

## **Common Ground:** Creating Equitable Space between Commerce and Community

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#### **INTRODUCTION** PERSONAL STATEMENT

I first heard about the blight of warehouses invading Inland Empire communities via the news; a frustrated homeowner was interviewed about the way her town was changing. She, like many of her neighbors, felt boxed-in by pollution, unsightly structural monstrosities, and hundreds of diesel trucks. No space for children to safely play outside, dangerously polluted air, and encroachment upon peoples literal backyards. I was moved tremendously by the losses these communities have, and continue to suffer. Not only did these residents feel the burden of negative consequences from this ruthless industrial growth, they felt the message: despite their critical role in the fabric of this region of Southern California, their wellbeing doesn't matter.

This is how I began to imagine how, through the practice of Landscape Architecture, spaces can be created that tell a community that they DO matter - and this kind of thinking is desperately needed in this area. It's not that there is a lack of space for everyone, it's how it has been used that is ripping these towns apart, forcing people out of their homes at times, and inspiring more and more to get out if they can. This is NOT sustainable growth - its a recipe for a bunch of empty boxes.

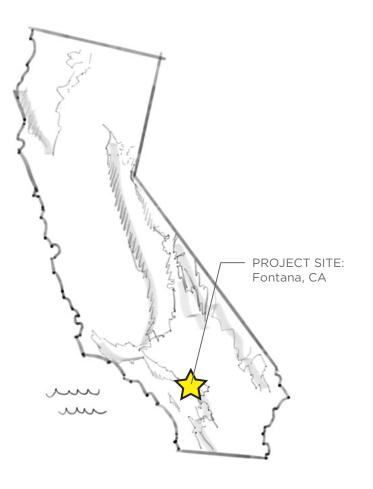
I believe everyone needs and has a right to accessible green space. Life without trees, walkable paths or recreation is inhumane - not to mention an inability to escape constantly polluted air. Landscape Architects have the ability to craft spaces that play so many roles - improving environmental conditions, connecting infrastructure in a safer way, and helping people lead healthier and more fulfilling lives. Therefore, as a landscape designer, I felt that the situation faced by the residents of Fontana and Bloomington was a worthy and very necessary issue to work on.

Our culture of hyper consumerism and immediate gratification are a large part of the problem. We not only have a responsibility to think about our individual impact in the face of climate change, we must understand the greater impacts our current lifestyles can cause. Shipping warehouses are typically built near areas predominantly inhabited by people of color, and low-income demographics - this is not coincidental, it has a direct correlation as recently documented in a nation-wide study. Wealthier areas benefit tremendously from the convenience of improved logistics operations that make services like Amazon Prime possible; while poor, non-white communities disproportionally suffer the "dirty" part of the business taking over their neighborhoods. Therefore I saw this project as a case-study or example of a much larger problem occurring all over the country.

I believe land-use and better urban planning can help reduce the inequities caused by our economy. It will take strong advocacy, policy and effort to move development in a more responsible direction, but it is possible. Developments like the West Valley Logistics Center jeopardize the peace and health of residents and threaten wild habitats and ecology. This project is a response to that - it challenges the exploitative practice of rezoning for industry, asking for green infrastructure to be implemented, and more balanced urban growth over all.

#### **PROJECT STATEMENT**

This project addresses a low-income, semi-rural community impacted by a planned industrial development nearby. An undeveloped site bordering both the neighborhood and a new warehouse complex will become a publicly accessible recreation and habitat park. The design will mitigate localized pollution, provide an aesthetic buffer and preserve the natural ecology and history of the San Bernardino valley region.



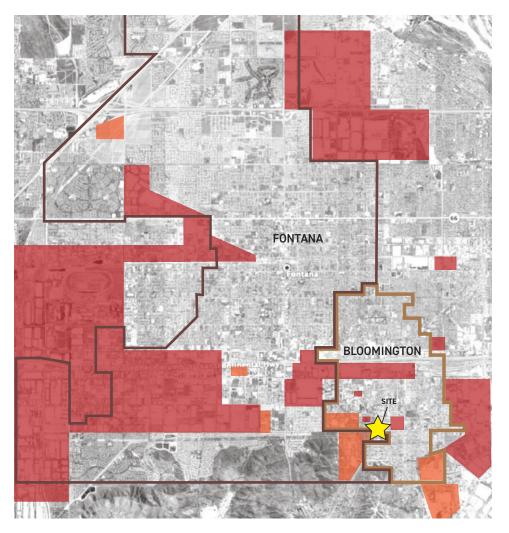




**LEGEND:** 

EXISTING INDUSTRIAL

PLANNED INDUSTRIAL



#### CONTEXT MAP: INDUSTRIAL DEVELOPMENT



The project site is located in the Inland Empire, a semi-rural community within the city limits of Fontana and adjacent to Bloomington, a small unincorporated census district that has been a magnet for industrial development. This region has been experiencing a "warehouse boom" over the past decade. Neighborhoods have been rezoned to make way for the warehouses, surrounding remaining homes and dramatically changing what was once a quiet community. Residents see their town growing in ways that do not support their personal wellbeing. While the region is experiencing massive industrial growth, there are very little other types of growth by comparison - which presents as an imbalance. The residents' needs are not currently prioritized within this pattern of development.

#### FONTANA CENSUS DATA

Population (2020): 217,237 Percentage persons under age 18: 28.6% Persons aged 65 and older: 7.8% Percentage Hispanic or Latin: 69.6% Percentage White Non-Hispanic: 12.9% Percentage Black or African American: 8.8% Percentage ASian: 6.6% Median Household Income 2015-2019: \$72,918 Percentage of Persons in Poverty: 13% Population per square mile (2010): 4,620

INDUSTRIAL DEVELOPMENT MAP: view of current and planned industrial sites in Fontana and Bloomington.

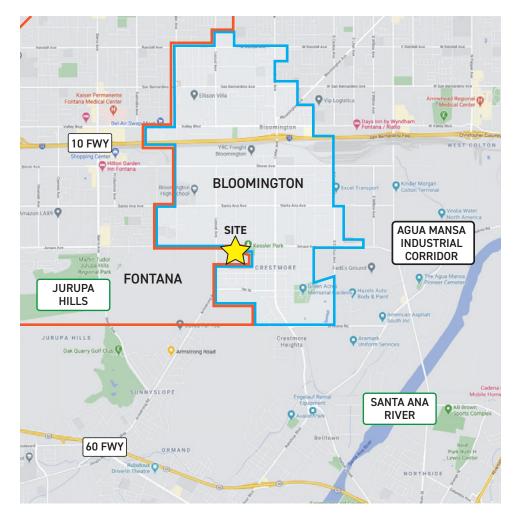
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The community is notably low-income, composed of families, and predominantly hispanic.

