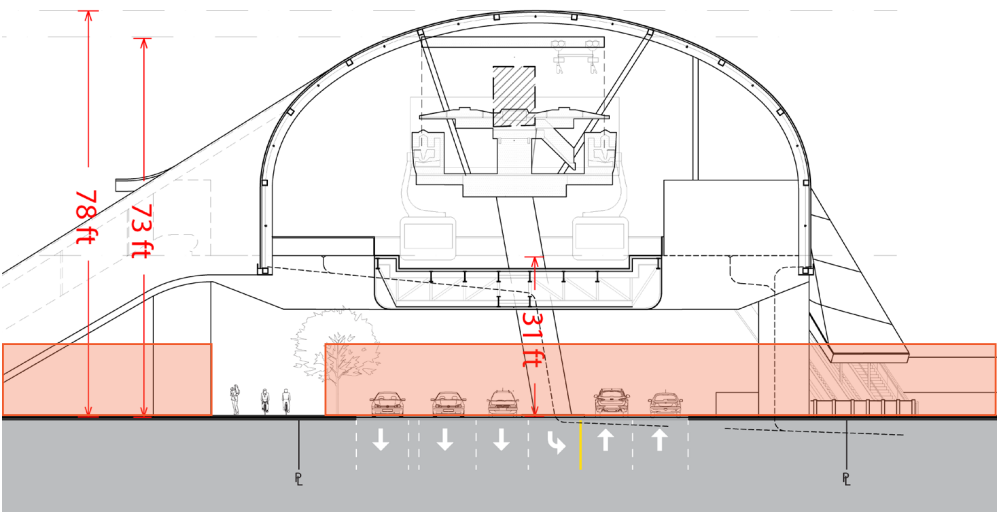
Cesar Chavez Avenue

Lanes and sidewalks closures

- 1 WBL turn lane
- 1 EBR turn lane

Lanes and sidewalks to remain open

- 1 EBL turn lane
- 2 EB through lanes
- 2 WB through lanes
- 1 WB through-right lane



Alameda Station with Temporary Deck

Vertical Circulation/ Hardscape and Landscape/ Interior Work
27 weeks

Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 4-week duration period

Required area for Construction
35,000 sqft

Alameda Street

Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures
- NB curbside drop off
- Partial West sidewalk detour required

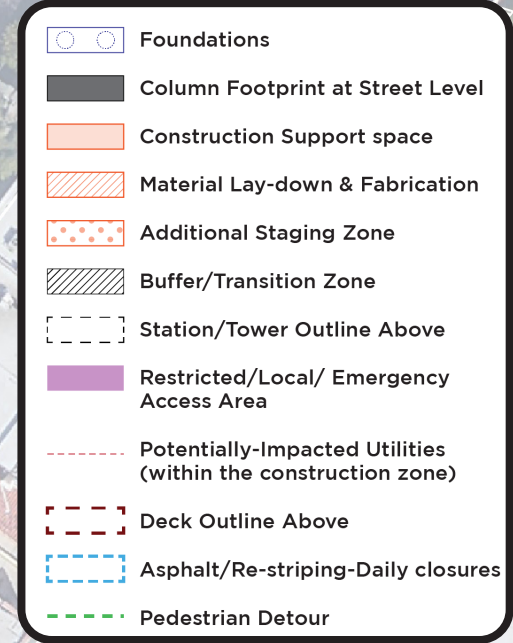
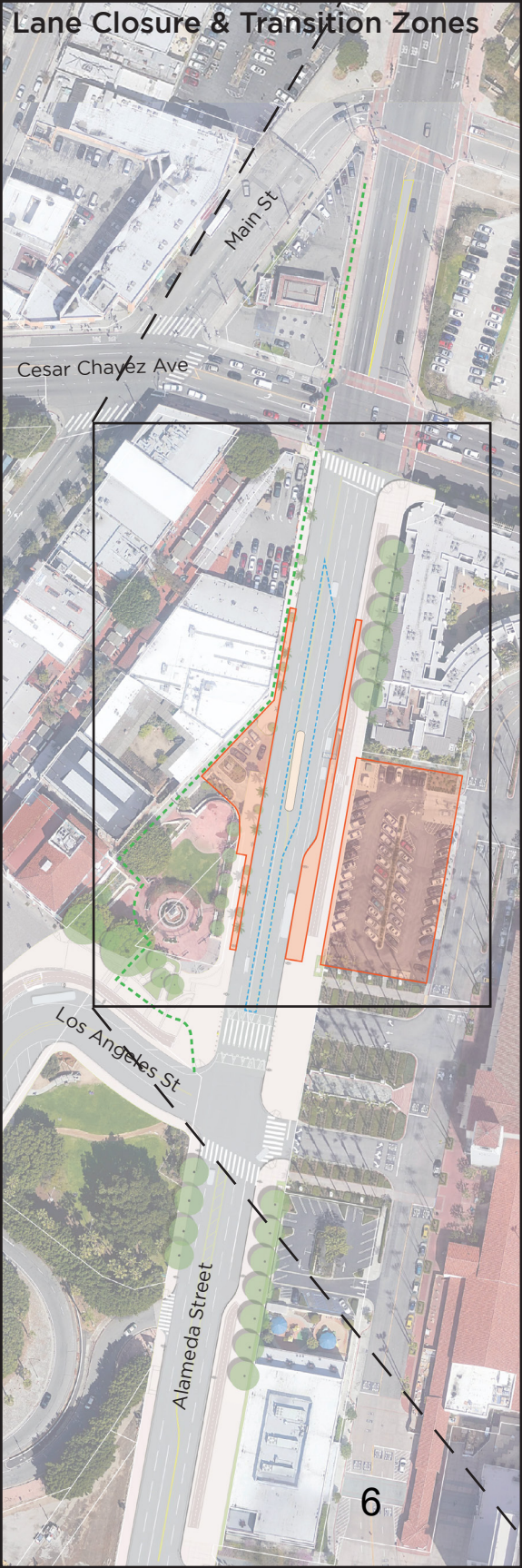
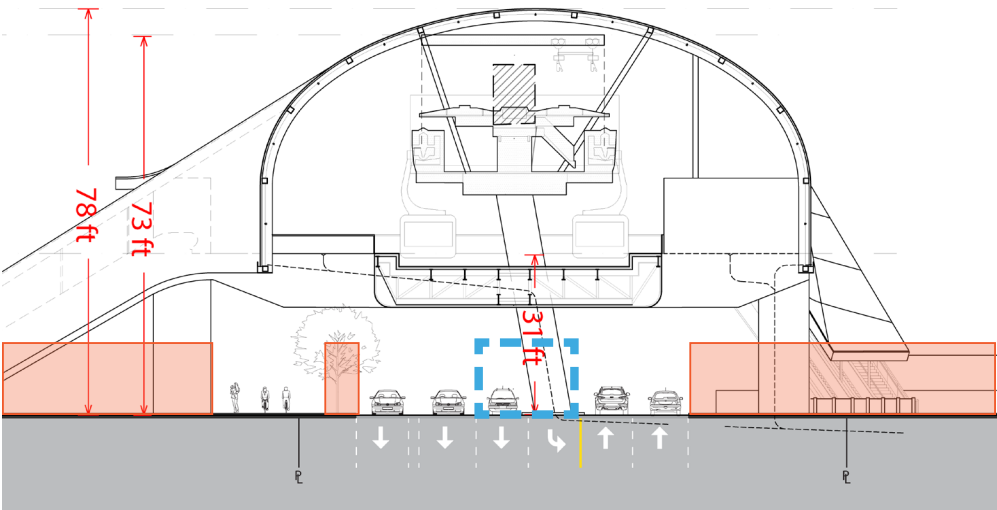
Lanes and sidewalks to remain open

- All lanes
- East sidewalk
- Esplanade 2-way bike path

Cesar Chavez Avenue

Lanes and sidewalks to remain open

- All lanes



Alameda Station with Temporary Deck | Build-Out

Build-Out Conditions with Esplanade

Build-out conditions with Metro’s proposed Esplanade at the proposed location for Alameda Station:

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/ NB curbside drop off lane
- 2 SB through lanes

Build-out conditions for Cesar Chavez Avenue at the proposed location for Alameda Station:

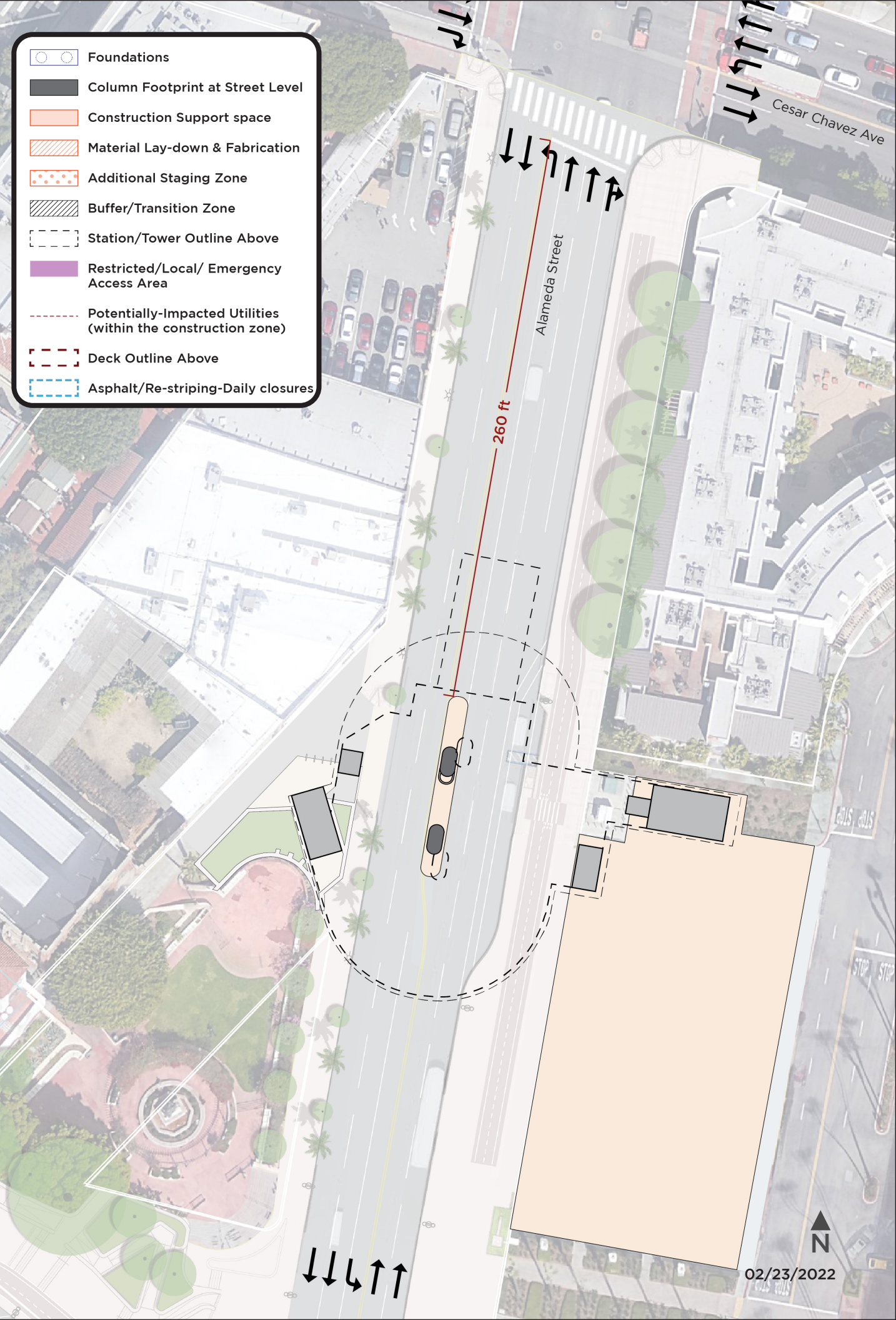
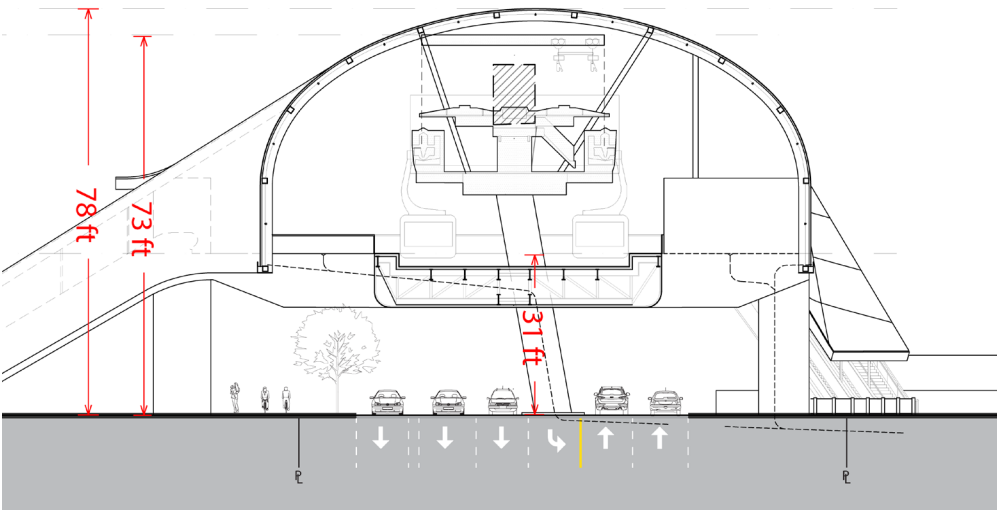
- 1 EBL turn lane
- 2 EB through lanes
- 1 EBR turn lane
- 1 WBL turn lane
- 2 WB through lanes
- 1 WB through-right lane

New raised median introduced within the northbound left-turn lane onto Cesar Chavez Avenue

Minor reduction to left turn pocket storage.

Vertical circulation for Alameda Station access

Vertical circulation elements (i.e. elevators, escalators, stairs) for pedestrian access to the Alameda Station introduced at-grade on the Union Station property and El Pueblo property.





Alameda Station without Temporary Deck | Existing

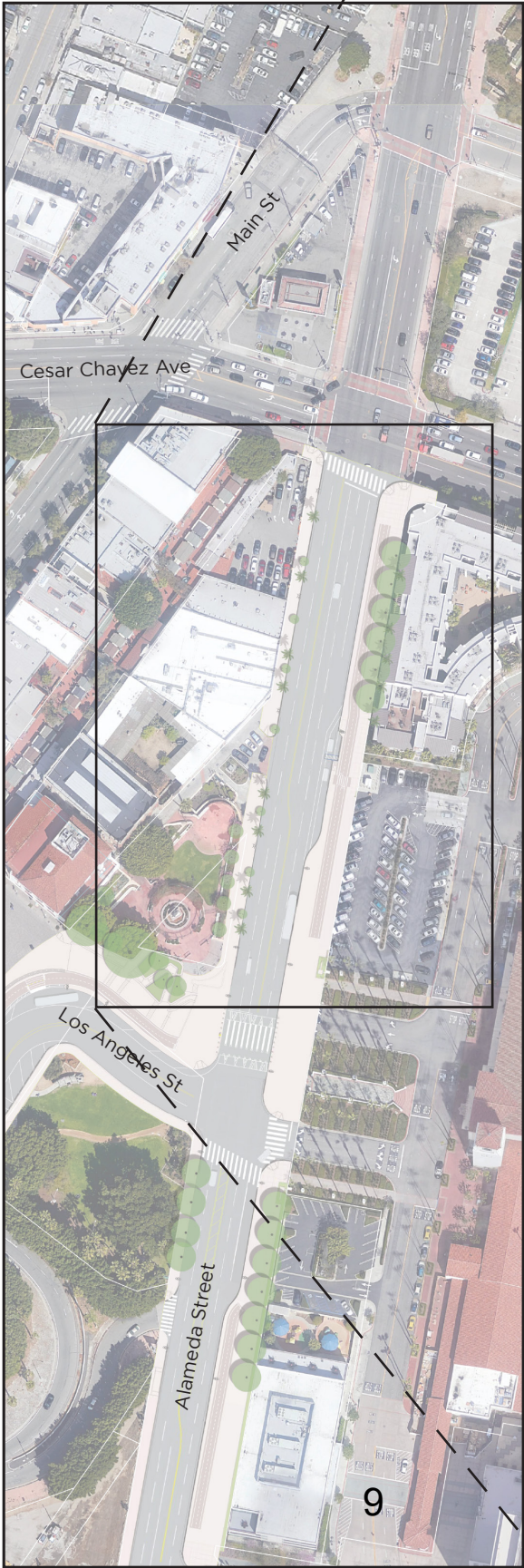
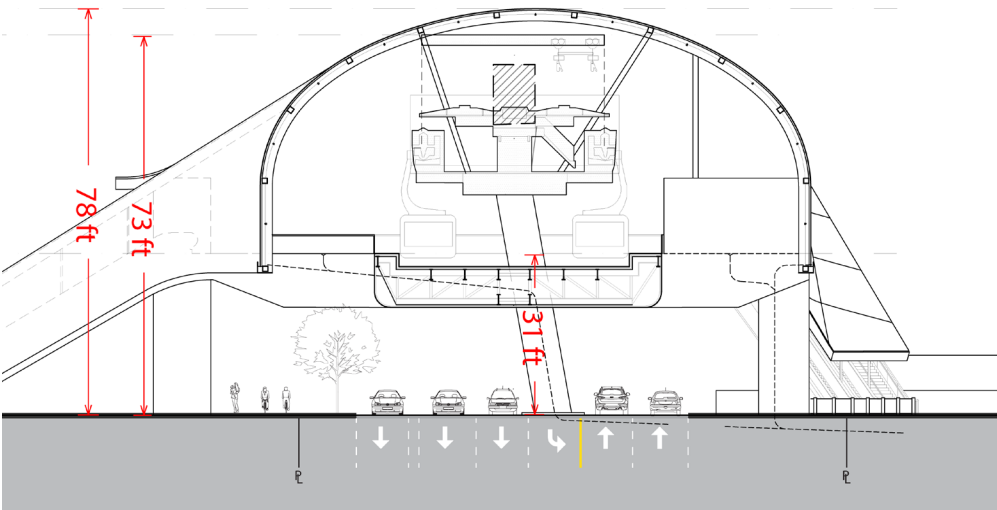
Existing Conditions with Esplanade

Planned conditions for Metro’s proposed Esplanade at the proposed location for Alameda Station:

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/ NB curbside drop off lane
- 2 SB through lanes

Existing conditions for Cesar Chavez Avenue at the proposed location for Alameda Station:

- 1 EBL turn lane
- 2 EB through lanes
- 1 EBR turn lane
- 1 WBL turn lane
- 2 WB through lanes
- 1 WB through-right lane



Alameda Station without Temporary Deck

Foundations and Columns 16 weeks

Required area for Construction
16,900 sqft

Alameda Street

Portion of lanes shortened but not closed

- 1 NBL turn lane
- 2 NB through lanes

Lanes and sidewalks closures

- 2 SB through lanes
- NB curbside drop off

Lanes and sidewalks to remain open

- 1 NB through-right lane
- Both sidewalks
- Esplanade 2-way bike path

Cesar Chavez Avenue

Lanes and sidewalks closures

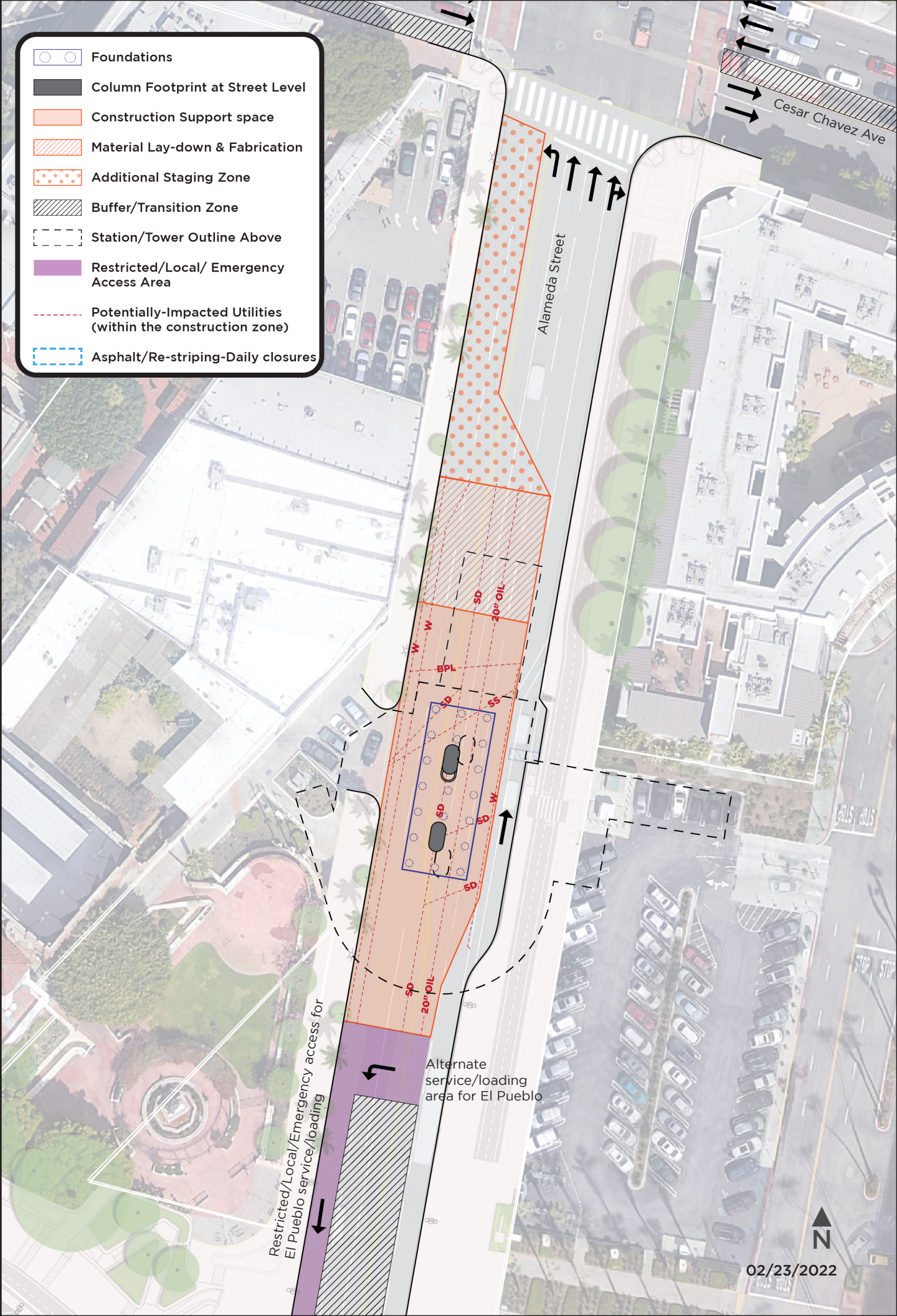
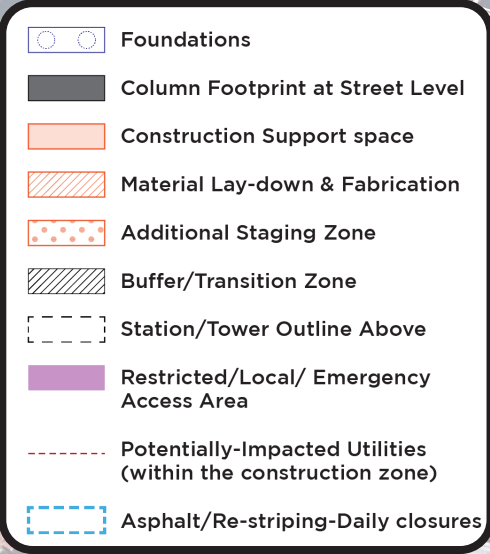
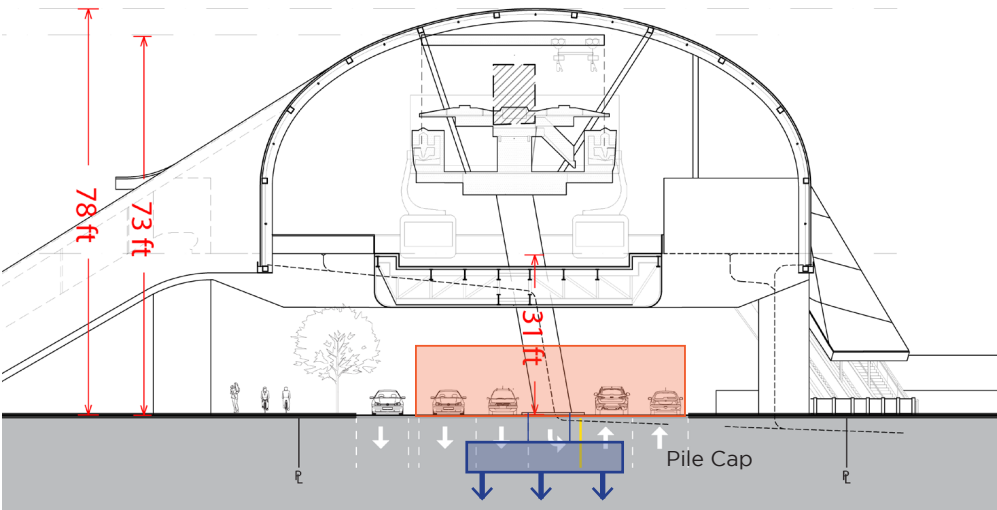
- 1 WBL turn lane
- 1 EBR turn lane

Lanes and sidewalks to remain open

- 1 EBL turn lane
- 2 EB through lanes
- 2 WB through lanes
- 1 WB through-right lane

Pile Overview

21 total piles; each 4' DIA, up to 125 ft deep below the pile cap



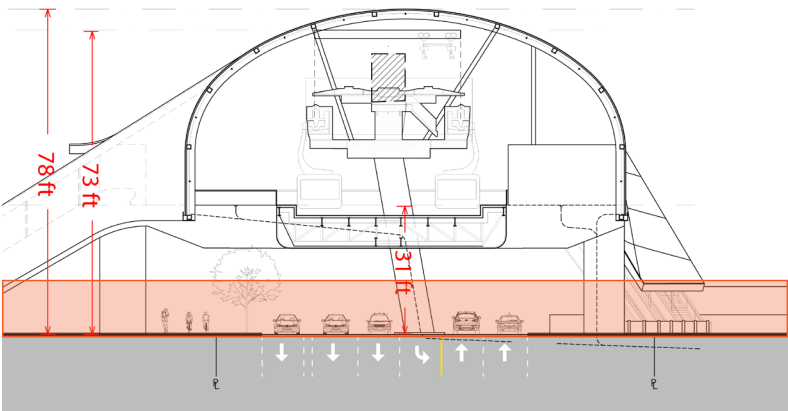
Alameda Station without Temporary Deck

Structural Steel and Gondola Equipment Erection 30 weeks (Includes 2 more weeks than the Deck Option to account for traffic coordination)

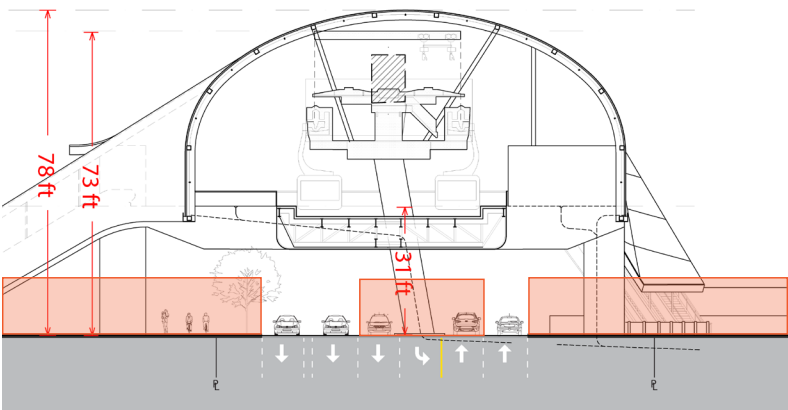
During Structural Steel and Gondola Equipment Erection, the Construction Zone and lane closure areas will vary depending on the construction site activity.

This will result in two alternating conditions over a period of 30 weeks:

- 1. 10-hrs/day for construction hours
- 2. 14-hrs/day for non-construction hours

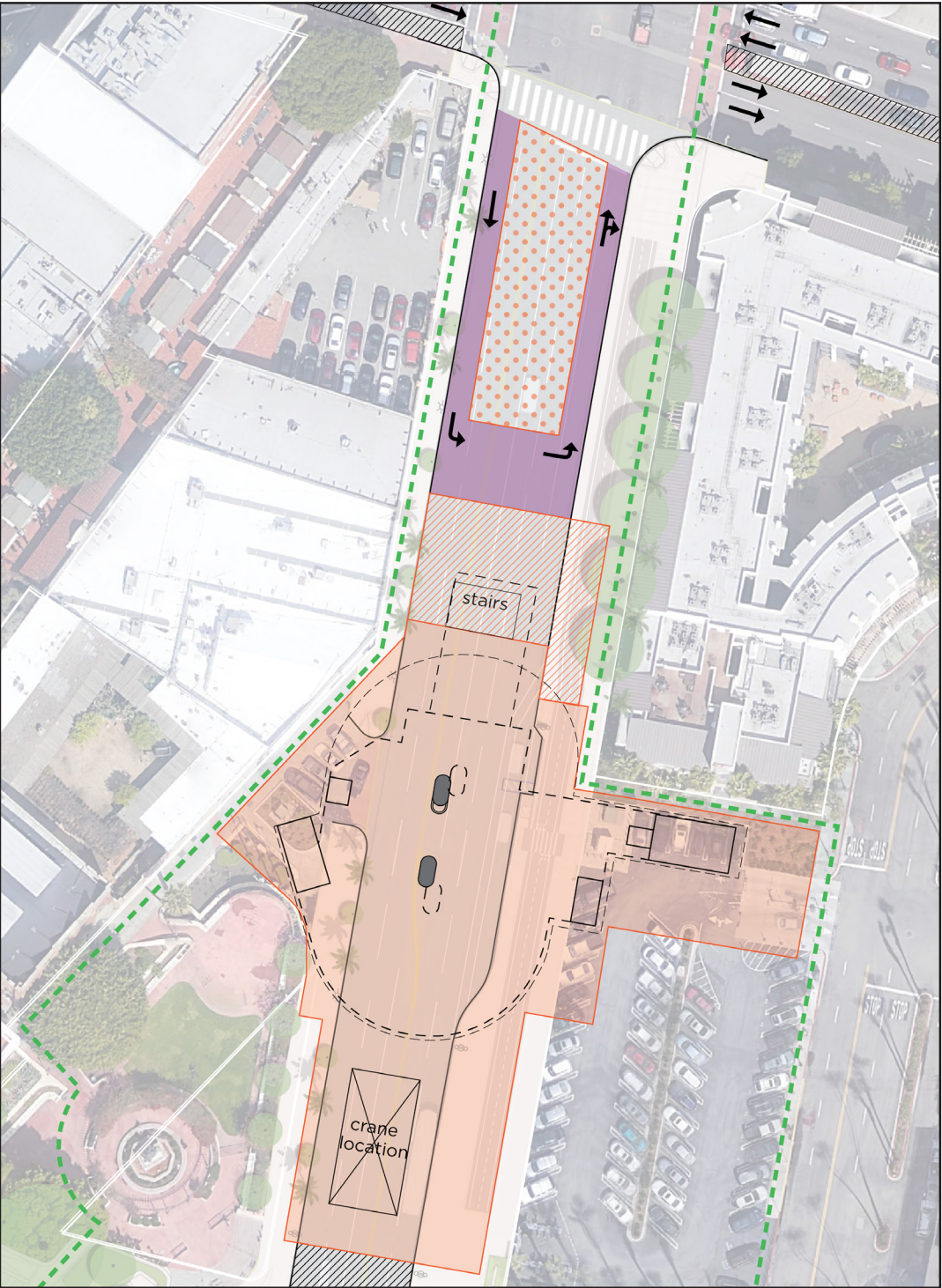


Construction Hours

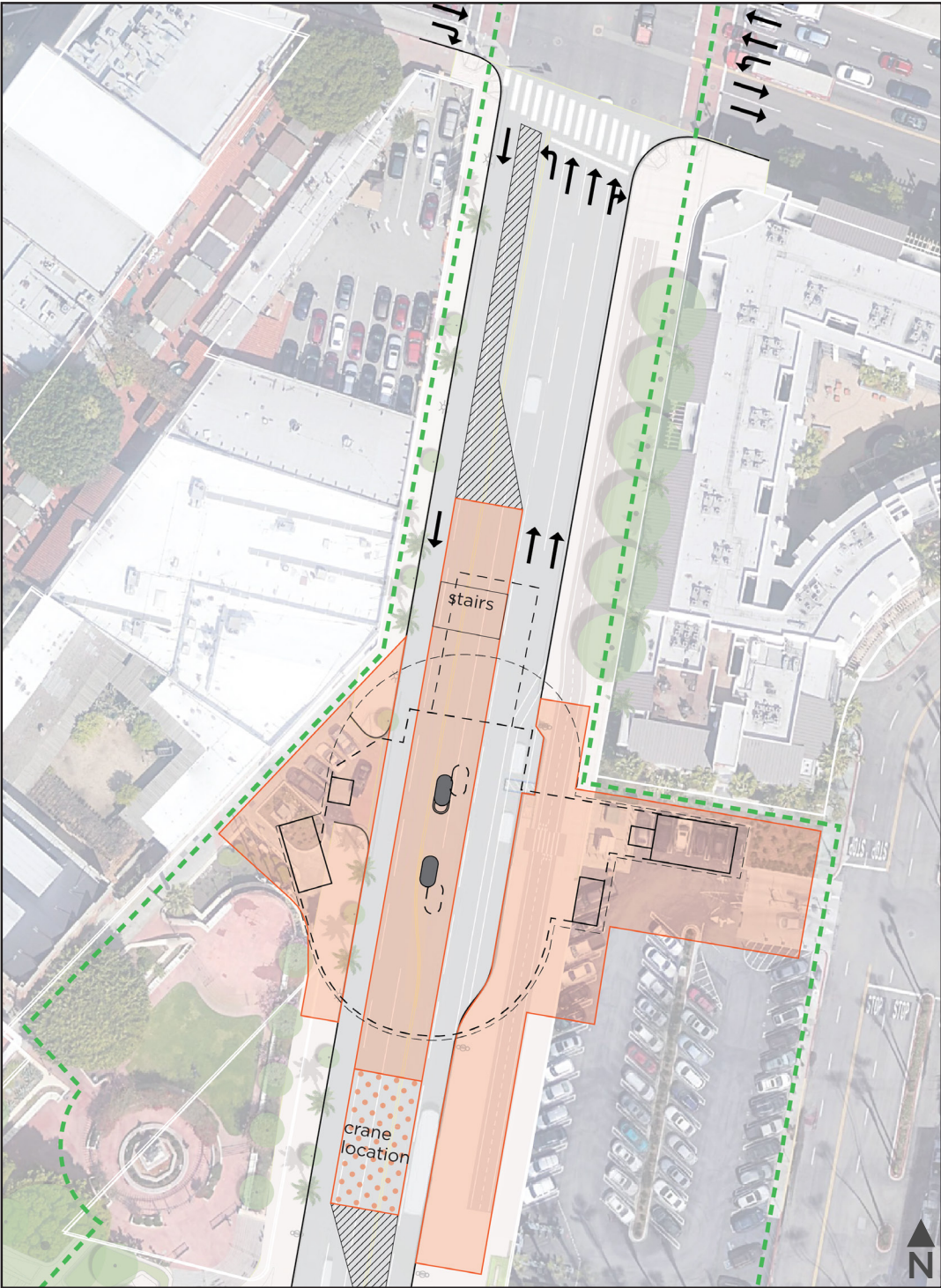


Non-Construction Hours

Construction Hours | 10 hrs/day



Non-Construction Hours | 14 hrs/day



Alameda Station without Temporary Deck | Construction Hours

Structural Steel and Gondola Equipment Erection
30 weeks (Includes 2 more weeks than the Deck Option to account for traffic coordination), 10 hrs/day

Required area for Construction during construction hours
44,900 sqft

Alameda Street

Lanes and sidewalks closures during construction hours

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/ NB curbside drop off lane
- 2 SB through lanes
- Partial sidewalk detours required
- Esplanade 2-way bike path

Lanes and sidewalks to remain open during construction hours

- No lanes open

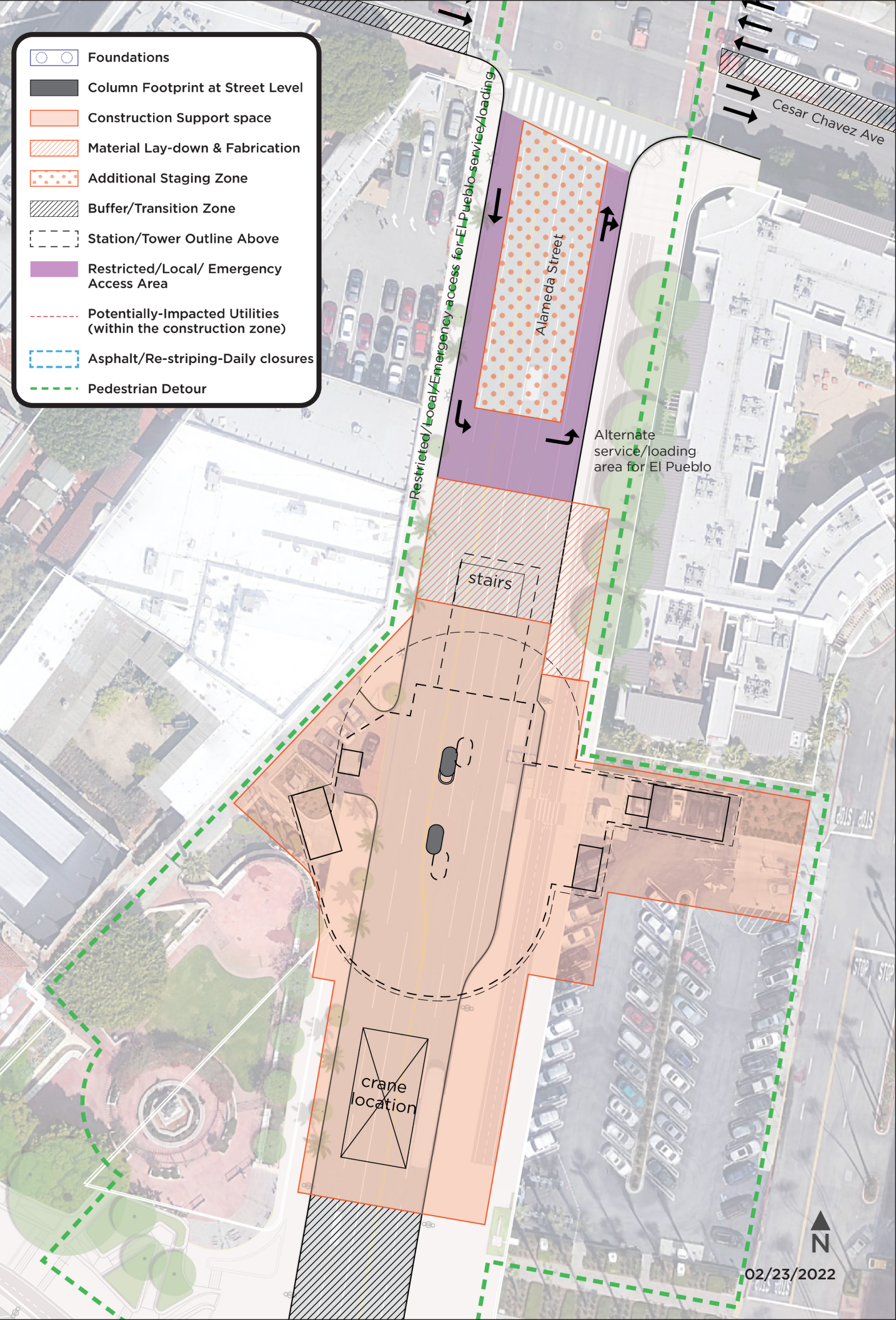
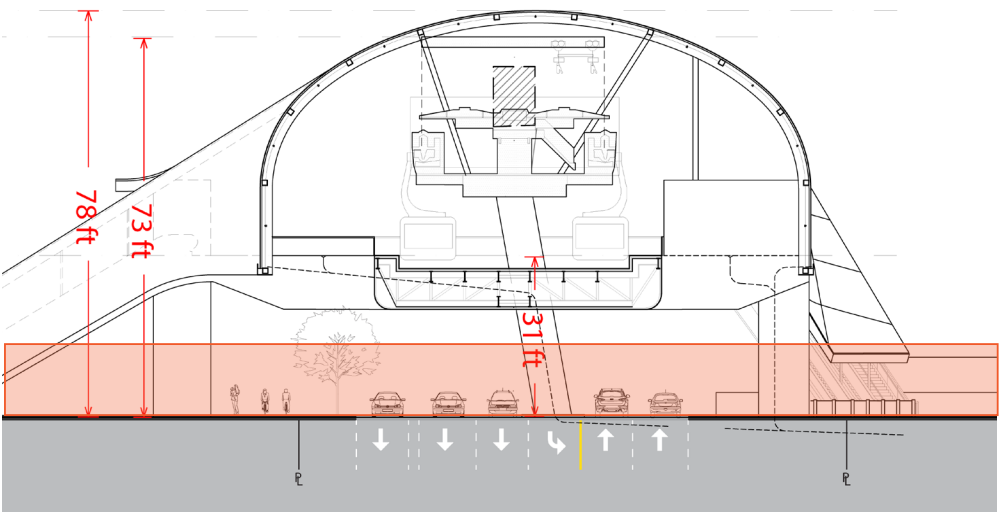
Cesar Chavez Avenue

Lanes and sidewalks closures

- 1 WBL turn lane
- 1 EBR turn lane

Lanes and sidewalks to remain open

- 1 EBL turn lane
- 2 EB through lanes
- 2 WB through lanes
- 1 WB through-right lane



Structural Steel and Gondola Equipment Erection
30 weeks (Includes 2 more weeks than the Deck Option to account for traffic coordination), 14 hrs/day

Alameda Street

Portion of lanes shortened but not closed

- 1 NBL turn lane
- 1 NB through lane

Lanes and sidewalks closures during non-construction hours

- 1 SB through lane
- Partial sidewalk detours required
- Esplanade 2-way bike path
- NB curbside drop off

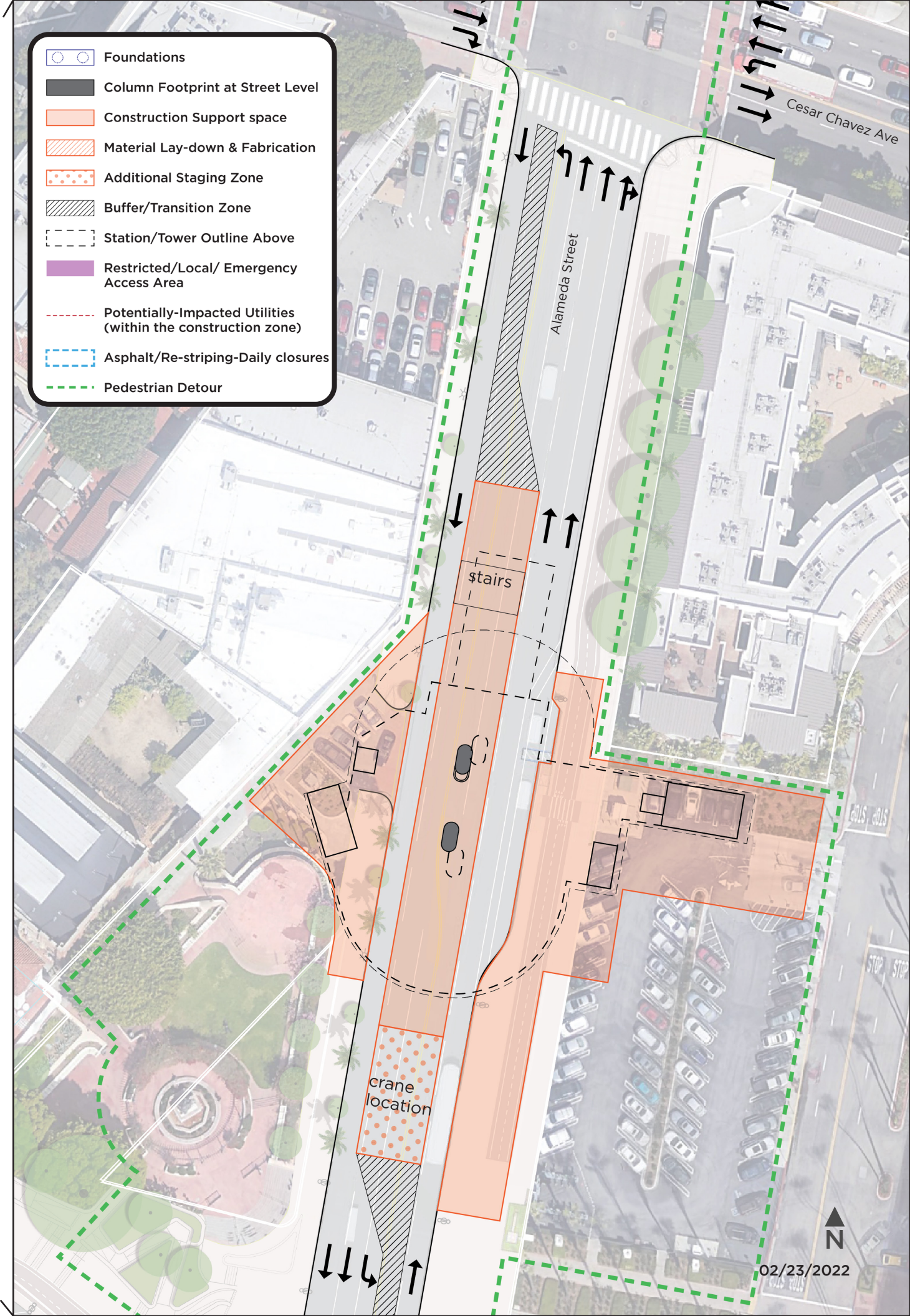
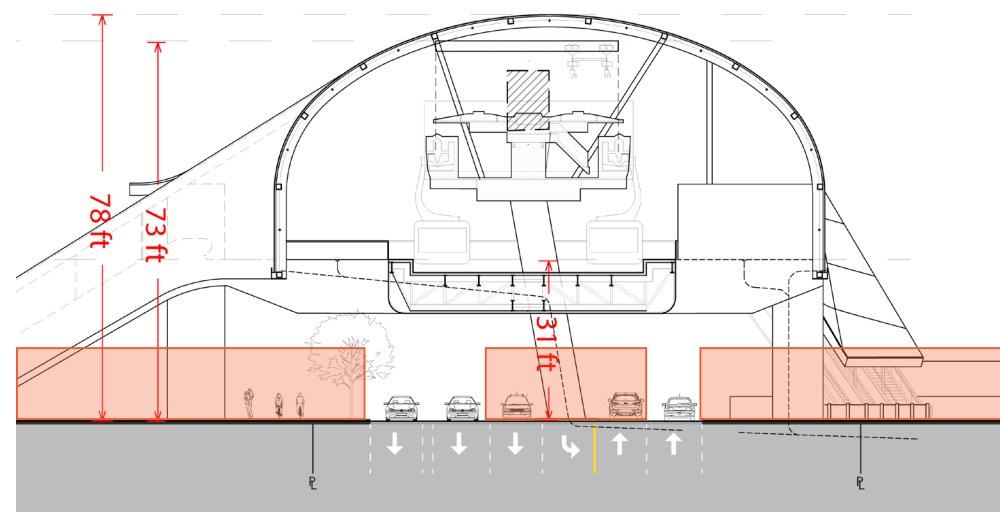
Lanes and sidewalks to remain open during non-construction hours

- 1 NB through lane
- 1 NB through-right lane
- 1 SB through lane

Cesar Chavez Avenue

Lanes and sidewalks to remain open

- All lanes



Alameda Station without Temporary Deck

Vertical Circulation/ Hardscape and Landscape/ Interior Work
27 weeks

Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 4-week duration period

Required area for Construction
37,100 sqft

Alameda Street

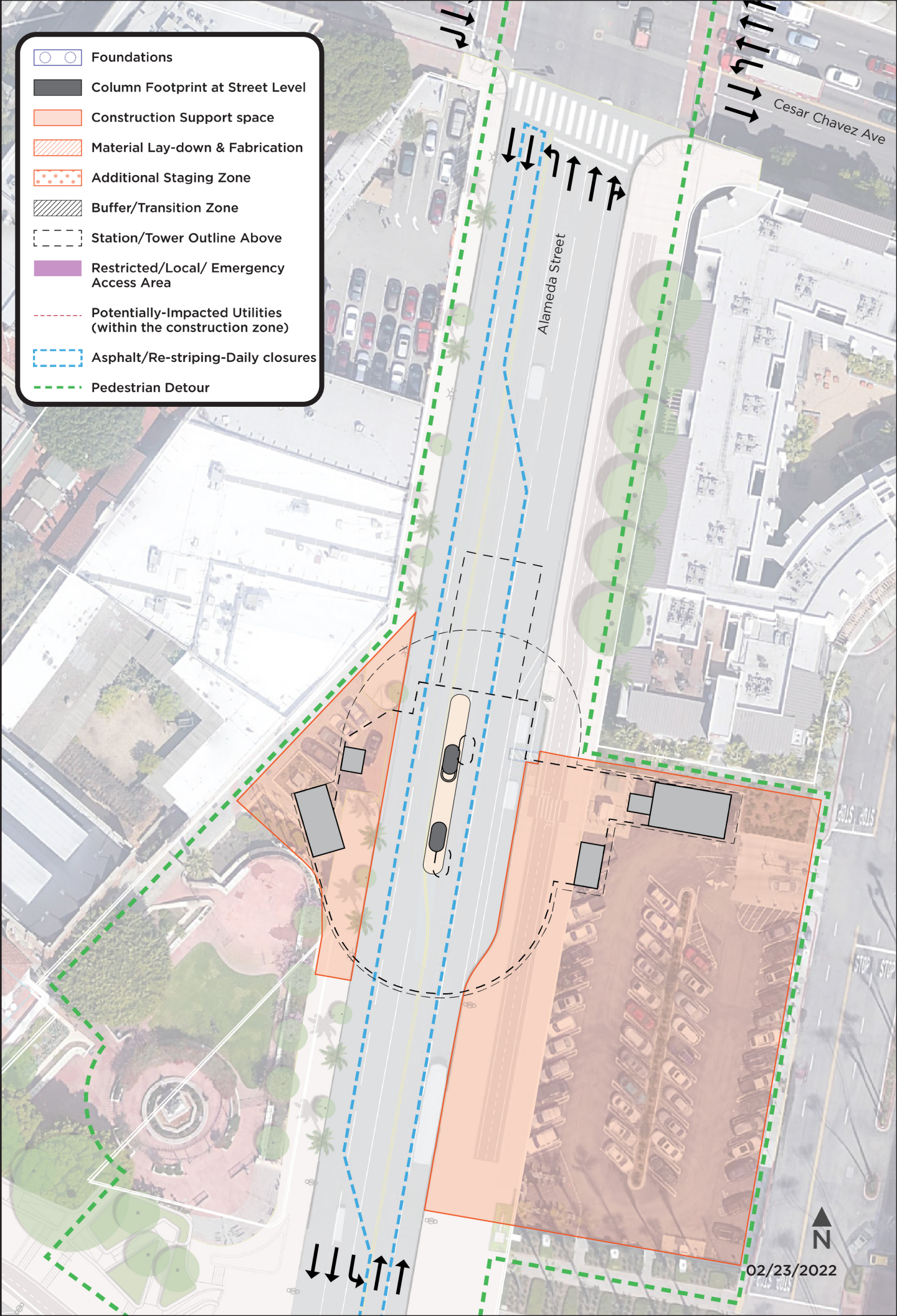
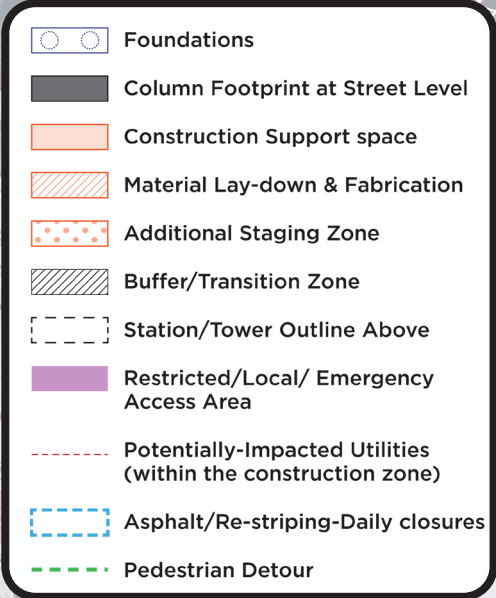
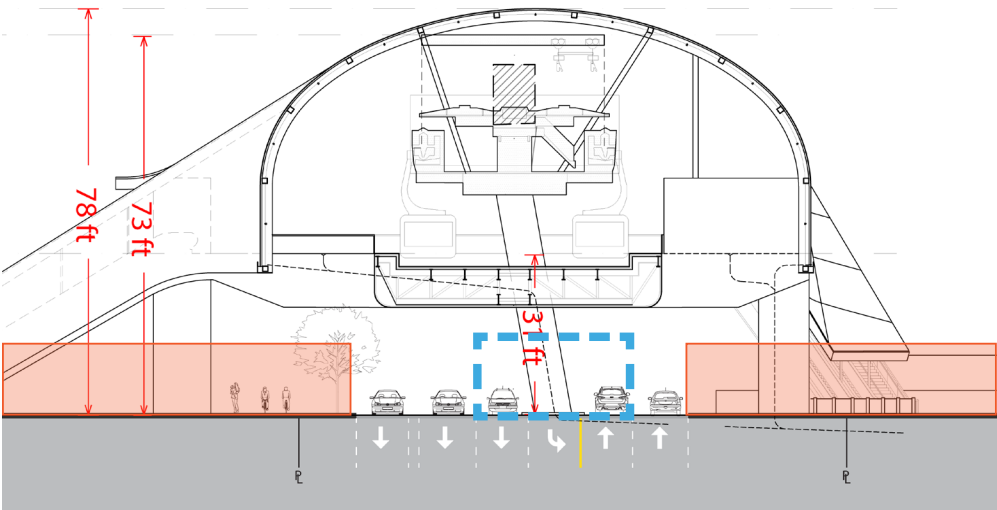
Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures
- NB curbside drop off
- Partial sidewalk detours required
- Esplanade 2-way bike path

Cesar Chavez Avenue

Lanes and sidewalks to remain open

- All lanes



Alameda Station without Temporary Deck | Build-Out

Build-Out Conditions with Esplanade

Build-out conditions with Metro's proposed Esplanade at the proposed location for Alameda Station:

- 1 NBL turn lane
- 2 NB through lanes
- 1 NB through-right lane/ NB curbside drop off lane
- 2 SB through lanes

Build-out conditions for Cesar Chavez Avenue at the proposed location for Alameda Station:

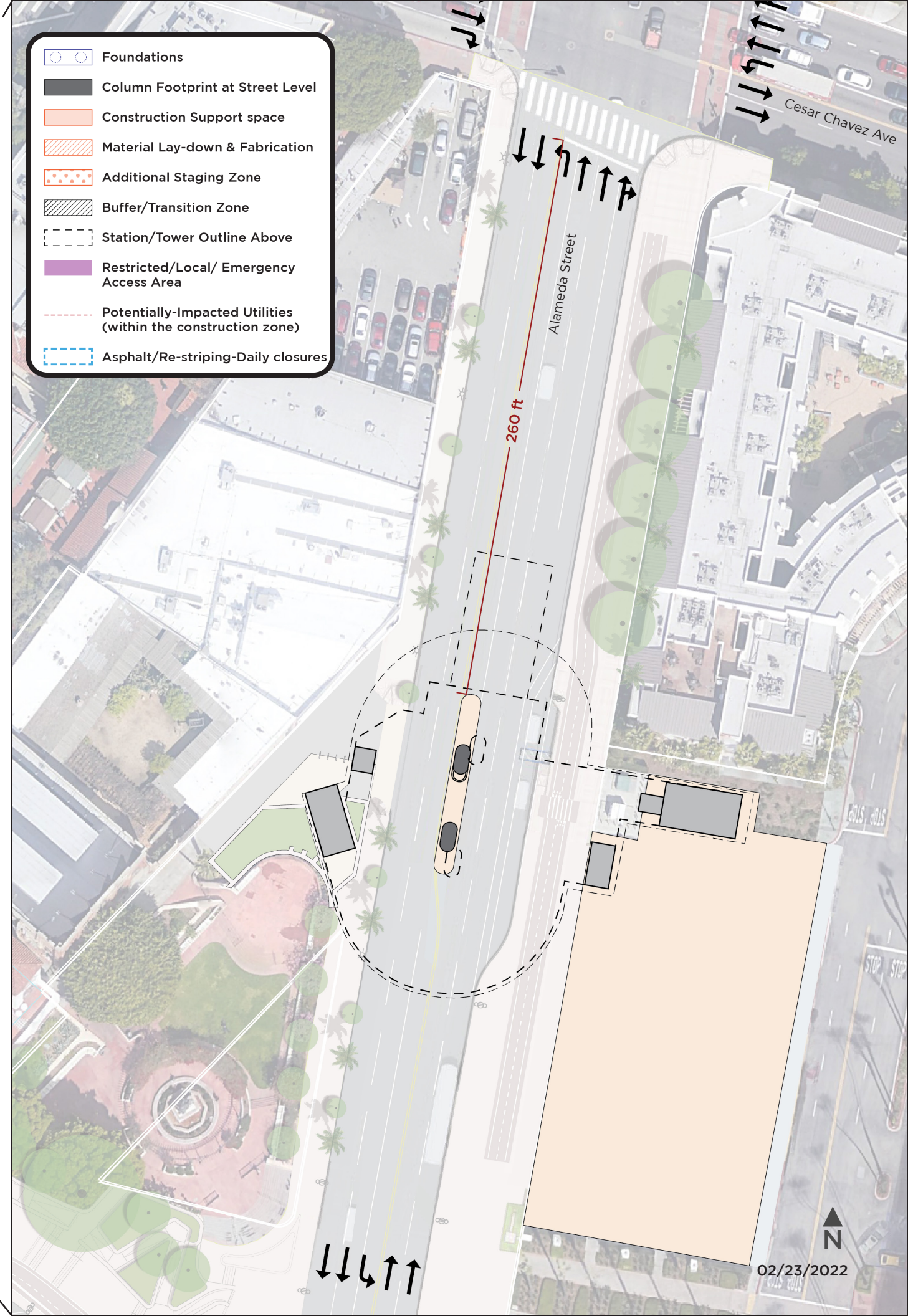
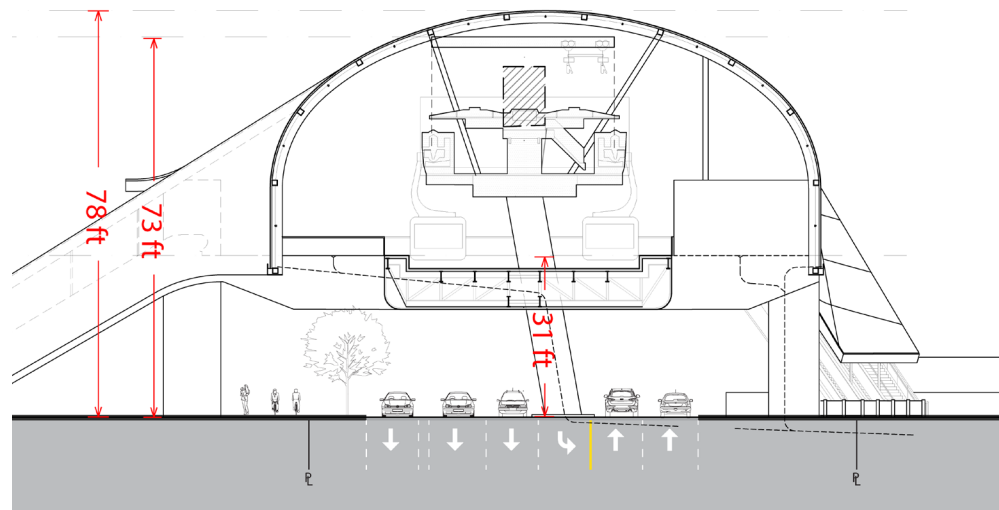
- 1 EBL turn lane
- 2 EB through lanes
- 1 EBR turn lane
- 1 WBL turn lane
- 2 WB through lanes
- 1 WB through-right lane

New raised median introduced within the northbound left-turn lane onto Cesar Chavez Avenue

Minor reduction to left turn pocket storage.

Vertical circulation for Alameda Station access

Vertical circulation elements (i.e. elevators, escalators, stairs) for pedestrian access to the Alameda Station introduced at-grade on the Union Station property and El Pueblo property.





Alameda Tower

|

Existing

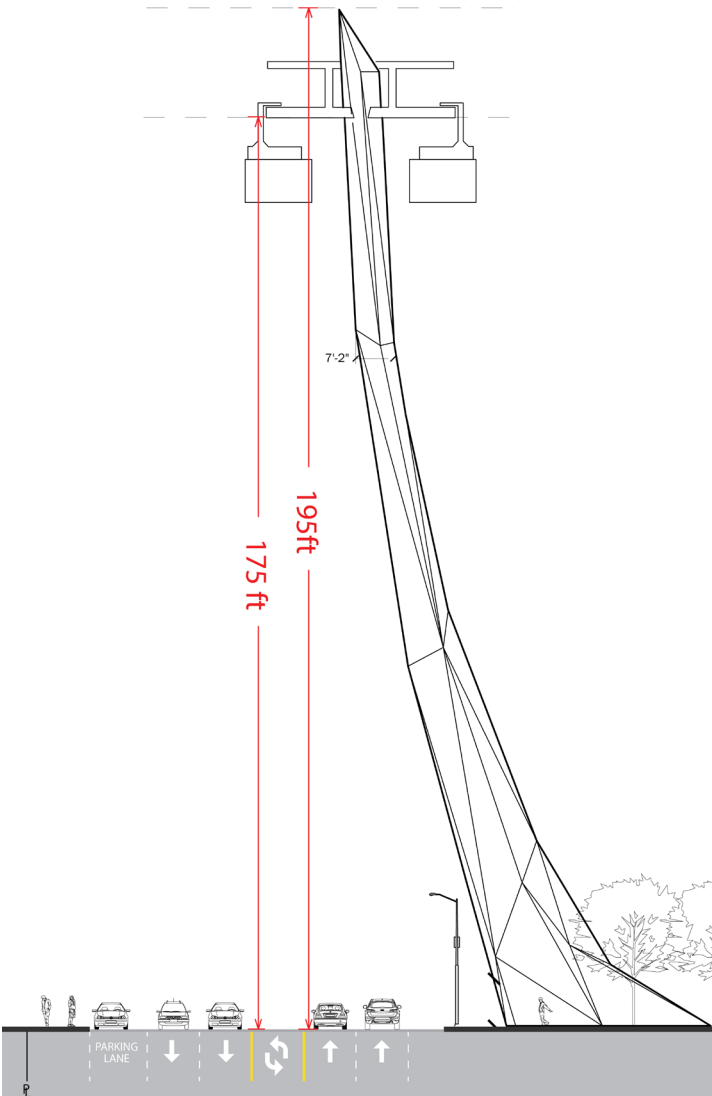
Existing Conditions

Existing conditions for Alameda at the proposed location for Alameda Tower:

- 1 NBL turn lane
- 2 NB through lanes
- 3 SB through lanes

Existing conditions for Alhambra at the proposed location for Alameda Tower:

- 1 WBL turn lane
- 1 shared WBL/ WBR turn lane



Alameda Tower

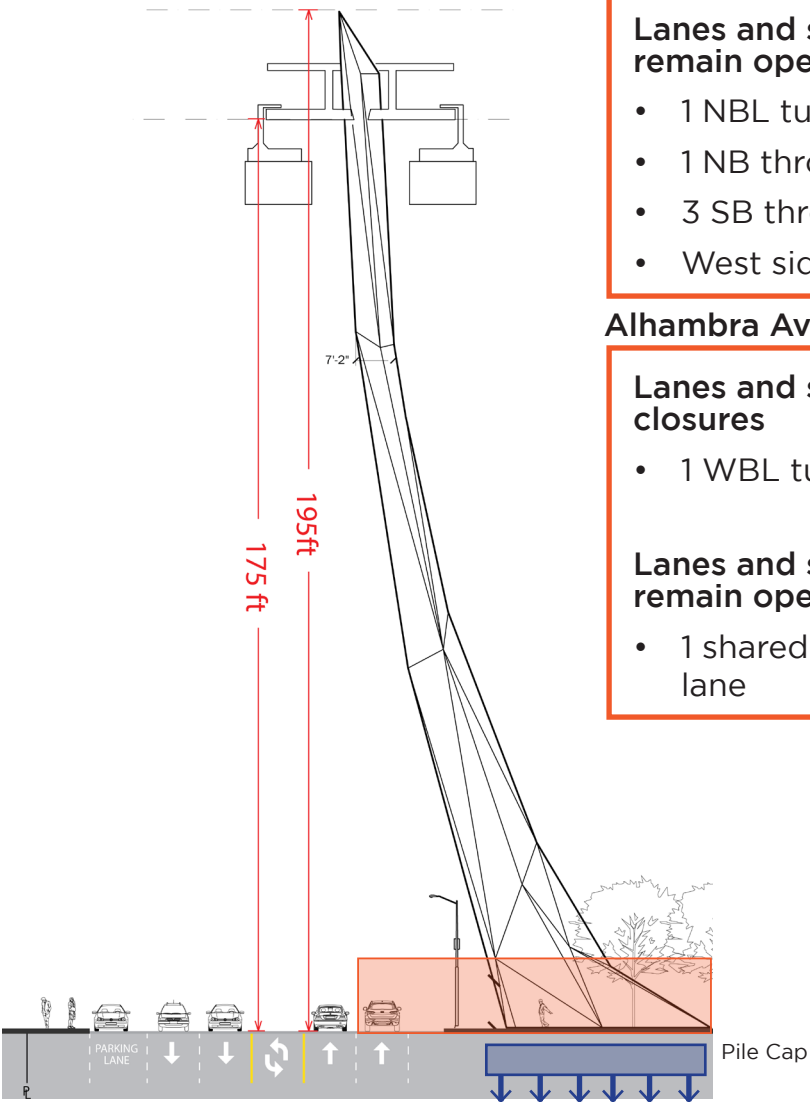
Foundations and Columns for 16 weeks Weeks 1 - 3 of 26 total weeks of Structural Steel and Gondola Equipment Erection

Weeks 1 - 3 of Structural Steel and Gondola Equipment Erection include construction of the first 25 feet of the Alameda Tower. Closures associated with this work are the same as those reflected on this sheet for the Foundations and Columns.

Required area for Construction
34,900 sqft

Pile Overview

36 total piles; each 3' DIA, up to 120 ft deep below the pile cap



Alameda Street

Lanes and sidewalks closures

- Parallel parking lane
- 1 NB through lane
- East sidewalk

Lanes and sidewalks to remain open

- 1 NBL turn lane
- 1 NB through lane
- 3 SB through lanes
- West sidewalk

Alhambra Avenue

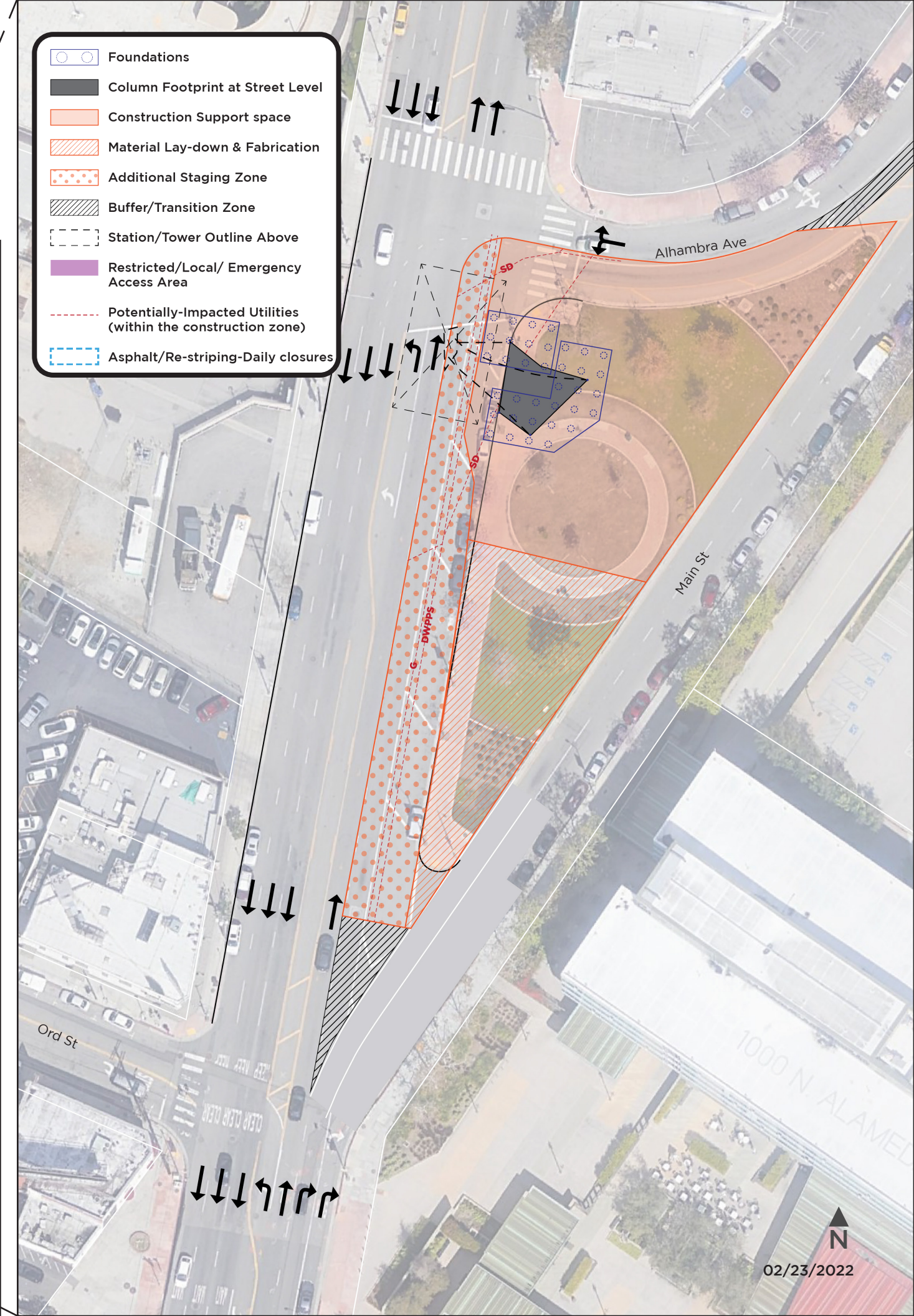
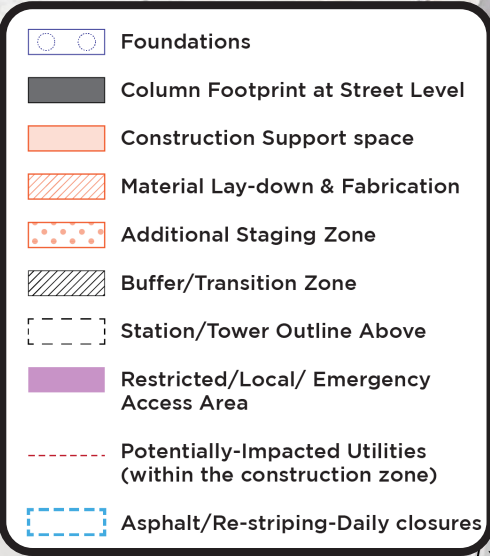
Lanes and sidewalks closures

- 1 WBL turn lane

Lanes and sidewalks to remain open

- 1 shared WBL/ WBR turn lane

Lane Closure & Transition Zones



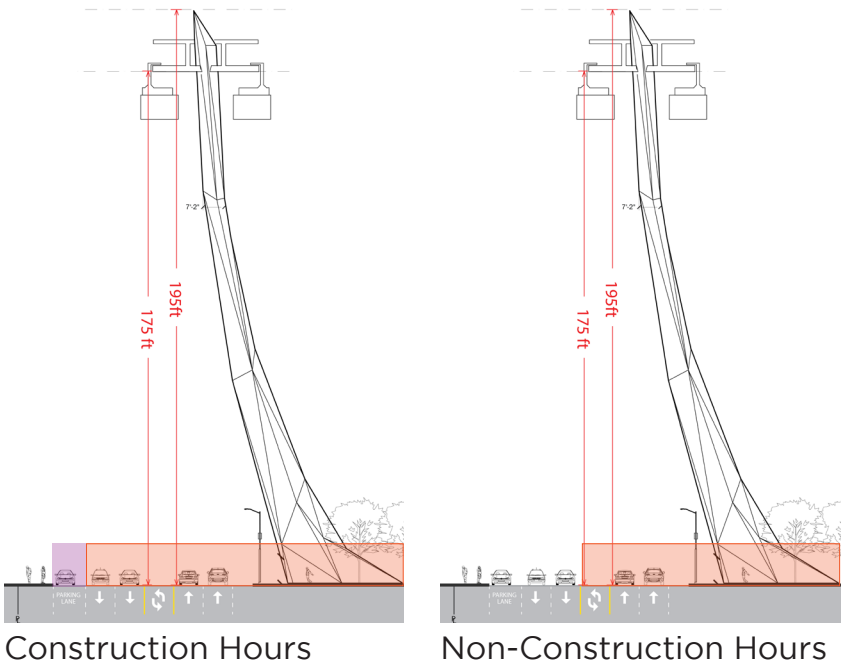
Alameda Tower

Structural Steel and Gondola Equipment Erection Weeks 4 - 26 of 26 total weeks of Structural Steel and Gondola Equipment Erection

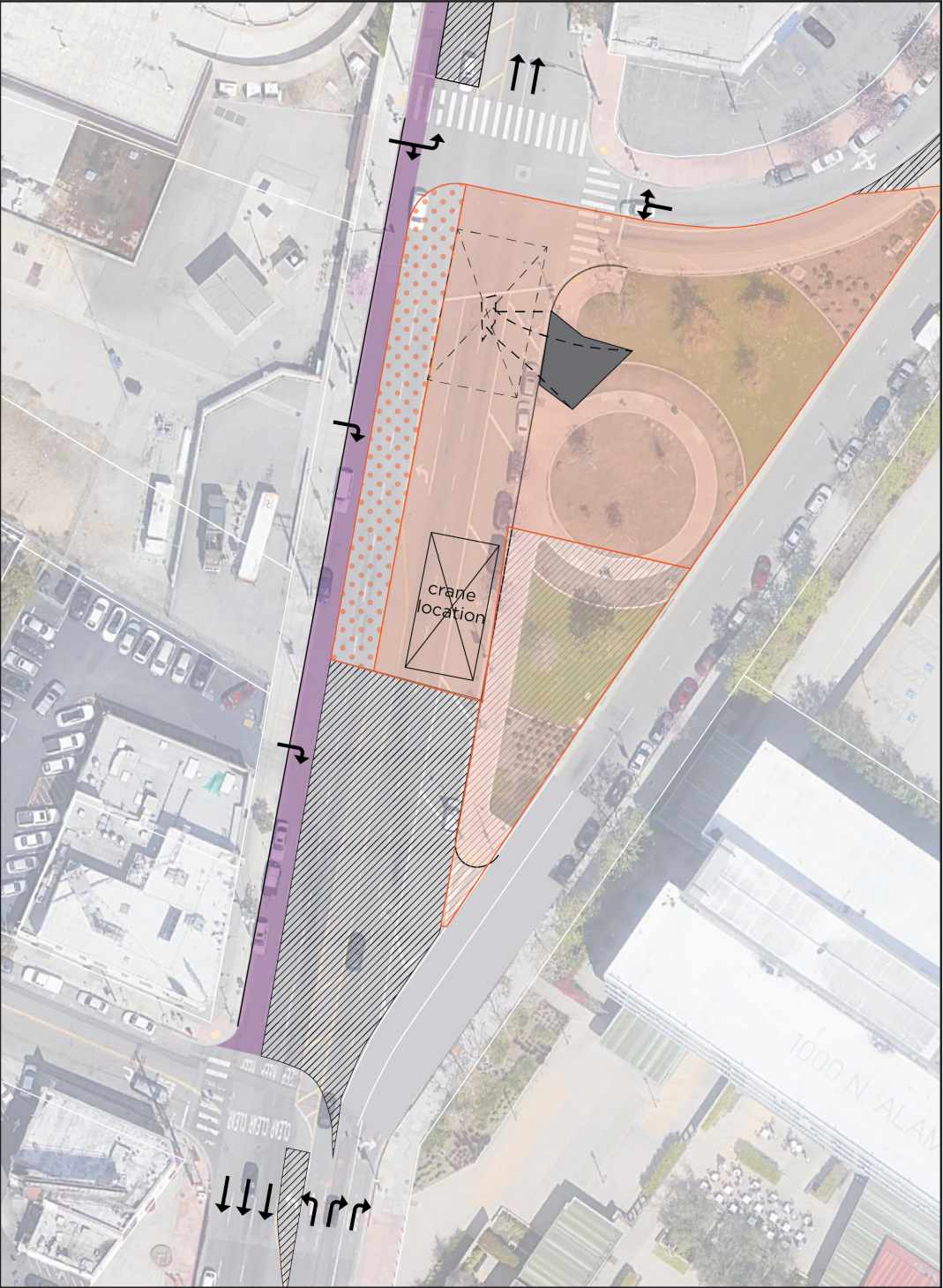
During Structural Steel and Gondola Equipment Erection, the Construction Zone and lane closure areas will vary depending on the construction site activity.

This will result in two alternating conditions over a period of 23 weeks:

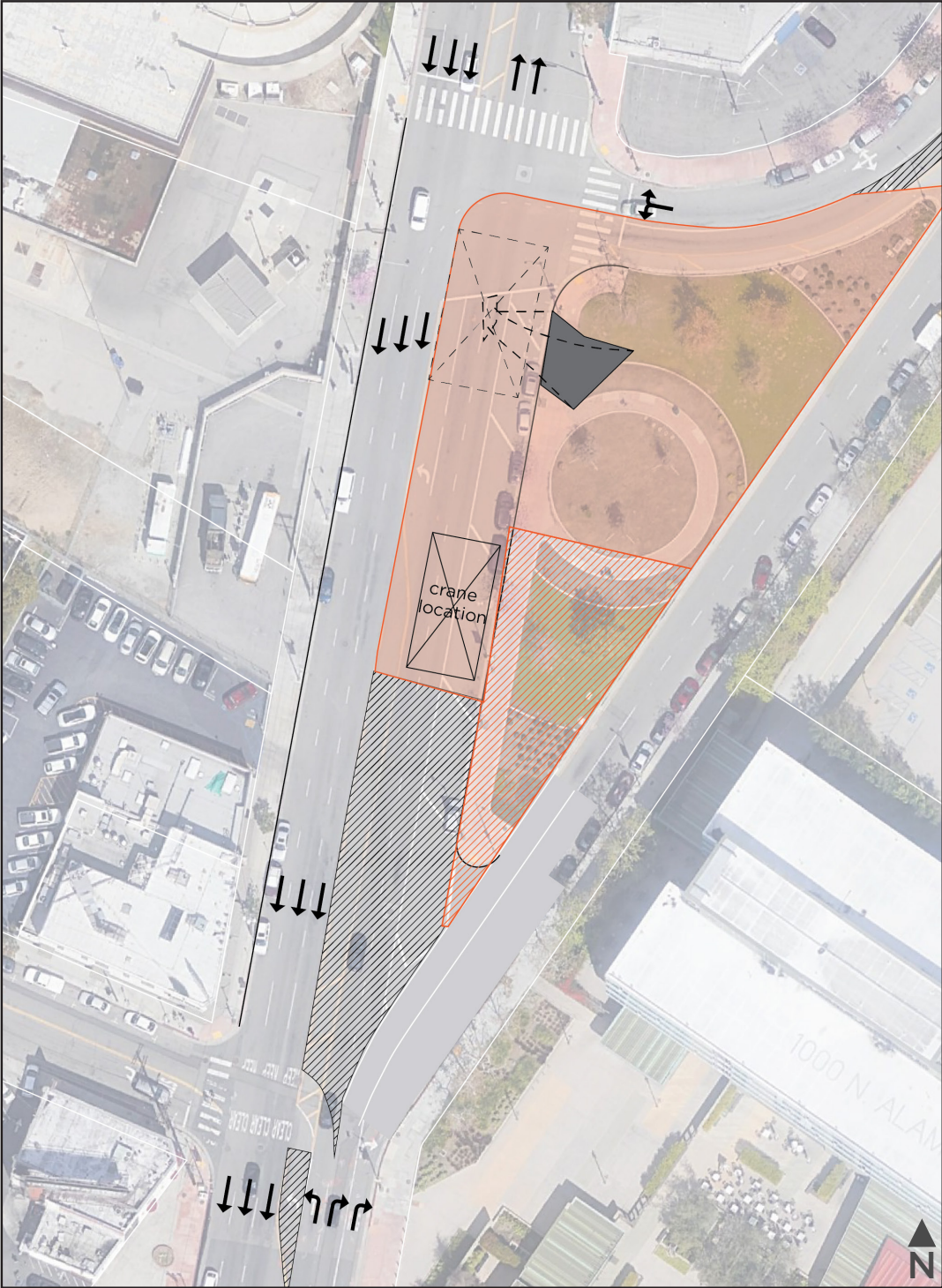
- 1. 10-hrs/day for construction hours
- 2. 14-hrs/day for non-construction hours



Construction Hours | 10 hrs/day



Non-Construction Hours | 14 hrs/day



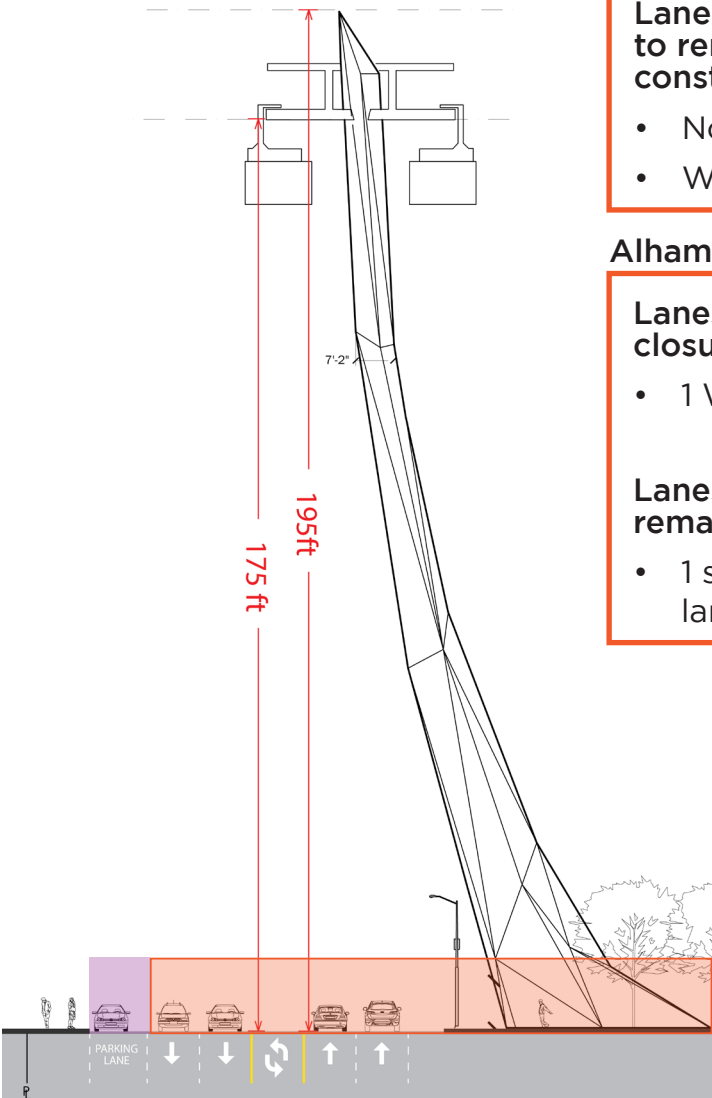
Alameda Tower | Construction Hours

Structural Steel and Gondola Equipment Erection
Weeks 4 – 26 of 26 total weeks of Structural Steel and Gondola Equipment Erection, 10 hrs / day

Required area for Construction
40,600 sqft

Restricted/Local/Emergency Access

Provide 1 SB through lane for restricted/local/ Emergency Access for adjacent properties.