#### SITE LOCATION

#### VICINITY MAP



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#### ABOUT THE SITE

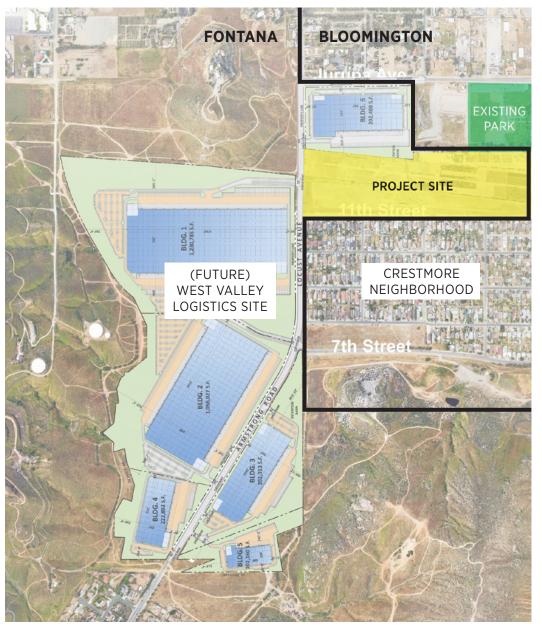
The project site is located at the edge of Fontana, CA, bordering the unincorporated town of Bloomington in San Bernardino. The site is adjacent to both a long-existing neighborhood and the site of the future West Valley Logistics Center. The new logistics center is planned on 200 acres of open space - an area previously planned for a community development. This community plan would have created 1,154 new homes, an elementary school and a 20-acre park with recreational trails. In 2017 that plan was replaced with the commercial plan. Several organized groups fought, unsuccessfully, to stop the approval of this new development that will radically alter the character of where they live. Now - instead of more homes and increased public amenities - the community faces increased air and noise pollution, 200+ acres paved-over in concrete and structure, imposing views in the background of their homes and a less-healthy environment overall.



Photos around the site show the semi-rural and industrial character of the town.

#### SITE LOCATION

#### CONTEXT MAP: SITE ADJACENCIES



SITE ADJACENCY: the map above shows the project site area, and adjacent planned development and residential neighborhoods



Residents of Bloomington protest city approval of a future warehouse development. Image source: redlandsdailyfacts.com

#### 2007: THE VALLEY TRAILS SPECIFIC PLAN (replaced in 2017 by the WVLC Specific Plan)

- Planned community
- 1,154 homes
- Elementary School
- Private and public recreational amenities
- A 20-acre public park

#### 2017: WEST VALLEY LOGISTICS CENTER SPECIFIC PLAN

- 289-acre facility with no public amenities
- Over 3.6 million SF of warehouses and offices
- 1,332 parking spaces on paved lots
- Currently, no feasability study has been completed to assess traffic increases to the area and appropriate measures to be taken.

#### **SITE INFORMATION** ASSESSOR, ZONING, LAND USE

#### LOCATION:

The site is in Fontana, CA but it borders Bloomington, CA - both in San Bernardino County

ACREAGE: 39.5 Acres total

#### OWNERSHIP:

The Site is partially owned by the following parties:

- West Valley Logistics Center LLC
- Southern California Edison

#### PARCEL INFORMATION

#### PARCEL AREA 1

OWNER: IDIL West Valley Logistics Center LL ACREAGE: 3.3 ZONING DESC: Vacant Land ASSESS Class: Industrial

#### PARCEL AREA 2

OWNER: Southern California Edison ACREAGE: 21.62 ZONING DESC: Electric Powers Transmission ASSESS Class: Public Facilities

#### PARCEL AREA 3

OWNER: IDIL West Valley Logistics Center LL ACREAGE: 15.37 ZONING DESC: Vacant Land ASSESS Class: Single Family Residential

#### PROXIMITIES

10 FWY: 1.5 miles

60 FWY: 2.6 miles

Fontana Metrolink Station: 5.1 miles

Santa Ana River: 3 miles

Bloomington Central (along Valley blvd): 3.6 miles



N NTS

#### **SITE INFORMATION** SURROUNDING LANDSCAPE

#### WILD SPACES CONTEXT MAP



#### JURUPA MOUNTAINS

Small mountain range within 1/2 mile of the site. Part of the Peninsular Ranges System, the highest peak - Mt. Jurupa - is 2,224 ft.

#### SAN BERNARDINO LOWLANDS

The site is within the Southern California Coastal desert region of the very western Sonoran Desert. The area is predominantly grassland; riparian woodlands exist 3 miles away at the Santa Ana River. Woodland forests and sage scrub / chaparral can be found at higher elevations.

#### SITE PHOTOS

#### VIEW LOOKING SOUTH

#### **KEY MAP**





VIEW LOOKING WEST





#### SITE PHOTOS

#### VIEW LOOKING NORTH



#### VIEW LOOKING EAST



#### **SITE HISTORY** PRE-INDUSTRIAL

#### ORIGINAL INHABITANTS

6,000 B.C. - PRESENT





The project site was a shared-region between two main tribes: Serrano, and Tongva (also referred to as Gabrielino by some historians).

The Serrano people occupied the San Bernardino mountains and much of the livable Western Mojave Desert area of the Los Angeles Basin. The Tongva lived as far East as the Western-most areas of San Bernardino. Either, or both of these tribes would have moved through the site area and both have been historically documented as using or occupying areas along the Santa Ana river, less than 3 miles from the project site.

## MISSION SAN GABRIEL & COLONIALISM

1772 - 1850's



The Mission San Gabriel' establishment marked the beginning of radical shifts in the lives of both indigenous people and newcomers.

- With the increase in Europeans living in the area, Many indigenous people perished from disease.
- Indigenous people were enslaved to build European infrastructure, forcibly assimilated and forced out of their original lands.
- in 1833 with the sovereignty of Mexico, Missions were dismantled by the Mexican government. These areas were taken over as Ranchos for a period of time.
- 1848: California was Acquired by the United States.

## SEMI-TROPIC LAND & WATER COMPANY

1887



The Semi-Tropic Land & Water Company laid-out portions of Fontana and surrounding areas as subdivisions starting in the late 1800's, including what is known as Bloomington today. The neighborhood of Crestmore, directly adjacent to the project site, still exists as subdivision plots and appears to have not changed in layout since that time over 100 years ago.

lmage sources: http://rims.k12.ca.us/serrano/Activities/diffusionAct.html latimes.com missionscalifornia.com/san-gabriel-arcangel-mission/historic-images https://www.westerncity.com

## THE CITRUS BOOM & THE NATIONAL ORANGE SHOW

#### EARLY 1900's





Citrus was the dominant industry in much of the Inland Empire, including Fontana and San Bernardino. In 1911, the National Orange Show was founded, a yearly event in San Bernardino that continues to this day.

#### **KAISER STEEL**

1940's - 1987



Kaiser Steel was the biggest producer of steel on the West Coast during WWII and much of the Mid Century. The raw materials for steel was mined nearby in the Mojave Desert, and the steel was transported under 100 miles away to a warship-building plant in Long Beach. It was the dominant industrial presence in Fontana for decades and supported an entire generation of workers.

#### SUBURBAN TAKEOVER 1960's - 1990's



Beginning in the mid-century, the Fontana area became a destination for affordable suburban homes. More and more land was developed into homes until supply began to reach demand closer to the 1990's.

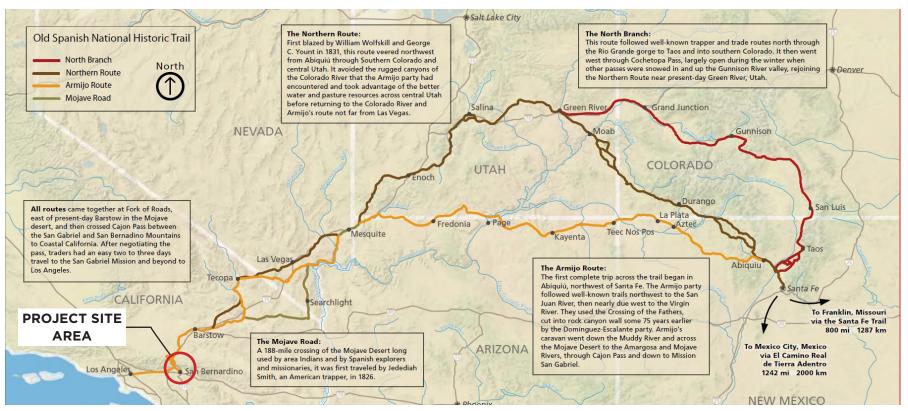
#### LOGISTICS 2000's - PRESENT



With the rise in e-commerce, Fontana - close to the Port of Long Beach and both the 10 and 60 interstate fwy's, the region has become a magnet for largescale warehouse and shipping facilities.

> Image sources: https://tessa.lapl.org/cdm/ref/collection/elpueblo/id/4780 ebay.com http://www.clui.org/ zillow.com/ latimes.com

#### SITE HISTORY TRADE & COMMERCE



Map of the Old Spanish Trail, and its various routes eventually heading to the West.

#### HISTORY OF TRADE in THE REGION

- During the pre-colonial period of approximately 15,000-7,000 years that indigenous people lived in the area, trade between coastal and inland tribes was imporant for utilitarian and ceremonial purposes. Seasonal trade events would occur near the Santa Ana River, between several different tribes.
- In the 1800's, a trade route was established from the Southwest towards the California Coast, known as the Old Spanish Trail. The last leg of the trail headed for the Coast went through San Bernardino.
- In a circumstantial 'tradition' this region continues to be a landmark of trade operations today as a hotbed of e-commerce logistics facilities.



#### **PROJECT JUSTIFICATION**

#### ENVIRONMENTAL JUSTICE

The detrimental effects caused by warehouse campuses and resulting diesel truck traffic have been studied and documented. A recent paper published April 2021, analyzes the effects of warehouse infrastructure on communities. The town of Bloomington was specifically studied, in addition to other areas around the country.

The paper reports many relevant findings, including the following:

- Warehouses create heavy vehicle traffic that causes excessive pollution, resulting in extremely poor air quality and negative health effects as a result.
- Warehouses are disproportionately built near low-income communities and people of color
- Households near Amazon logistics sites constitute the lowest percentage of people who shop on amazon; the highest pecent of Amazon shopper live significantly far away from warehouses.

It is clear that the agressive rezoning and planning for these warehouse facilities is unjust and an act of environmental racism. The situation facing the residents of this region has caught the attention of the press, several environmental groups and coalitions to fight against the further marginalization of this land, and these vulnerable communities.

#### FONTANA'S GENERAL PLAN

In accordance with developing policy at the California State level, the city of Fontana has added an Envrionmental Justice Addendum to their city General Plan. Core objectives from this document include:

- Prevent Environmental Injustice, including pollution exposure
- Supporting a healthy city for all residents that includes access to healthy food, public facilities, safe housing, physical activities.
- Promote public involvement in civil decision making
- Prioritize improvements and programs that address the needs of disadvantaged communities.

The West Valley Logistics Center will be within Fontana city limits, but it affects the Bloomington area more. This juxtaposition is directly at odds with objectives outlined in Fontana's "Environmental Justice" addendum to the General Plan. A project of this nature makes daily life and health conditions considerably worse for thousands of residents living near it.



Cruz Baca Sembello in her Bloomington backyard, where the view next door is dominated by a large warehouse.

#### **PROJECT JUSTIFICATION**

#### POLLUTION MITIGATION

The air quality in this region of the Inland Empire is among the worst in the country, higher than 95% of the rest of the US. Rates of asthma and other health effects are higher than the national average. Worsening of air quality due to additional industry is a huge concern and a very serious health risk.

In 2019, DESIGN WORKSHOP studied the possibility of mitigating air pollution in the Fontana area through a planting strategy including evenly distributed Tree Canopy. The plan also featured a "Spatial Equity" standard, requiring the use of urban greening in all areas, such that there would be no discrimination or exclusion of low-income communities. This master plan, along with thorough research and support for the use of trees in sequestering and diverting pollution particulate matter, supports the notion that green space should be part of all future development going forward and is absolutely critical to the health and wellbeing of this community. The project site presents a great opportunity to improve the air quality for the residents nearby.

#### A HEALTHY COMMUNITY

The need for parks and recreation options is described in Bloomington's community plan as significant. In both the Fontana and Bloomington plans, reservation of natural beauty and open space is also highlighted as a priority.

If space in this region is increasingly allocated towards industry, what public space remains is precious to this community. By designing spaces specifically created for habitat preservation and public use alongside the planned industrial expansion, we might begin to reckon with this harsh and openly bitter divide. The goal of this project is to design a place for the community that feels like their own, supports wildlife, and improves the connections to the new campus both functionally and emotionally.

#### GREEN INFRASTRUCTURE

In order to grow equitably and sustainably, cities must follow Environmental Justice standards. Limits on industrial development are critical, but requirements for green infrastructure are also key to preserving the health and wellbeing of all. Developments like the West Valley Logistics are sprouting up across the country to support the e-commerce driven economy; Bloomington / Fontana represent one of many areas bearing the consequences of this development, and this project is an investigation into how we plan and execute development



#### "THE JUNKYARD OF DREAMS"

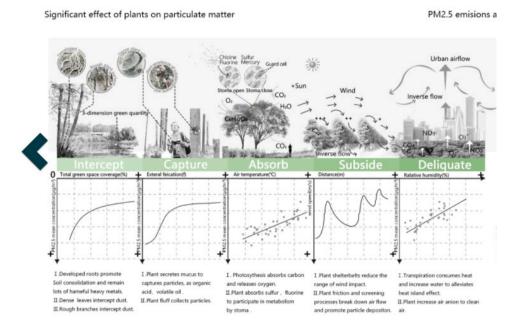


From City of Quartz, by Mike Davis:

The past generations are like so much debris to be swept away by the developers' bulldozers. In which case it is only appropriate that they should end up here, in Fontana -**The junkyard of dreams.**"

TALES

#### POLLUTION MITIGATION STRATEGY



While planting design alone cannot completely solve the air quality issues brought on by the concentrated industrial development in this region, targeted vegetation areas can help reduce the particulate matter (PM) percentage in the air, as well as shield homes from exhaust and vehicular noise. There are multitude of studies - many of them recent within the last three years - that support the use of trees and plantings to mitigate PM. Strategies I may apply to my site, from these findings are as follows:

- Targeted location of trees (localized) to stop PM right at its source from traveling towards undesireable areas, such as homes.
- Tree and shrub species selection, appropriate to the goal of pollution mitigation.
- Planting density defining the appropriate density to filter, but not trap, pollution in the most effective way possible.

#### PARTICULATE MATTER

Vegetation has been shown to effectively remove particulate matter - a pollution byproduct of vehicular exhaust. The process by which plants do this is known as Dispersion (grabbing the particles out of the atmopshere) and Deposition (redistributing them onto the ground or through plant uptake, thus removing them as a health hazard).

Plants are evaluated for their success at mitigating PM by assessing the nature of their leaves and their general growth structure. In general, plants with smaller leaves, and leaves with texture or wax, are the best at mitigating PM. The Canopy Complexity of the plant is also critical - it should be dense enough to trap particles, while structured in a way that allows for micro-turbulence of wind movement. If the plant is too dense, it will act like a wall and the pollutants will simply move around either side of it. Too open, and it will not effectively trap any particles.

The location of plants is also critical. planting buffer hedges right up against a roadway is extremely effective at trapping PM at the source and preventing it from moving into other areas nearby.

#### GASEOUS POLLUTANTS

Vegetation must also be carefully selected for its compatibility with removing gaseous pollutants. The leaf stomata of a plant help define this characteristic. Species with leaf stomata that stay open longer throughout a day cycle are shown to be the most effective at trapping pgaseous pollutants. Plants that are evergreen, fast growing and have a long life-space are also desireable. Lastly, it is important to consider wif the species puts out materials that can act as pollutants themselves, known as BVOC's (Biogenic volatile organic compounds).