Alameda Street

Lanes and sidewalks closures during construction hours

- Parallel parking lane
- 1 NBL turn lane
- 2 NB through lanes
- 3 SB through lanes
- East sidewalk

Lanes and sidewalks to remain open during construction hours

- No lanes open
- West sidewalk

Alhambra Avenue

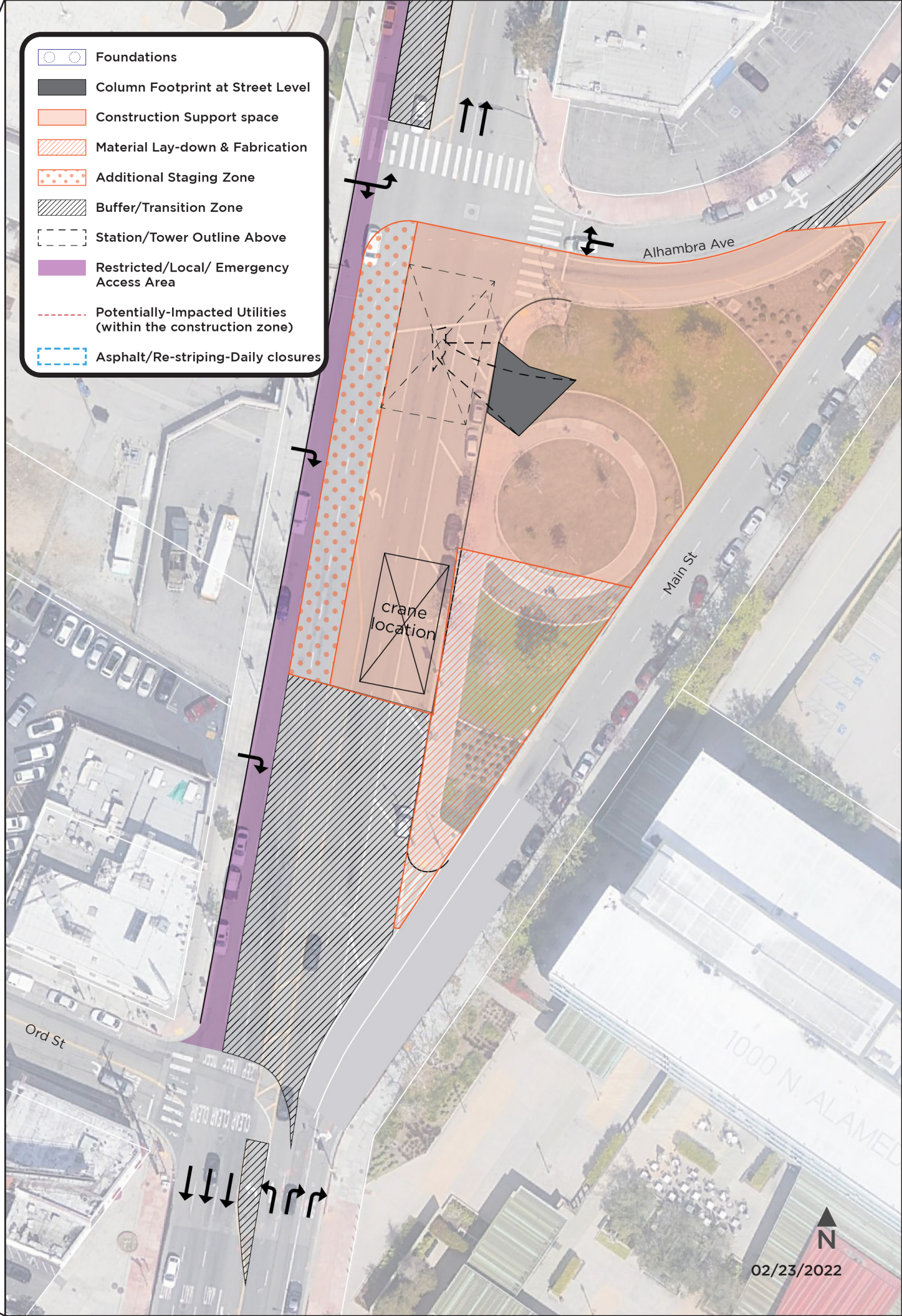
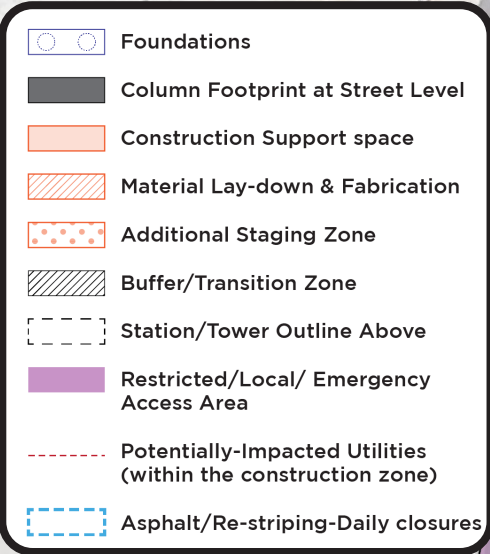
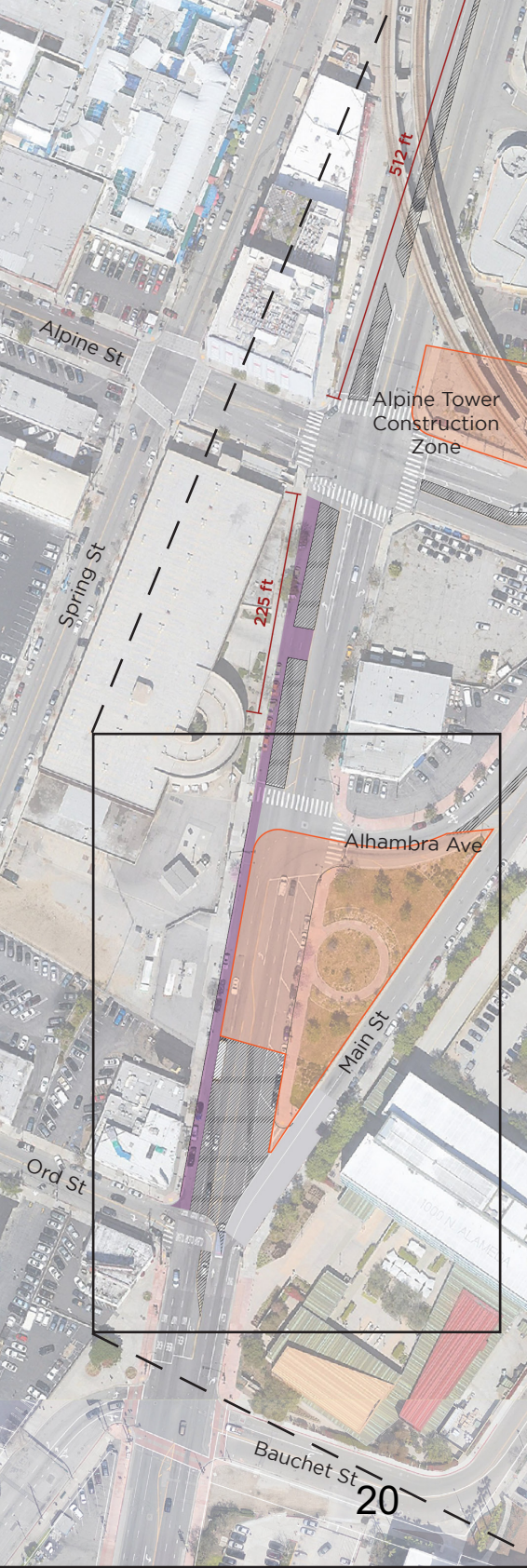
Lanes and sidewalks closures

- 1 WBL turn lane

Lanes and sidewalks to remain open

- 1 shared WBL/ WBR turn lane

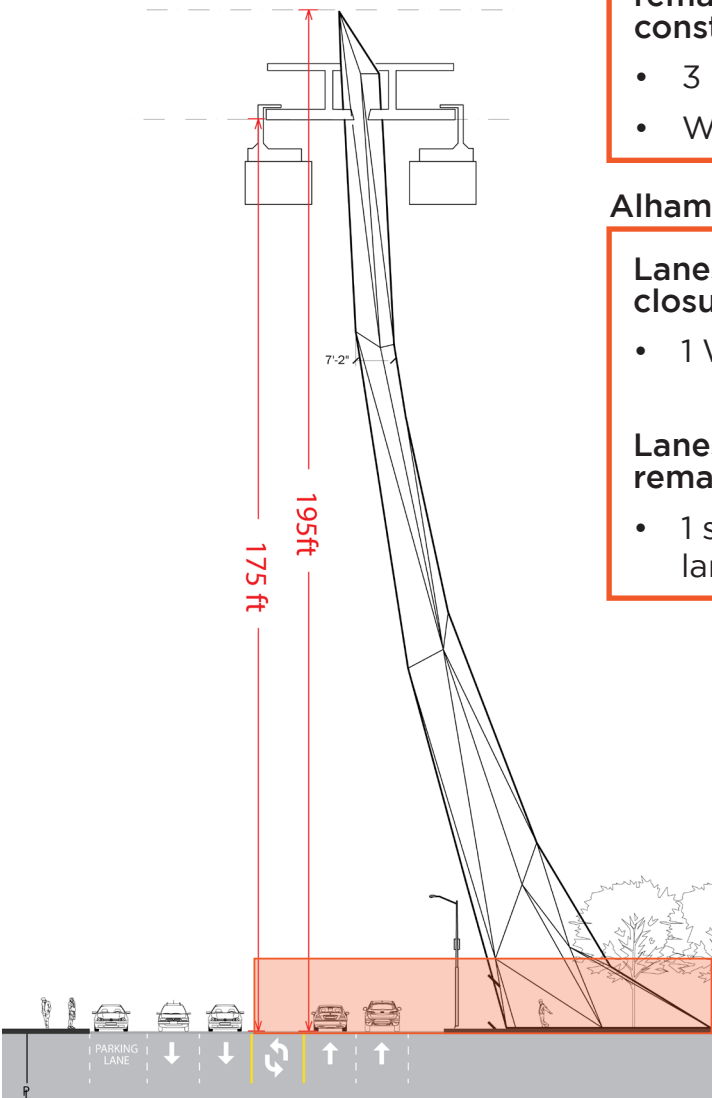
Lane Closure & Transition Zones



Alameda Tower | Non-Construction Hours

Structural Steel and Gondola Equipment Erection
Weeks 4 – 26 of 26 total weeks of Structural Steel and Gondola Equipment Erection, 14 hrs / day

Required area for Construction
36,200 sqft



Alameda Street

Lanes and sidewalks closures during non-construction hours

- Parallel parking lane
- 1 NBL turn lane
- 2 NB through lanes
- East sidewalk

Lanes and sidewalks to remain open during non-construction hours

- 3 SB through lanes
- West sidewalk

Alhambra Avenue

Lanes and sidewalks closures

- 1 WBL turn lane

Lanes and sidewalks to remain open

- 1 shared WBL/ WBR turn lane

Lane Closure & Transition Zones



Foundations

Column Footprint at Street Level

Construction Support space

Material Lay-down & Fabrication

Additional Staging Zone

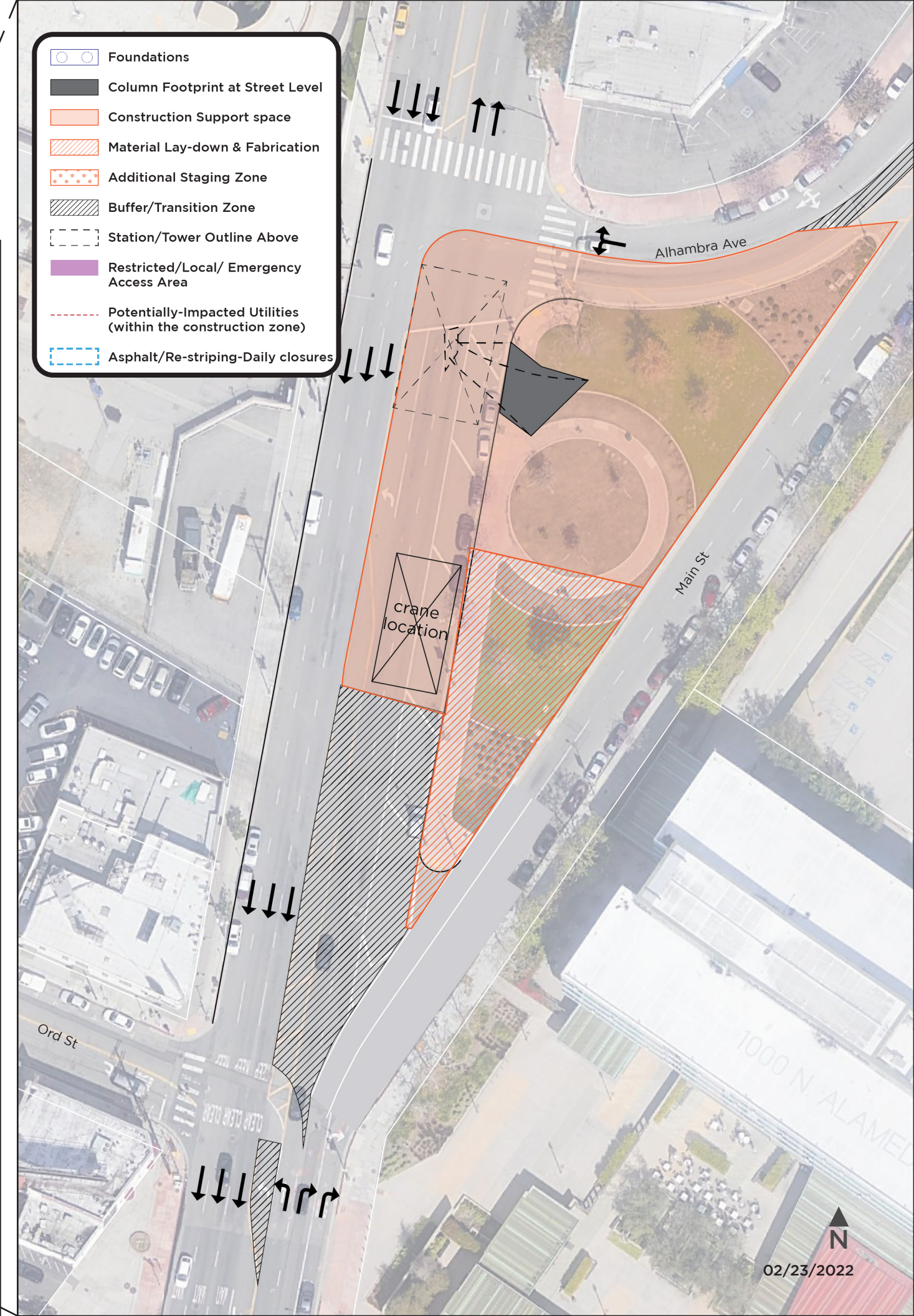
Buffer/Transition Zone

Station/Tower Outline Above

Restricted/Local/ Emergency Access Area

Potentially-Impacted Utilities (within the construction zone)

Asphalt/Re-striping-Daily closures

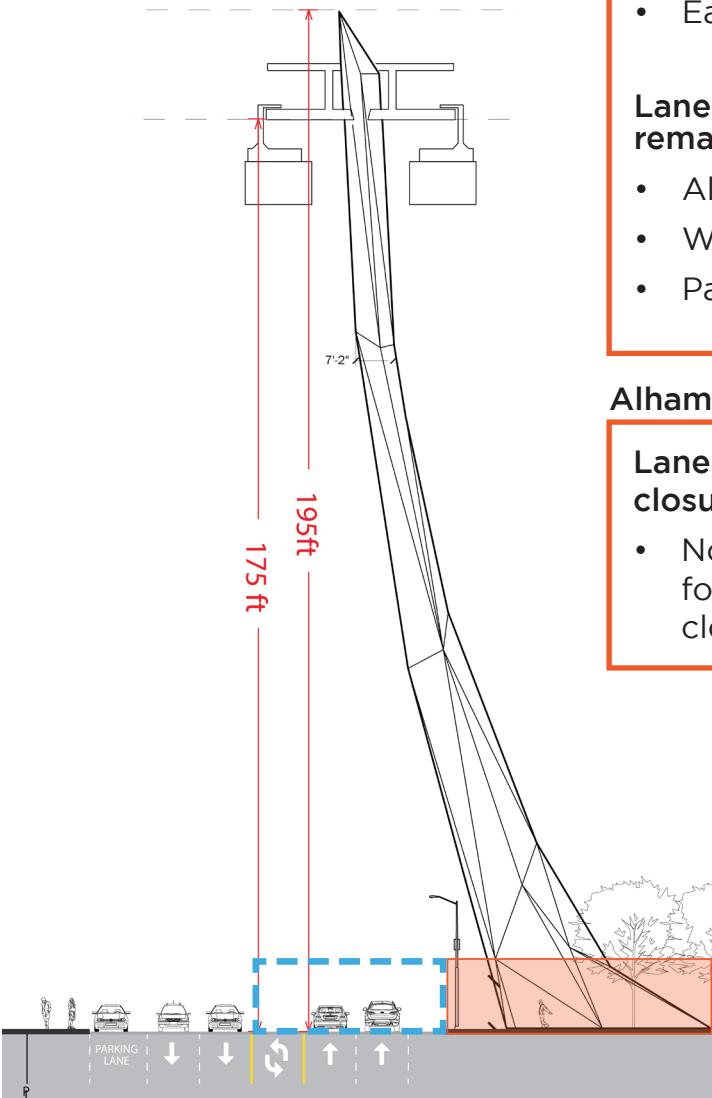


Alameda Tower

Hardscape and Landscape/ Interior Work 14 weeks

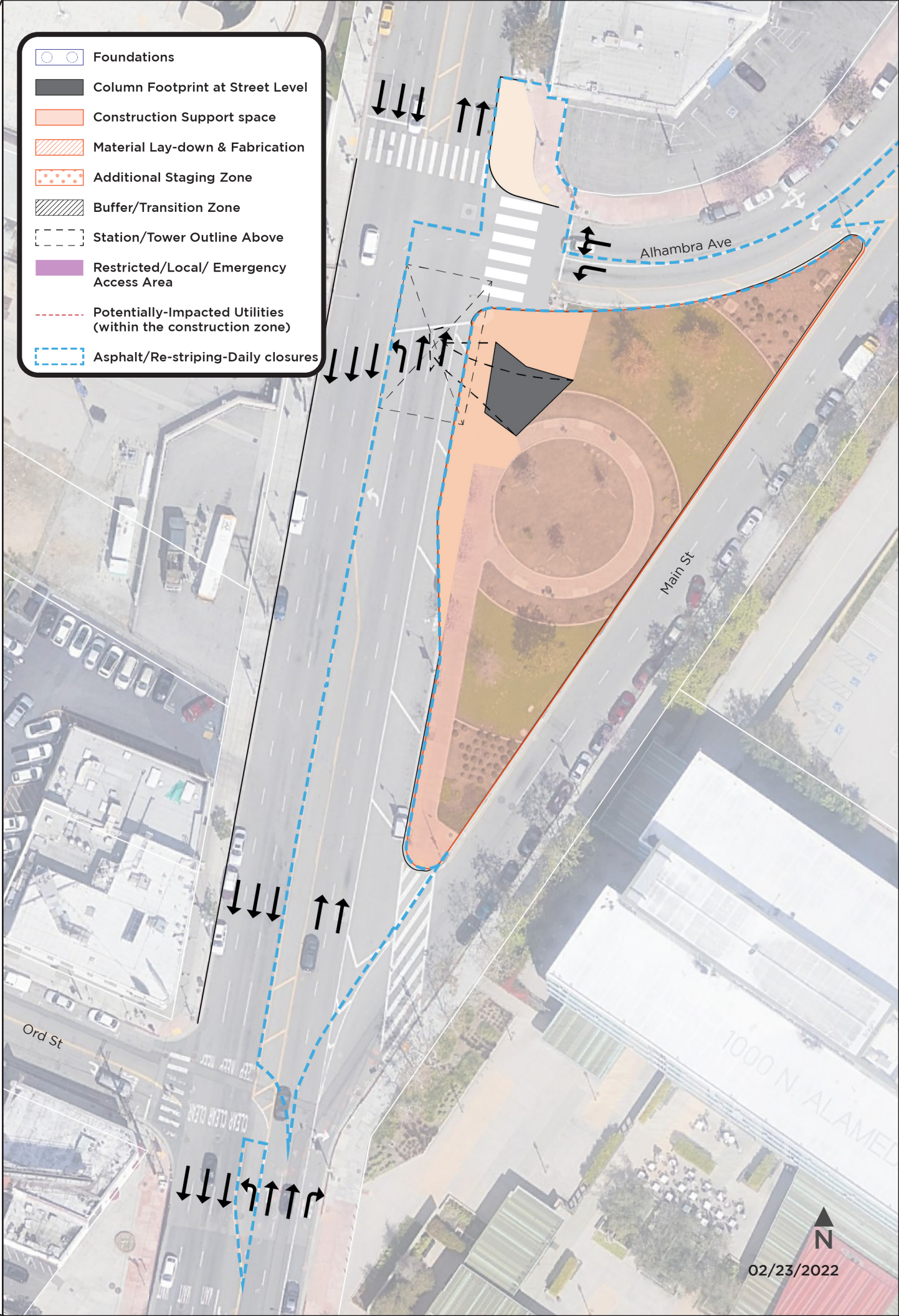
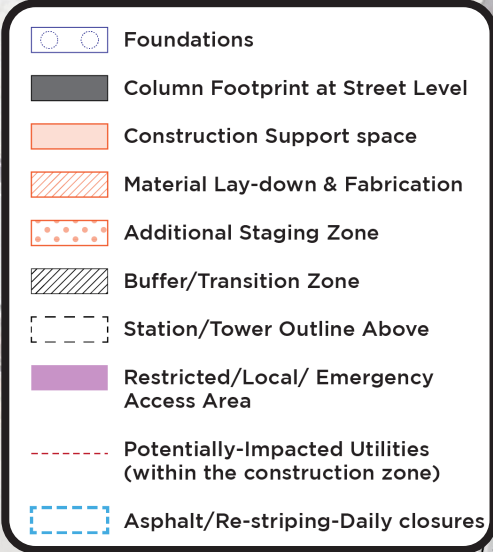
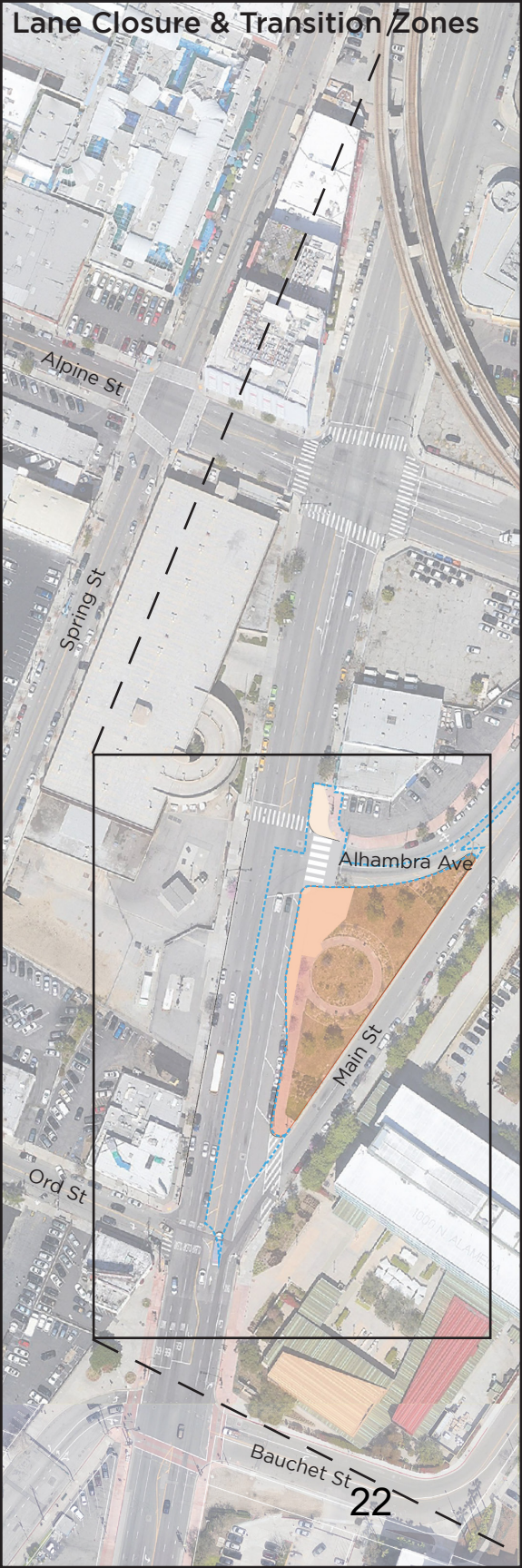
Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 14-week duration period

Required area for Construction
23,800 sqft



- Alameda Street**
- Lanes and sidewalks closures**
- No lane closures, except for asphalt/ re-striping closures
 - East sidewalk
- Lanes and sidewalks to remain open**
- All lanes
 - West sidewalk
 - Parallel parking lane

- Alhambra Avenue**
- Lanes and sidewalks closures**
- No lane closures, except for asphalt/ re-striping closures



Alameda Tower | Build-Out

Build-Out Conditions

Build-out conditions for Alameda at the proposed location for Alameda Tower:

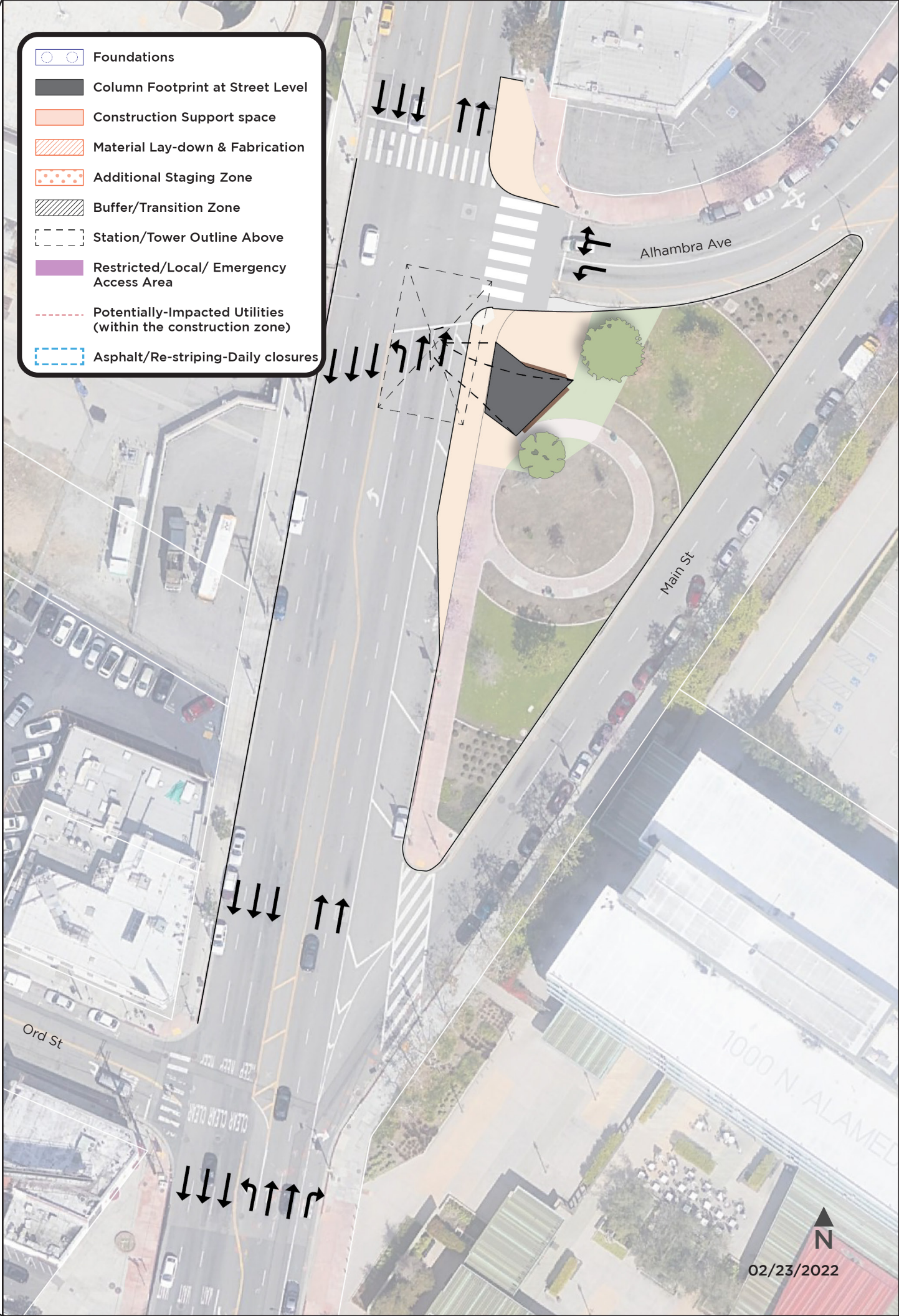
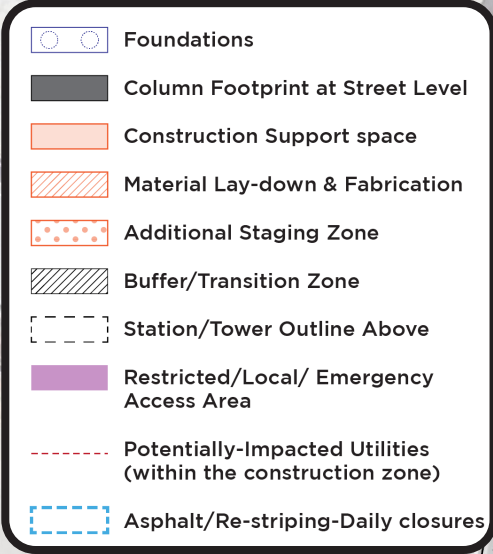
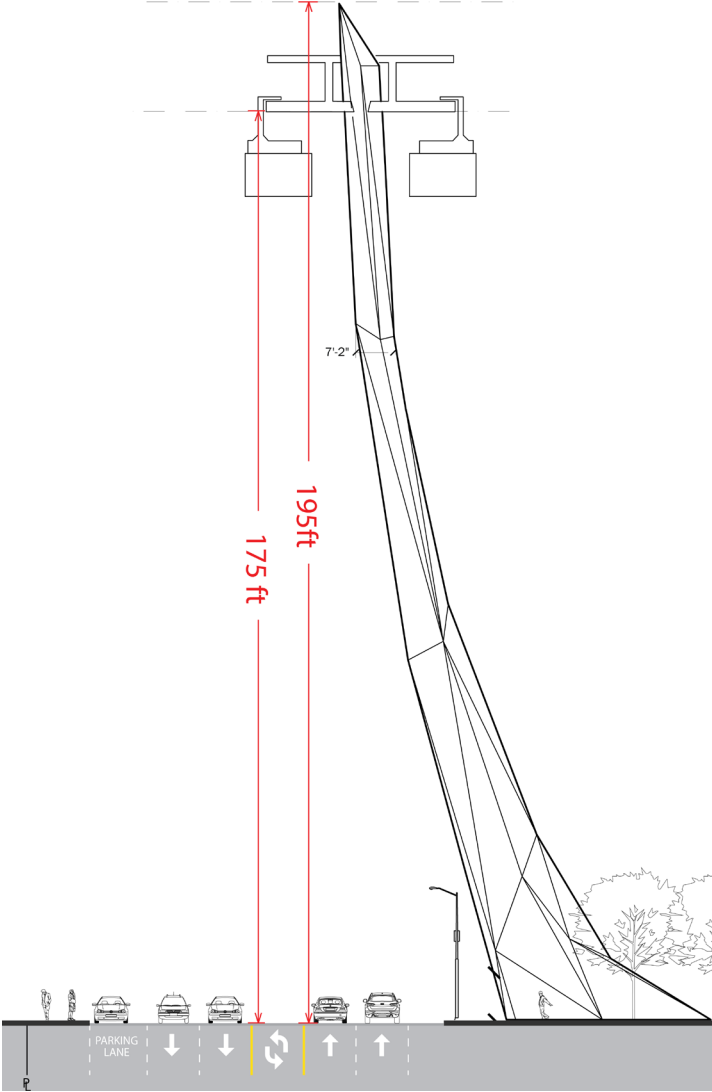
- 1 NBL turn lane
- 2 NB through lanes
- 3 SB through lanes

Build-out conditions for Alhambra at the proposed location for Alameda Tower:

- 1 WBL turn lane
- 1 shared WBL/ WBR turn lane

New curb extension introduced along the eastern edge of Alameda (northbound)

Existing parallel parking spaces reduced by 6 spaces





Alpine Tower

| Existing

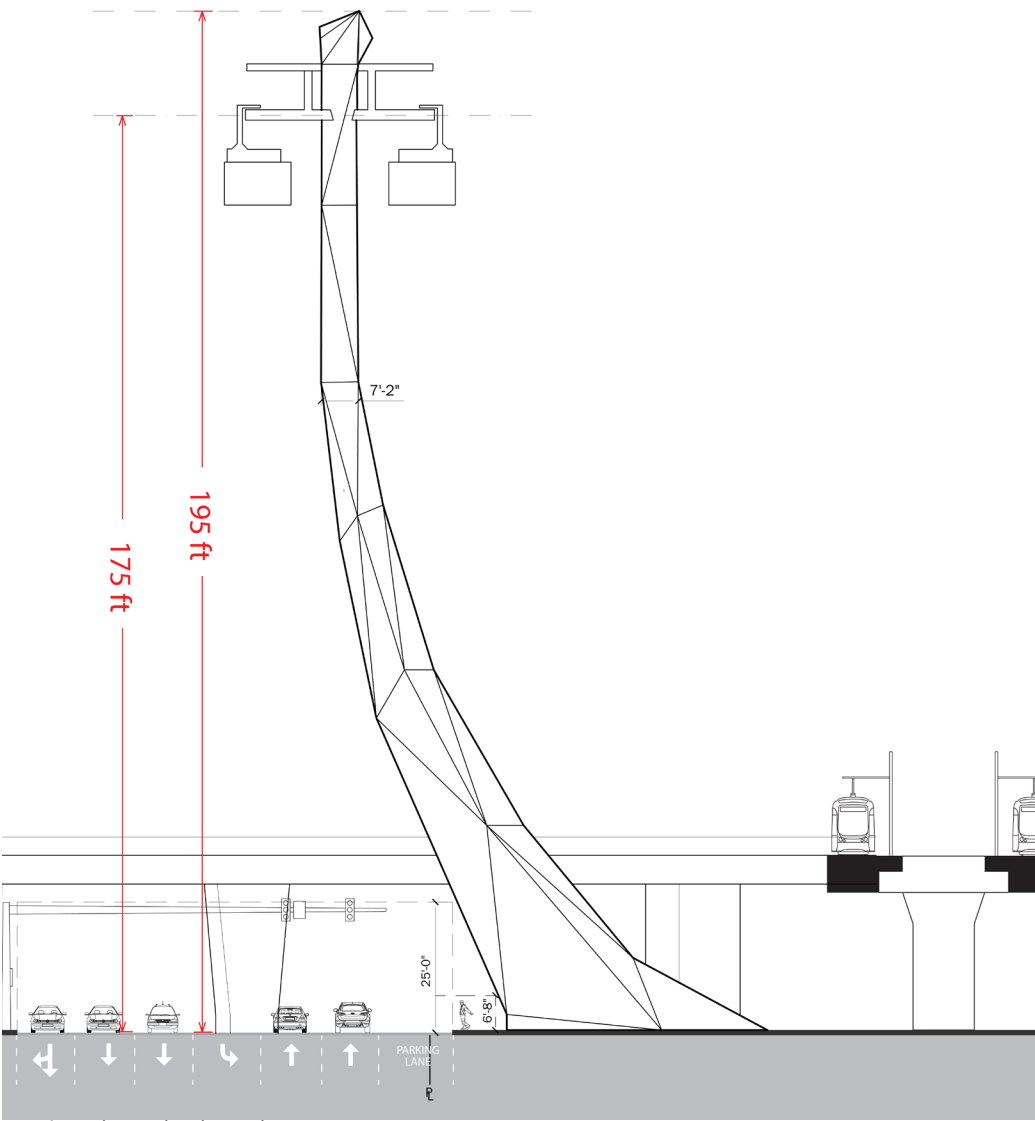
Existing Conditions

Existing conditions for Alameda Street at the proposed location for Alpine Tower:

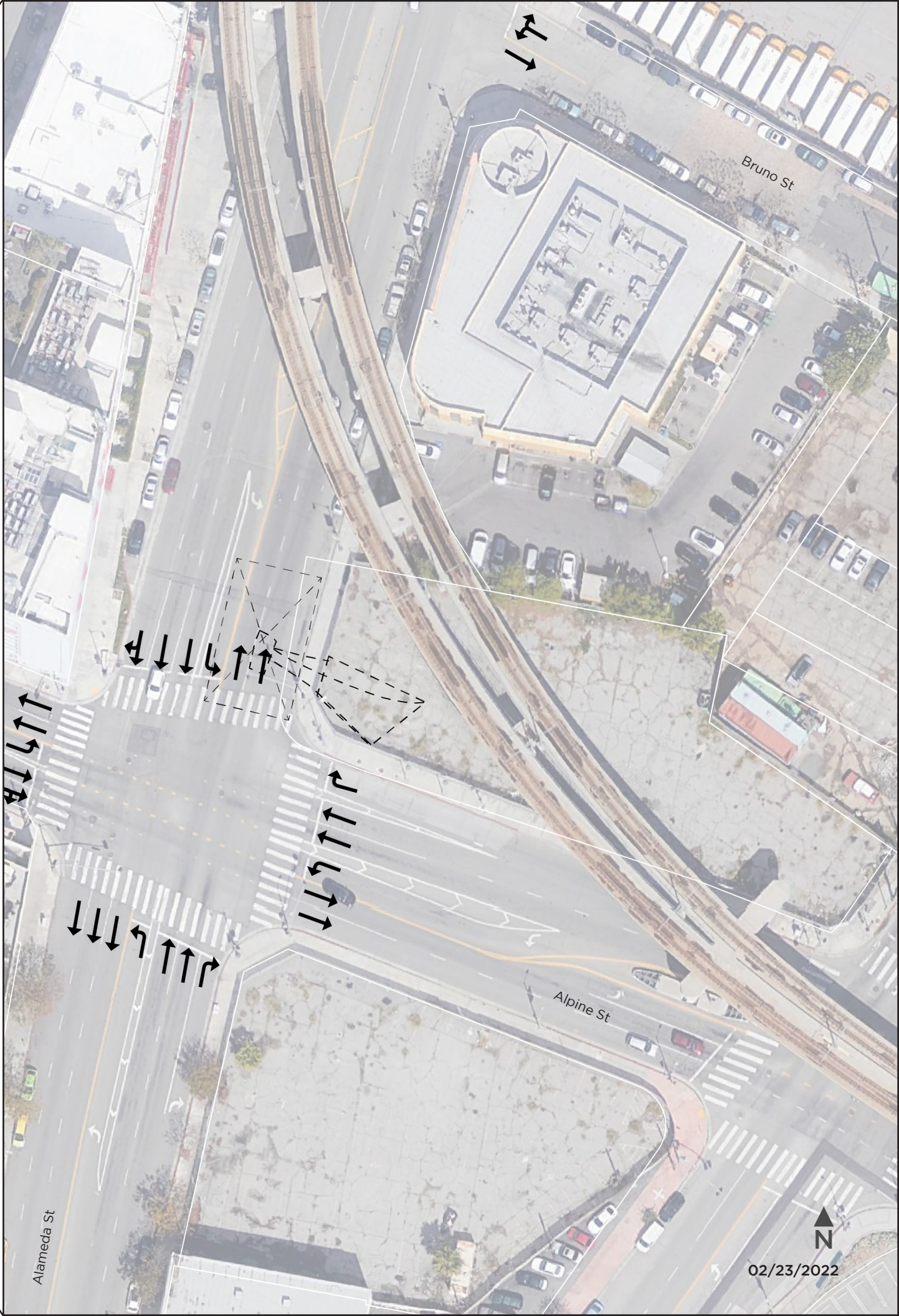
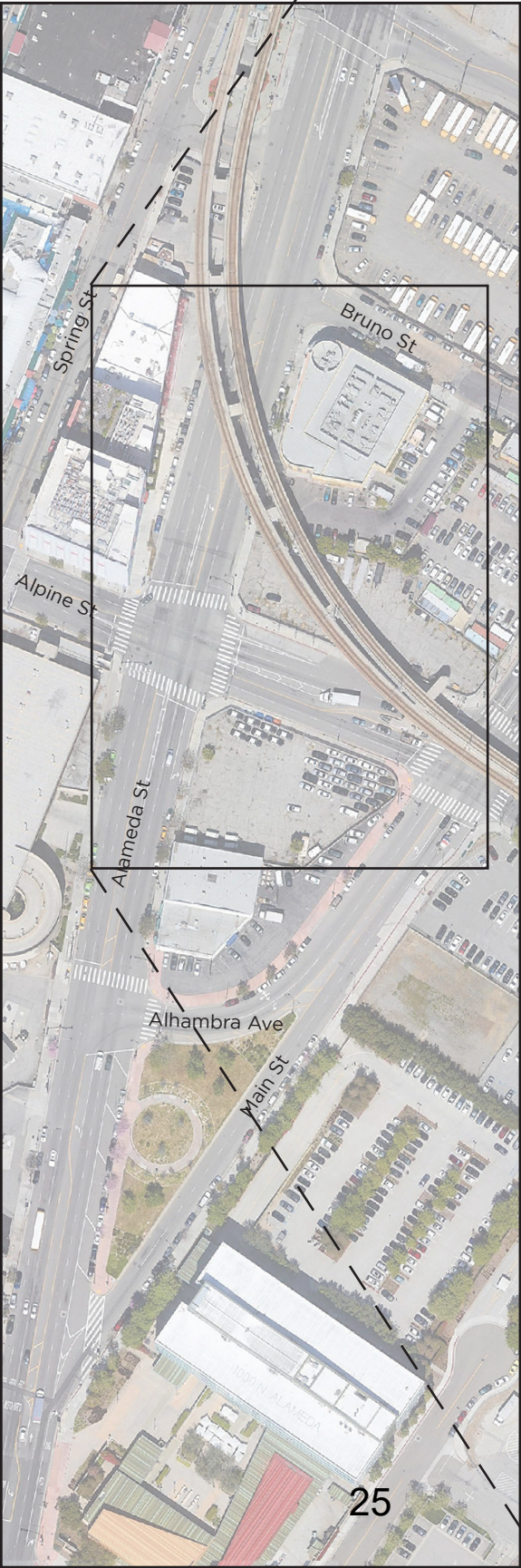
- 2 NB through lanes
- 1 SBL turn lane
- 2 SB through lanes
- 1 SB through-right lane

Existing conditions for Alpine Street along the proposed location for Alpine Tower:

- 2 WB through lanes
- 1 WBL turn lane
- 1 WBR turn lane
- 2 EB through lanes



Section Through Alameda Street

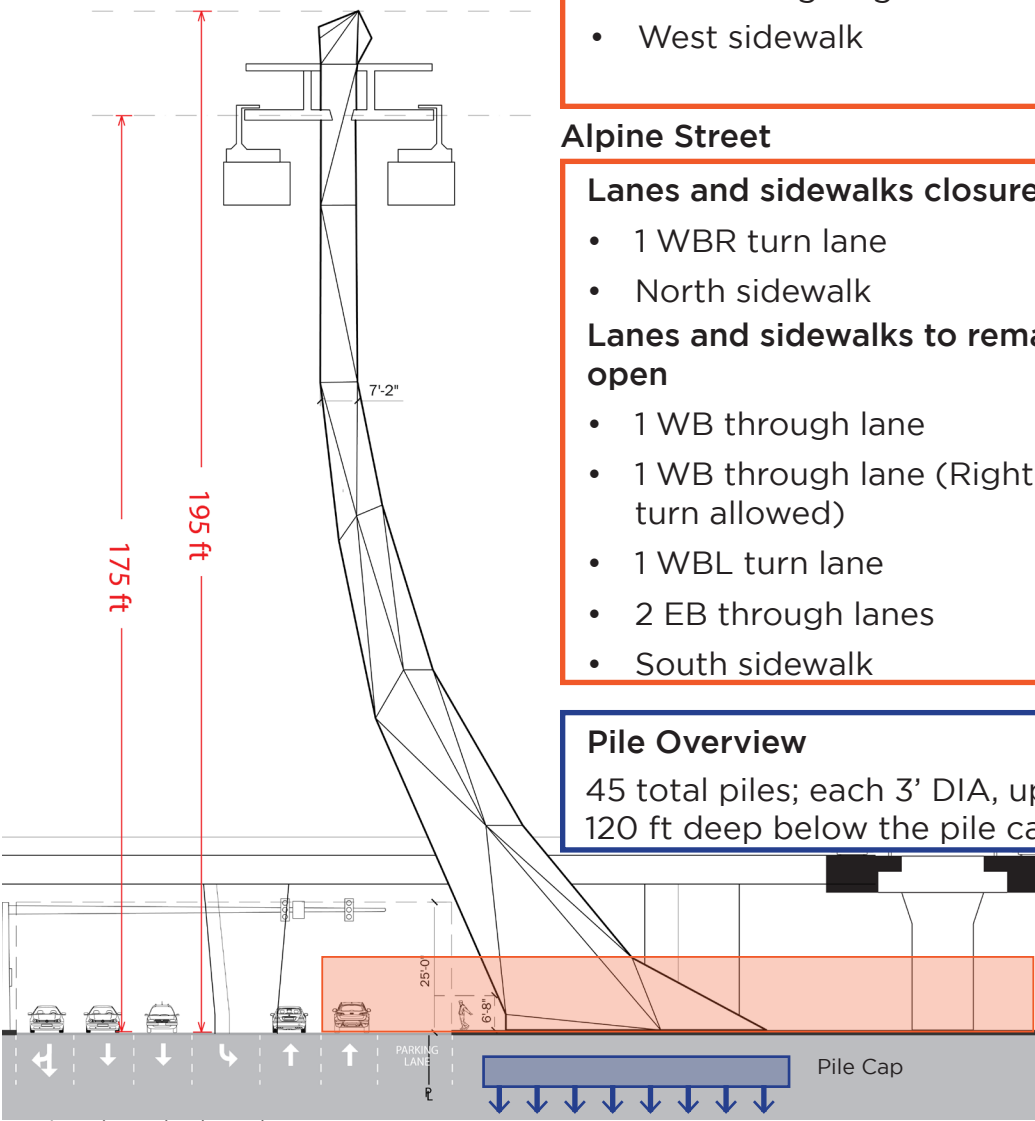


Alpine Tower

Foundations and Columns for 15 weeks Weeks 1 - 3 of 28 total weeks of Structural Steel and Gondola Equipment Erection

Weeks 1 - 3 of Structural Steel and Gondola Equipment Erection include construction of the first 25 feet of the Alpine Tower. Closures associated with this work are the same as those reflected on this sheet for the Foundations and Columns.