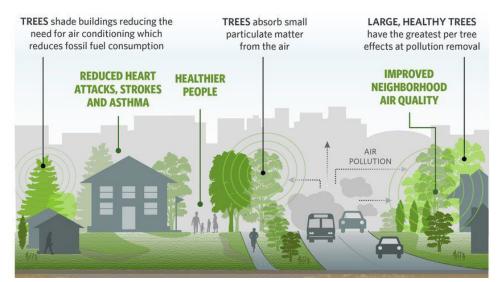
#### RESEARCH ON THE USE OF VEGETATION AS A POLLUTION MITIGATION STRATEGY IS VERY ACTIVE, WITH SOME CONCLUSIONS EMERGING JUST IN THE PAST DECADE.

#### TREE CANOPY

- Long daily Stomatal Uptake
- Fast-Growing
- Low BVOC's
- Evergreen
- Shade-providing
- Canopy Density of planted area
  50-60%
- LAI (Leaf Area Index) 1.5-2

#### ROADSIDE VEGETATION BUFFER

- Evergreen
- Textured or sticky leaves
- Dense, low-porosity plants



https://www.bbc.com/news/science-environment-37813709

#### SUITABLE SPECIES

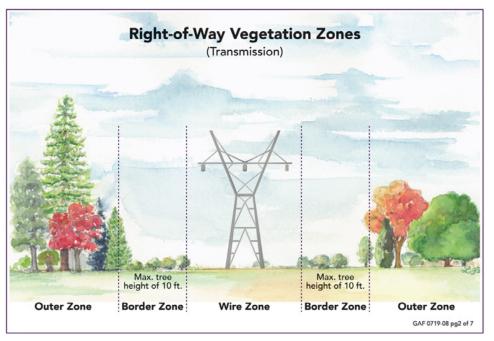
The following is a list of suitable pollution- mitigating species, based on current research and selected for the climate zone of this project:

- Adenostoma fasciculatum
- Ceanothus oliganthus
- Ceanothus vestitus
- Celtis laevigata
- Fraxinus udhei

- Gleditsia triacanthos var. inermis 'Shade Master'
- Juniperus californica
- Juniperus chinensis
- Juniperus virginiana
- Pinus pinaster
- Pinus pinea
- Pinus strobus
- Platanus x hispanica

- Platanus x acerifolia
- Populus trichocarpa
- Quercus ilex
- Quercus rubra
- Quercus suber
- Umbellularia californica
- Ulmus americana

#### TRANSMISSION R.O.W. DESIGN STANDARDS



Southern California Edison - in addition to many utility companies worldwide - acknowledges the potential of secondary land-use within their power transmission right of way zones. Specific clearances and land development rules apply to these areas. These guidelines will be adhered to in my design to create a space that is safe, practical, and beautiful. Guidelines to consider:

- Height of plant material in relation to distance clearances from transmission lines
- Clearance right of way zones for maintenance vehicles
- Allowed materials with regard to proximity of the R.O.W.
- Restrictions on permanent structures, cars, and other infrastructure



tripadvisor.com

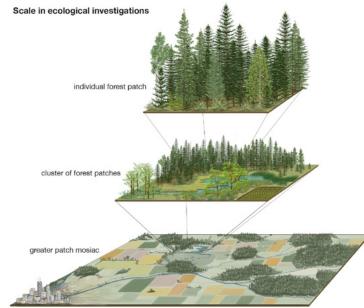
#### GREEN INFRASTRUCTURE



Green Infrastructure is a principle clearly defining parks, open space and other green spaces as part of the overall infrastructure of urban development, and not outside of it. Green Infrastructure includes and encompasses landscapes of all sizes and functions - from small infiltration projects to large nature preserves. Some key principals of Green Infrastructure:

- CONNECTIVITY: Supporting a migrating network of species, flora and fauna, through planned green space.
- MULTIFUNCTIONALITY: sites that support multiple uses, spanning ecological goals, social opportunities and other benefits to society.
- INTEGRATION: well-designed links between green infrastructure and other infrastructures (grey infrastructures)
- DIVERSITY: using multiple green infrastructures solutions to solve repeating issues, not sticking to the same constant design
- CONTINUITY: planning for the long-term viability and success of a site, its maintenance and evolution over time.

#### LANDSCAPE MOSAIC



© 2013 Encyclopædia Britannica, Inc.

The Landscape Mosaic is the practice of planning habitat-supporting land areas - parks, corridors, edges, etc - in a way that meshes with and around urban development. This larger landscape "mesh" supports ecology better than in cities where the natural areas are spread out far away, without corridors or connectors. My site incorporates nature into an industrialized area. Landscape Mosaic areas designed to support the movement and habitat needs of wildlife may take on the form of land patches, matrices/meshes, corridors, edges, barriers, and more.

#### JAMES CORNER "THE LANDSCAPE IMAGINATION"



James Corner has established a theory to apply to his projects that he calls the "Landscape Imagination." It begins with idea that "nature" is itself a cultural construct since humans have established dominance over the natural world and its functions. He suggests that we must reimagine landscapes as we know them in a post-industrial world; the traditional pastoral idea of landscape is no longer the standard. We must work WITH artifacts of industrialization, mis-aligned land uses and other challenges to create spaces that are totally unique and incorporate creative, progressive solutions. This philosophy is clearly represented through his work that truly references a past, present and future of Nature's existence and how humans may cultivate it. I hope to incorporate some of this philosophy to design a space with a narrative that moves fluidly between new and old realities of the site.

Some objectives / values found in James Corner's Landscape Imagination, and other theories:

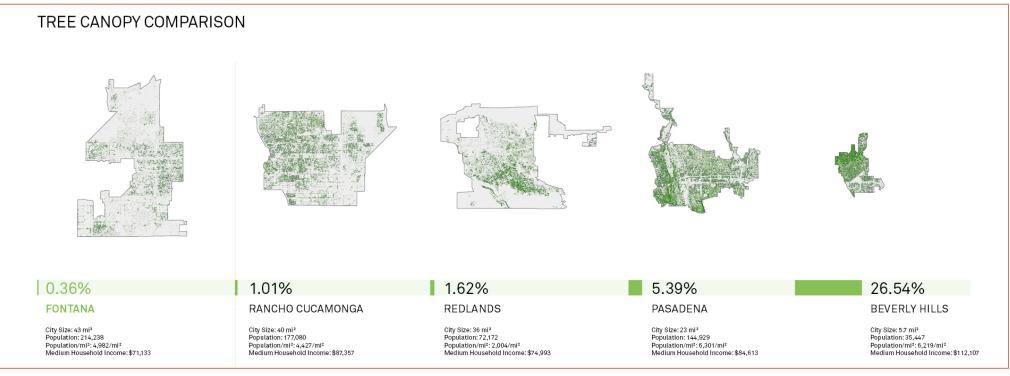
- Post-Landscape: that in the current post-industrial age, there is no true "nature" it is all a construct decided by man
- Inspire the public to reflect on their relationship with the Natural World
- The idea that landscape is a mediator between Nature and Culture, since it is composed of natural materials and processes but is still man-made - and thus provokes contemplation of man vs nature
- An executed landscape represents a time-marker as part of a longer time-continuum
- Use imaginative and unconventional problem solving there are limitless interpretations and possibilities to design

#### SITE PRECEDENTS FONTANA URBAN GREENING MASTERPLAN

**THE FONTANA URBAN GREENING MASTER PLAN** - DESIGN WORKSHOP, 2019 Client: Southern California Association of Goverments and the City of Fontana Analysis and Planning

## **DESIGN**WORKSHOP

Image sources: asla.org, designworkshop.com



- Study addressing the urgent need for Urban Greening in the City of Fontana
- The plan was comissioned by the City of Fontana to increase tree canopy in Fontana, consolidate and update the city's approach to environmental regulations and address economic development with regards to these policies
- The plan provides possible solutions to address Spatial Equity, where past research has found a correlation between canopy coverage and income level. This plan seeks more equal tree coverage and greening throughout the city.