Required area for Construction
30,100 sqft



Alameda Street

Lanes and sidewalks closures

- 1 NB through lane
- East sidewalk
- NB parallel parking

Lanes and sidewalks to remain open

- 1 NB through lane
- 1 SBL turn lane
- 2 SB through lanes
- 1 SB through-right lane
- West sidewalk

Alpine Street

Lanes and sidewalks closures

- 1 WBR turn lane
- North sidewalk

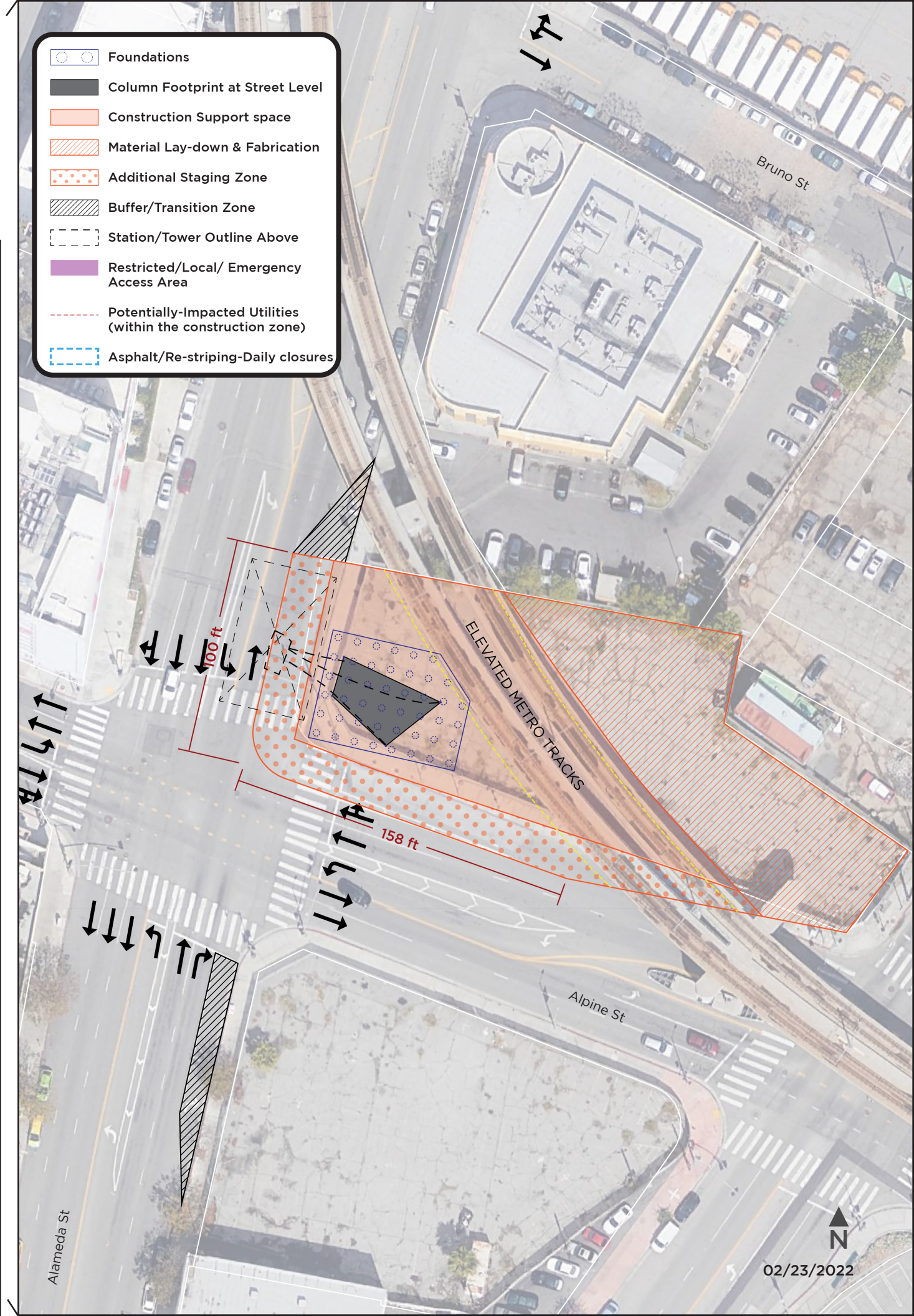
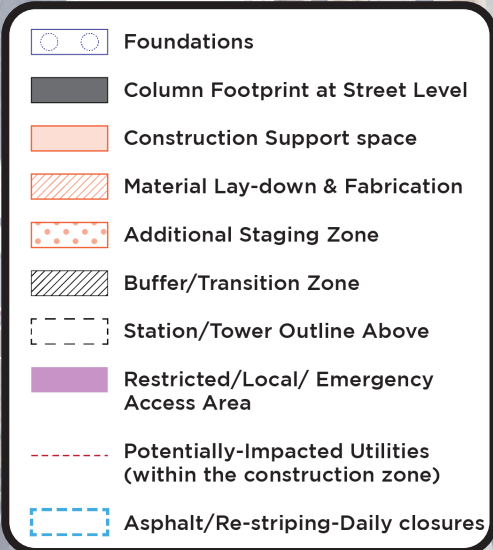
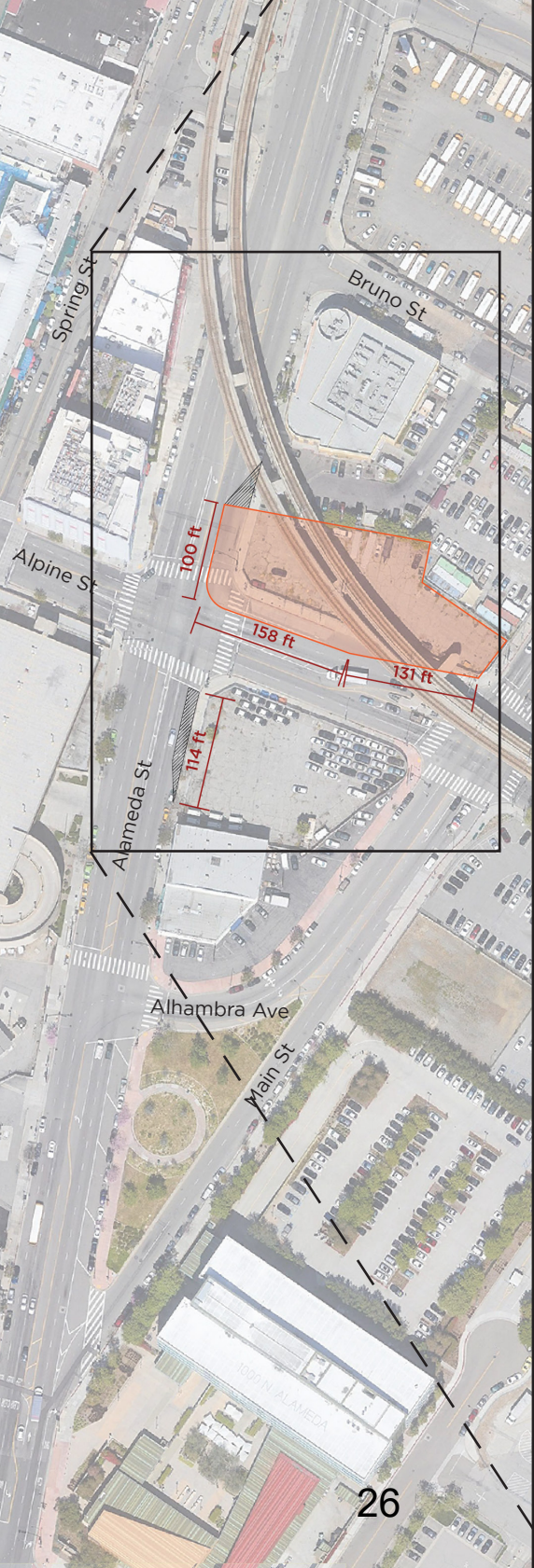
Lanes and sidewalks to remain open

- 1 WB through lane
- 1 WB through lane (Right turn allowed)
- 1 WBL turn lane
- 2 EB through lanes
- South sidewalk

Pile Overview

45 total piles; each 3' DIA, up to 120 ft deep below the pile cap

Lane Closure & Transition Zones



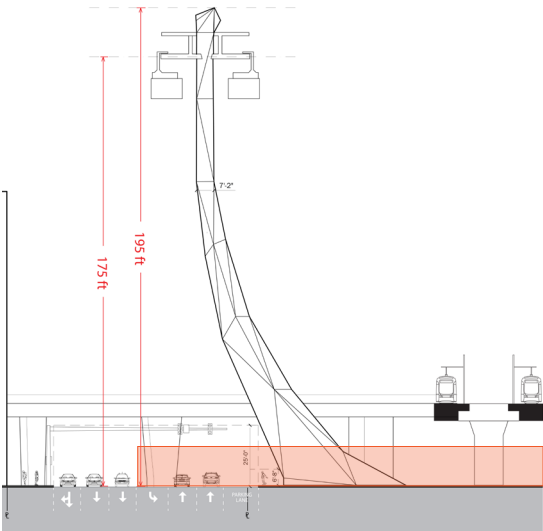
Alpine Tower

Structural Steel and Gondola Equipment Erection Weeks 4 – 28 of 28 total weeks of Structural Steel and Gondola Equipment Erection

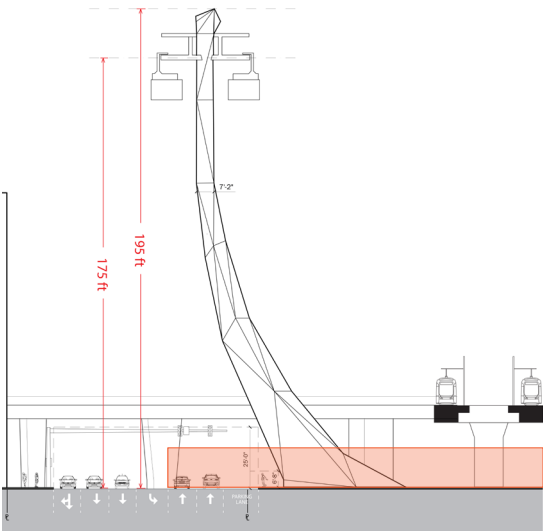
During Structural Steel and Gondola Equipment Erection, the Construction Zone and lane closure areas will vary depending on the construction site activity.

This will result in two alternating conditions over a period of 17 weeks:

- 1. 10-hrs/day for construction hours
- 2. 14-hrs/day for non-construction hours

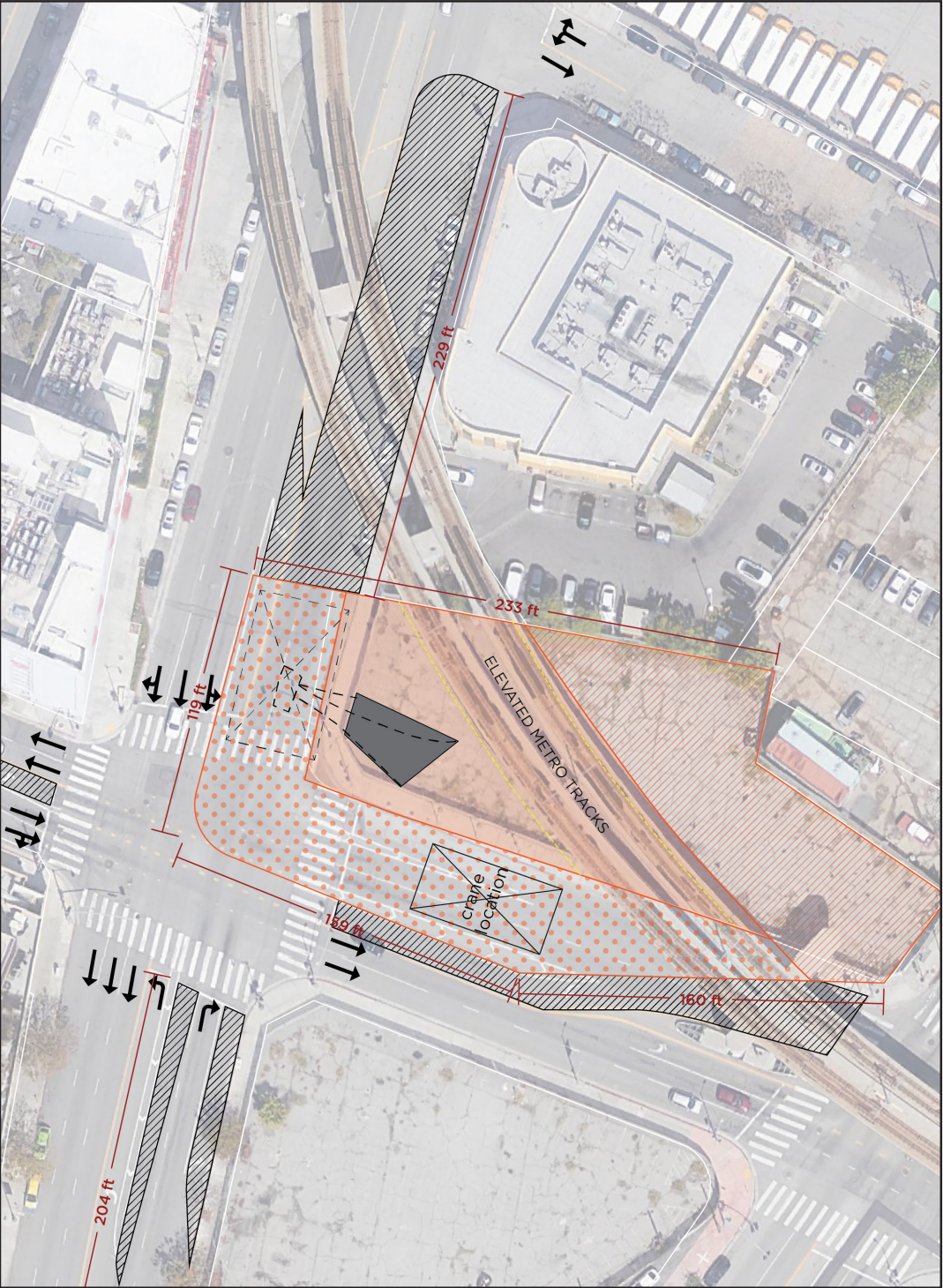


Construction Hours

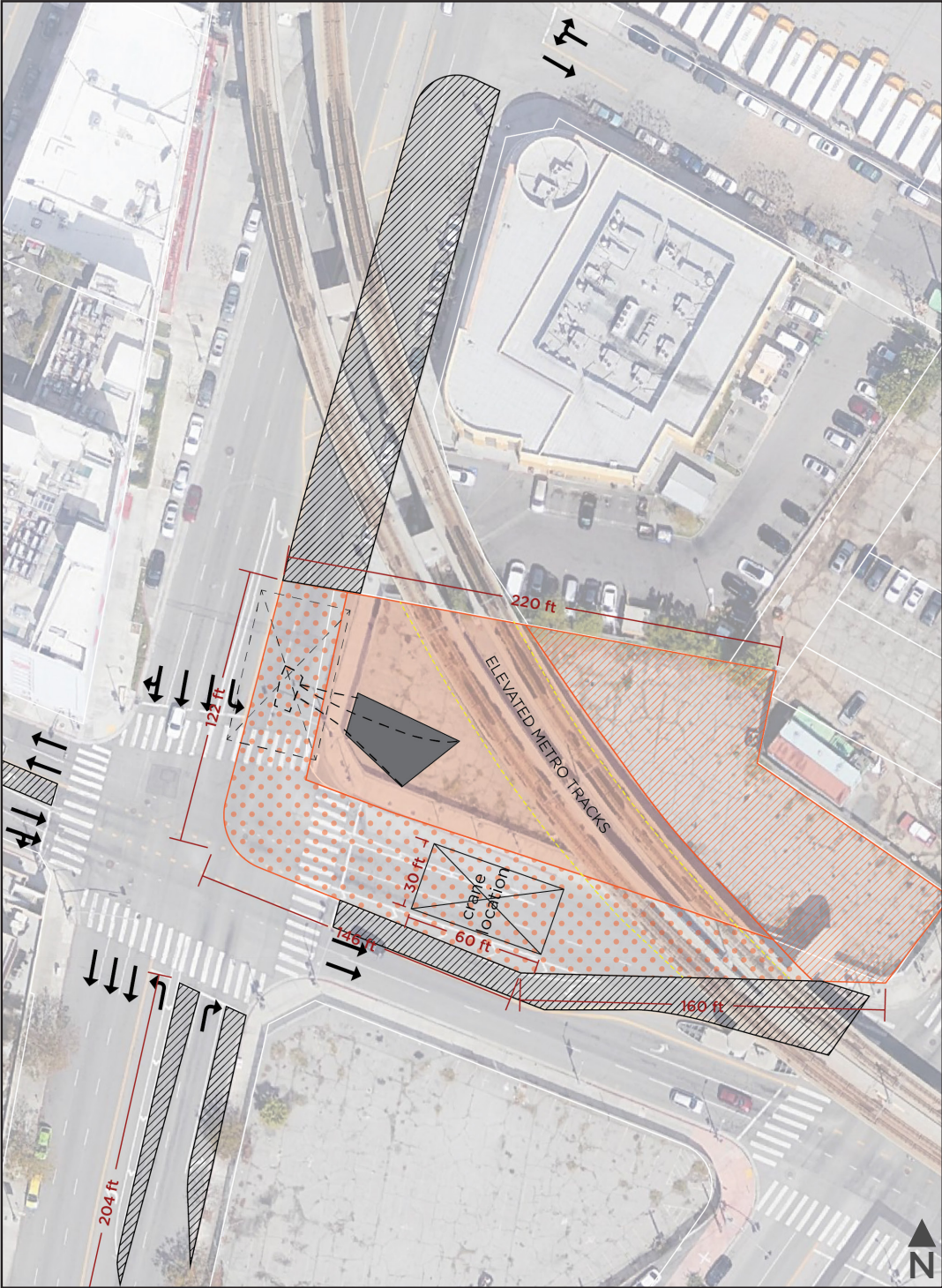


Non-Construction Hours

Construction Hours | 10 hrs/day



Non-Construction Hours | 14 hrs/day



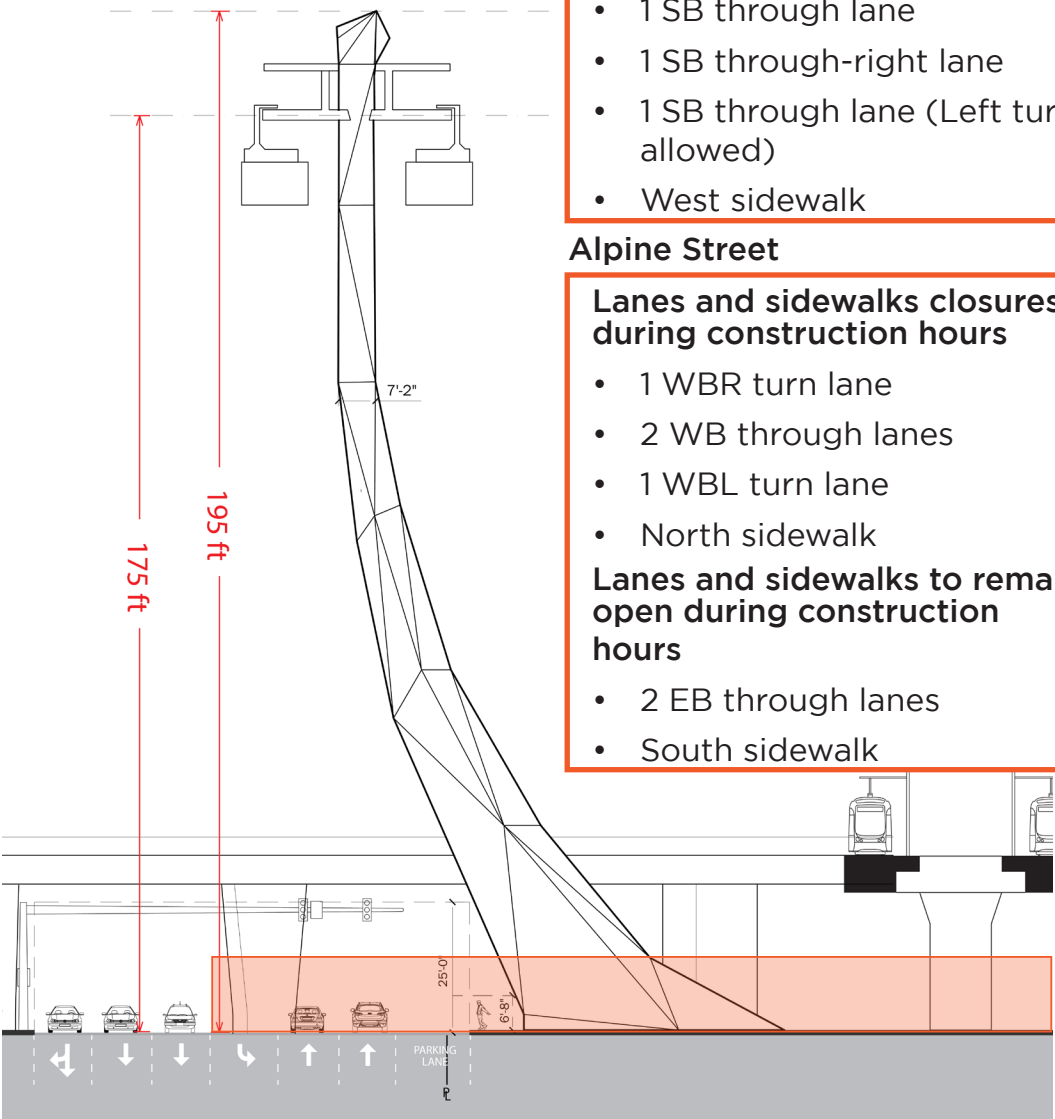
Alpine Tower | Construction Hours

Structural Steel and Gondola Equipment Erection
Weeks 4 – 28 of 28 total weeks of Structural Steel and Gondola
Equipment Erection, 10 hrs/day

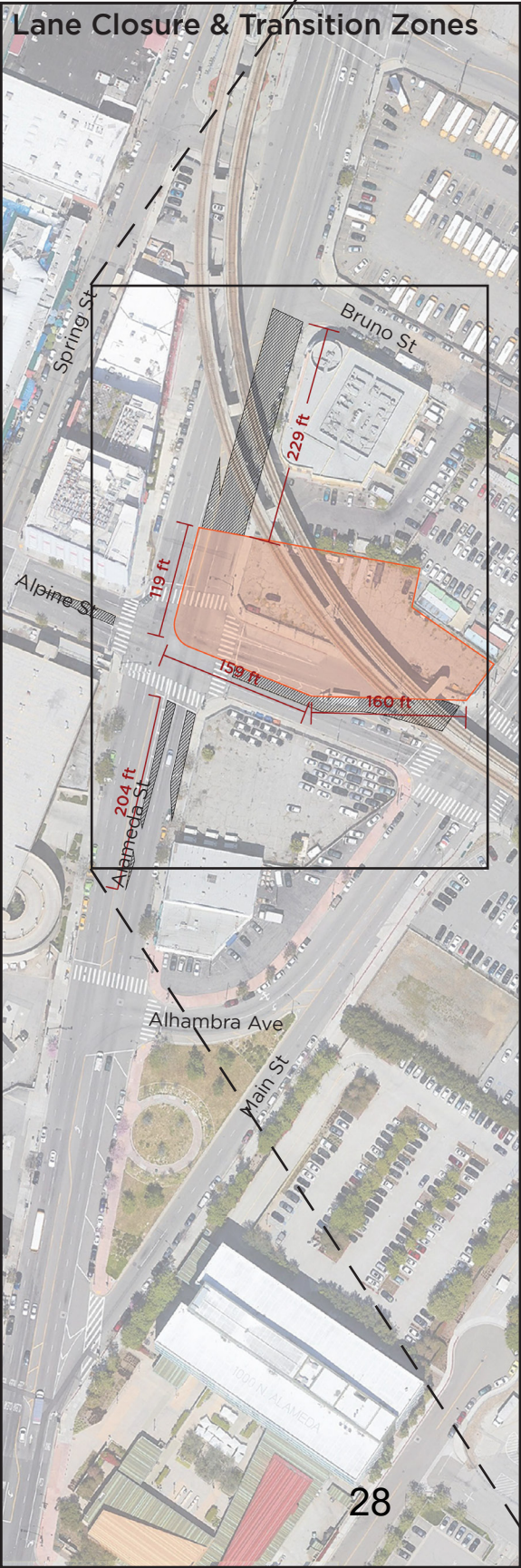
Required area for Construction
38,700 sqft

- Alameda Street**
- Lanes and sidewalks closures during construction hours**
- 2 NB through lanes
 - 1 SBL turn lane
 - East sidewalk
 - NB parallel parking
- Lanes and sidewalks to remain open during construction hours**
- 1 SB through lane
 - 1 SB through-right lane
 - 1 SB through lane (Left turn allowed)
 - West sidewalk

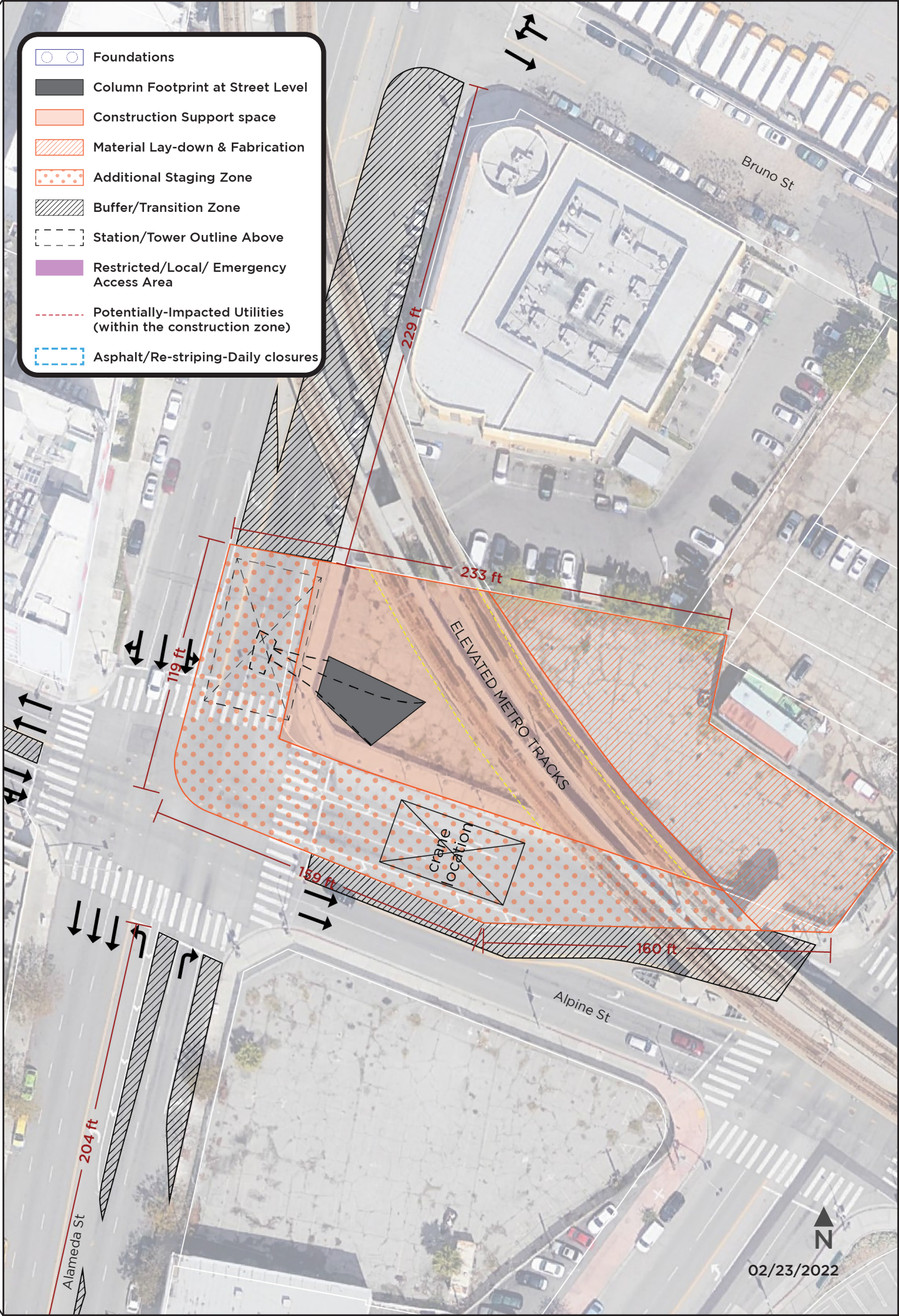
- Alpine Street**
- Lanes and sidewalks closures during construction hours**
- 1 WBR turn lane
 - 2 WB through lanes
 - 1 WBL turn lane
 - North sidewalk
- Lanes and sidewalks to remain open during construction hours**
- 2 EB through lanes
 - South sidewalk



Section Through Alameda Street



- Foundations
- Column Footprint at Street Level
- Construction Support space
- Material Lay-down & Fabrication
- Additional Staging Zone
- Buffer/Transition Zone
- - - Station/Tower Outline Above
- Restricted/Local/ Emergency Access Area
- - - Potentially-Impacted Utilities (within the construction zone)
- Asphalt/Re-striping-Daily closures



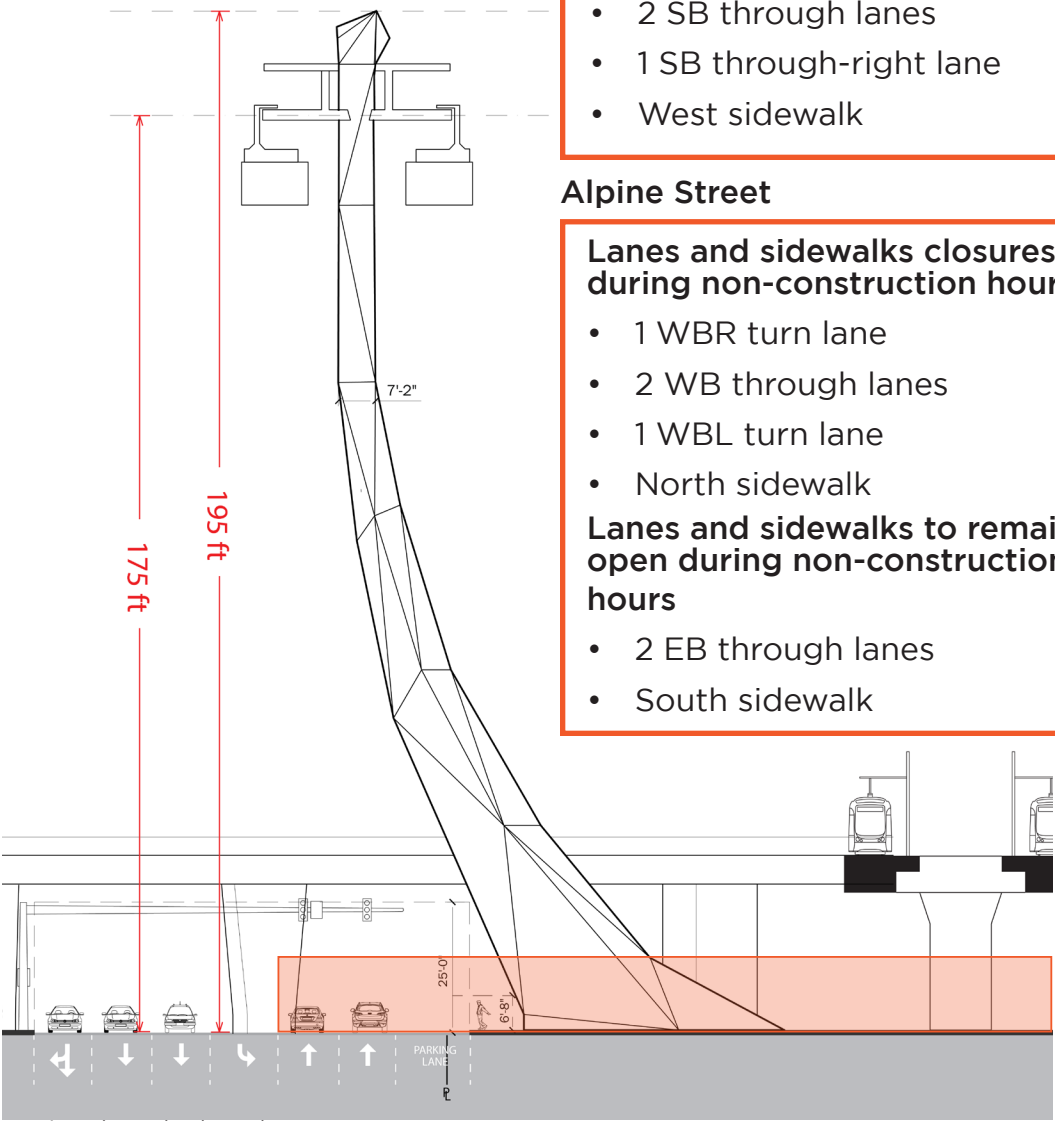
Alpine Tower | Non-Construction Hours

Structural Steel and Gondola Equipment Erection
Weeks 4 – 28 of 28 total weeks of Structural Steel and Gondola Equipment Erection, 14 hrs/day

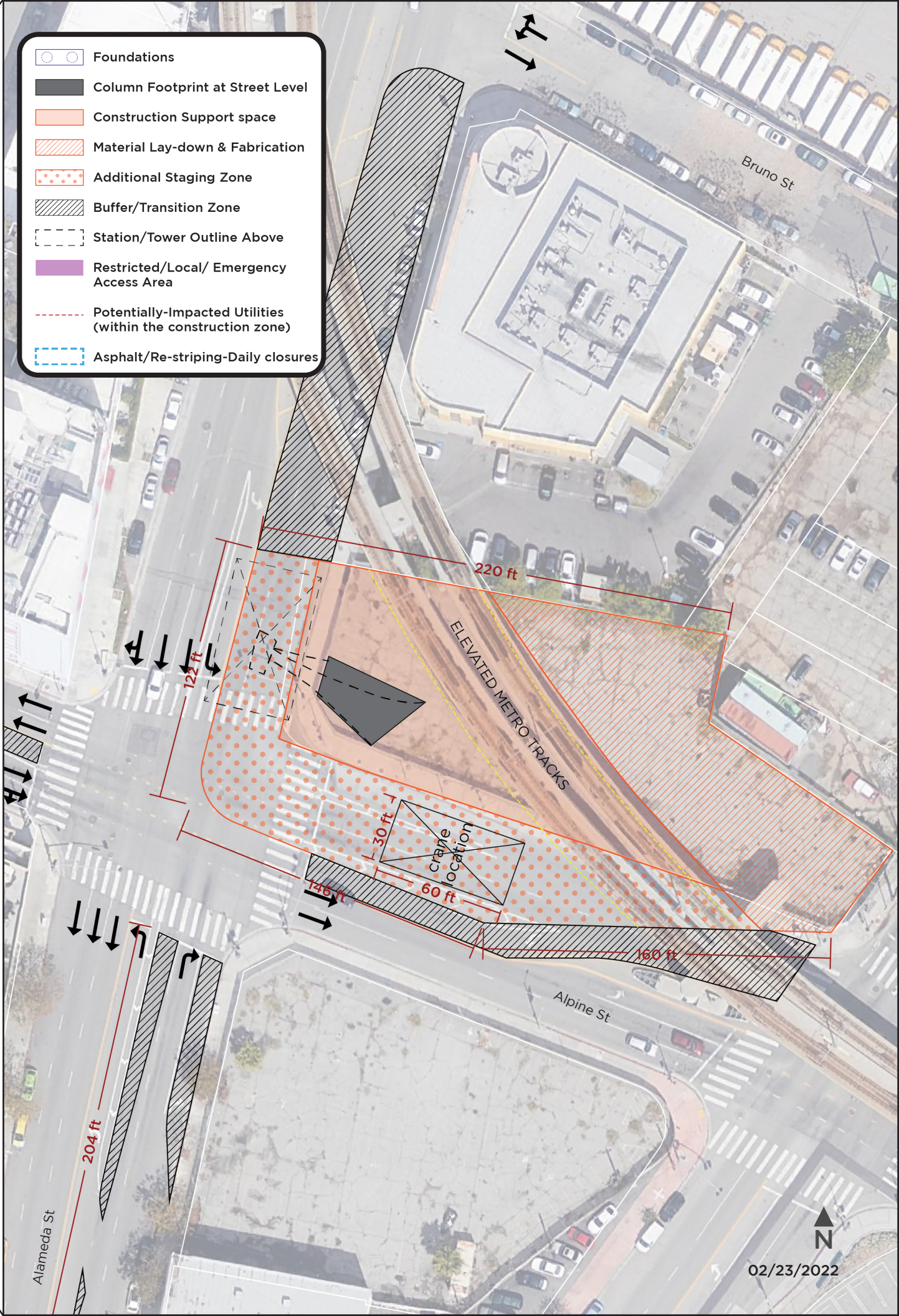
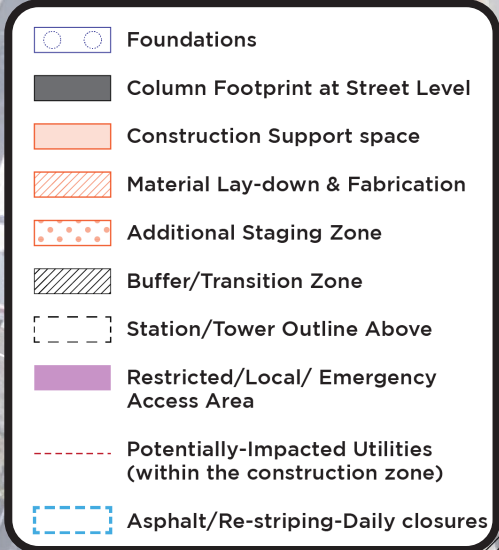
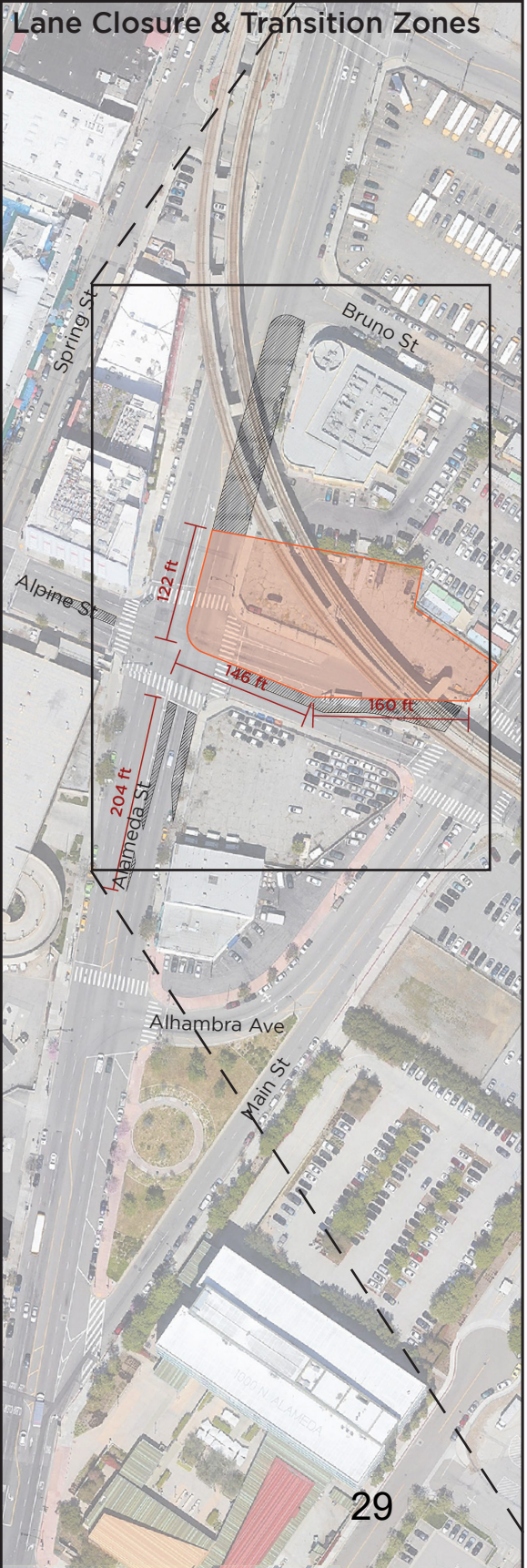
Required area for Construction
37,100 sqft

- Alameda Street**
- Lanes and sidewalks closures during non-construction hours**
- 2 NB through lanes
 - East sidewalk
 - NB parallel parking lane
- Lanes and sidewalks to remain open during non-construction hours**
- 1 SBL turn lane
 - 2 SB through lanes
 - 1 SB through-right lane
 - West sidewalk

- Alpine Street**
- Lanes and sidewalks closures during non-construction hours**
- 1 WBR turn lane
 - 2 WB through lanes
 - 1 WBL turn lane
 - North sidewalk
- Lanes and sidewalks to remain open during non-construction hours**
- 2 EB through lanes
 - South sidewalk