#### SITE PRECEDENTS PRESTRON RIDGE TRAIL



#### PROJECT OVERVIEW

LOC: Dallas, TX, USA FIRM: Multiple CLIENT: Dallas County, TX

The Preston Ridge Trail is a 6.3-mile multi-use trail developed within a transmission utility right-of-way. It is an excellent example of dual landuse, working within the confines of a utility zone to create an accessible recreation area that is beloved by residents of the region. The trail connects Dallas, TX, with Plano, TX, and is used by walkers, joggers, cyclists, skaters and more. The trail is entirely paved, making it a very accessible corridor. The trail links several parks, notably: Fretz Park, Salado Park, and Campbell Green Park.

#### SITE FEATURES

- Seasonal wildflower gardens and forests
- Community park linkages
- The Friends of Preston Ridge Trail is a non-profit organization dedicated to its preservation

#### **SITE PRECEDENTS** LOGIC ECO INDUSTRIAL PARK









#### PROJECT OVERVIEW

LOC: Dandenong, Victoria, Australia FIRM: GBLA CLIENT: Places Victoria

Logis Eco Industrial Park is a154-hectare industrial development that included significant Green Infrastructure in its master plan. Two very large areas of open-space were included in the site to improve environmental remediation from past and future site opreations (part of the site is on a brownfield) and also to provide the city of Dadenong with the invaluable resource of public parkland.

The site is an excellent example of responsible, environmentally-focused industrial development on a large scale. Although privately owned, the entire site feels more like a park than an industrial complex. The industrial operations and facilities are well positioned and visually improved by the design of the park features.

#### SITE FEATURES

- Water Decontamination and remediation
- Large open space park
- Safe, usable amenities such as sports courts and gardens.

#### **PRIMARY SITE USERS**

#### NEIGHBORHOOD RESIDENTS - FAMILIES

- DEMOGRAPHICS
  - Primarily LatinX
  - Primarily Low-Income
  - Aged children through seniors
  - Median age: mid-30's
- SPECIAL CONSIDERATIONS
  - Most likely will have access to larger backyards and gardening / food-growing space at home
  - Do not currently have walkable access to recreational areas
  - Are 5 miles from the nearest metro station
  - Have limited access to public open space



Image source: fontanaheraldnews.com

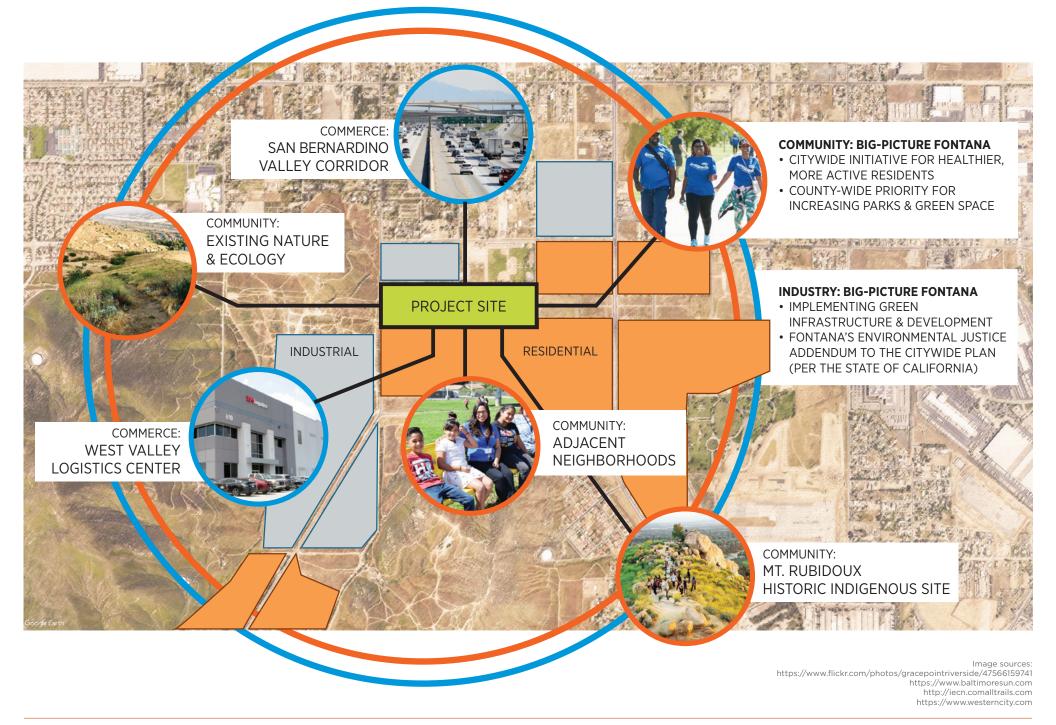
#### WEST VALLEY LOGISTICS - WAREHOUSE EMPLOYEES

- SPECIAL CONSIDERATIONS
  - Very physically demanding job, primarily indoors
  - Have shorter breaks during the workday (30 min. or less)
  - Shipping facilities serving companies such as Amazon, are reported as social and relationship-driven work environments
  - Warehouse workers are engaged in employee rights practices and are fighting for fairer treatment



https://theintercept.com/2019/12/02/amazon-warehouse-workers-safety-cyber-mon-

#### CONNECTING COMMERCE & COMMUNITY CRITICAL SITE ADJACENCIES



#### **PROJECT GOALS**

#### 1. CREATE AN EQUITABLE & ACCESSIBLE GREEN SPACE

The adjacent warehouse facility will radically alter the character of the neighborhood at the site, as it has happened to many other communities in the Inland Empire with rapid logistics development. The region has been historically defined by semi-rural life and wide open spaces. In order to restore and preserve some of this history, the 40-acre project site will use a design program that reclaims open space and makes it available for public use.

#### 2. CONNECT TO ADJACENCIES: WORK & LIVING

There are several major adjacencies to my projects site, with oppor tunities to form connections that are functional and desireable to respective edges. The connection to homes should focus on shelter, improvement, and privacy. Connection to the logistics facility should focus on the daily workforce as a major user of the site and their unique needs. The connection to the existing park presents an opportunity to expand the life and activities of park-goers, in particular all-ages activities. Lastly, the connection to busy roads with increased traffic and pollution is a critical condition that requires strategic efforts to buffer the homes, park-goers from dangers of diesel trucks and their increased emissions.

#### 3. MITIGATE POLLUTION AND HEAT

Through strategic and generous tree planting, it is possible to improve air quality for residents of adjacent neighborhood, and for users of the site. Trees and vegetation buffers may also help with Ithe condition of noise pollution from increased traffic on near by roads. Lastly, the site experiences severe heat in summer months and this is also an area to be improved through tree canopy and shade structures.

#### 4. PROVIDE HABITAT

Over 200 acres of open space will be lost in the development of the adjacent logistics center. An imporant goal of this project is to reclaim open space and solidify its purpose as a supportive habitat corridor for years to come.





Additional photos of the project site.