Section Through Alameda Street

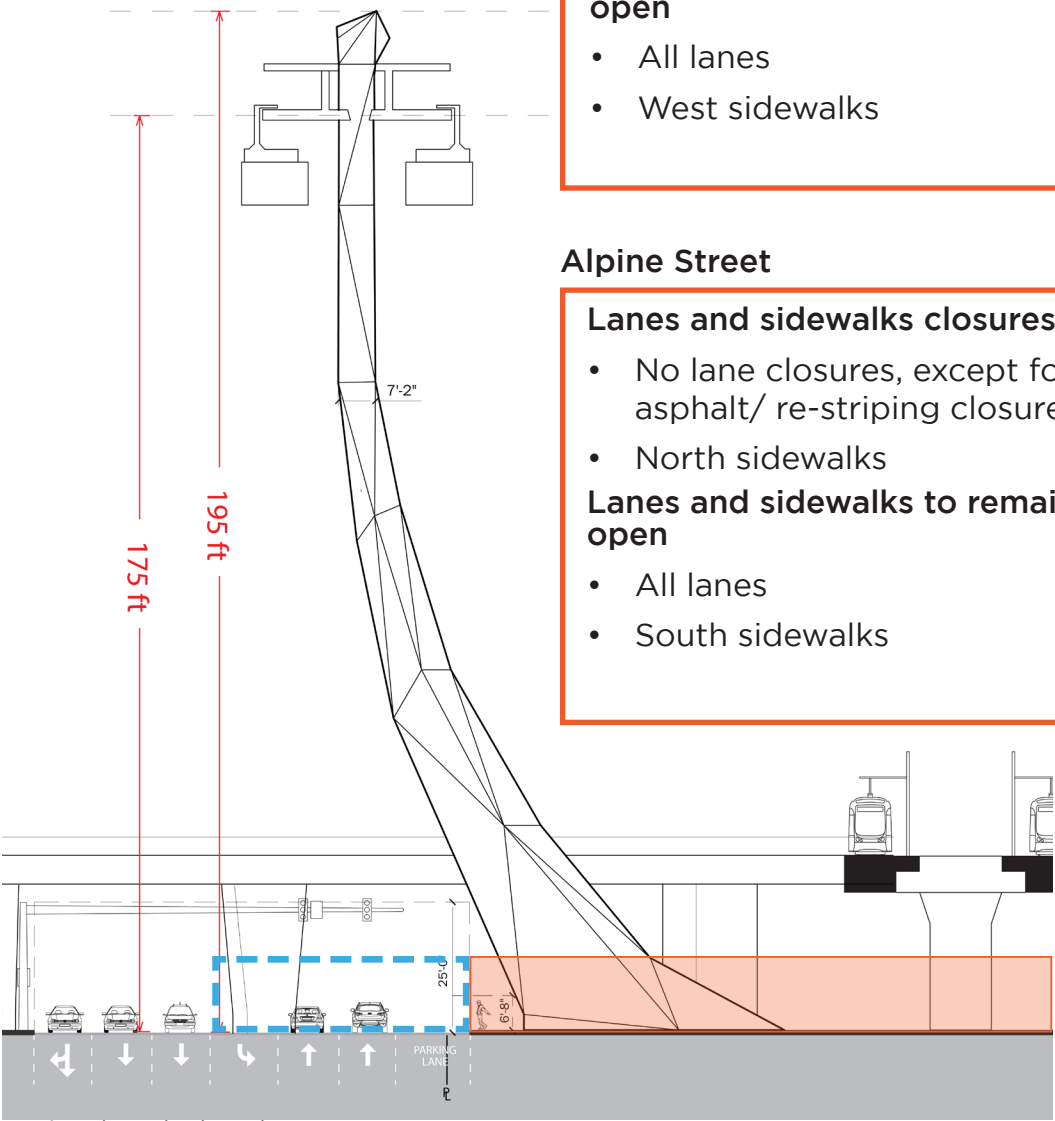


Alpine Tower

Hardscape and Landscape/ Interior Work 12 weeks

Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 12-week duration period

Required area for Construction
24,400 sqft



Alameda Street

Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures
- East sidewalks

Lanes and sidewalks to remain open

- All lanes
- West sidewalks

Alpine Street

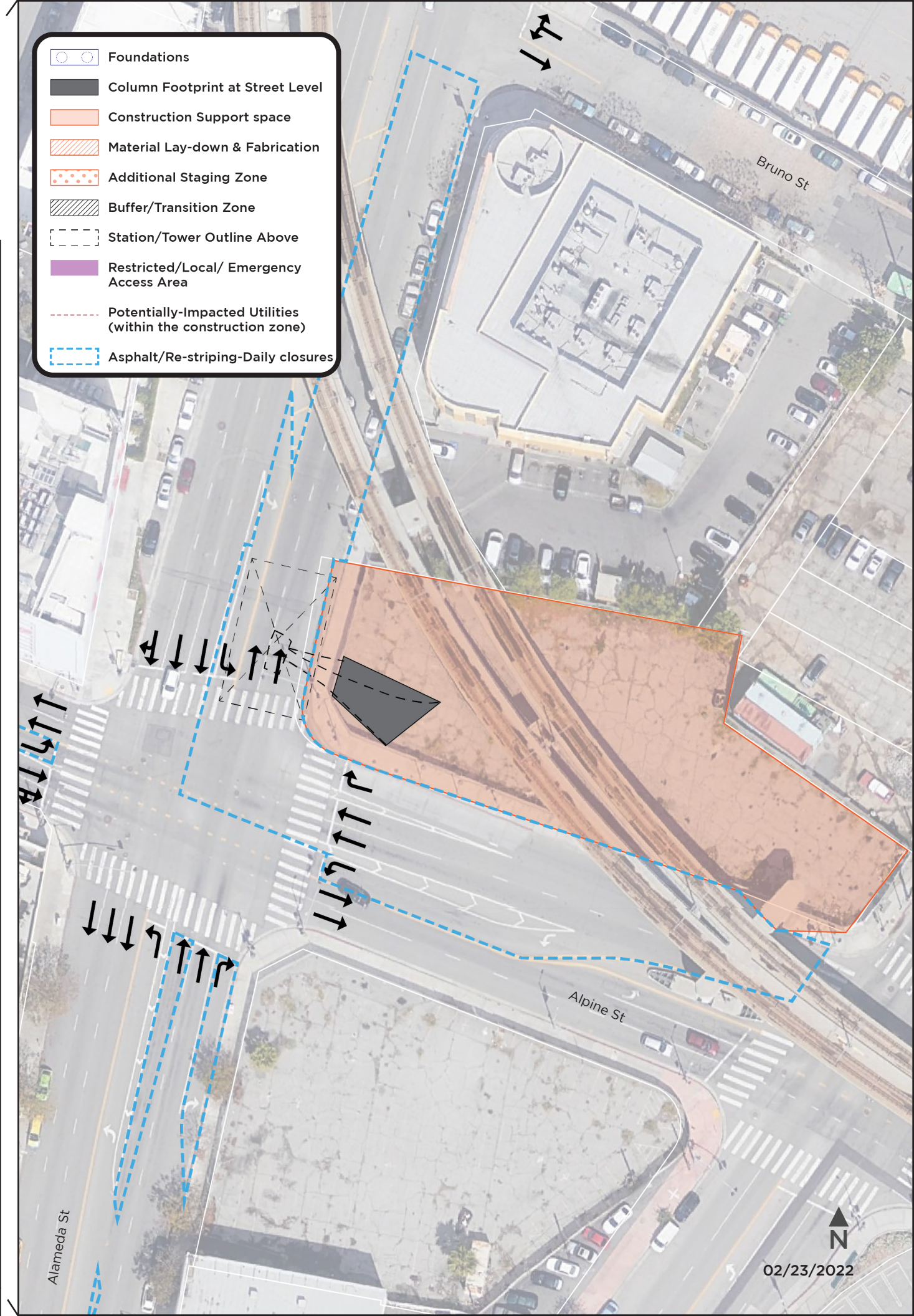
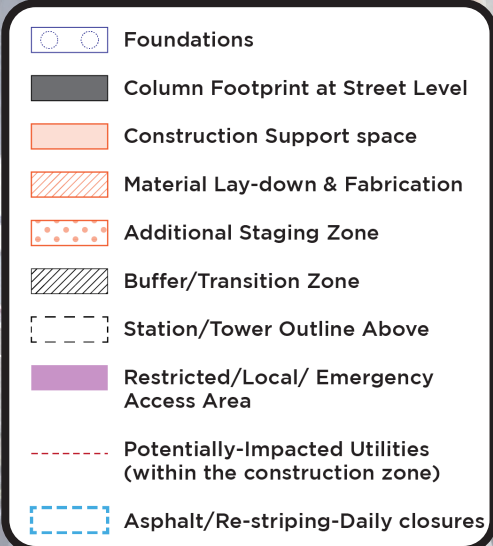
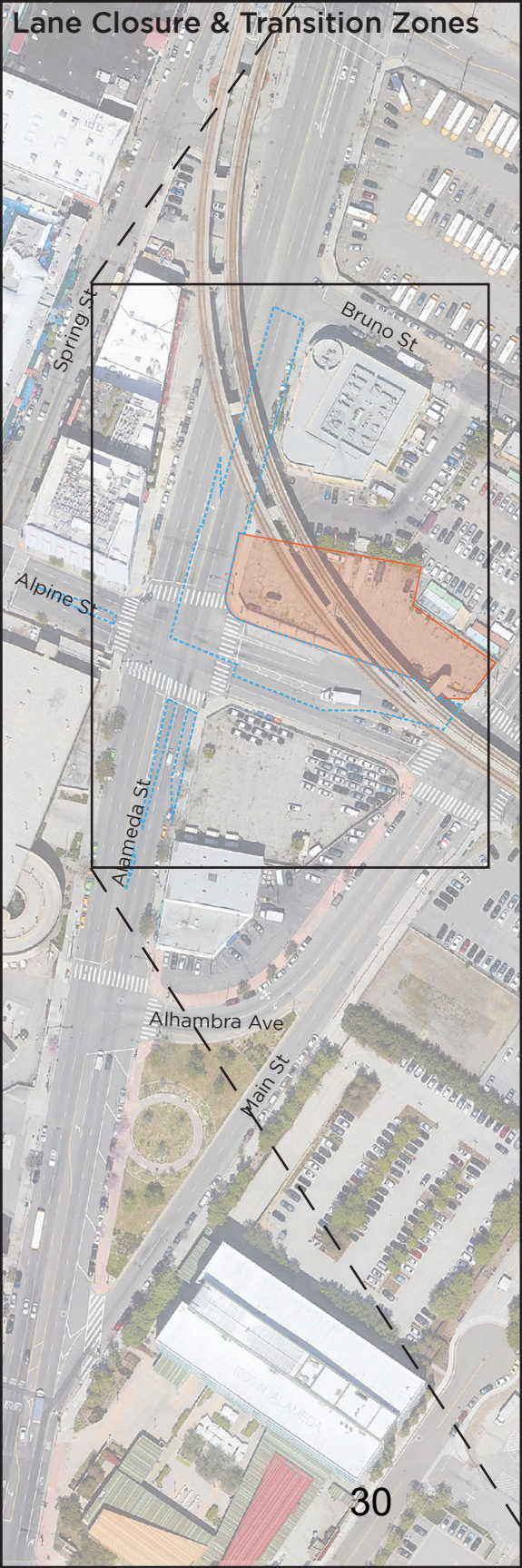
Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures
- North sidewalks

Lanes and sidewalks to remain open

- All lanes
- South sidewalks

Lane Closure & Transition Zones



Alpine Tower

|

Build-Out

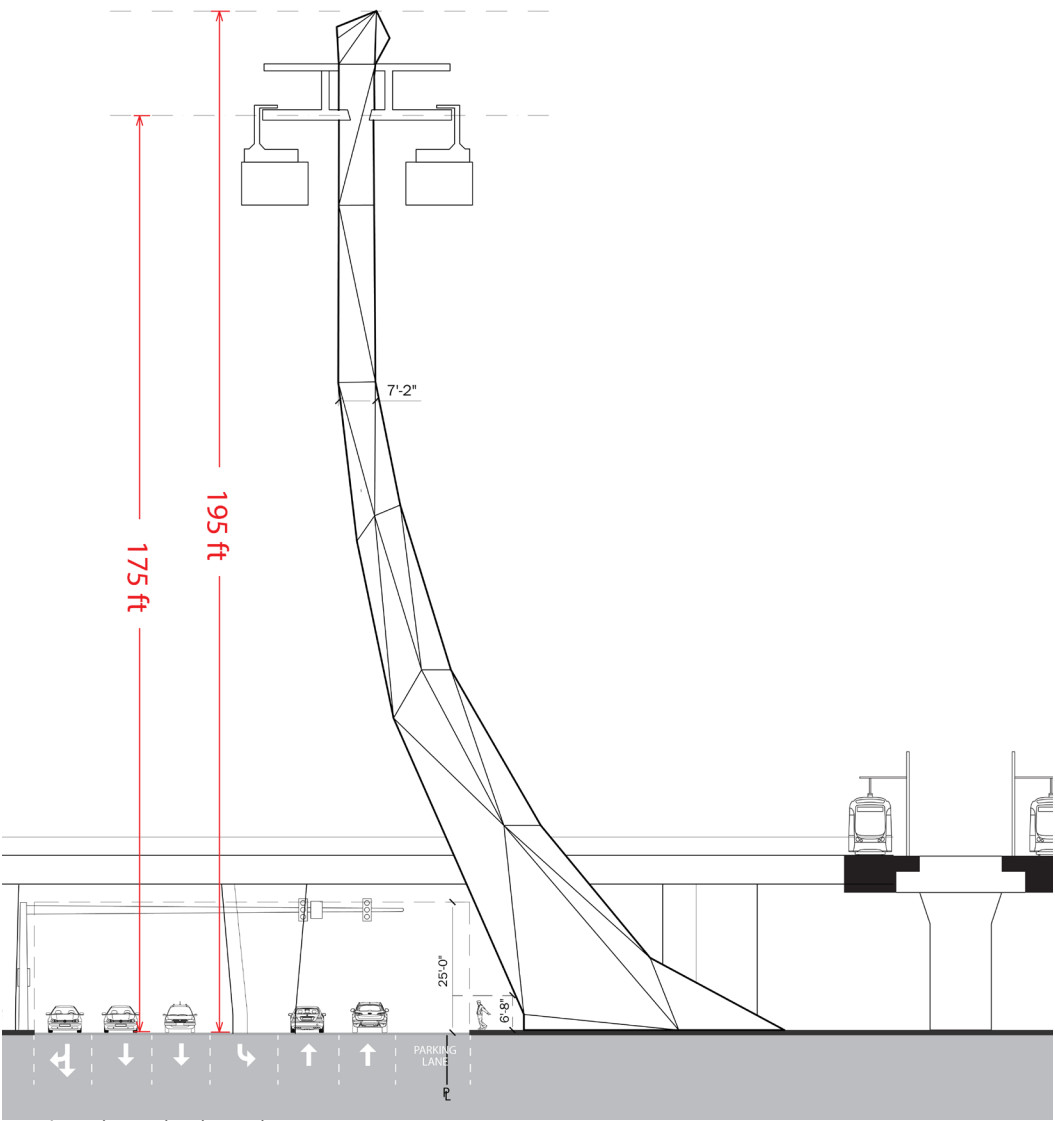
Build-Out Conditions

Build-out conditions for Alameda Street at the proposed location for Alpine Tower:

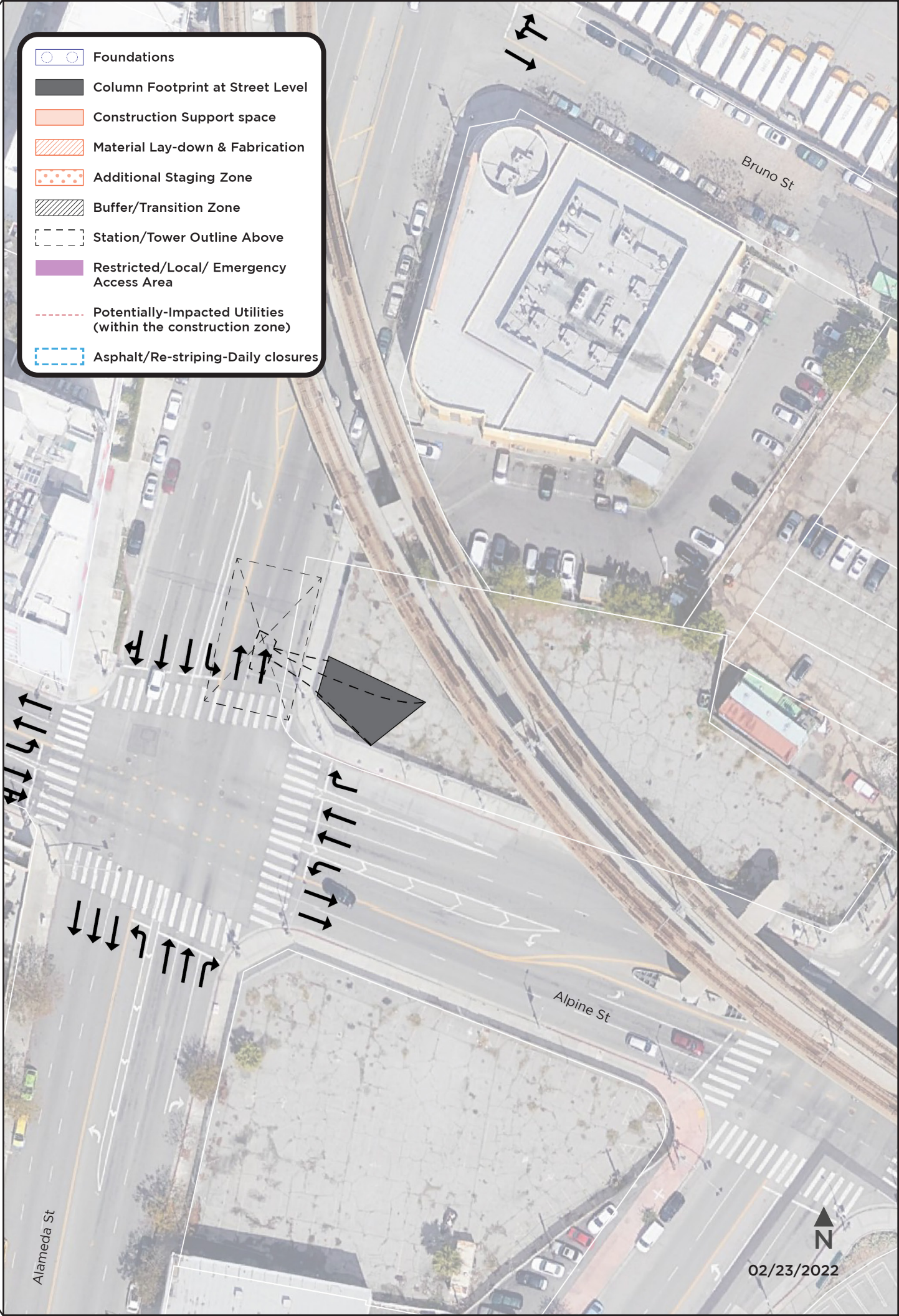
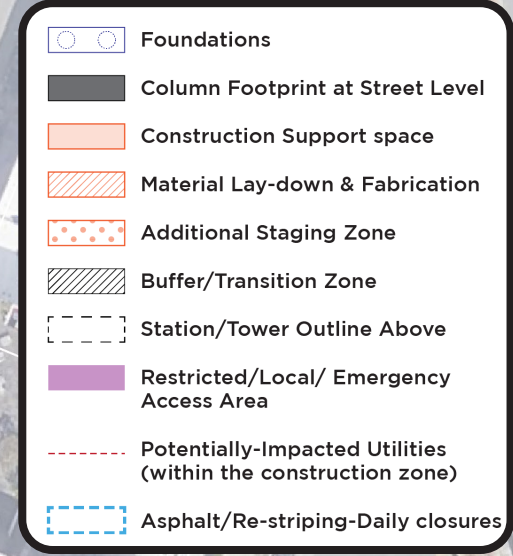
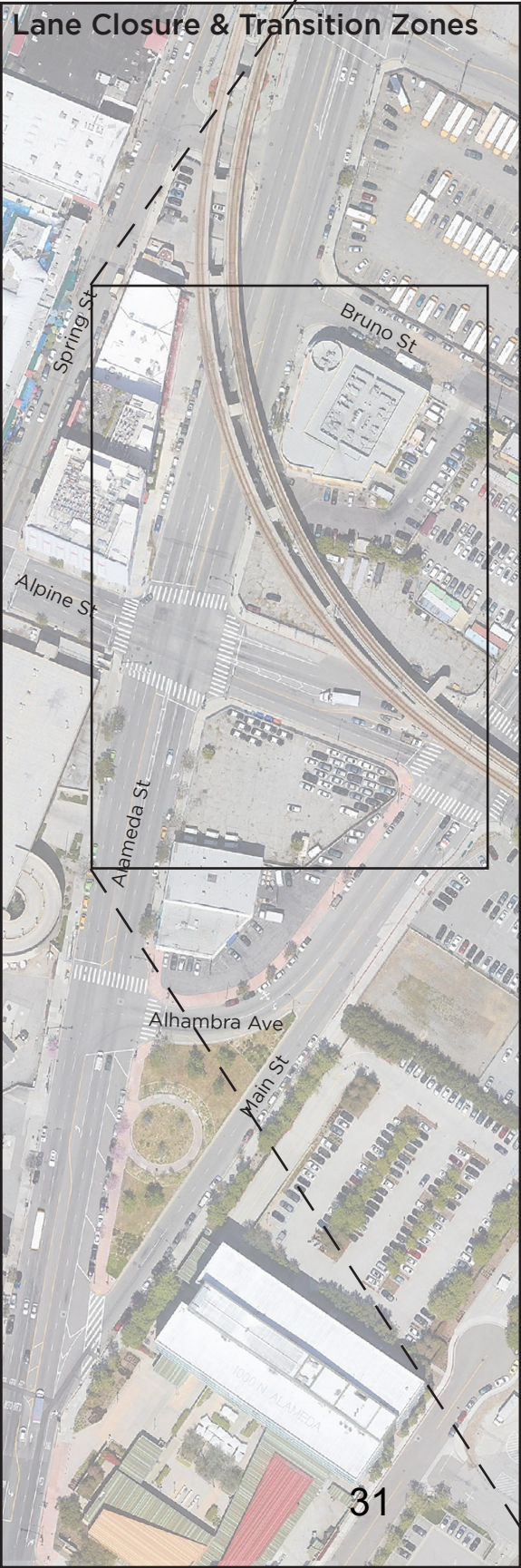
- 2 NB through lanes
- 1 SBL turn lane
- 2 SB through lanes
- 1 SB through-right lane

Build-out conditions for Alpine Street along the proposed location for Alpine Tower:

- 2 WB through lanes
- 1 WBL turn lane
- 1 WBR turn lane
- 2 EB through lanes



Section Through Alameda Street



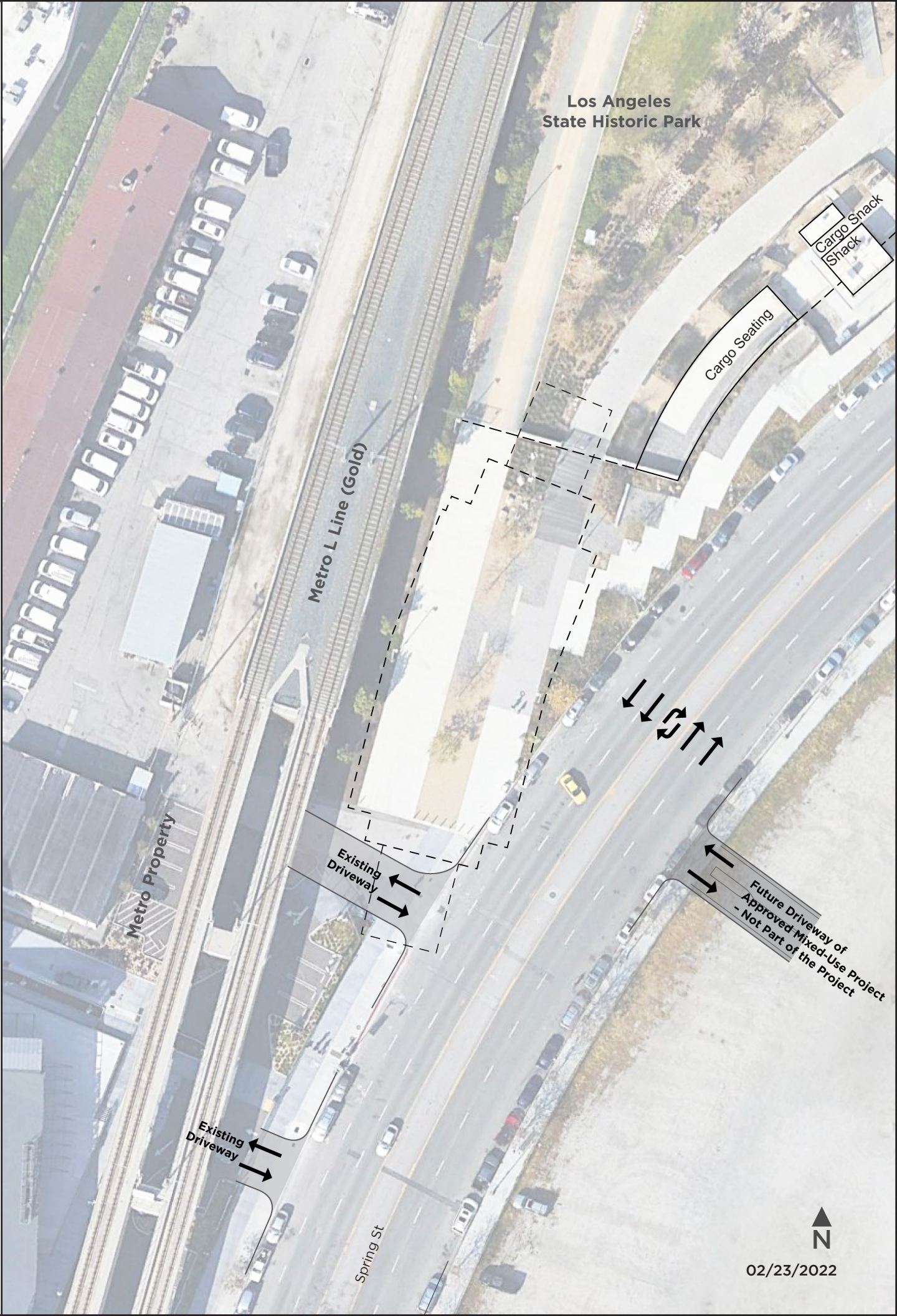
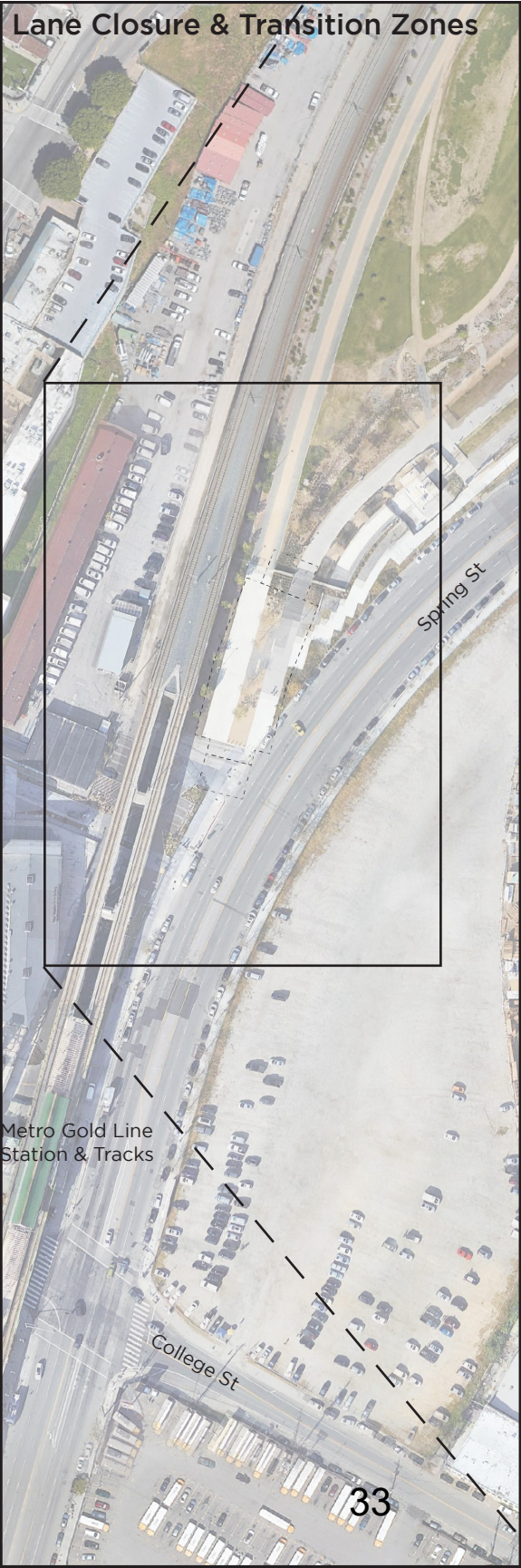
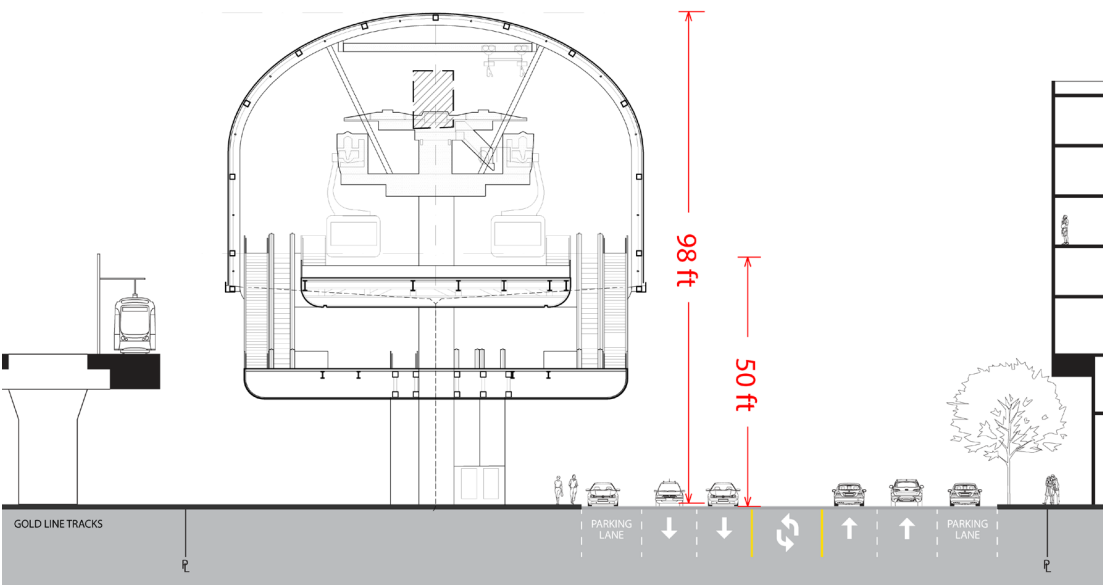


Chinatown / State Park Station | Existing

Existing Conditions

Existing conditions for Spring Street at the proposed location for Chinatown / State Park Station:

- Two-Way left turn lane
- 2 NB through lanes + parallel parking lane
- 2 SB through lanes + parallel parking lane



Chinatown / State Park Station

Foundations and Columns 21 weeks

Required area for Construction
60,800 sqft

Lanes and sidewalks closures

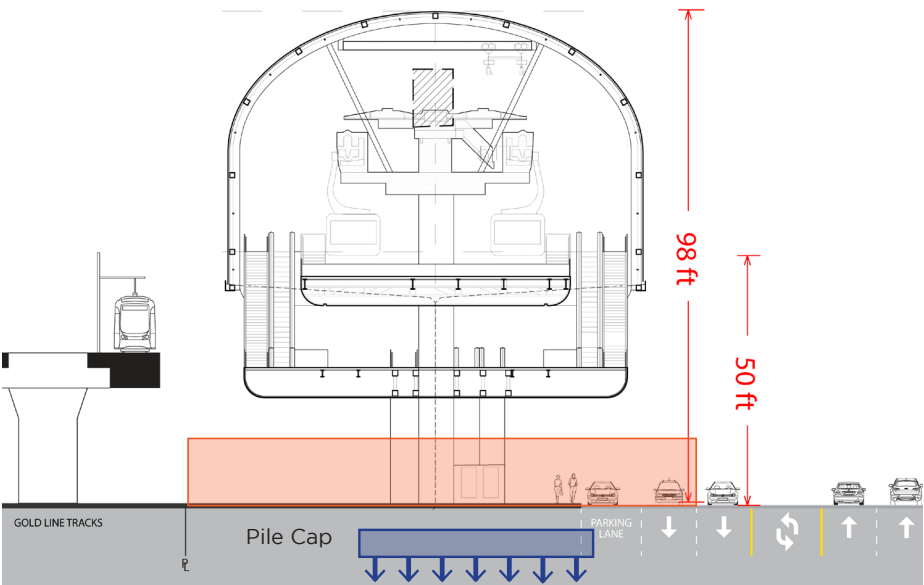
- 2 SB through lanes
- Two-Way left turn lane
- SB parallel parking lane
- West sidewalk (Partial sidewalk detour required)

Pile Overview

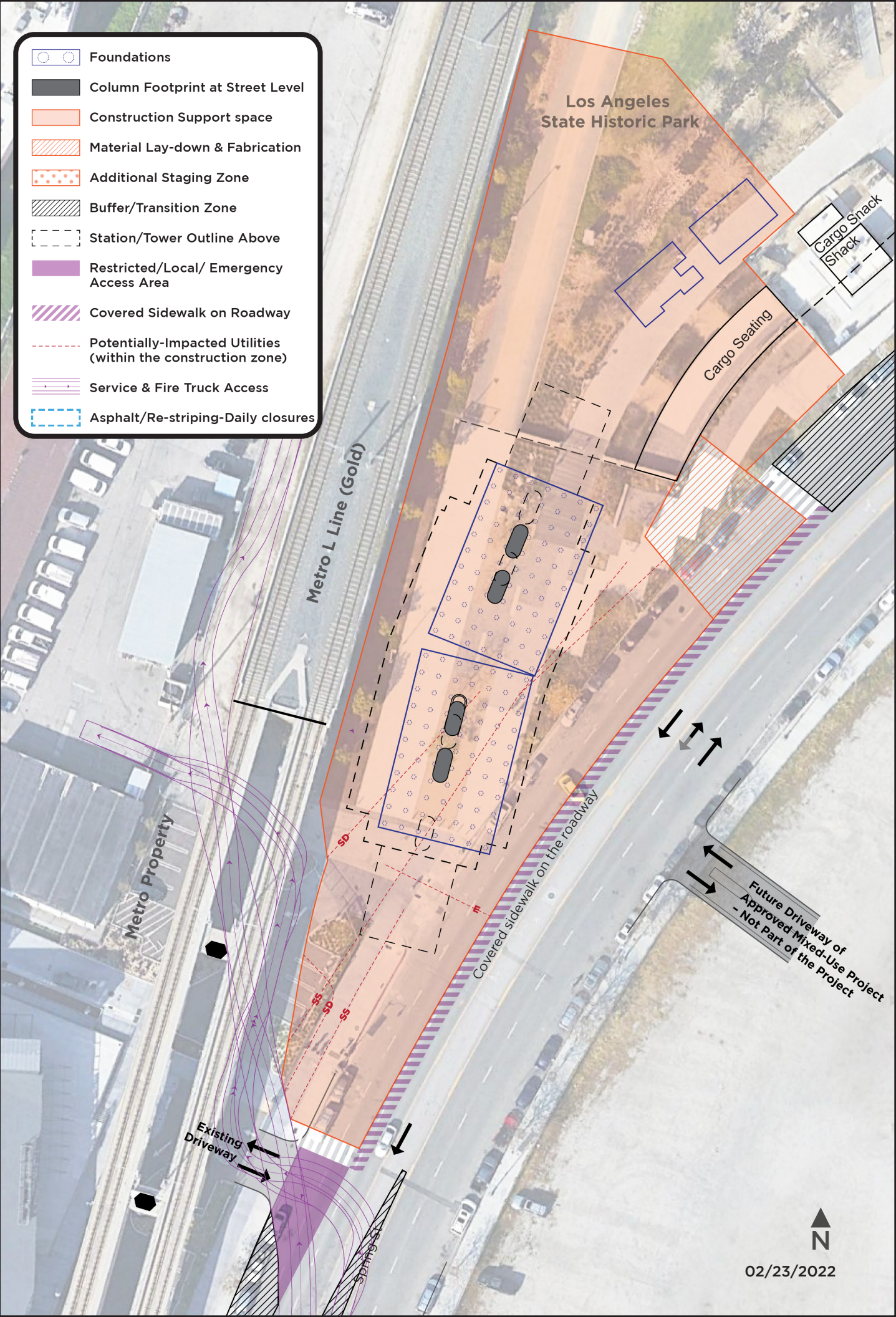
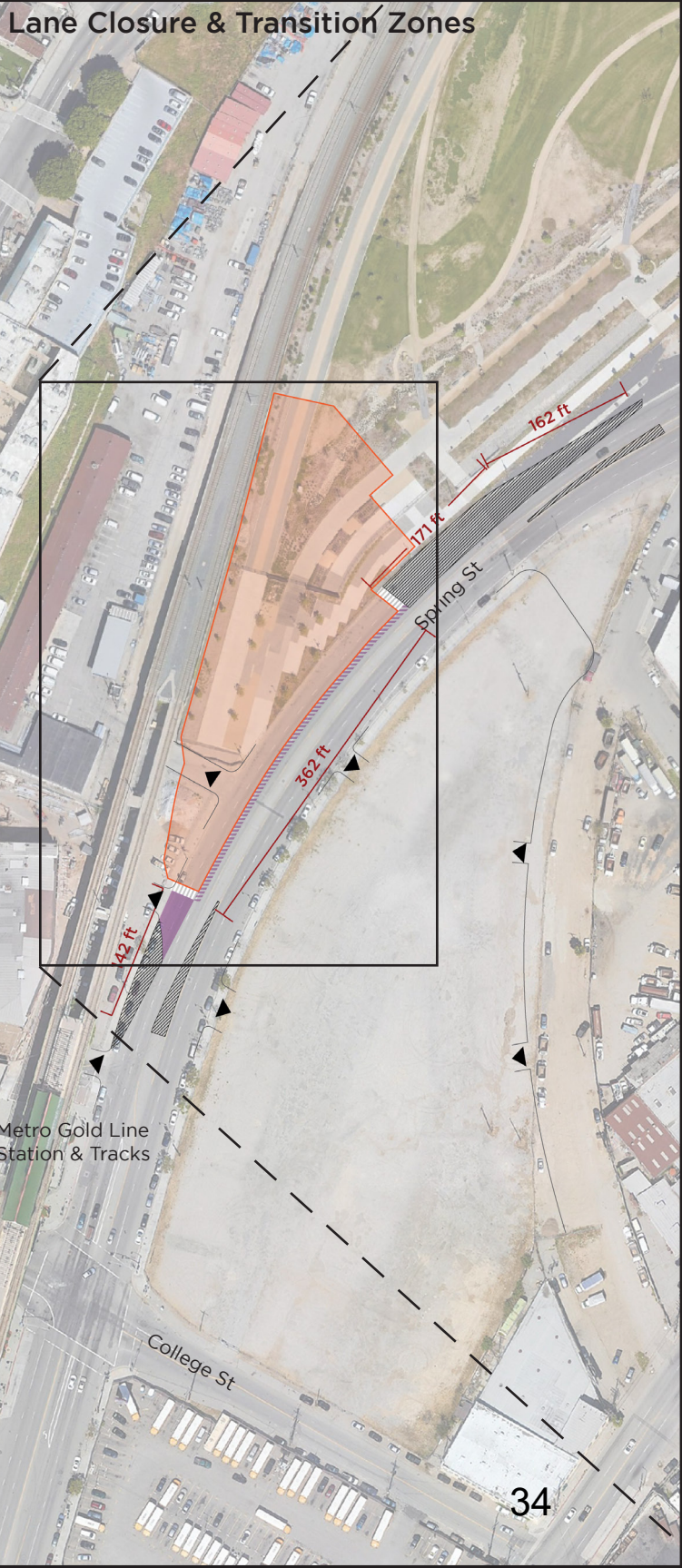
154 total piles; each 2' DIA, up to 80 ft deep below the pile cap

Lanes and sidewalks to remain open

- 1 SB through lane (Two-Way left turn lane will be used as a SB through lane during construction)
- 1 reversible through lane to be used in the peak direction (e.g. SB in the AM, NB in the PM) in 1 NB through lane during construction
- 1 NB through lane
- NB parallel parking lane
- East sidewalk