# GOAL: PROVIDE EQUITABLE & ACCESSIBLE PUBLIC AMENITIES

- Outdoor picnic & gathering space 3.6 Acres
- Childrens' Exploration Garden 1 Acre
- Outdoor Event Space 1 Acre
- Open air Market Plaza 1 Acre
- Pick-up Sports Field 0.7 Acres
- Two Parking Lots 2.75 Acres



Image source: Chicago.suntimes.org



Image source: Karen V. Chin, Google Maps



Image source: https://friendsofgriffithpark.org/

## **GOAL: CONNECT SITE USES TO ADJACENCIES**

- Miles of Walking, Jogging and Cycling paths
- Equestrian Trail 0.6 Miles
- Employee Oasis Area 0.4 Acres
- Indigenous History Trail
- BMX Bike Course 3 Acres
- Improved Pedestrian Crossings



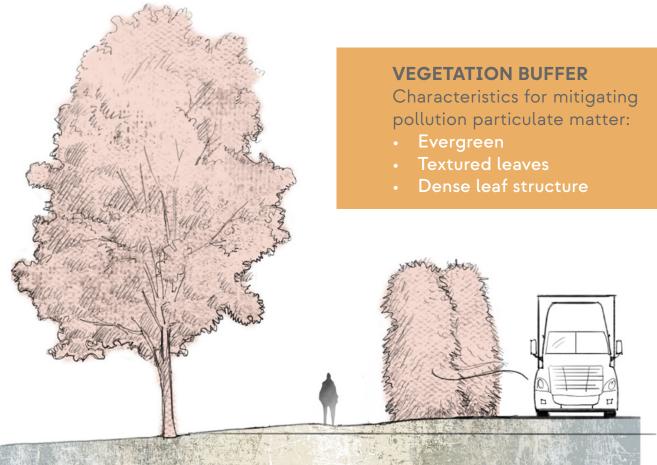
Image source: Getty Images, businessinsider.com Image source: santacruzbicycles.com Image source: corrynemily.medium.com/

## **GOAL: POLLUTION MITIGATION**

- Continuous Tree Canopy to increase shade and gaseous pollutant absoprtion
- Targeted Buffer Hedge for Particulate matter absorption
- Approximately 920 trees planted over 40 acres

#### **TREE CANOPY** Characteristics for mitigating gaseous pollutants:

- High Stomatal Uptake
- Optimal Leaf Area Index
- Shade-Providing



#### EXAMPLE TREE SPECIES:

JUNIPERUS CHINENSIS



nage source: thetreecenter.com

QUERCUS SUBER



apeplants.oregonstate.edu/ Image source: plants.ces.ncsu.edu



Image source: trees.stanford.edu/

PLATANUS x ACERIFOLIA PINUS PINEA

FRAXINUS UHDEI



Image source: public.asu.edu,

## **GOAL: HABITAT PRESERVATION**

- 11+ Acres of Native Chaparral Habitat
- Demonstration Gardens
- Landscape Mosaic (in connection with adjacent Jurupa Mountains area)



mage source: David Kaposi, inaturalist.com



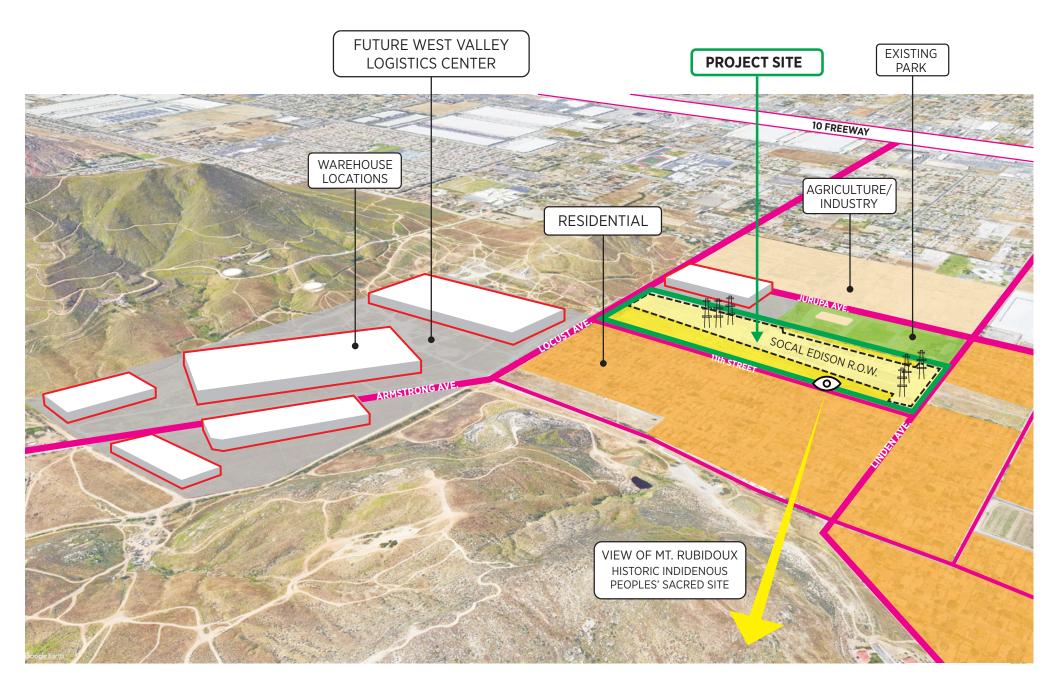
Image source: Gary Kavanagh, Flickr.com





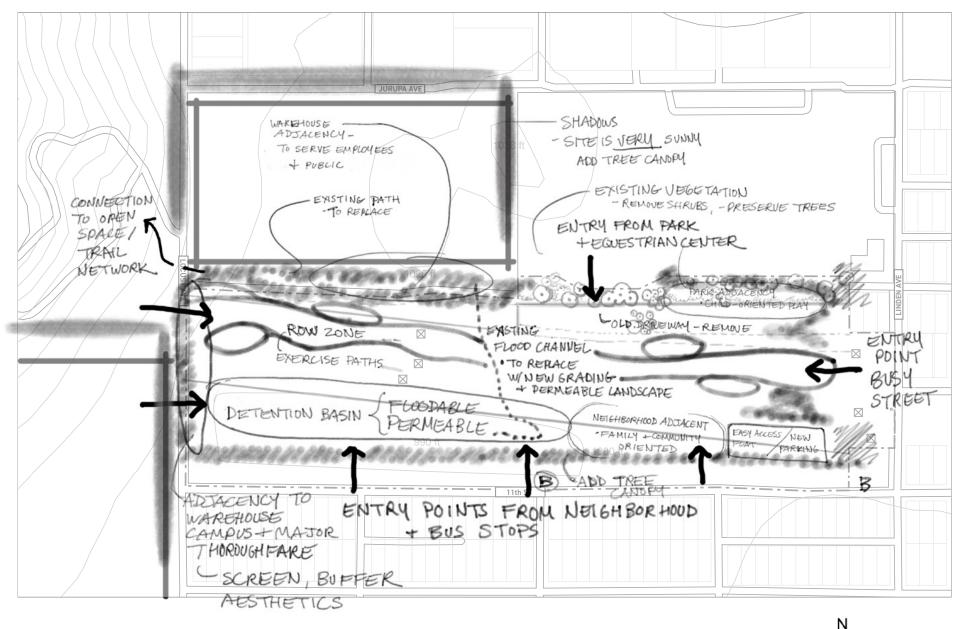
Photo of the project site; Simone Drucker

#### **SITE INVENTORY** CRITICAL ADJACENCIES



#### SITE ANALYSIS FIELD OBSERVATIONS

#### OVERVIEW

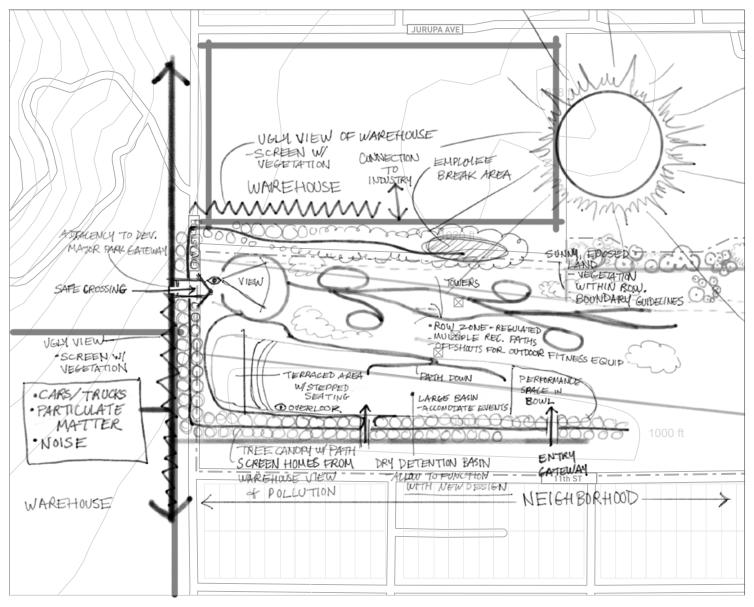


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50' 150' 300'