Lane Closure & Transition Zones



Chinatown / State Park Station

Structural Steel and Gondola Equipment Erection 28 weeks

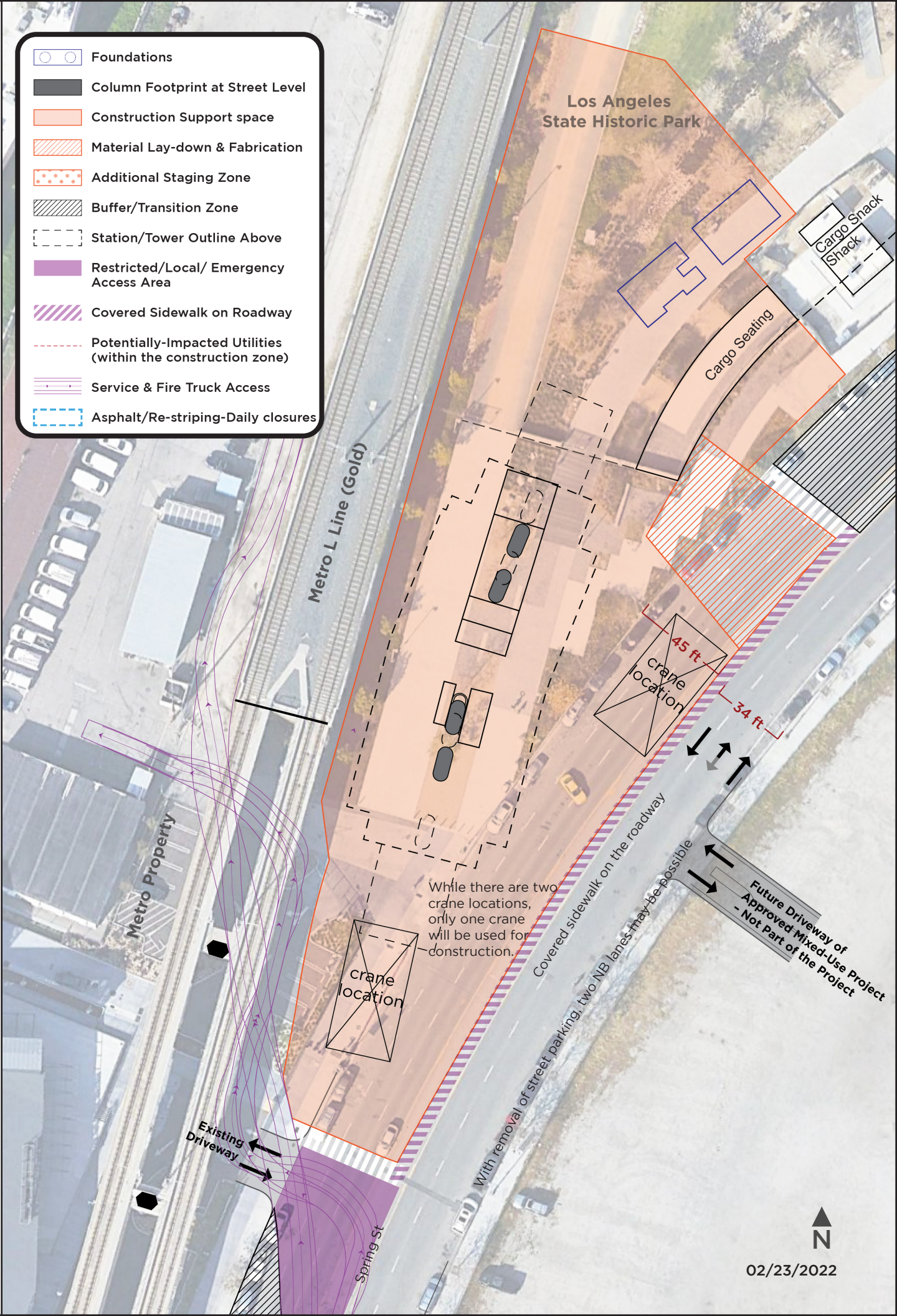
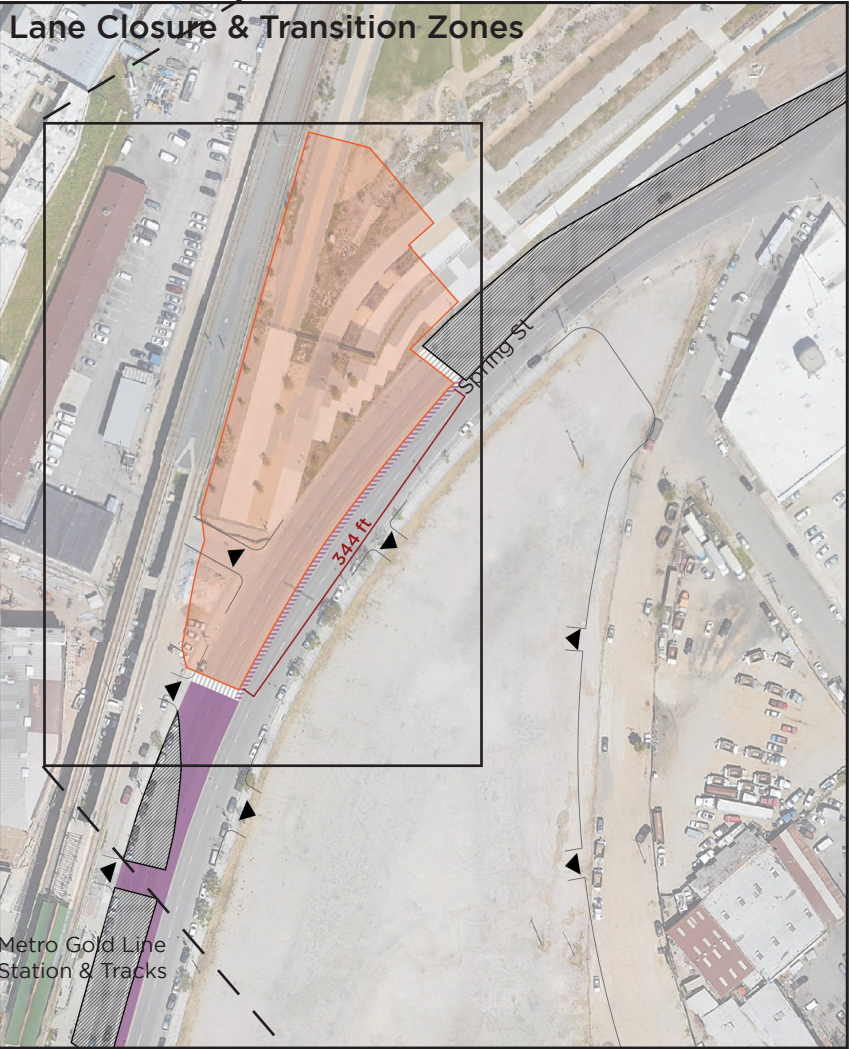
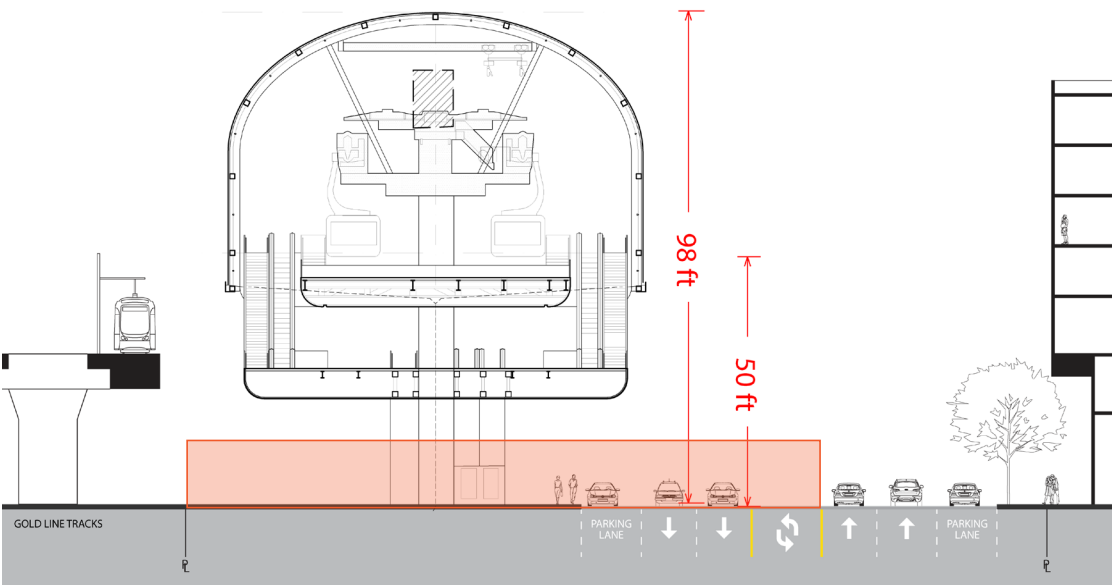
Required area for Construction
69,000 sqft

Lanes and sidewalks closures

- Two-Way left turn lane
- 2 SB through lanes
- SB parallel parking lane
- 1 NB parallel parking lane
- 1 NB through lane
- West sidewalk (Partial sidewalk detour required)

Lanes and sidewalks to remain open

- 1 NB through lane (parallel parking lane will be used as a NB through lane during construction)
- 1 SB through lane (Two-Way left turn lane/ portions of 1 NB through lane will be used as a SB through lane during construction)
- 1 reversible through lane to be used in the peak direction (e.g. SB in the AM, NB in the PM) in 1 NB through lane during construction
- East sidewalk



Chinatown / State Park Station

Vertical Circulation/ Hardscape and Landscape/ Interior Work 40 weeks

Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 21-week duration period

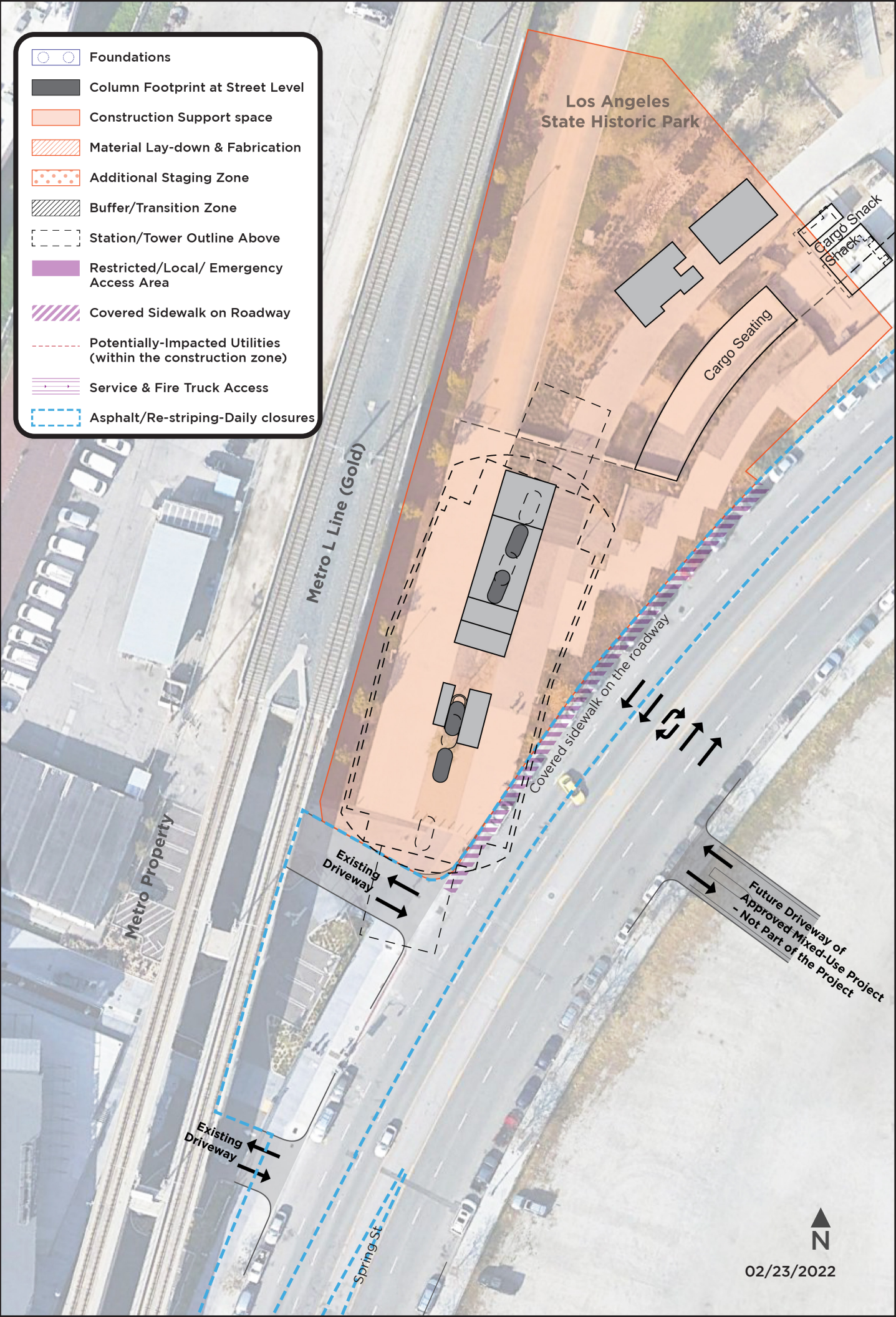
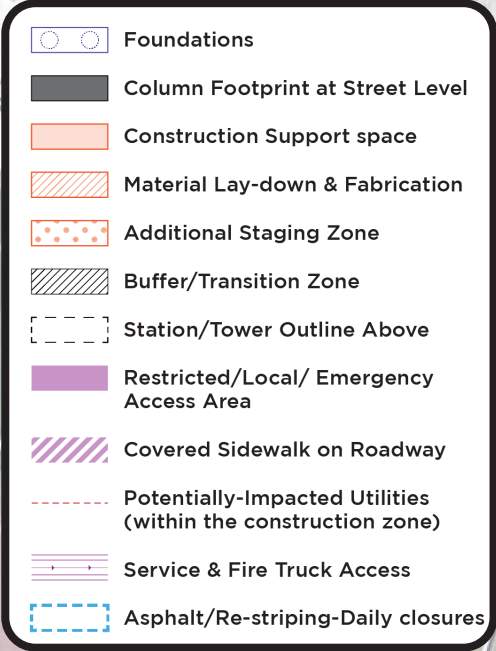
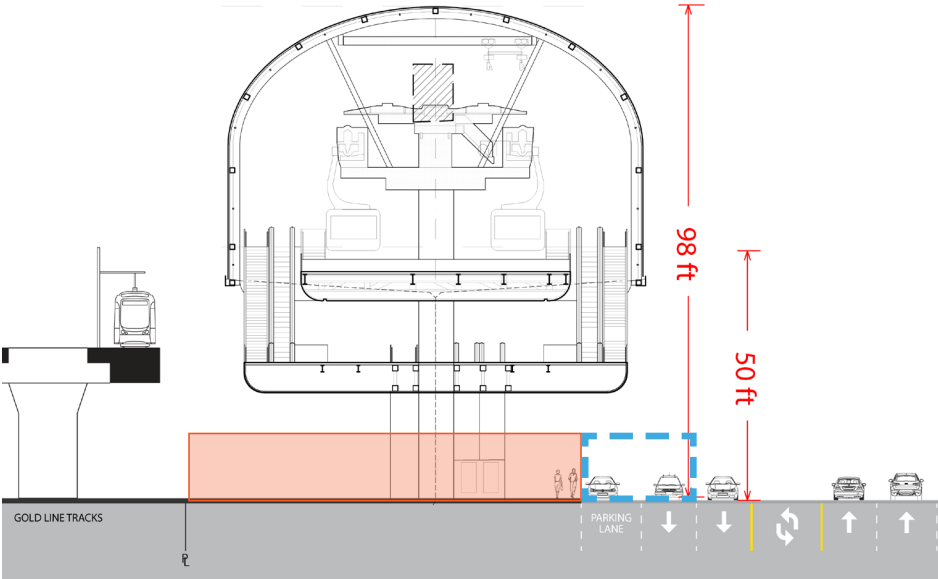
Required area for Construction
48,800 sqft

- Lanes and sidewalks closures**

 - No lane closures, except for asphalt/ re-striping closures
 - West sidewalk (Partial sidewalk detour required)
 - 1 SB parallel parking lane

Lanes and sidewalks to remain open

 - All lanes
 - East sidewalk

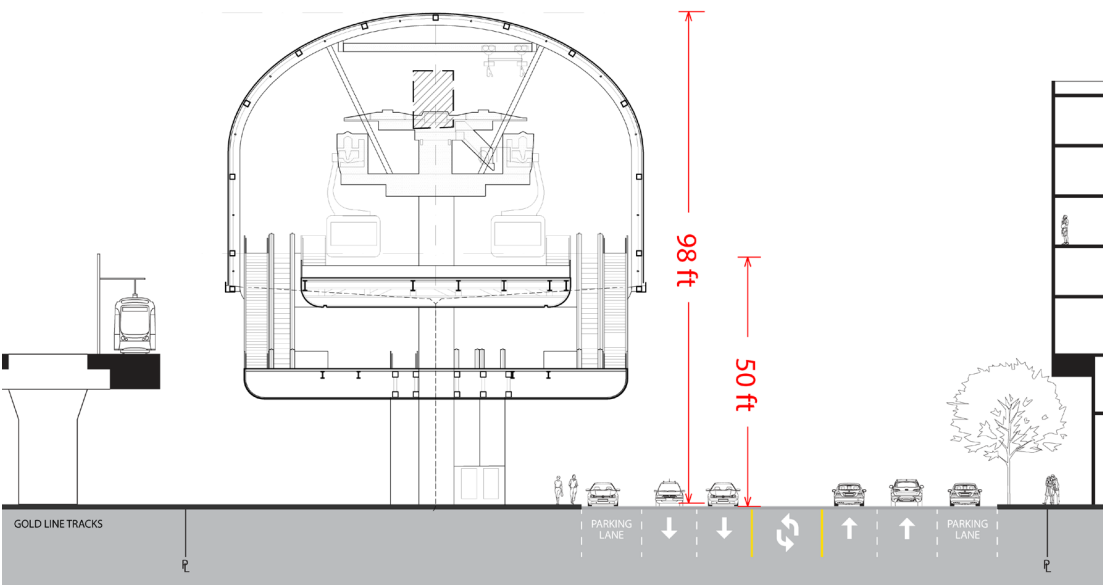


Chinatown / State Park Station | Build-Out

Build-Out Conditions

Build-out conditions for Spring Street at the proposed location for Chinatown / State Park Station:

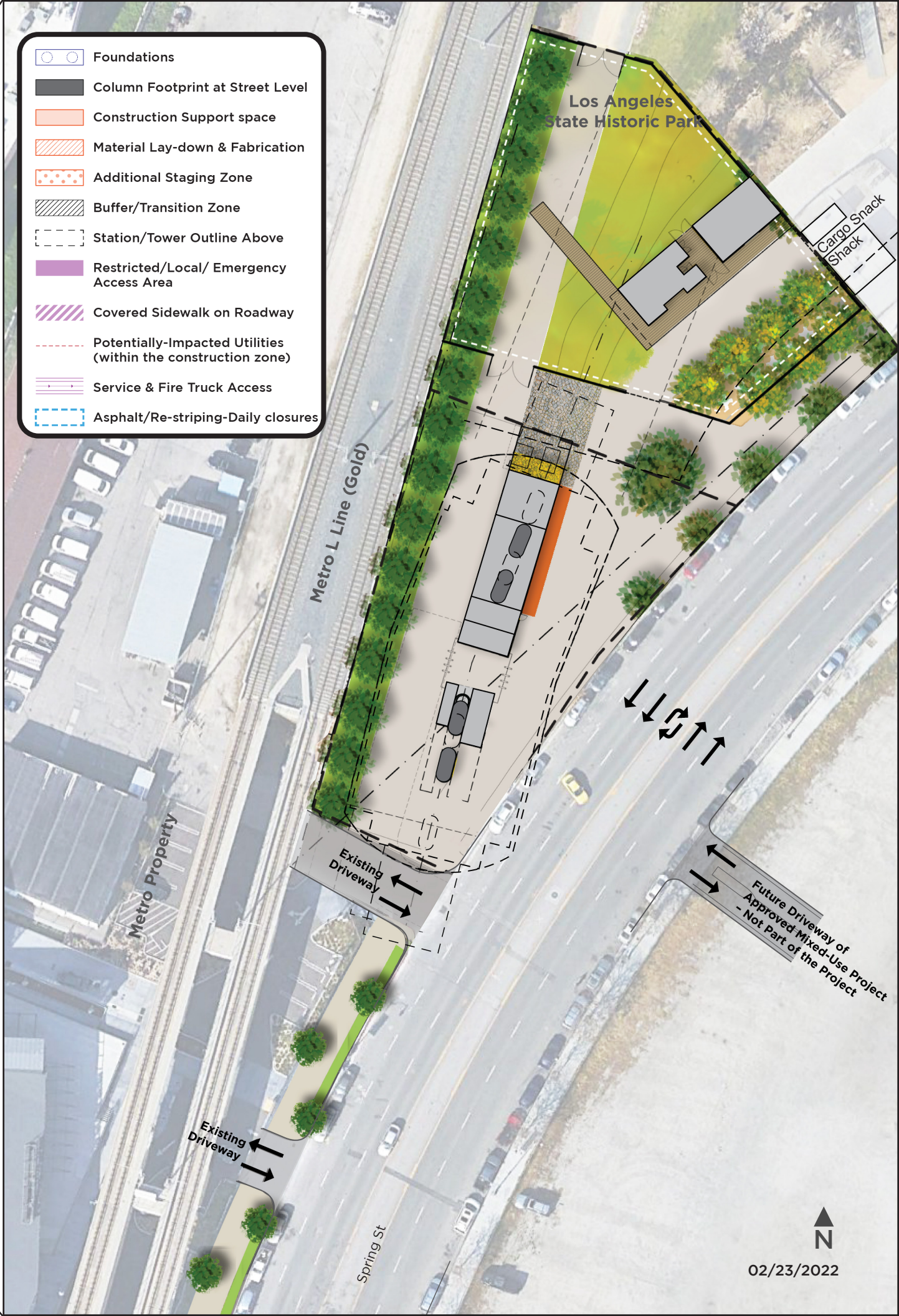
- Two-Way left turn lane
- 2 NB through lanes + parallel parking lane
- 2 SB through lanes + parallel parking lane



Lane Closure & Transition Zones



	Foundations
	Column Footprint at Street Level
	Construction Support space
	Material Lay-down & Fabrication
	Additional Staging Zone
	Buffer/Transition Zone
	Station/Tower Outline Above
	Restricted/Local/ Emergency Access Area
	Covered Sidewalk on Roadway
	Potentially-Impacted Utilities (within the construction zone)
	Service & Fire Truck Access
	Asphalt/Re-striping-Daily closures





Broadway Junction | Existing

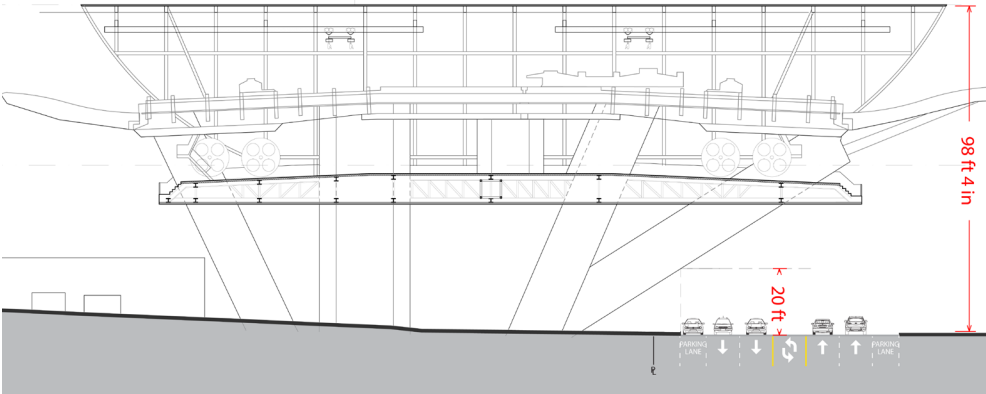
Existing Conditions

Existing conditions for North Broadway along the proposed location for the Broadway Junction:

- 1 NBL turn lane
- 2 NB through lanes
- 1 SB through lane
- 1 SB through-right lane

Existing conditions for Bishops Road along the proposed location for the Broadway Junction:

- 1 WB through lane
- 1 shared EBL/ EBR turn lane



Broadway Junction

Foundations and Columns 28 weeks

Required area for Construction
50,500 sqft

Pile Overview

45 total piles; each 3' DIA,
up to 120 ft deep below the
pile cap

North Broadway

Lanes and sidewalks closures

- 1 NBL turn lane
- SB parallel parking lane
- West sidewalk (Partial sidewalk detour required)

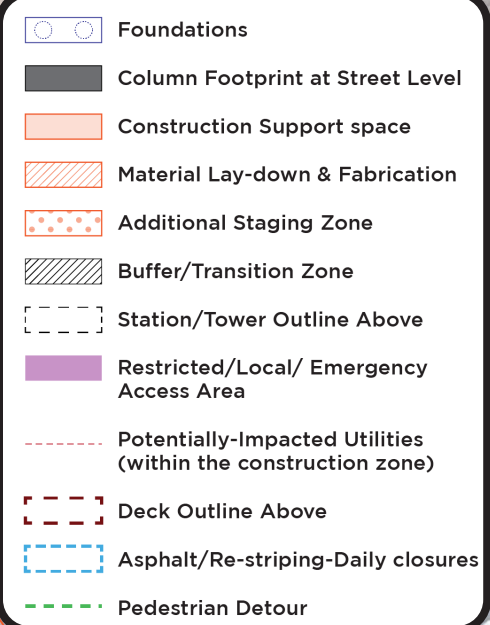
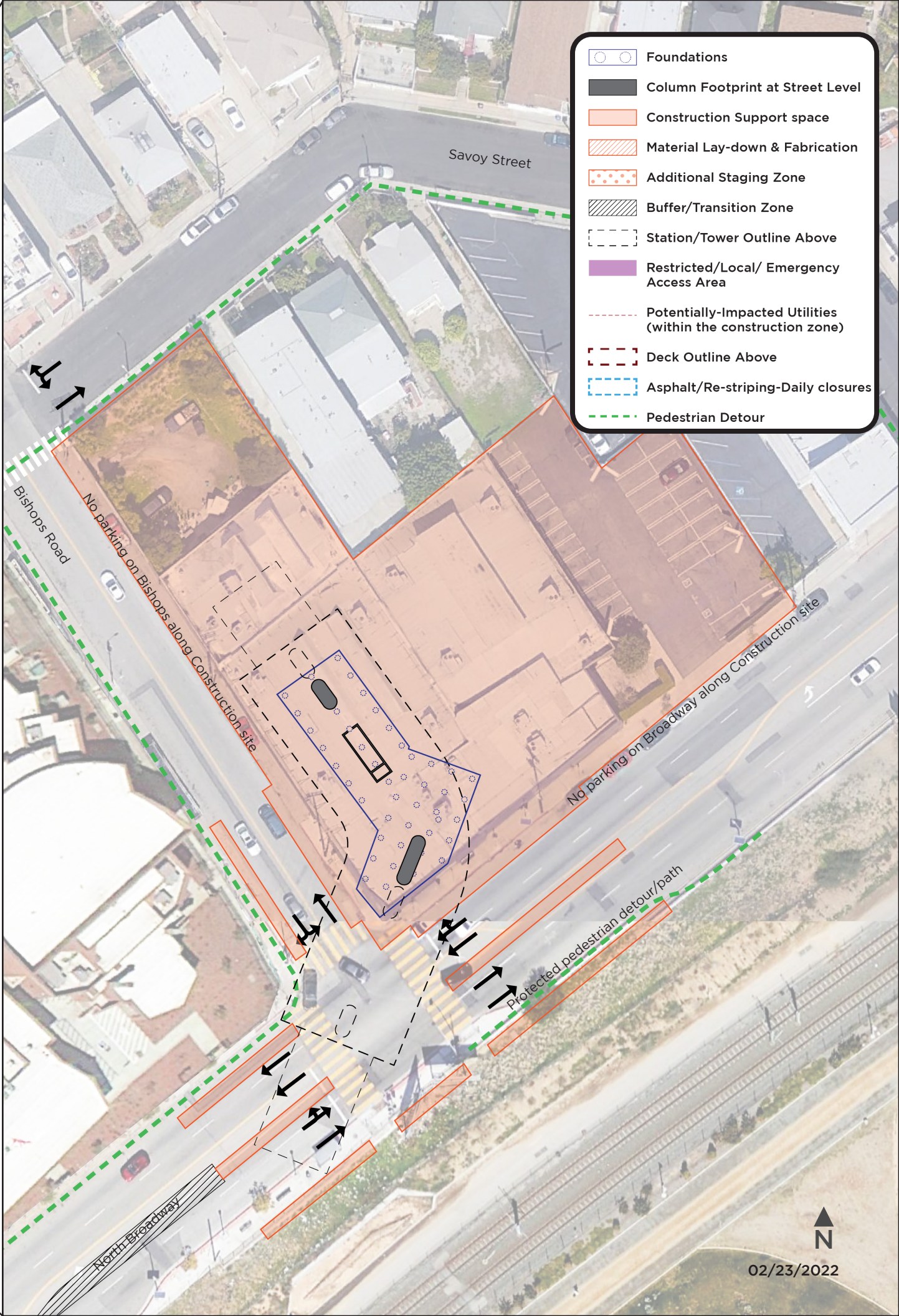
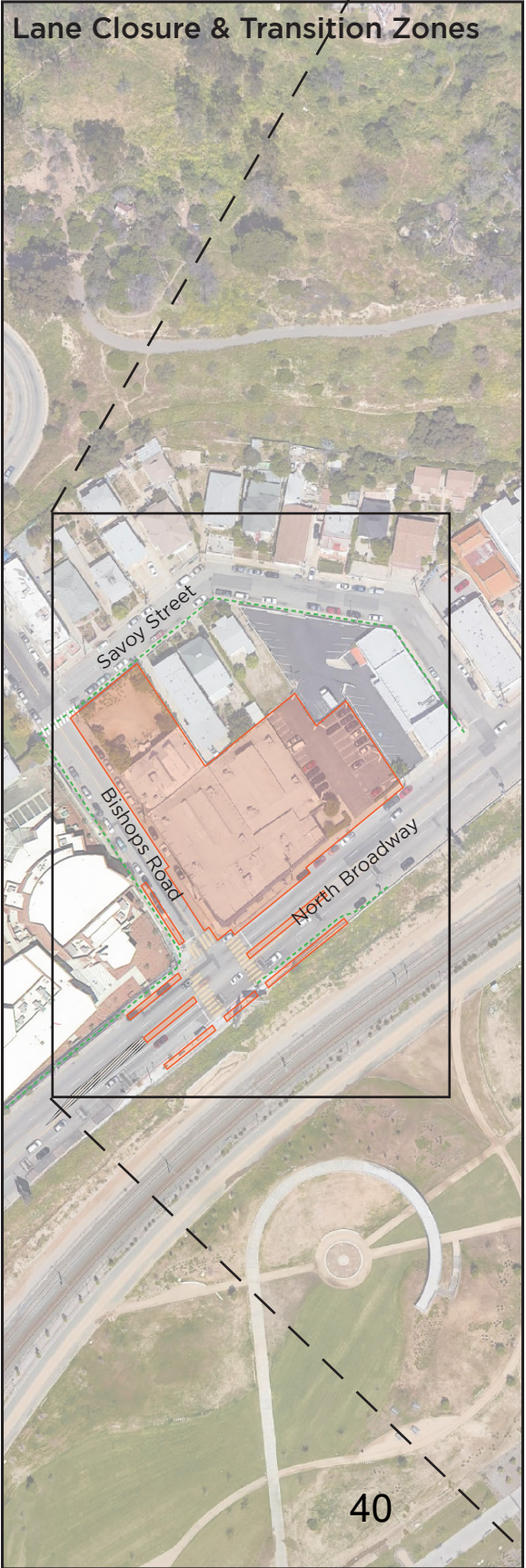
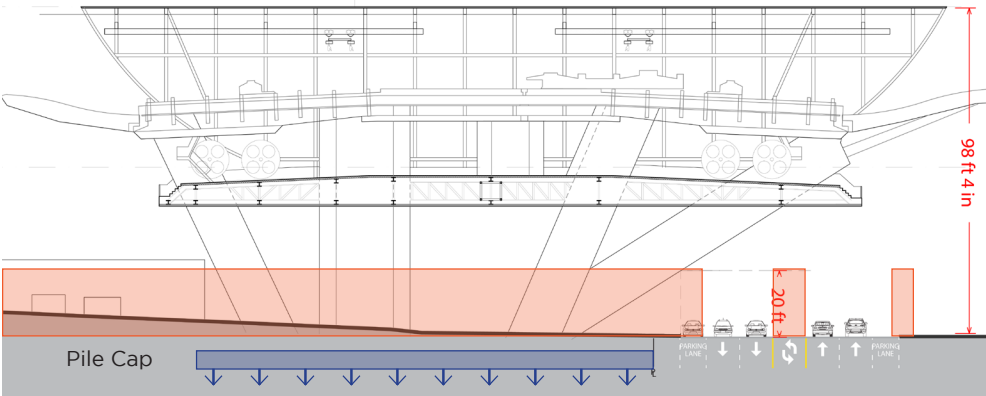
Lanes and sidewalks to remain open

- 2 NB through lanes (Left turn allowed)
- 1 SB through lane
- 1 SB through-right lane
- East sidewalk

Bishops Road

Lanes and sidewalks to remain open

- All travel lanes
- South sidewalk



Broadway Junction

Deck Shoring, Cribbing & Erection 2 weeks

Required area for Construction
65,000 sqft

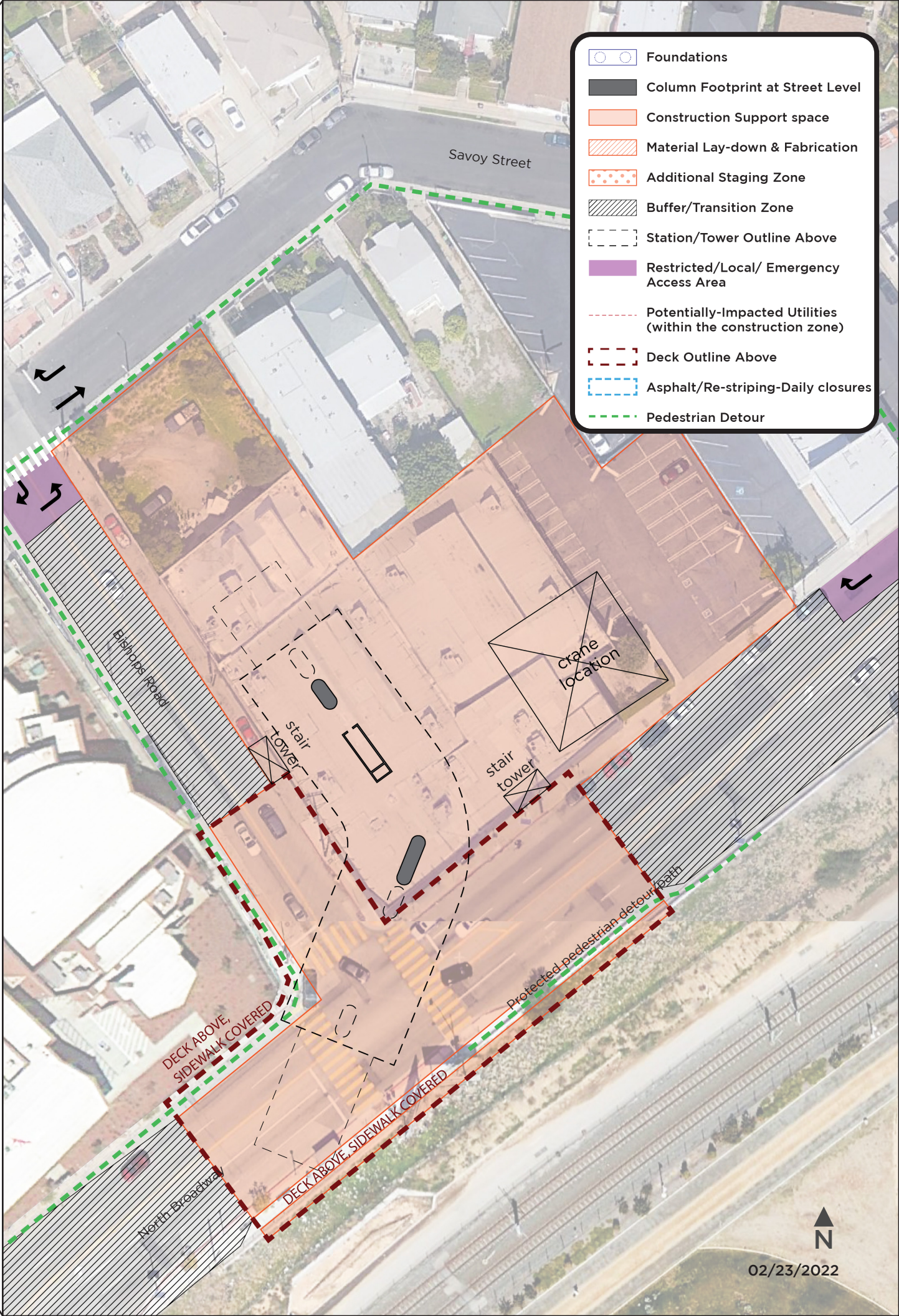
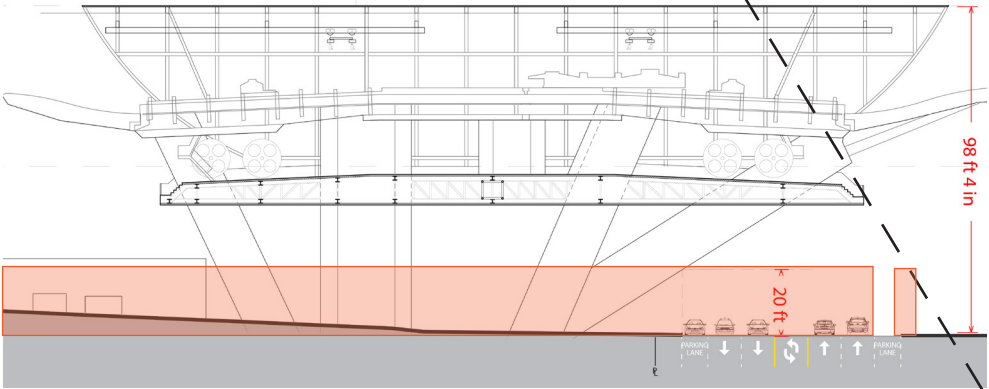
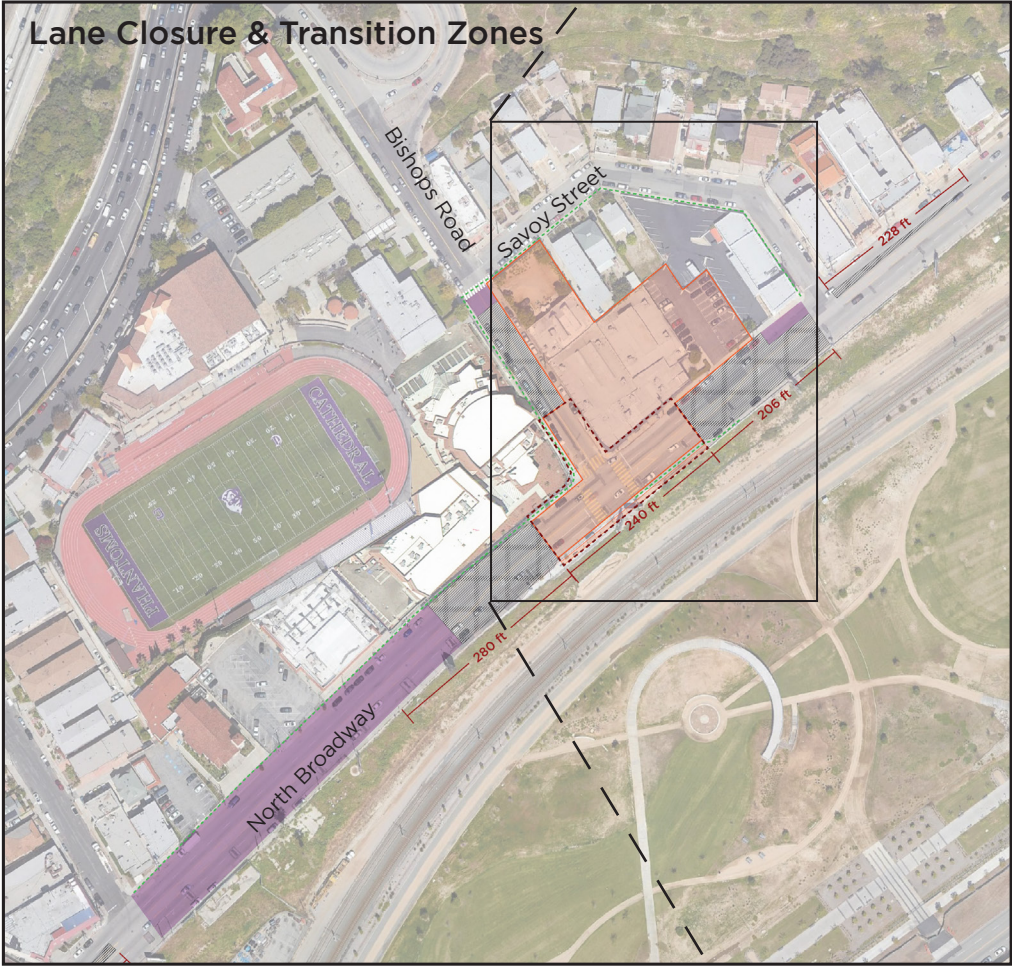
North Broadway

- Lanes and sidewalks closures**
 - 1 NBL turn lane/center left turn lane
 - 2 NB through lanes
 - 1 SB through lane
 - 1 SB through-right lane
 - NB and SB parallel parking lanes
 - West sidewalk (Partial sidewalk detour required)
- Lanes and sidewalks to remain open**
 - No lanes open
 - East sidewalk

Bishops Road

- Lanes and sidewalks closures during**
 - 1 shared EBL/ EBR turn lane
 - 1 WB through lane
 - EB parallel parking lane
- Lanes and sidewalks to remain open**
 - No lanes open (Potential use as drop-off area subject to LADOT approval given u-turn limitations of roadway cross-section)
 - South sidewalk

Restricted/Local/Emergency Access
Provide restricted/local/ Emergency Access for adjacent properties.



Broadway Junction

Structural Steel and Gondola Equipment Erection 38 weeks

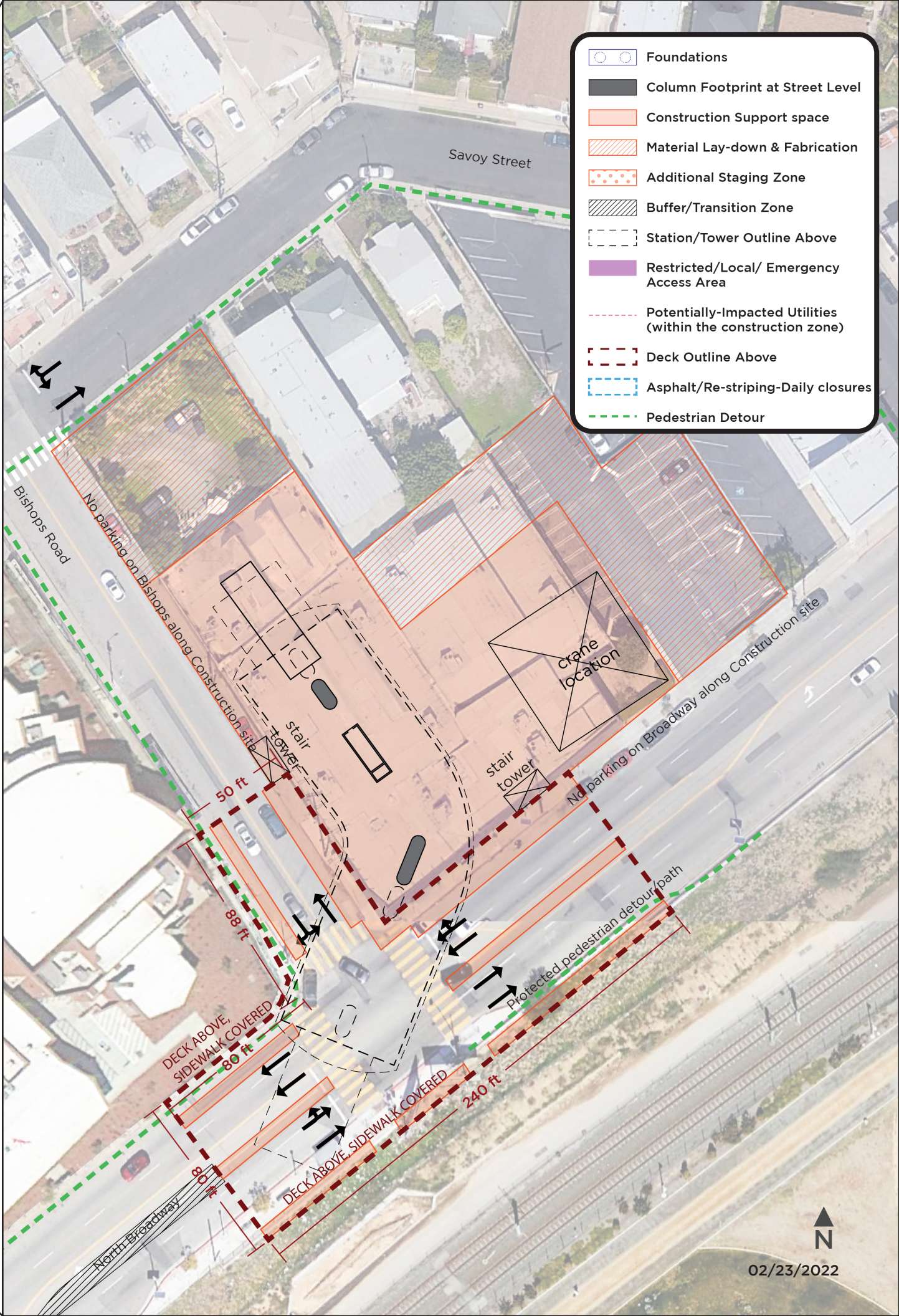
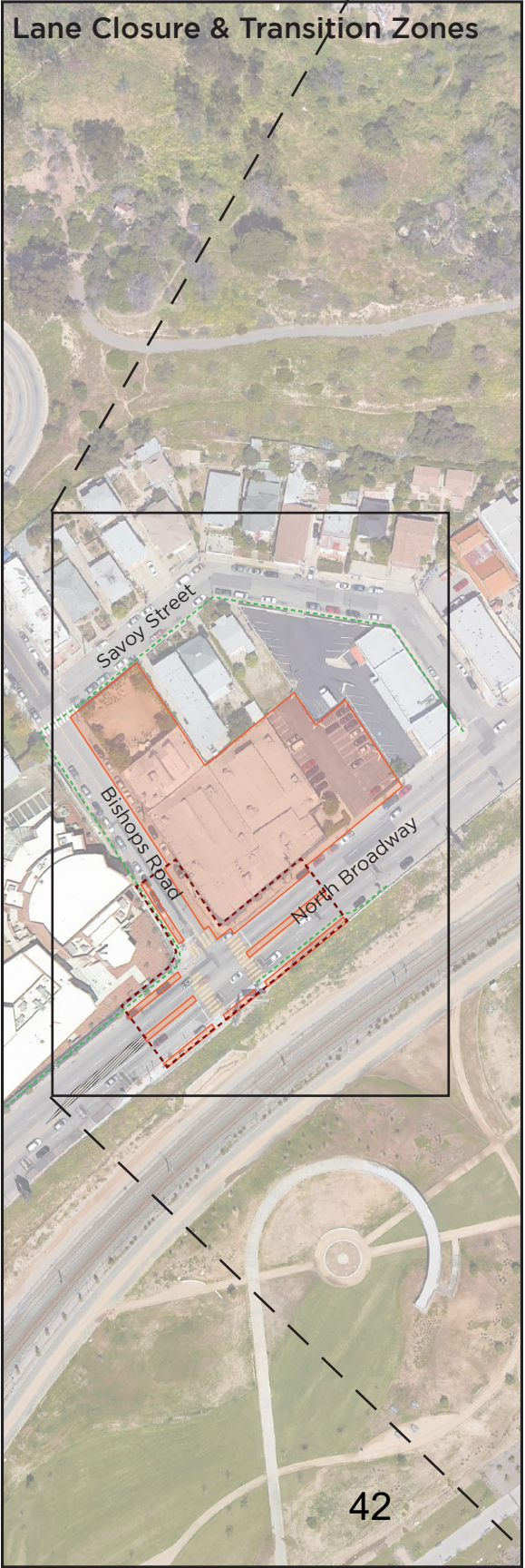
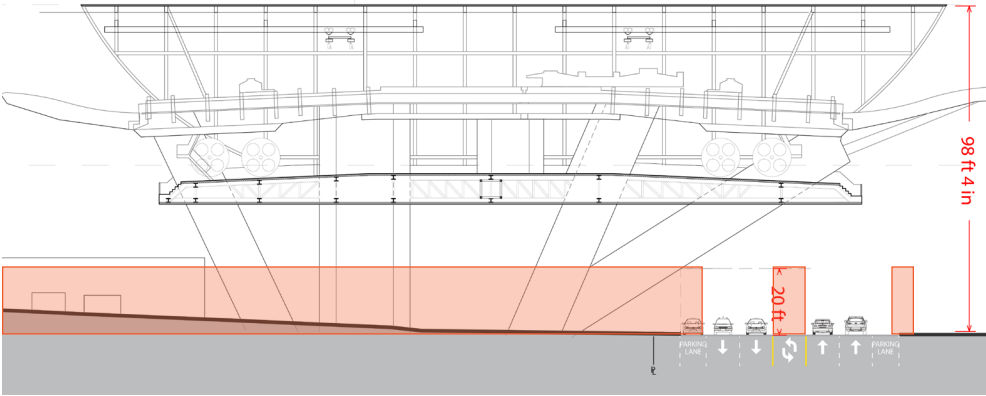
Required area for Construction
50,500 sqft

North Broadway

- Lanes and sidewalks closures**
 - 1 NBL turn lane
 - SB parallel parking lane
 - West sidewalk (Partial sidewalk detour required)
- Lanes and sidewalks to remain open**
 - 2 NB through lanes (Left turn permitted)
 - 1 SB through lane
 - 1 SB through-right lane
 - East sidewalk

Bishops Road

- Lanes and sidewalks to remain open**
 - All travel lanes
 - South sidewalk



Broadway Junction

Deck Removal

3 weeks (Overlaps with Vertical Circulation/ Hardscape and Landscape/ Interior Work)

Required area for Construction
65,000 sqft

North Broadway

Lanes and sidewalks closures

- 1 NBL turn lane/center left turn lane
- 2 NB through lanes
- 1 SB through lane
- 1 SB through-right lane
- NB and SB parallel parking lanes
- West sidewalk (Partial sidewalk detour required)

Lanes and sidewalks to remain open

- No lanes open
- East sidewalk

Bishops Road

Lanes and sidewalks closures during

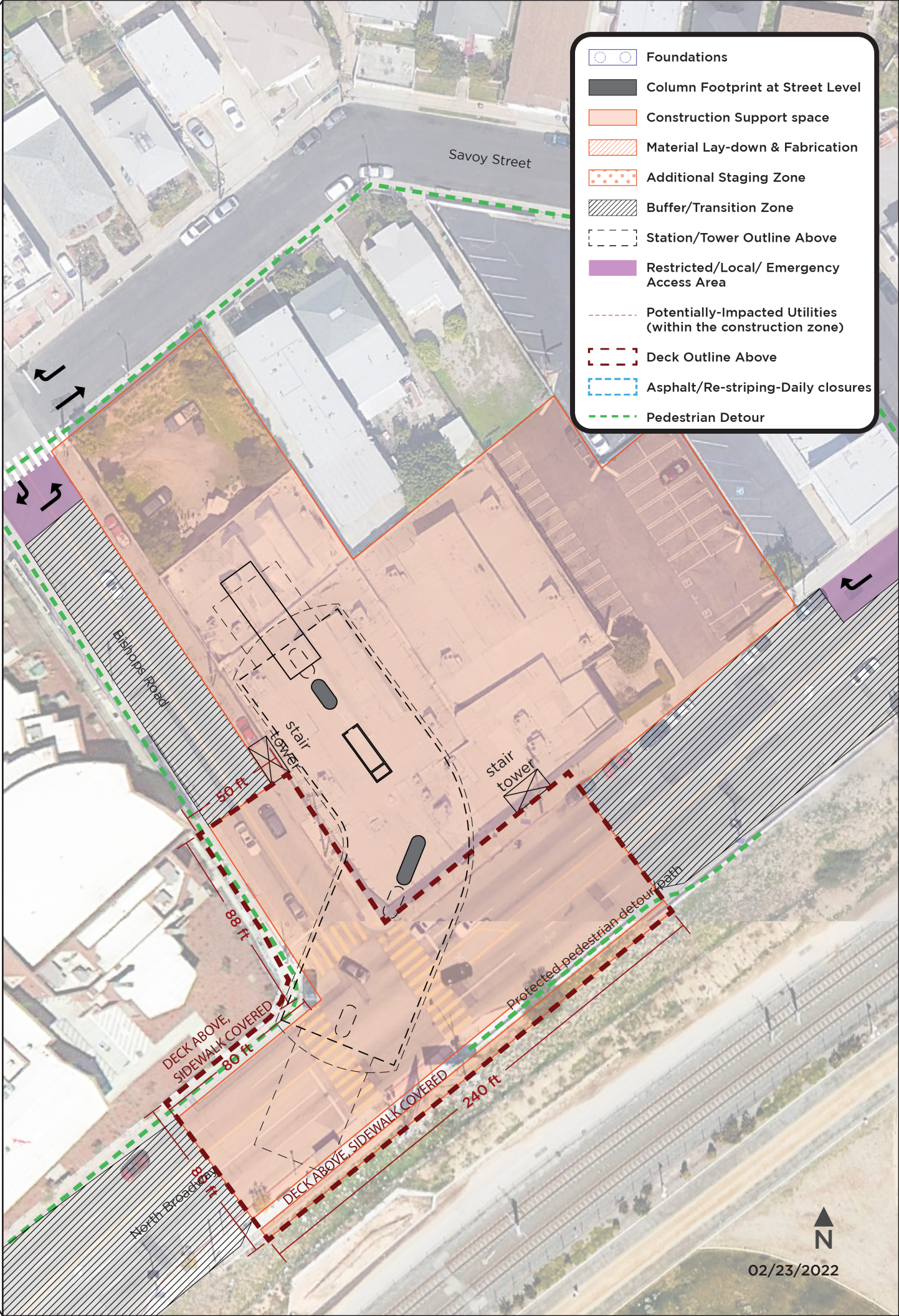
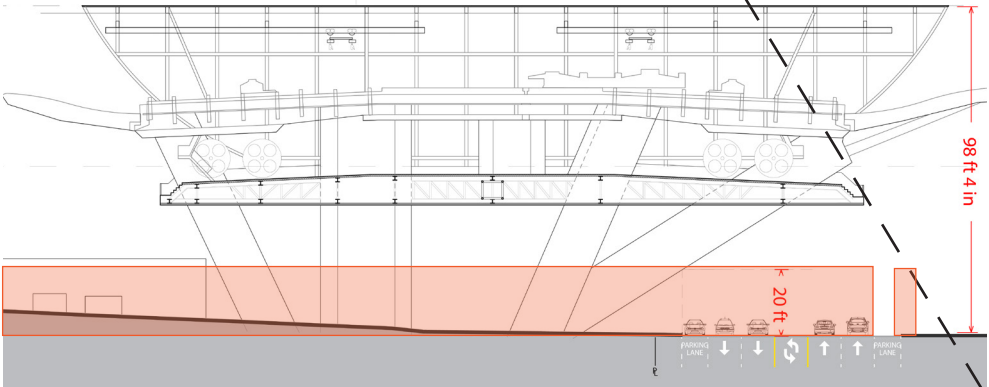
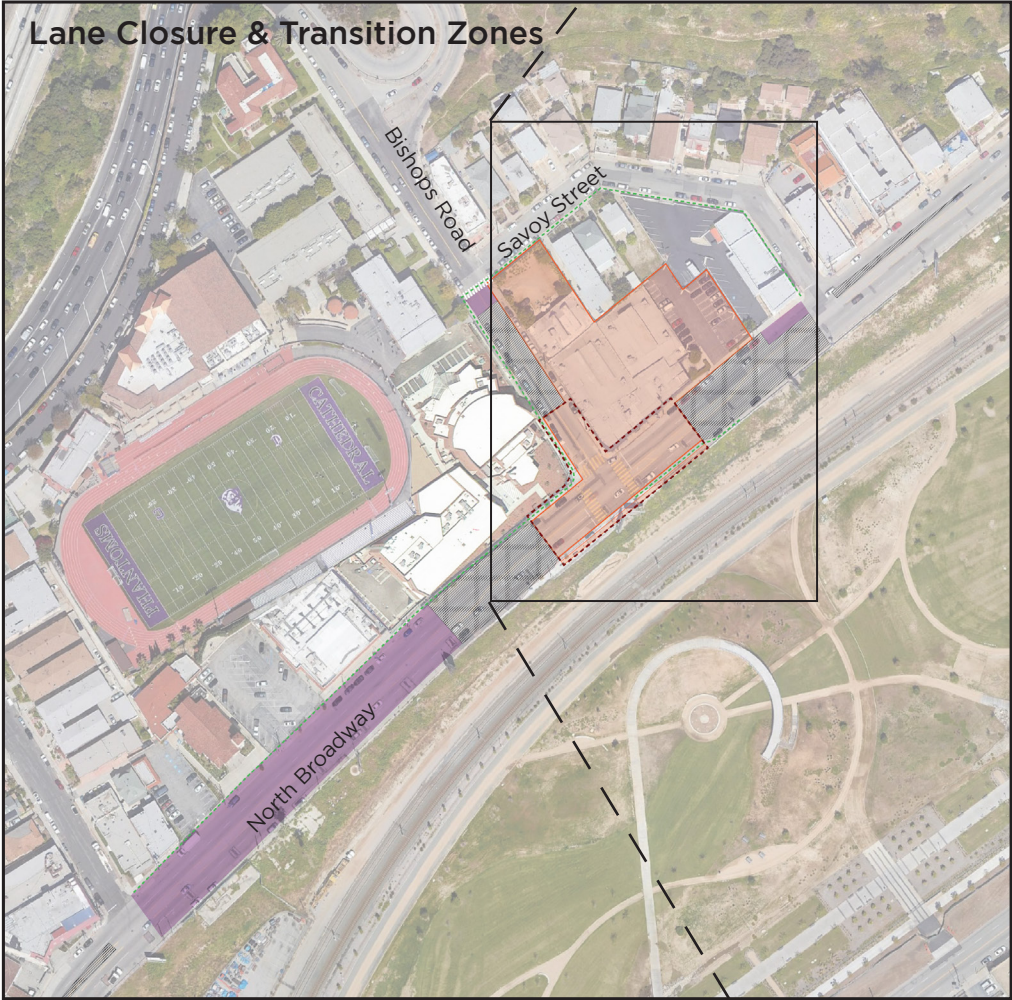
- 1 shared EBL/ EBR turn lane
- 1 WB through lane
- EB parallel parking lane

Lanes and sidewalks to remain open

- No lanes open (Potential use as drop-off area subject to LADOT approval given u-turn limitations of roadway cross-section)
- South sidewalk

Restricted/Local/Emergency Access

Provide restricted/local/ Emergency Access for adjacent properties.



Broadway Junction

Vertical Circulation/ Hardscape and Landscape/ Interior Work 29 weeks

Curbs, Medians, Asphalt & Re-striping Periodic Closures for 10 working days within a 10-week duration period

Required area for Construction
41,900 sqft

North Broadway

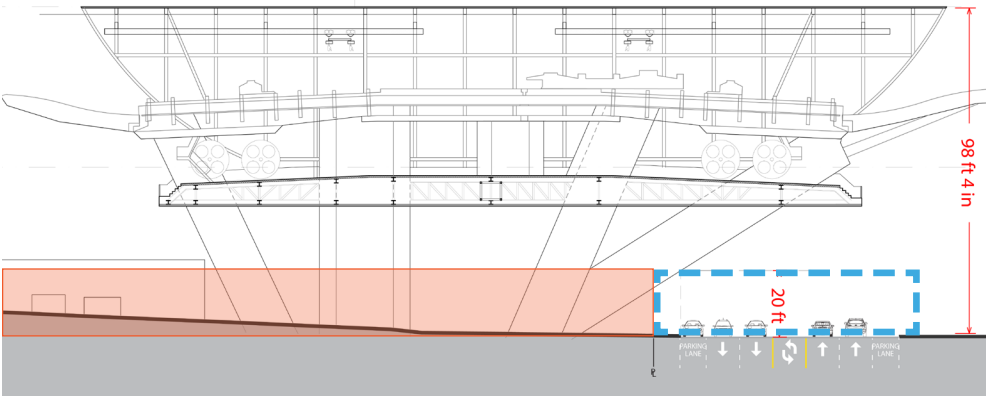
Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures
- West sidewalk for asphalt/ re-striping closures

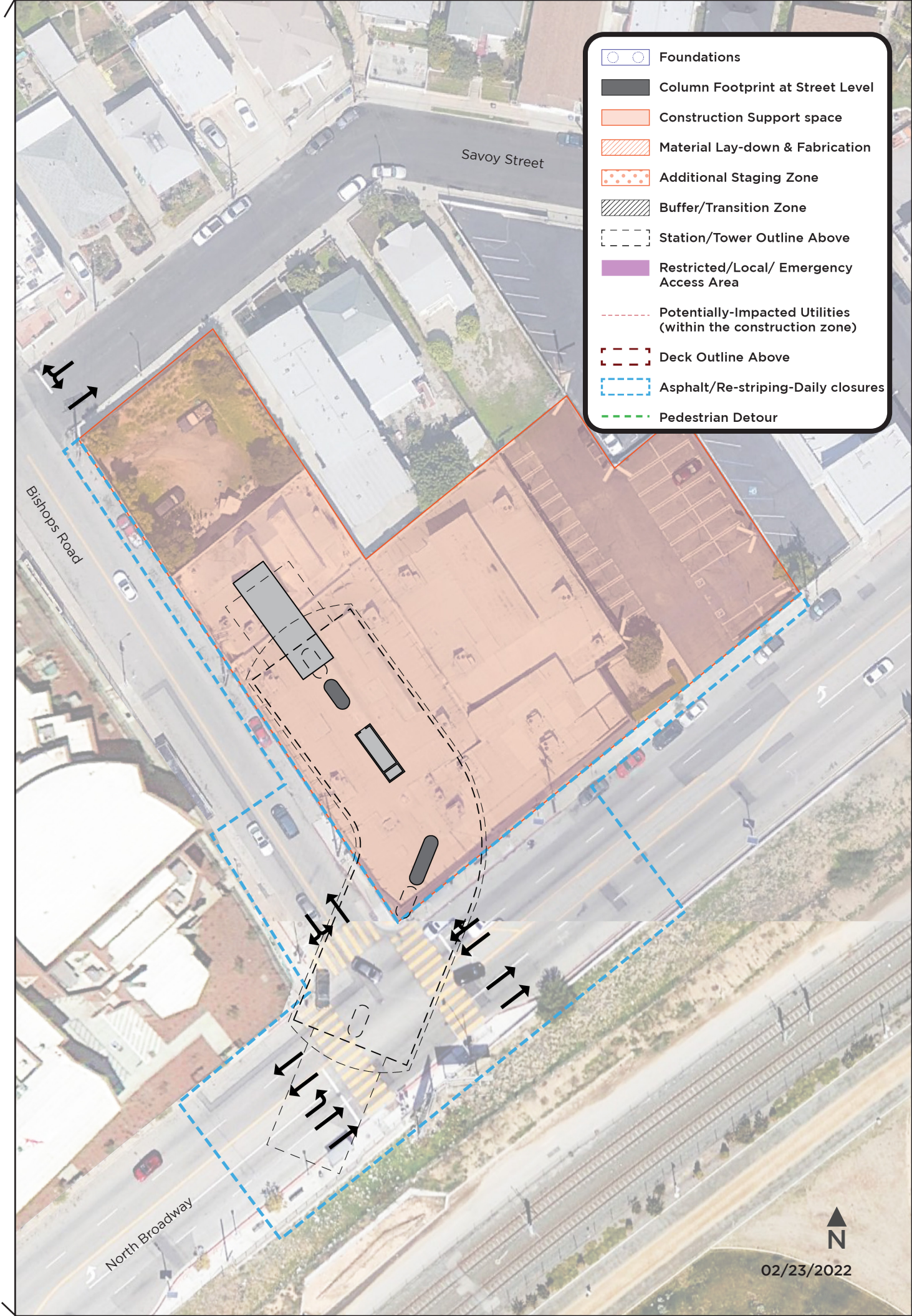
Bishops Road

Lanes and sidewalks closures

- No lane closures, except for asphalt/ re-striping closures



Lane Closure & Transition Zones



	Foundations
	Column Footprint at Street Level
	Construction Support space
	Material Lay-down & Fabrication
	Additional Staging Zone
	Buffer/Transition Zone
	Station/Tower Outline Above
	Restricted/Local/ Emergency Access Area
	Potentially-Impacted Utilities (within the construction zone)
	Deck Outline Above
	Asphalt/Re-striping-Daily closures
	Pedestrian Detour



02/23/2022

Broadway Junction | Build-Out

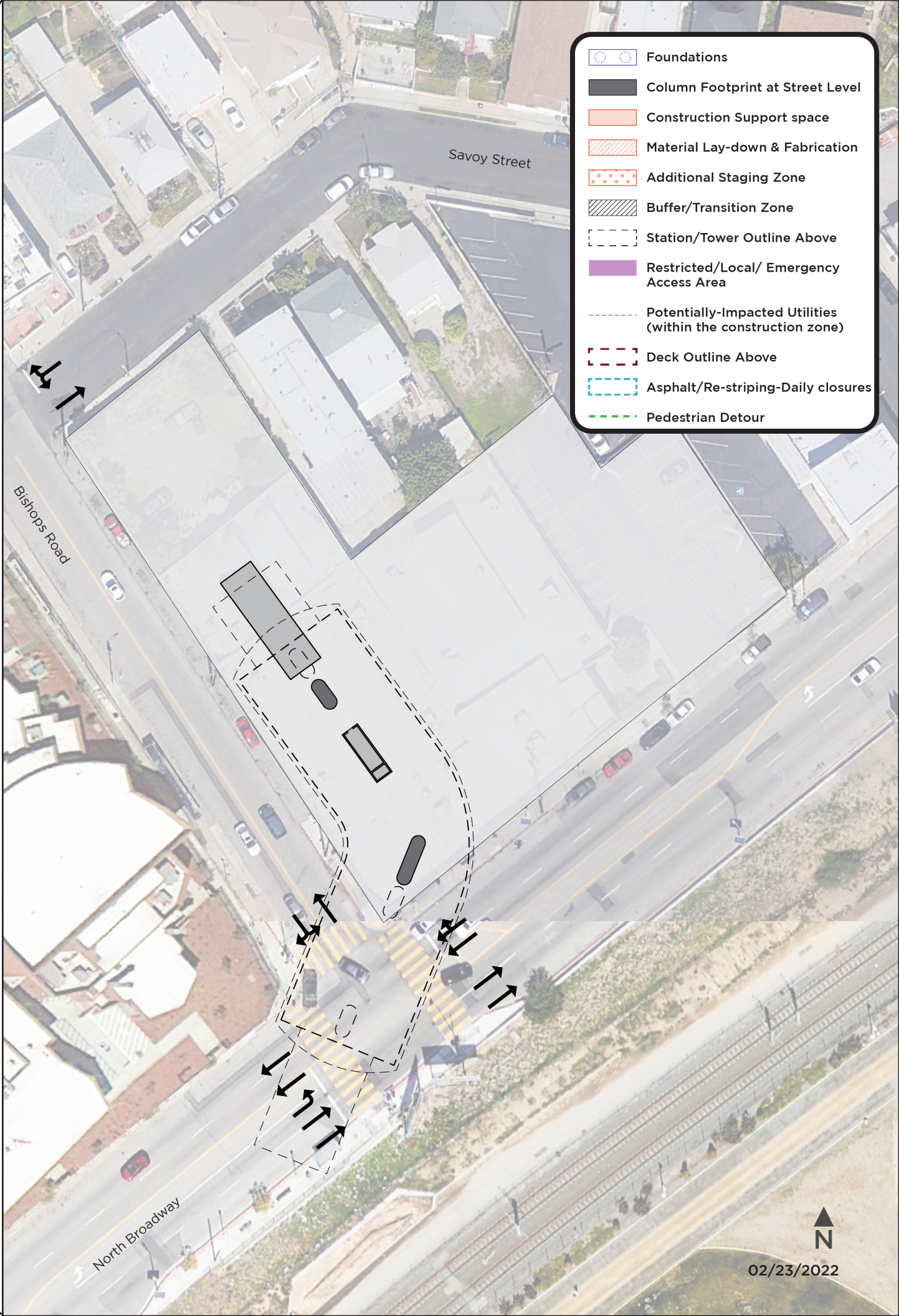
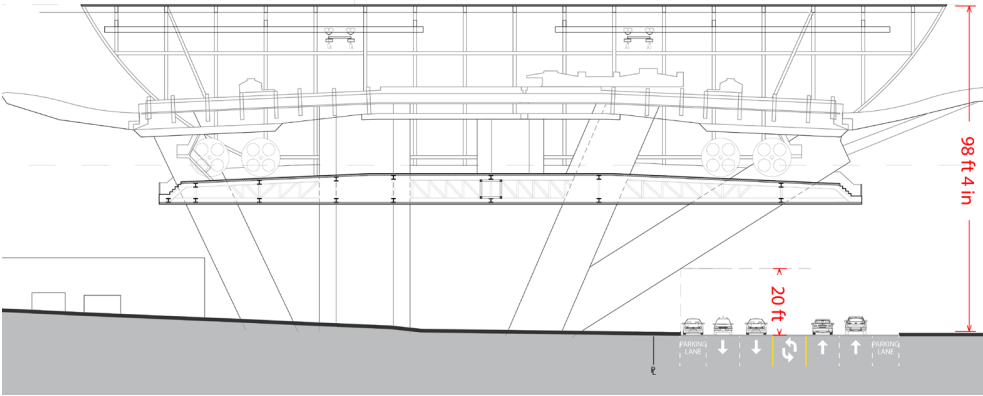
Build-Out Conditions

Build-out conditions for North Broadway along the proposed location for the Broadway Junction:

- 1 NBL turn lane
- 2 NB through lanes
- 1 SB through lane
- 1 SB through-right lane

Build-out conditions for Bishops Road along the proposed location for the Broadway Junction:

- 1 WB through lane
- 1 shared EBL/ EBR turn lane





Full-Time Construction Conditions

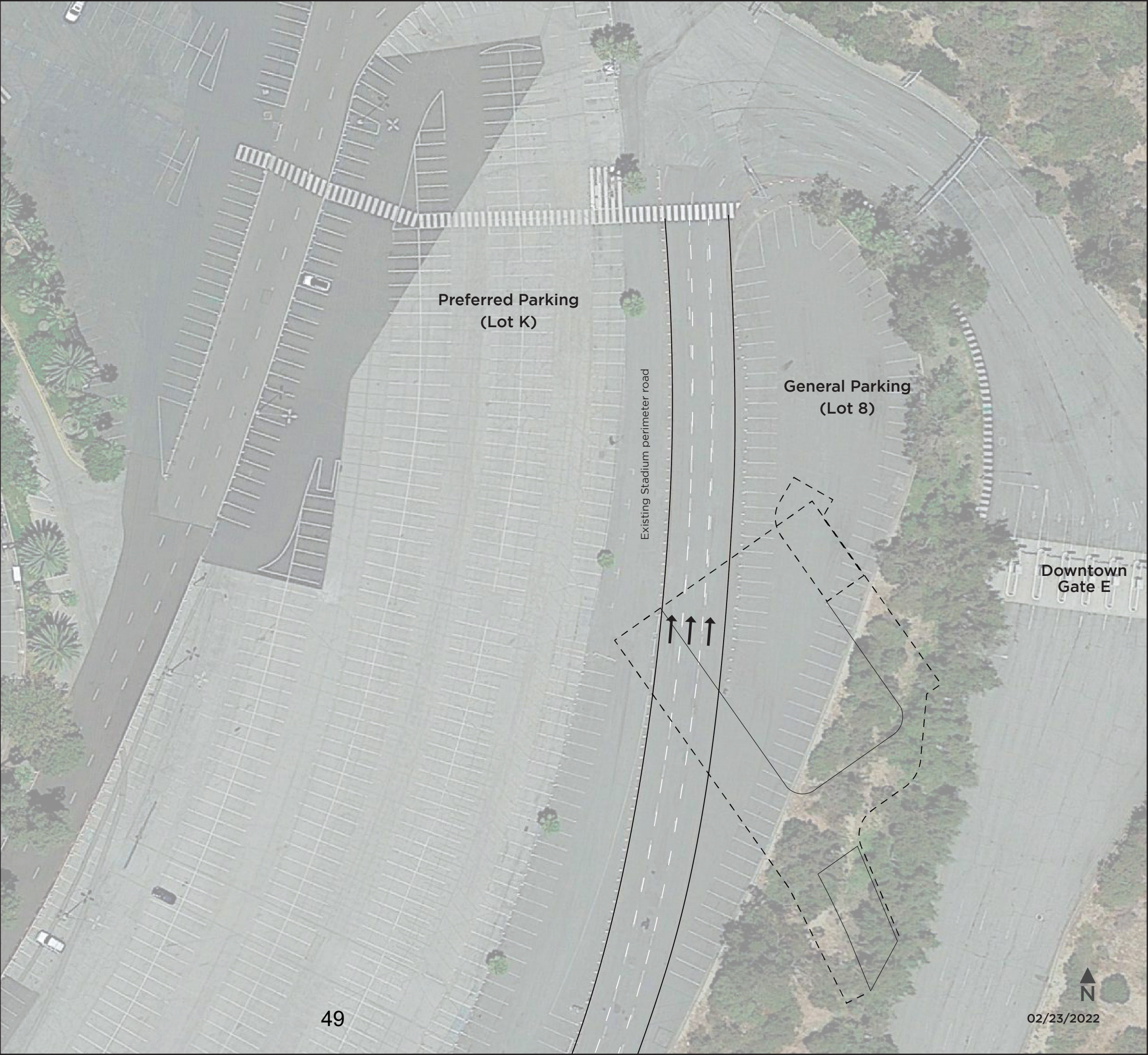
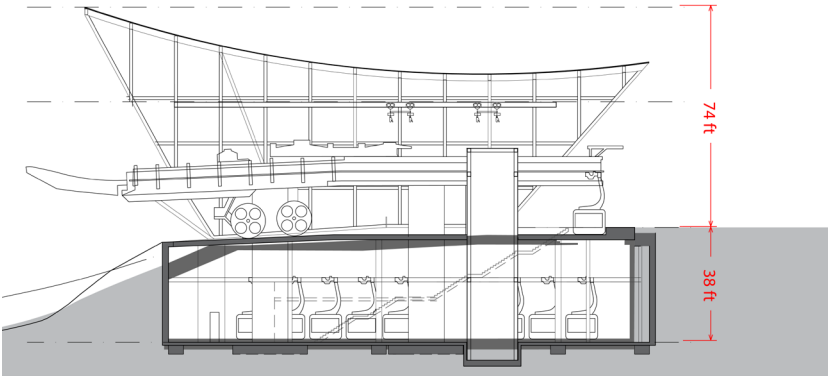
02/23/2022



Dodger Stadium Station

Existing Conditions

The proposed location for the Dodger Stadium Station covers a portion of General Parking Lot 8 near Downtown Gate E.



Dodger Stadium Station

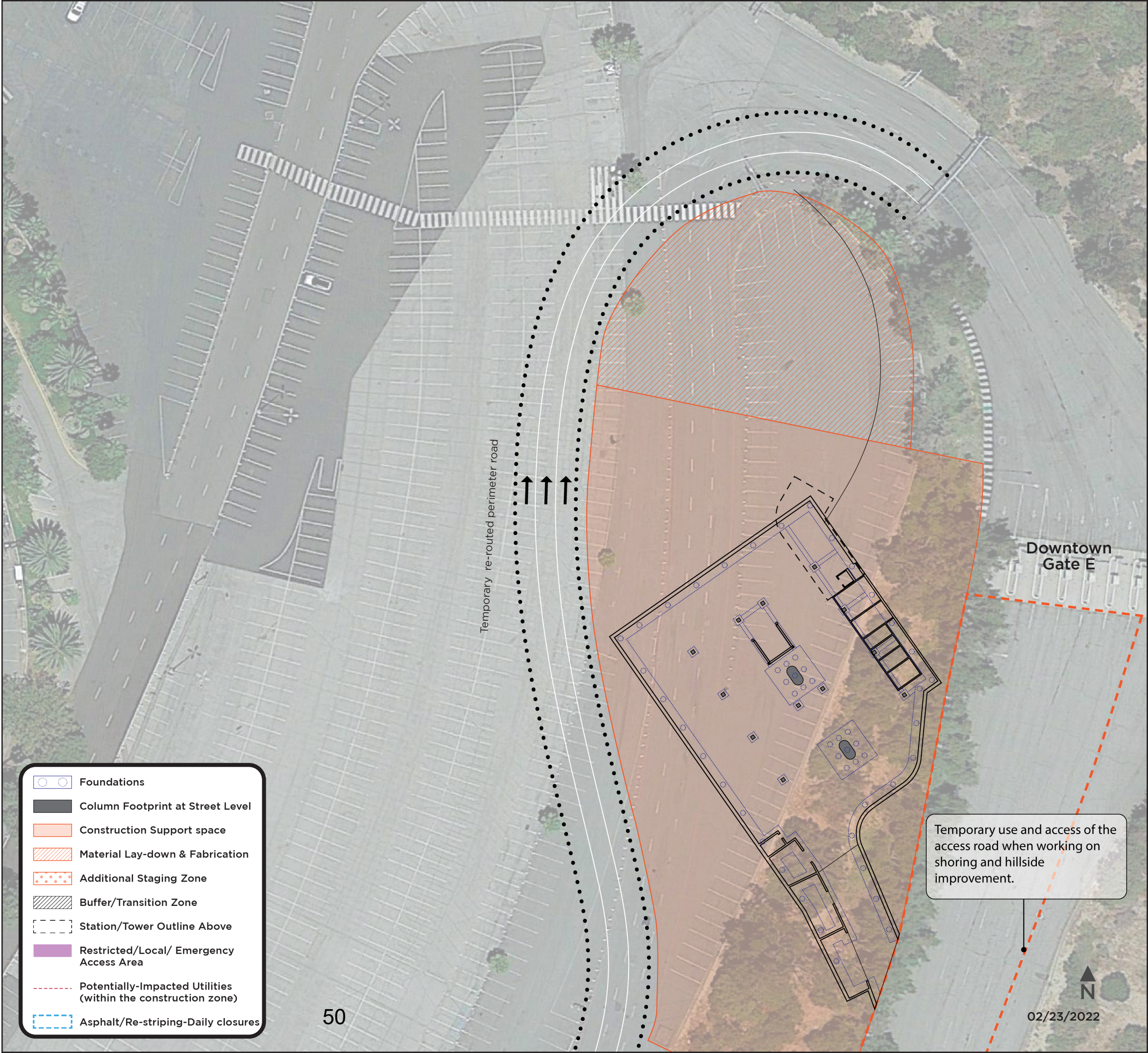
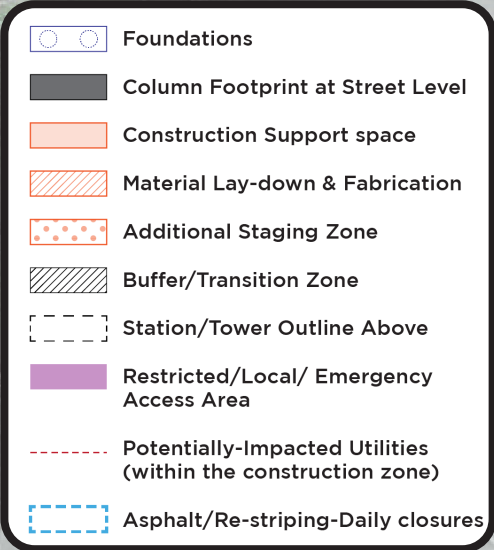
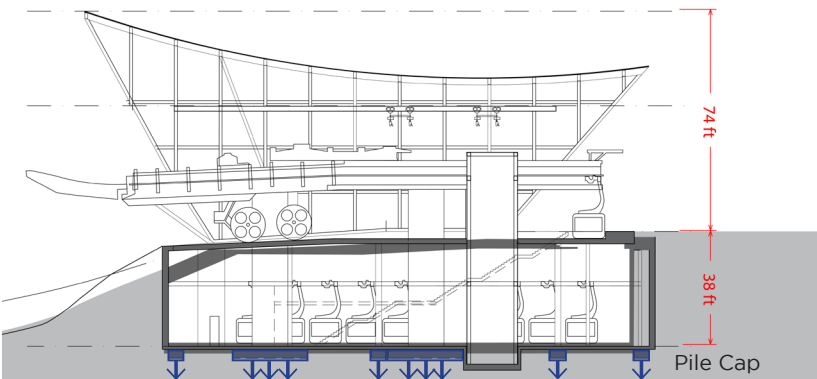
Foundations and Columns 31 weeks

Required area for Construction
87,000 sqft

During construction, the existing Stadium perimeter road will be re-routed around the construction and staging zones.

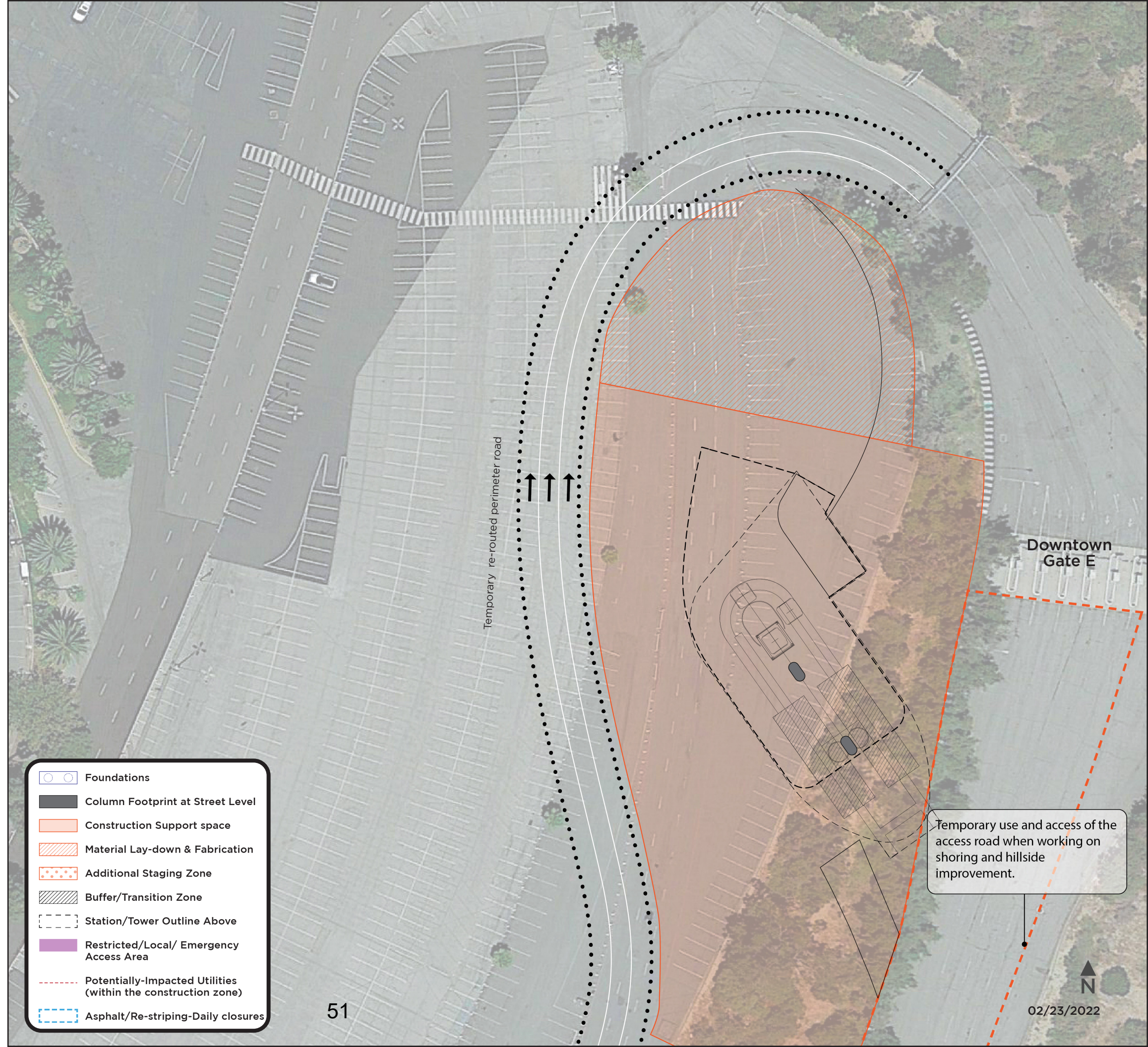
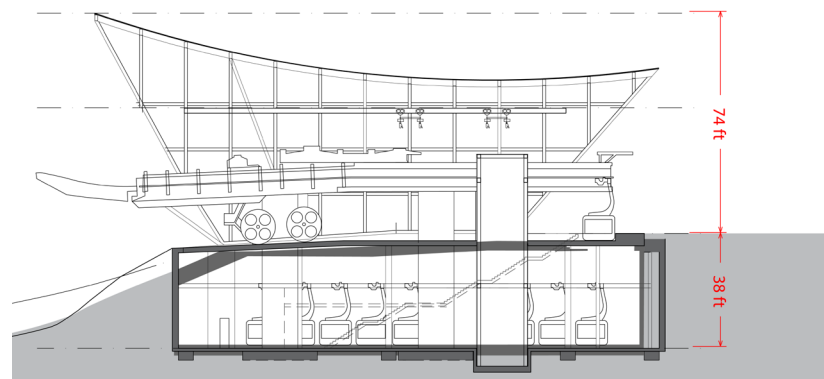
Pile Overview

64 total piles; each 3' DIA,
18 of 64 total piles up to 40 ft deep below the pile cap;
34 of 64 total piles up to 50 ft deep below the pile cap;
12 of 64 total piles up to 55 ft deep below the pile cap.



Structural Steel and Gondola Equipment Erection 24 weeks

During construction, the existing Stadium perimeter road will be re-routed around the construction and staging zones.

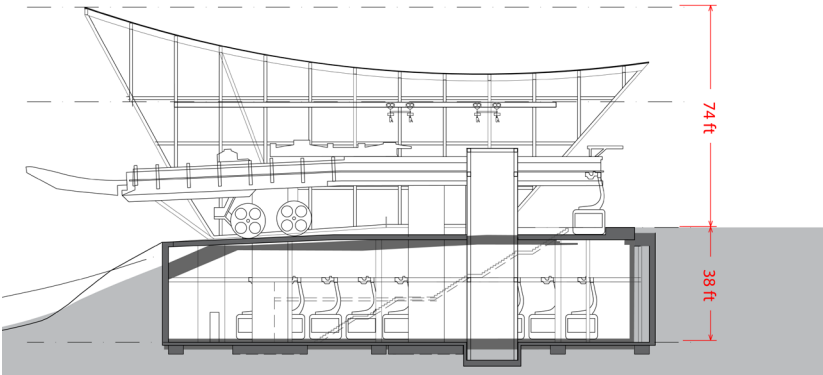


Dodger Stadium Station

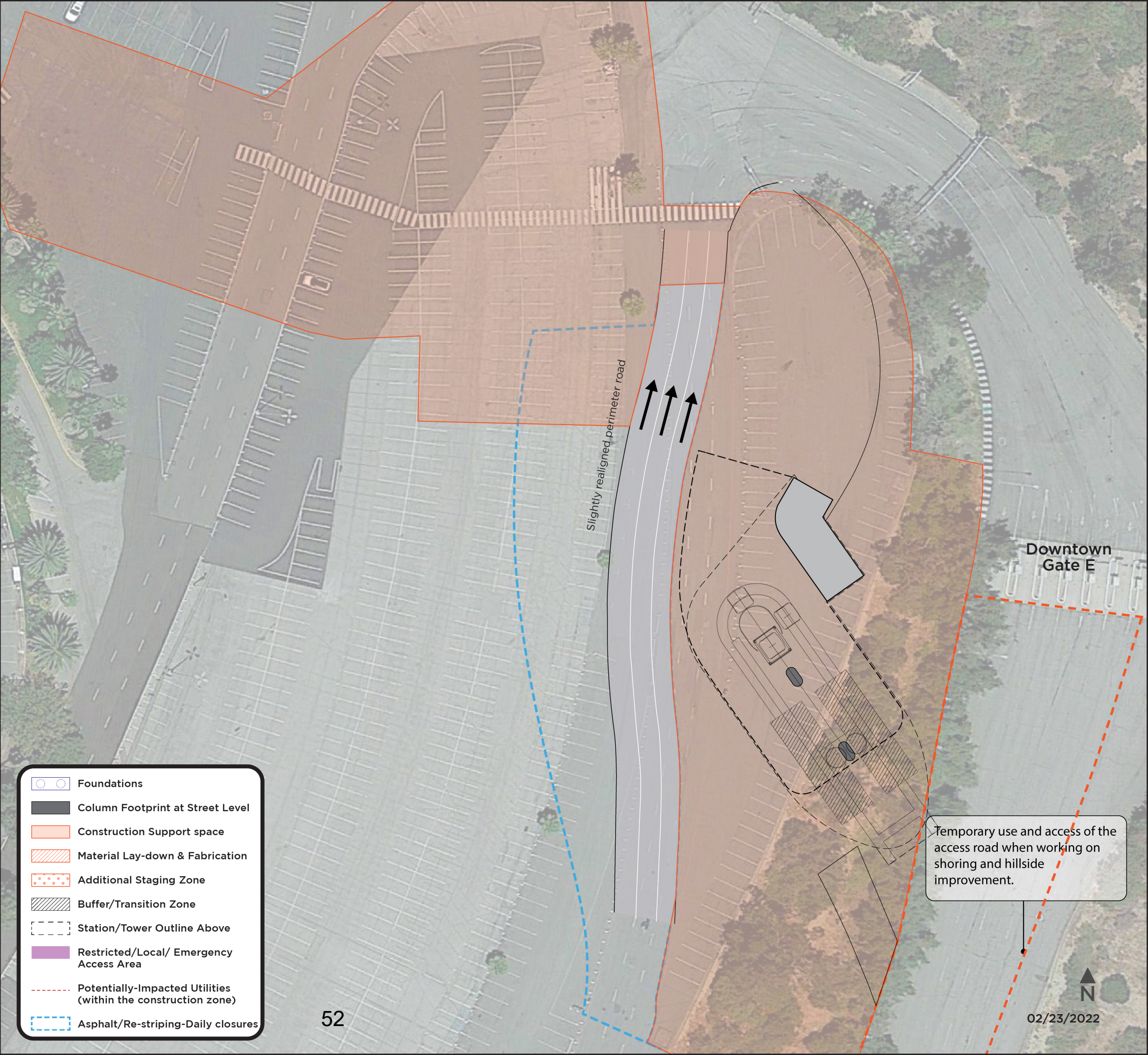
Vertical Circulation/ Hardscape
and Landscape/ Interior Work
33 weeks

 **Curbs, Medians, Asphalt & Re-stripping**
Periodic Closures for 10 working days
within a 17-week duration period

Required area for Construction
142,600 sqft



-  Foundations
-  Column Footprint at Street Level
-  Construction Support space
-  Material Lay-down & Fabrication
-  Additional Staging Zone
-  Buffer/Transition Zone
-  Station/Tower Outline Above
-  Restricted/Local/ Emergency Access Area
-  Potentially-Impacted Utilities (within the construction zone)
-  Asphalt/Re-stripping-Daily closures



Dodger Stadium Station

Build-Out Conditions

After completion of construction, the Stadium perimeter road will be slightly realigned to wrap around the western side of the Dodger Stadium Station and its surrounding hardscape and landscape improvements.

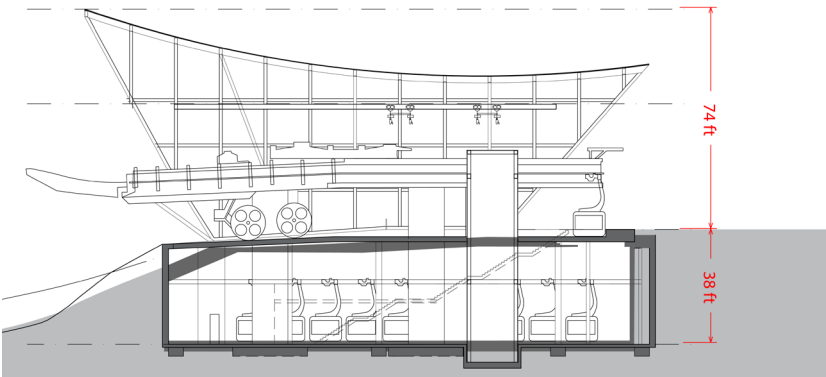


EXHIBIT 2
Construction Equipment Assumptions With Temporary Deck at
Alameda Station

Project Component	Phase	Duration (Weeks)	Equipment List for Noise, Vibration, Air Quality, and Greenhouse Gas Modeling Equipment List	Quantity of Equipment Specified in Column D	Equipment List for Worst Case Noise Analysis	Typical Number of Days Equipment Will Be Used	Percentage of Day in Use	Typical Number of Construction Workers Per Day	Total Number of Roundtrip Shuttle Trips Per Day (Shuttling Construction Workers)	Typical Number of Truck Trips Per Day to Project Component Site (Materials, Deliveries, and On-Road Equipment)	Peak Truck Trips During Either Concrete Pour or Steel Delivery (Days per Phase: Daily Number of Trips:)	Maximum Depth (Excavation and Drilled Piles)	Depth of Site Work	Amount of Excavation (Cubic Yards)	Amount of Export (Including Cement and Soils) (Cubic Yards)	Amount Reused On-Site (Including Soils) (Cubic Yards)
Alameda Station	Utilities	7	See Equipment Details Below					5	0		2	10'	10'	1000	1000	0
			Backhoe	1		1	35									
			Concrete Saw	1		0	7									
			Vibrating Hopper	1		0	7									
			Compactor (ground)	1		0	7									
			Concrete Mixer Truck	2		1	7									
			Pickup Truck	5		1	7									
			Roller	1		0	7									
			Grapple/Forklift	1		1	35									
			Flat Bed Truck	1		0	7									
			Dump Truck	1		1	7									
			Front End Loader	1		1	15									
			Vacuum Street Sweeper	1		1	35									
			Shuttle (Passenger)	0		0	35									
			Vehicles	0		0	35									
			Warning Horn	2		2	35									
Alameda Station	Foundations and Columns	16	See Equipment Details Below					25	10	10	10	10'	3'	2728	2295	433
			Auger Drill Rig*	1		0	32									
			Backhoe	2		0	80									
			Chain Saw	1		0	1									
			Compactor (ground)	2		0	5									
			Compressor (air)	2		0	9									
			Concrete Mixer Truck	2		2	34									
			Concrete Pump Truck	1		1	2									
			Concrete Saw	1		0	1									
			Crane	1		1	80									
Alameda Station	Deck Shoring, Cribbing, and Erection Structural Steel	2	See Equipment Details Below					12	6	5						
			Grapple	2		2	10									
			Crane	1		1	10									
			Pickup Truck	5		1	10									
			Flat Bed Truck	3		1	10									
			Scissor Lift	2		2	10									
			Welder / Torch	1		1	5									
			Compressor (air)	2		2	10									
			Pneumatic Tools	2		2	10									
			Chain Saw	1		1	4									
Alameda Station	Structural Steel and Gondola Equipment Erection	28	See Equipment Details Below					25	10	10	10	n/a	n/a	n/a	n/a	n/a
			Backhoe	2		0	14									
			Compactor (ground)	2		0	14									
			Compressor (air)	1		1	140									
			Concrete Mixer Truck	2		2	14									
			Concrete Pump Truck	1		0	14									
			Crane	1		1	140									
			Flat Bed Truck	1		1	140									
			Generator	0		0	0									
			Generator (<25KVA, VMA signs)	0		0	0									
Alameda Station	Deck Removal	3	See Equipment Details Below					12	6	10						
			Grapple	2		2	15									

Alameda Tower	Asphalt & Re-Striping	2	Crane	1	1	15	50	10	0	0	During Paving Days per Phase: 1 Daily Number of Trips: 10	n/a	1'	n/a	n/a	n/a
			Vacuum Street Sweeper	3	1	15	25									
			Flat Bed Truck	2	2	15	50									
			Scissor Lift	1	1	7	50									
Vertical Circ. / Hardscape & Landscape/ Interior Work	27	See Equipment Details Below	Welder / Torch	2	2	15	50	20	10	10	During Hardscape Days per Phase: 20 Daily Number of Trips: 10	n/a	8'	n/a	n/a	n/a
			Compressor (air)	5	2	15	50									
			Pneumatic Tools	1	0	15	25									
			Shuttle (Passenger)	3	2	15	25									
Utilities	2	See Equipment Details Below	Warning Horn	5	1	15	25	5	0	2	During Concrete Pours and Excavation Hauling Days per Phase: 20 Daily Number of Trips: 5	10'	10'	160	160	0
			Pickup Truck	1	1	11	75									
			Backhoe	1	0	2	50									
			Concrete Saw	1	0	2	75									
Foundations and Columns	16	See Equipment Details Below	Vibrating Hopper	1	0	2	100	25	10	10	During Concrete Pours and Excavation Hauling Days per Phase: 3 Daily Number of Trips: 80	Foundations: 10' Piles: 120'	3'	2850	2292	558
			Compactor (ground)	2	0	9	25									
			Compressor (air)	2	2	34	25									
			Concrete Mixer Truck	1	1	2	50									
Asphalt & Re-Striping	26	See Equipment Details Below	Concrete Pump Truck	1	0	1	100	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Concrete Saw	1	1	80	25									
			Crane	0	0	32	100									
			Dozer*	1	0	32	25									
Vertical Circ. / Hardscape & Landscape/ Interior Work	27	See Equipment Details Below	Drill Rig Truck	3	0	32	100	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Dump Truck*	2	0	34	50									
			Excavator	1	1	30	25									
			Flat Bed Truck	0	0	0	0									
Utilities	2	See Equipment Details Below	Generator	0	0	0	0	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Generator (<25KVA, VMA)	0	0	0	0									
			Gradiant	1	1	80	75									
			Hydra Break Ram	1	0	1	50									
Foundations and Columns	16	See Equipment Details Below	Jackhammer*	1	0	10	50	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Pavement Scarifier	1	0	1	100									
			Paver	1	0	1	100									
			Pickup Truck	10	1	80	25									
Asphalt & Re-Striping	2	See Equipment Details Below	Pneumatic Tools	2	0	9	25	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Pumps	1	0	16	75									
			Roller*	1	0	1	100									
			truck)	1	1	5	50									
Vertical Circ. / Hardscape & Landscape/ Interior Work	27	See Equipment Details Below	Vacuum Street Sweeper	1	1	16	75	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Vibrating Hopper	2	2	5	50									
			Vibratory Concrete Mixer	6	0	34	25									
			Warning Horn	4	3	80	25									
Asphalt & Re-Striping	2	See Equipment Details Below	Vehicles	1	0	80	25	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Welder / Torch	1	1	30	25									
			Backhoe	2	0	13	25									
			Compactor (ground)	2	0	13	50									
Utilities	2	See Equipment Details Below	Compressor (air)	1	1	130	25	25	10	10	During Steel Erection Days per Phase: 95 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a
			Concrete Mixer Truck	2	2	13	25									
			Concrete Pump Truck	1	0	13	50									
			Crane	1	1	130	75									



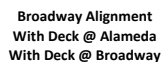
**Broadway Alignment
With Deck @ Alameda
With Deck @ Broadway**

[illegible]

Chinatown / State Park Station	Structural Steel and Gondola Equipment Erection	Flat Bed Truck	1	1	140	25														
		Generator	0	0	0	0														
		Generator (<25KVA, VMA)	0	0	0	0														
		Gradall	1	1	140	75														
		Pickup Truck	5	1	140	25														
		Pneumatic Tools	2	2	140	25														
		Vacuum Excavator (Vac-	1	0	5	50														
		Vacuum Street Sweeper	1	1	29	25														
		Ventilation Fan	1	1	140	75														
		Vibrating Hopper	2	0	14	25														
Chinatown / State Park Station	Asphalt & Re-Striping	Vibratory Concrete mixer	4	0	14	25														
		Warning Horn	4	4	140	25														
		Hand Held Metal Saw	1	0	70	25														
		Shuttle (Passenger)	1	0	140	25														
		Manlifts	2	0	120	25														
		Welder / Torch	4	4	140	25														
		See Equipment Details Below					10	0	0	During Paving	n/a	1'	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
		Paver	1	1	10	100														
		Roller	1	1	10	100														
Chinatown / State Park Station	Vertical Circ. / Hardscape & Landscape/ Interior Work	Ground compactor	2	0	5	50														
		Warning Horn	2	2	10	25														
		Excavators	0	0	0	0														
		Pickup Truck	5	1	10	25														
		Dump Truck	2	1	4	50														
		Flat Bed Truck	1	0	10	25														
		Backhoe	2	2	10	50														
		Shuttle (Passenger)	0	0	10	25														
		Vacuum Street Sweeper	1	1	2	25														
		See Equipment Details Below					20	10	10	During Hardscape	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Chinatown / State Park Station	Utilities	Backhoe	1	2	24	50														
		Compactor (ground)	1	1	15	25														
		Concrete Mixer Truck	1	1	15	25														
		Generator	0	0	0	0														
		Dump Truck	1	1	24	25														
		Flat Bed Truck	1	1	30	25														
		Pickup Truck	5	1	80	25														
		Gradall	1	1	60	50														
		Welders	1	0	60	25														
		Vehicles	1	0	60	25														
Chinatown / State Park Station	Foundations and Columns	Warning Horn	3	2	60	25														
		Vacuum Street Sweeper	1	1	20	25														
		See Equipment Details Below					5	0	2	During Concrete Pours and Excavation Hauling Days per Phase: 2	Daily Number of Trips: 5	10'	10'	160	160	0				
		Backhoe	1	1	11	75														
		Concrete Saw	1	0	2	50														
		Vibrating Hopper	1	0	2	75														
		Compactor (ground)	1	1	2	100														
		Concrete Mixer Truck	2	1	2	25														
		Pickup Truck	5	1	2	25														
		Roller	1	0	2	100														
Chinatown / State Park Station	Foundations and Columns	Gradall/Forklift	1	1	35	50														
		Flat Bed Truck	1	0	7	25														
		Dump Truck	1	1	7	25														
		Front End Loader	1	1	15	50														
		Vacuum Street Sweeper	1	1	35	25														
		Shuttle (Passenger)	0	0	35	25														
		Vehicles	0	0	35	25														
		Warning Horn	2	2	11	25														
		See Equipment Details Below					25	10	10	During Concrete Pours and Excavation Hauling Days per Phase: 7	Daily Number of Trips: 80	Foundations: 10' Piles: 80'	3'	6267	4567	1700				
		Auger Drill Rig*	1	0	42	75														
Chinatown / State Park Station	Foundations and Columns	Backhoe	2	0	105	50														
		Chain Saw	1	0	1	50														
		Compactor (ground)	2	0	5	75														
		Compressor (air)	2	0	9	25														
		Concrete Mixer Truck	2	2	44	25														
		Concrete Pump Truck	1	1	2	50														
		Concrete Saw	1	0	1	100														
		Crane	1	1	105	25														
		Dozer*	0	0	42	100														
		Drill Rig Truck	1	0	42	25														
Chinatown / State Park Station	Foundations and Columns	Dump Truck*	3	0	42	100														
		Excavator	2	0	44	50														
		Flat Bed Truck	1	1	30	25														
		Generator	0	0	0	0														
		Generator (<25KVA, VMA)	0	0	0	0														
		Gradall	1	1	105	75														
		Hydra Break Ram	1	0	1	50														
		Jackhammer*	1	0	10	50														
		Pavement Scarifier	1	0	1	100														
		Paver	1	0	1	100														
Chinatown / State Park Station	Foundations and Columns	Pickup Truck	10	1	105	25														
		Pneumatic Tools	2	0	9	25														
		Pumps	1	0	21	75														
		Roller*	1	0	1	100														
		truck)	1	1	5	50														
		Vacuum Street Sweeper	1	1	21	75														
		Vibrating Hopper	2	2	5	50														
		Vibratory Concrete Mixer	6	0	44	25														
		Warning Horn	4	3	105	25														
		Shuttle (Passenger)	1	0	80	25														
Chinatown / State Park Station	Foundations and Columns	Welder / Torch	1	1	30	25														
		See Equipment Details Below					25	10	10	During Steel Erection Days per Phase: 180	Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
		Backhoe	2	0	14	25														
		Compactor (ground)	2	0	14	50														
		Compressor (air)	1	1	140	25														
		Concrete Mixer Truck	2	2	14	25														
		Concrete Pump Truck	1	0	14	50														
		See Equipment Details Below					25	10	10	During Steel Erection Days per Phase: 180	Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
		Backhoe	2	0	14	25														
		Compactor (ground)	2	0	14	50														

Structural Steel and Gondola Equipment Erection		Crane	1	1	140	75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Broadway Junction	Deck Shoring, Cribbing, and Erection	2	Paver	1	0	1	100												
			Pickup Truck	10	1	140	25												
			Pneumatic Tools	2	0	9	25												
			Pumps	1	0	28	75												
			Roller*	1	0	1	100												
			Vacuum Excavator (Vac-	1	1	5	50												
			Vacuum Street Sweeper	1	1	28	75												
			Vibrating Hopper	2	2	5	50												
			Vibratory Concrete Mixer	6	0	58	25												
			Warning Horn	4	3	140	25												
Shuttle (Passenger)	1	0	80	25															
Welder / Torch	1	1	30	25															
			See Equipment Details Below					12	6	5									
			Gradall	2	2	10	75												
			Crane	1	1	10	75												
			Vacuum Street Sweeper	1	1	1	25												
			Flat Bed Truck	3	1	10	50												
			Scissor Lift	2	2	10	50												
			Welder / Torch	1	1	5	50												
			Compressor (air)	2	2	10	50												
			Pneumatic Tools	2	2	10	50												
			Chain Saw	1	1	4	50												
			Shuttle (Passenger)	1	0	10	25												
			Warning Horn	3	2	10	25												
			Pickup Truck	5	1	0	25												
			See Equipment Details Below					25	10	10	During Steel Erection Days per Phase: 140 Daily Number of Trips: 2	n/a	n/a	n/a	n/a	n/a	n/a		
			Backhoe	2	0	19	25												
			Compactor (ground)	2	0	19	50												
			Compressor (air)	1	1	190	25												
			Concrete Mixer Truck	2	2	19	25												
			Concrete Pump Truck	1	0	19	50												
			Crane	1	1	190	75												
			Flat Bed Truck	0	1	190	25												
			Generator	0	0	0	0												
			Generator (~25KVA, VMA	0	0	0	0												
			Gradall	1	1	190	75												
			Pickup Truck	5	1	190	25												
			Pneumatic Tools	2	2	190	25												
			Vacuum Excavator (Vac-	1	0	5	50												
			Vacuum Street Sweeper	1	1	38	25												
			Ventilation Fan	1	1	190	75												
			Vibrating Hopper	2	0	19	25												
			Vibratory Concrete mixer	4	0	19	25												
			Warning Horn	4	4	190	25												
			Hand Held Metal Saw	1	0	38	50												
			Shuttle (Passenger)	1	0	190	25												
			Manlifts	2	0	170	50												
			Welder / Torch	4	4	190	25												
			See Equipment Details Below					12	6	10									
			Gradall	2	2	15	75												
			Crane	1	1	15	50												
			Vacuum Street Sweeper	1	1	1	25												
			Flat Bed Truck	3	1	15	50												
			Scissor Lift	2	2	15	50												
			Welder / Torch	1	1	7	50												
			Compressor (air)	2	2	15	50												
			Pneumatic Tools	5	2	15	50												
			Shuttle (Passenger)	1	0	15	25												
			Warning Horn	3	2	15	25												
			Pickup Truck	5	1	15	25												
			See Equipment Details Below					10	0	0	During Asphalt Days per Phase: 1 Daily Number of Trips: 10	n/a	1'	n/a	n/a	n/a	n/a		
			Paver	1	1	10	100												
			Roller	1	1	10	100												
			Ground compactor	2	0	5	50												
			Warning Horn	2	2	10	25												
			Excavators	0	0	0	0												
			Pickup Truck	5	1	10	25												
			Dump Truck	2	1	5	25												
			Flat Bed Truck	1	0	5	25												
			Backhoe	2	2	10	75												
			Shuttle (Passenger)	0	0	10	25												
			Vacuum Street Sweeper	1	1	2	25												
			See Equipment Details Below					20	10	10	During Hardscape Days per Phase: 20 Daily Number of Trips: 10	n/a	6'	n/a	n/a	n/a	n/a		
			Backhoe	1	1	58	50												
			Compactor (ground)	1	1	15	25												
			Concrete Mixer Truck	1	1	15	25												
			Crane	1	1	58	50												
			Generator	0	0	0	0												
			Dump Truck	1	1	87	25												
			Flat Bed Truck	1	1	116	25												
			Pickup Truck	5	1	80	25												
			Gradall	1	0	145	50												
			Welders	1	1	135	25												
			Vehicles	1	0	145	25												
			Warning Horn	3	2	145	25												
			Vacuum Street Sweeper	1	1	20	25												
			See Equipment Details Below					5	0	2	During Concrete Pours and Excavation Hauling Days per Phase: 3 Daily Number of Trips: 5	10'	10'	3500	3500	0			
			Backhoe	1	1	13	75												
			Concrete Saw	1	0	3	50												
			Vibrating Hopper	1	0	3	75												
			Compactor (ground)	1	0	3	100												
			Pickup Truck	5	1	0	25												
			Concrete Mixer Truck	2	1	3	25												
			Roller	1	0	3	100												
			Gradall/Forklift	1	1	35	50												
			Flat Bed Truck	1	0	7	25												
			Dump Truck	1	1	7	25												
			Front End Loader	1	1	15	50												

4/5/2022

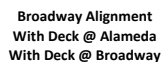
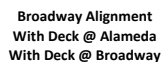
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EXHIBIT 3
**Construction Equipment Assumptions Without Temporary Deck at
Alameda Station**

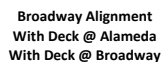
Project Component	Phase	Duration (Weeks)	Equipment List for Noise, Vibration, Air Quality, and Greenhouse Gas Modeling Equipment List	Quantity of Equipment Specified in Column D	Equipment List for Worst Case Noise Analysis	Typical Number of Days Equipment Will Be Used	Percentage of Day in Use	Typical Number of Construction Workers Per Day	Total Number of Roundtrip Shuttle Trips Per Day (Shuttling Construction Workers)	Typical Number of Truck Trips Per Day to Project Component Site (Materials, Deliveries, and On-Road Equipment)	Peak Truck Trips During Either Concrete Pour or Steel Delivery (Days per Phase: Daily Number of Trips:)	Maximum Depth (Excavation and Drilled Piles)	Depth of Site Work	Amount of Excavation (Cubic Yards)	Amount of Export (Including Cement and Soils) (Cubic Yards)	Amount Reused On-Site (Including Soils) (Cubic Yards)
Alameda Station	Utilities	7	See Equipment Details Below					5	0		2	10'	10'	1000	1000	0
			Backhoe	1		1	35									
			Concrete Saw	1		0	7									
			Vibrating Hopper	1		0	7									
			Compactor (ground)	1		0	7									
			Concrete Mixer Truck	2		1	7									
			Pickup Truck	5		1	7									
			Roller	1		0	7									
			Grapple/Forklift	1		1	35									
			Flat Bed Truck	1		0	7									
			Dump Truck	1		1	7									
			Front End Loader	1		1	15									
			Vacuum Street Sweeper	1		1	35									
			Shuttle (Passenger)	0		0	35									
			Warning Horn	2		2	35									
	Foundations and Columns	16	See Equipment Details Below					25	10	10	10	10'	3'	2728	2295	433
			Auger Drill Rig*	1		0	32									
			Backhoe	2		0	80									
			Chain Saw	1		0	1									
			Compactor (ground)	2		0	5									
			Compressor (air)	2		0	9									
			Concrete Mixer Truck	2		2	34									
			Concrete Pump Truck	1		1	2									
			Concrete Saw	1		0	1									
			Crane	1		1	80									
			Dozer*	0		0	32									
			Drill Rig Truck	1		0	32									
			Dump Truck*	3		0	32									
			Excavator	2		0	34									
			Flat Bed Truck	1		1	30									
			Generator	0		0	0									
			Generator (<25KVA, VMA signs)	0		0	0									
			Grapple	1		1	80									
			Hydra Break Ram	1		0	1									
			Jackhammer*	1		0	10									
			Pavement Scarifier	1		0	1									
			Paver	1		0	1									
			Pickup Truck	10		1	80									
			Pneumatic Tools	2		0	9									
			Pumps	1		0	16									
			Roller*	1		0	1									
			Truck	1		1	5									
			Vacuum Street Sweeper	1		1	16									
			Vibrating Hopper	2		2	5									
			Vibratory Concrete Mixer	6		0	34									
			Warning Horn	4		3	80									
			Shuttle (Passenger)	1		0	80									
			Welder / Torch	1		1	30									
	Structural Steel and Gondola Equipment Erection	30	See Equipment Details Below					25	10	10	10	n/a	n/a	n/a	n/a	n/a
			Backhoe	2		0	15									
			Compactor (ground)	2		0	15									
			Compressor (air)	1		2	150									
			Concrete Mixer Truck	2		2	15									
			Concrete Pump Truck	1		0	15									
			Crane	1		1	150									
			Flat Bed Truck	1		1	150									
			Generator	0		0	0									
			Generator (<25KVA, VMA signs)	0		0	0									
			Grapple	1		1	150									
			Pickup Truck	5		1	150									
			Pneumatic Tools	2		2	150									
			Vacuum Excavator (Vac-)	1		0	5									
			Vacuum Street Sweeper	1		1	30									
			Ventilation Fan	1		1	150									
			Vibrating Hopper	2		0	15									
			Vibratory Concrete mixer	4		0	15									
			Warning Horn	4		4	150									
			Hand Held Metal Saw	1		0	50									
			Shuttle (Passenger)	1		0	140									
			Manlifts	2		0	120									
			Welder / Torch	4		4	150									
	Asphalt & Re-Stripping	2	See Equipment Details Below					10	0		0	n/a	1'	n/a	n/a	n/a
			Paver	1		1	10									
			Roller	1		1	10									
			Ground compactor	2		0	50									
			Warning Horn	2		2	10									
			Excavators	0		0	0									
			Pickup Truck	5		1	10									
			Dump Truck	2		1	5									
			Flat Bed Truck	1		0	5									
			Backhoe	2		2	10									
			Shuttle (Passenger)	0		0	10									
			Vacuum Street Sweeper	1		1	2									
		27	See Equipment Details Below					20	10	10	10	n/a	8'	n/a	n/a	n/a
			Backhoe	1		1	54									

DRAFT ENVIRONMENTAL IMPACT REPORT

Alpine Tower	Hardscape & Landscape/ Interior Work	14	See Equipment Details Below				20	10	10	During Hardscape Days per Phase: 20 Daily Number of Trips: 10	n/a	n/a	n/a	n/a	n/a	n/a
			Backhoe	2	1	28	50									
			Compactor (ground)	1	1	15	25									
			Concrete Mixer Truck	1	1	15	25									
			Generator	0	0	0	0									
			Dump Truck	1	1	28	50									
			Pickup Truck	5	1	70	25									
			Gradall	1	1	70	50									
			Welders	1	0	70	25									
			Flat Bed Truck	1	1	70	25									
Shuttle (Passenger)	2	0	70	25												
Vehicles	3	2	70	25												
Warning Horn	3	2	70	25												
Vacuum Street Sweeper	1	1	20	25												
Utilities	3	See Equipment Details Below				5	0									2
		Backhoe	1	1	13	75										
		Concrete Saw	1	0	3	50										
		Vibrating Hopper	1	0	3	75										
		Compactor (ground)	1	0	3	100										
		Concrete Mixer Truck	2	1	3	25										
		Pickup Truck	5	1	3	25										
		Roller	1	0	3	100										
		Gradall/Forklift	1	1	35	50										
		Flat Bed Truck	1	0	7	25										
Dump Truck	1	1	7	25												
Front End Loader	1	1	15	50												
Vacuum Street Sweeper	1	1	35	25												
Shuttle (Passenger)	0	0	35	25												
Vehicles	0	0	35	25												
Warning Horn	2	2	13	25												
Foundations and Columns	15	See Equipment Details Below				25	10	10	During Concrete Pours and Foundations: 10' Piles: 120'	3'	3606	2887	719			
		Auger Drill Rig*	1	0	30	75										
		Backhoe	2	0	75	50										
		Chain Saw	1	0	1	50										
		Compactor (ground)	2	0	5	75										
		Compressor (air)	2	0	9	25										
		Concrete Mixer Truck	2	2	32	25										
		Concrete Pump Truck	1	1	2	50										
		Concrete Saw	1	0	1	100										
		Crane	1	1	75	25										
Dozer*	0	0	30	100												
Drill Rig Truck	1	0	30	25												
Dump Truck*	3	0	30	100												
Excavator	2	0	32	50												
Flat Bed Truck	1	1	30	25												
Generator	0	0	0	0												
Generator (<25KVA, VMA)	0	0	0	0												
Gradall	1	1	75	75												
Hydra Break Ram	1	0	1	50												
Jackhammer*	1	0	10	50												
Pavement Scarifier	1	0	1	100												
Paver	1	0	1	100												
Pickup Truck	10	1	75	25												
Pneumatic Tools	2	0	9	25												
Pumps	1	0	15	75												
Roller*	1	0	1	100												
Vacuum Excavator (Vac-	1	1	5	50												
Vacuum Street Sweeper	1	1	15	75												
Vibrating Hopper	2	2	5	50												
Vibratory Concrete Mixer	6	0	32	25												
Warning Horn	4	3	75	25												
Shuttle (Passenger)	1	0	80	25												
Welder / Torch	1	1	30	25												
Structural Steel and Gondola Equipment Erection	28	See Equipment Details Below				25	10	10	During Steel Erection	n/a	n/a	n/a	n/a	n/a		
		Backhoe	2	0	14	25										
		Compactor (ground)	2	0	14	50										
		Compressor (air)	1	1	140	25										
		Concrete Mixer Truck	2	2	14	25										
		Concrete Pump Truck	1	0	14	50										
		Crane	1	1	140	75										
		Flat Bed Truck	1	1	140	25										
		Generator	0	0	0	0										
		Generator (<25KVA, VMA)	0	0	0	0										
Gradall	1	1	140	75												
Pickup Truck	5	1	140	25												
Pneumatic Tools	2	2	140	25												
Vacuum Excavator (Vac-	1	0	5	50												
Vacuum Street Sweeper	1	1	28	25												
Ventilation Fan	1	1	140	75												
Vibrating Hopper	2	0	14	25												
Vibratory Concrete mixer	4	0	14	25												
Warning Horn	4	4	140	25												
Hand Held Metal Saw	1	0	70	25												
Shuttle (Passenger)	1	0	140	25												
Manlifts	2	0	120	25												
Welder / Torch	4	4	140	25												
Asphalt & Re- Striping	2	See Equipment Details Below				10	0	0	During Paving	n/a	1"	n/a	n/a	n/a		
		Paver	1	1	10	100										
		Roller	1	1	10	100										
		Ground compactor	1	0	5	50										
		Warning Horn	2	2	10	25										
		Excavators	0	0	0	0										
		Pickup Truck	5	1	5	25										
		Dump Truck	2	1	4	50										
		Flat Bed Truck	1	0	10	25										
		Backhoe	2	2	10	50										
Shuttle (Passenger)	0	0	10	75												

Chinatown / State Park Station	Vertical Circ. / Hardscape & Landscape/ Interior Work	12	Vacuum Street Sweeper	1	1	2	25	20	10	10	During Hardscape	n/a	n/a	n/a	n/a	n/a
			See Equipment Details Below													
			Backhoe	1	2	24	50									
			Compactor (ground)	1	1	15	25									
	Utilities	2	Concrete Mixer Truck	1	1	15	25									
			Generator	0	0	0	0									
			Dump Truck	1	1	24	25									
			Flat Bed Truck	1	1	30	25									
	Foundations and Columns	21	Pickup Truck	5	1	80	25									
			Gradall	1	1	60	50									
			Welders	1	0	60	25									
			Vehicles	1	0	60	25									
	Structural Steel and Gondola Equipment Erection	28	Warning Horn	3	2	60	25									
			Vacuum Street Sweeper	1	1	20	25									
			See Equipment Details Below													
			Backhoe	1	2	24	50									
	Asphalt & Re-Striping	2	Compactor (ground)	1	1	15	25	10	0	0	During Paving Days per Phase: 1 Daily Number of Trips: 10	n/a	1'	n/a	n/a	n/a
			Concrete Mixer Truck	1	1	15	25									
			Generator	0	0	0	0									
			Dump Truck	1	1	24	25									

			Dump Truck	2	1	4	50											
			Flat Bed Truck	2	0	10	25											
			Backhoe	2	2	10	50											
			Shuttle (Passenger)	0	0	10	25											
			Vacuum Street Sweeper	1	1	2	25											
Vertical Circ. / Hardscape & Landscape/ Interior Work	40	See Equipment Details Below						20	10	10	During Hardscape Days per Phase: 20 Daily Number of Trips: 10	n/a	6'	n/a	n/a	n/a		
		Backhoe	1	1	80	50												
		Compactor (ground)	1	1	15	25												
		Concrete Mixer Truck	1	1	15	25												
		Crane	1	1	100	50												
		Generator	0	0	0													
		Pickup Truck	5	1	80	25												
		Dump Truck	1	1	50	25												
		Flat Bed Truck	1	1	120	25												
		Gradall	1	0	200	50												
		Welders	1	1	135	25												
		Vehicles	1	0	200	25												
		Warning Horn	3	2	200	25												
		Vacuum Street Sweeper	1	1	20	25												
		Utilities	8	See Equipment Details Below						5	0	2	During Concrete Pours and Excavation Hauling Days per Phase: 8 Daily Number of Trips: 5	10'	10'	111	111	0
Backhoe	1			1	38	75												
Concrete Saw	1			0	8	50												
Vibrating Hopper	1			0	8	75												
Compactor (ground)	1			0	8	100												
Concrete Mixer Truck	2			1	8	25												
Pickup Truck	5			1	8	25												
Roller	1			0	8	100												
Gradall/Forklift	1			1	35	50												
Flat Bed Truck	1			0	7	25												
Dump Truck	1			1	7	25												
Front End Loader	1			1	15	50												
Vacuum Street Sweeper	1			1	35	25												
Shuttle (Passenger)	1			0	35	25												
Vehicles	1			0	35	25												
Warning Horn	2			2	38	25												
Demo Building (Overlaps w/Foundations and Columns Phase)	3			See Equipment Details Below						5	10	10	During Material Hauling Days per Phase: 12 Daily Number of Trips: 70	18" to bottom of the slab on grade	18"	0	9008	0
				Backhoe	2	1	15	50										
		Hydra Break Ram	1	1														
		Chain Saw	1	1	1	50												
		Concrete Saw	1	1	1	100												
		Dozer*	1	1	12	50												
		Dump Truck*	70	5	12	1												
		Excavator	2	2	15	50												
		Jackhammer*	1	1	10	50												
		Pickup Truck	10	2	15	25												
		Vacuum Street Sweeper	1	1	15	75												
		Warning Horn	3	1	15	25												
		Shuttle (Passenger)	1	0	15	25												
		Vehicles	1	0	15	25												
		Welder / Torch	1	1	5	25												
		Foundations and Columns	28	See Equipment Details Below						25	10	10	During Concrete Pours and Excavation Hauling Days per Phase: 8 Daily Number of Trips: 80	Foundations: 7" Piles: 120"	8'	6407	5379	1028
				Auger Drill Rig*	1	0	56	75										
				Backhoe	2	0	140	50										
Chain Saw	1			0	1	50												
Compactor (ground)	2			0	5	75												
Compressor (air)	2			0	9	25												
Concrete Mixer Truck	2			2	58	25												
Concrete Pump Truck	1			1	2	50												
Concrete Saw	1			0	1	100												
Crane	1			1	140	25												
Dozer*	0			0	56	100												
Drill Rig Truck	1			0	56	25												
Dump Truck*	3			0	56	100												
Excavator	2			0	58	50												
Flat Bed Truck	1			1	30	25												
Generator	0			0	0	0												
Generator (<25KVA, VMA	0			0	0	0												
Gradall	1			1	140	75												
Hydra Break Ram	1			0	1	50												
Jackhammer*	1			0	10	50												
Pavement Scarifier	1			0	1	100												
Paver	1			0	1	100												
Pickup Truck	10			1	140	25												
Pneumatic Tools	2			0	9	25												
Pumps	1			0	28	75												
Roller*	1			0	1	100												
Vacuum Excavator (Vac-	1			1	5	50												
Vacuum Street Sweeper	1			1	28	75												
Vibrating Hopper	2			2	5	50												
Vibratory Concrete Mixer	6			0	58	25												
Warning Horn	4			3	140	25												
Shuttle (Passenger)	1			0	80	25												
Welder / Torch	1			1	30	25												
Deck Shoring, Cnbbing, and Erection	2			See Equipment Details Below						12	6	5						
				Gradall	2	2	10	75										
				Crane	1	1	10	75										
				Vacuum Street Sweeper	1	1	1	25										
				Flat Bed Truck	3	1	10	50										
				Scissor Lift	2	2	10	50										
				Welder / Torch	1	1	5	50										
				Compressor (air)	2	2	10	50										
				Pneumatic Tools	1	2	4	50										
				Chain Saw	1	1	4	50										
				Shuttle (Passenger)	1	0	10	25										

DRAFT ENVIRONMENTAL IMPACT REPORT

DRAFT ENVIRONMENTAL IMPACT REPORT



**Broadway Alignment
With Deck @ Alameda
With Deck @ Broadway**

[illegible]

EXHIBIT 4
Potential Location for Mesa Lot Construction and Gondola Staging



EXHIBIT 5

Construction Schedule

Draft Construction, Rope Pulling, and System Testing Schedule for the Proposed Project

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25				
Project Component/Activity	Total Project Duration 25 months																												
Alameda Station	17 months																												
Alameda Tower							12 months																						
Alpine Tower			11 months																										
Chinatown/State Park Station	19 months																												
Broadway Junction	19 months																												
Stadium Tower				12 months																									
Dodger Stadium Station	20 months																												
Rope Pulling																	5 months												
Alameda Station to Broadway Junction																	10 weeks												
Broadway Junction to Dodger Stadium Station																		10 weeks											
System Testing																						4 months							

Notes:

1. This construction schedule does not include utility relocations which will occur prior to the start of construction.
2. System testing includes fine tuning of the system and hanging of the cabins.

APPENDIX B

CONSTRUCTION ASSUMPTIONS

- Rope Pulling and System

Testing Memorandum



MEMORANDUM

TO: David DeRosa, AECOM
FROM: Mike Deiparine
DATE: March 01, 2022
PROJECT: LA ART
SUBJECT: Rope Pulling and System Testing

This memo provides preliminary information on anticipated rope pulling and system testing activities for the proposed Los Angeles Aerial Rapid Transit project ("LA ART" or "Project").

1. OVERVIEW OF CABLES AND ROPEWAY TECHNOLOGY

The proposed Project would use a tri-cable (3S) system, which relies on three steel cables to support and move the cabins. The proposed Project's tri-cable technology would be comprised of two stationary cables (track ropes) that provide support for the running wheels of the cabins, and a third cable (haul rope) that would circulate continuously around the system. The haul rope, which is the propulsion rope, is moved by the turning of a large sheave known as a "drive bull wheel". The drive bull wheel is turned by motors located at the station or junction. The haul rope is looped around a drive bull wheel at one station/junction and a return bull wheel at the opposing station/junction. Five cables are needed for a 3S system: 2 track ropes on the outbound side, 2 track ropes on the inbound side, and the continuous haul rope loop.

Due to the length and geometry of the proposed Project, it is anticipated that two such ropeway systems would be used. The first section would carry passengers from the Alameda Station to the Broadway Junction. The second section would carry passengers from the Broadway Junction to the Dodger Stadium Station. The transition between the two systems would occur in the Junction, in a manner inconspicuous to the passengers. This system transition requires one haul rope loop from the Alameda Station to the Broadway Junction and one haul rope from the Broadway Junction to the Dodger Stadium Station. It is anticipated that the track ropes will also extend from the Alameda Station to the Broadway Junction and the Broadway Junction to the Dodger Stadium Station.

Accordingly, it is anticipated the Project will require 10 cables: four track ropes and one haul rope from the Alameda Station to the Broadway Junction and four track ropes and one haul rope from the Broadway Junction to the Dodger Stadium Station. It is, however, possible that the track ropes could be terminated at each station and junction, which would add four additional track ropes for the portion of the alignment between Chinatown/State Historic Park Station and Broadway Junction.

2. ROPE PULLING

The “pulling” of the cables requires the placement of an initial thin, light line rope from one end to the other, which will be used to pull progressively larger cables. The initial placement is anticipated to be flown either by drone or helicopter. Rope pulling activities for each of the two ropeway systems would require temporary closure of roadways underneath each ropeway system of the Project alignment. In order to minimize traffic disruption, rope pulling activities for each ropeway system would not occur contemporaneously. Rope pulling activities for the ropeway system from Alameda Station to Broadway Junction would require temporary closure of Alameda Street, Spring Street and North Broadway, as well as portions of roadways that intersect with these roadways, for up to two non-consecutive days. Rope pulling activities for the ropeway system from Broadway Junction to Dodger Stadium Station would require temporary closure of North Broadway, Bishops Road, Savoy Street, SR-110, and Stadium Way, for up to two non-consecutive days. The Project will coordinate with the rope pulling specialist to minimize closures during rope pulling. Coordination will seek to minimize closures, including during peak hours.

Once the initial rope is placed and secured at each end, one end of the rope is attached to the next larger rope, which is then pulled from its spool to the pulling location. Once the second rope has been pulled, it is secured, then one end is attached to the next rope and the process is repeated until the final cable is in place. We anticipate there will be approximately two intermediate rope sizes between the initial rope and the final cable. Temporary protection and supports, such as cranes to support the ropes, may be required at locations between towers and stations/junctions.

We estimate 10 weeks will be required from the start of rope pulling activities to the end of rope pulling activities, per system. The pulls of the two systems will not be simultaneous.

The pulling activities will require a 50-100 hp diesel hydrostat winch at each end. There will be ancillary power needs, likely supplied by a ~5kW skid mounted generator or utility power. We anticipate a Conex or similar apparatus with a variety of tools, rigging equipment, and other supplies. Each of the 10 cables will be delivered on its own spool of 20-40 tons. These will be received and moved around as needed by a crane. A tractor or lift will be required to move the skid generator, winches, and other heavy items. We estimate 10 workers will be at each end of the rope during each pull for a total of 20 workers.

3. SYSTEM TESTING

After the system construction and erection are complete, technicians will make fine adjustments to machinery, controls, tower heads, and other relevant components. The system would undergo formal testing as prescribed by the California Division of Occupational Safety and Health (Cal/OSHA) and appropriate ropeway standards.

Throughout the testing period, technicians of various disciplines will be on site, as will inspectors. We have assumed testing will occur over a period of 2 months for each system. We estimate testing will require an average of 10 technicians and will involve an average of 10-15 additional people during demonstration activities.