#### SITE ANALYSIS FIELD OBSERVATIONS

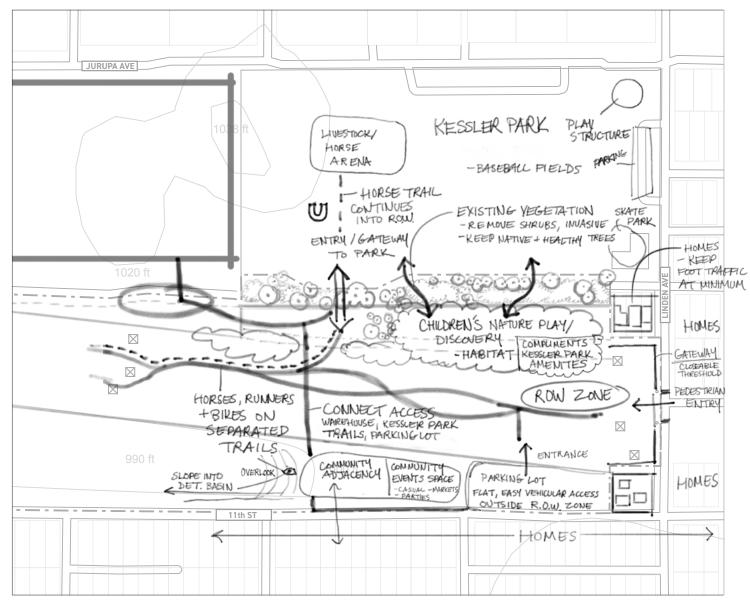
#### SITE: WEST PORTION

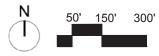




## SITE ANALYSIS FIELD OBSERVATIONS

#### SITE: EAST PORTION

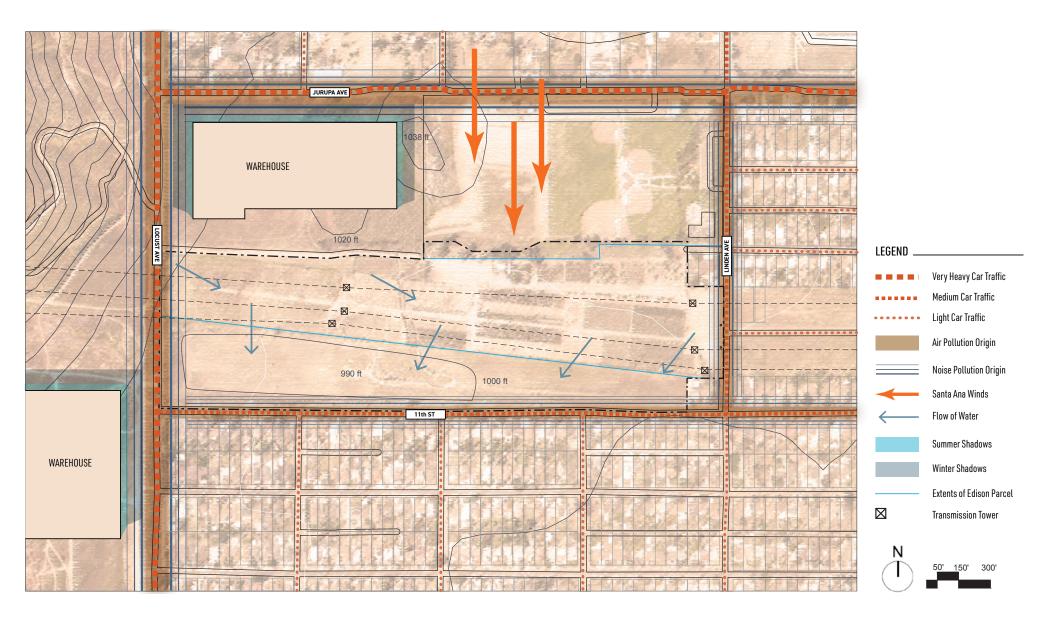




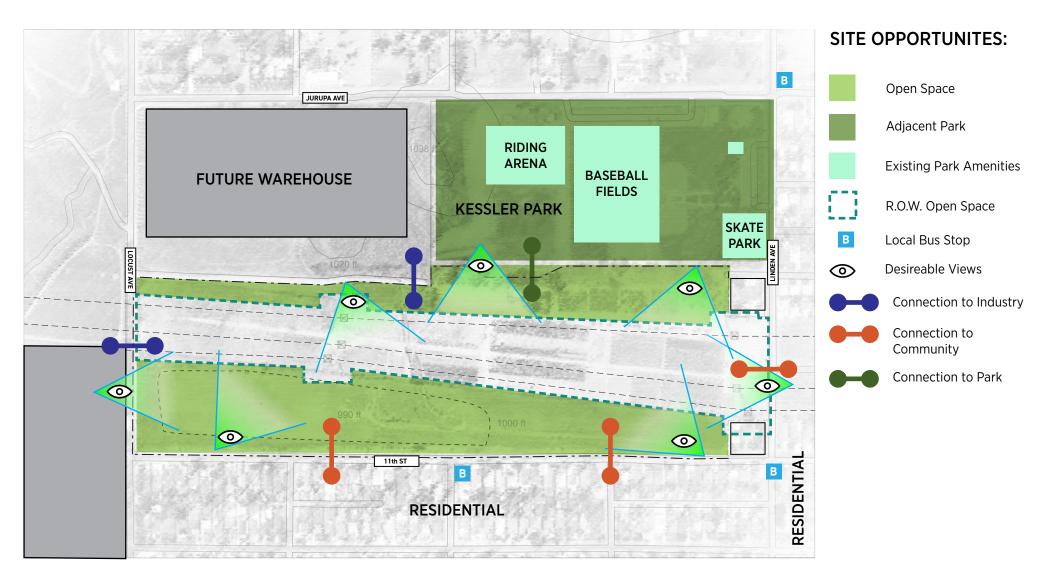
## SITE INVENTORY LAND USE



## SITE INVENTORY EXISTING CONDITIONS

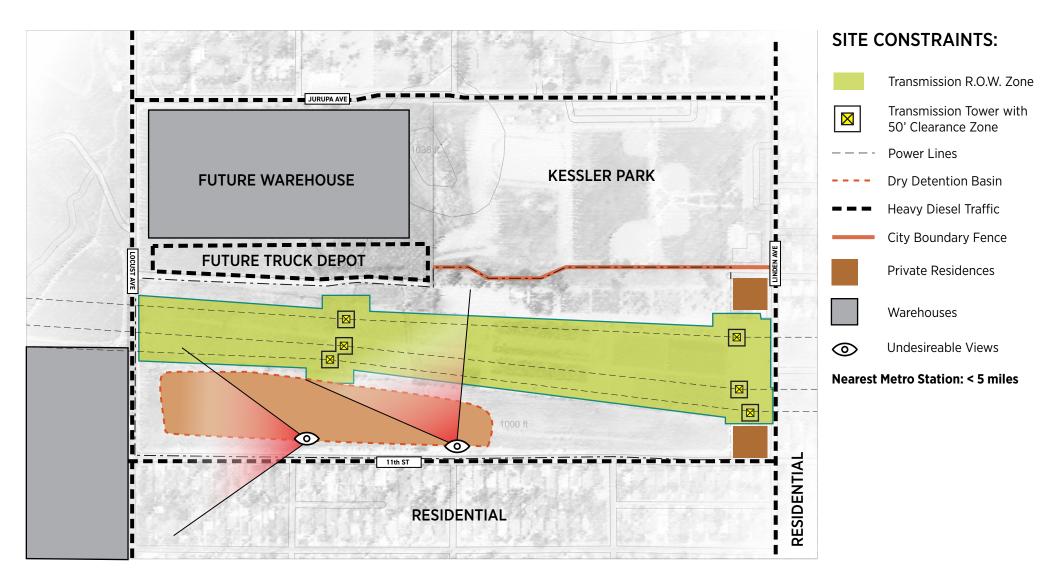


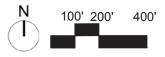
## **SITE ANALYSIS** SITE OPPORTUNITIES



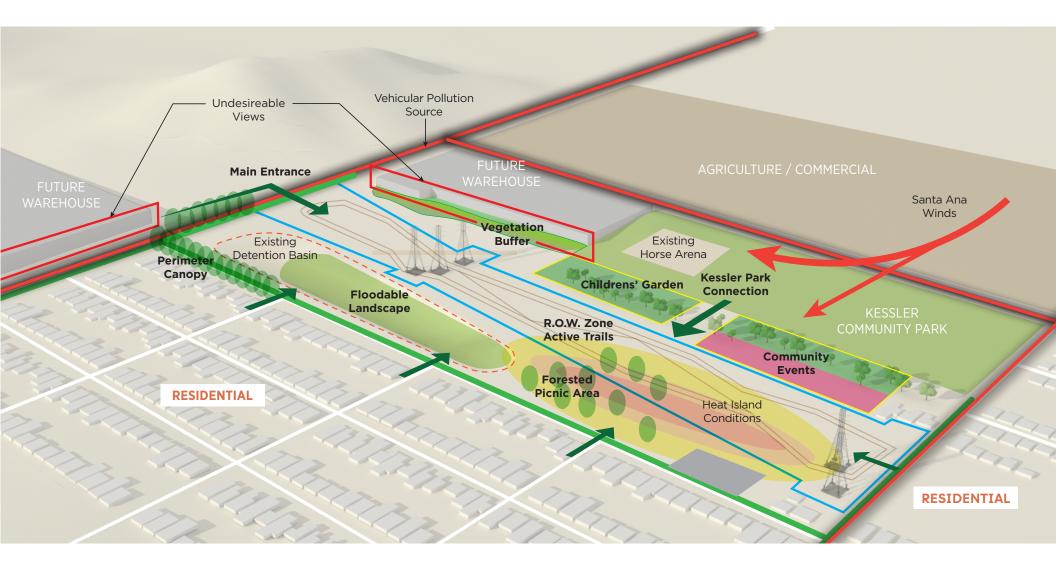


## **SITE ANALYSIS** SITE CONSTRAINTS





# **CRITICAL SITE ANALYSIS** OPPORTUNITIES, CONSTRAINTS & SOLUTIONS





## DESIGN METAPHOR COMMERCE PAST, PRESENT & FUTURE

Fontana has a rich history of Industry and Commerce. This goes all the way back to the first inhabitants, with different tibes moving through the area and along the Santa Ana River, trading amongst each other and with Spanish. In the 1800's, a settlers' trade route called the Old Spanish Trail ran through the area on its last leg between the Southwest, and the Coast. And this commerce legacy is ever-so-present today, with trucks moving goods across the 10 and 60 freeways, every minute of every day. The pathways define this part of the Inland Empire, and it became critical to the narrative of this project. Another consideration was Indienous Ecology, connecting what is native to the land with the flow of visitors passing through from multiple directions, and from far away places.

### DIAGRAM: TRADE ROUTES

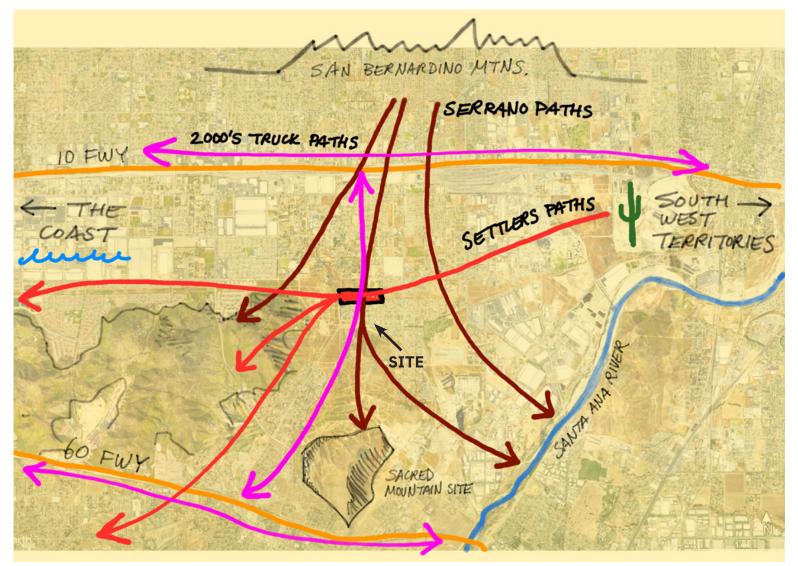
This diagram shows various travel paths of the predominant groups over time, through and around the site.

The Serrano people would have traveled from the San Bernardino

Mountains towards the Santa Ana River and sacred mountain sites (cited by existing tribal ancestors today).

Early settlers and merchants along the Old Spanish Trail going West would have traveled right through San Bernardino on the final leg of the journey to the Coast.

Today, freight trucks move East-West and will move North-South ajacent to the site to access the future warehouse campus.



### DESIGN METAPHOR COMMERCE PAST, PRESENT & FUTURE

The era of agriculture and the Kaiser Steel years are critical parts of Fontana's history of commerce and are also included as an inspiration source for the narrative of this project. Rather than avoid Fontana's industrial legacy, this concept seeks to embrace it.

#### EARLY 1900's: The Citrus Boom & Miller's agrarian utopia



Image source: The Autry's Collection Online



Image source: The David Boule' California Orange Collection

#### MID CENTURY: Kaiser Steel & wartime manufacturing



Image source: The Center For Land use Interpretation

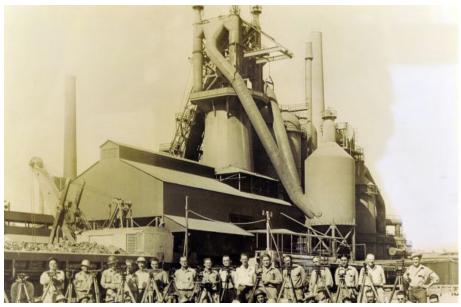
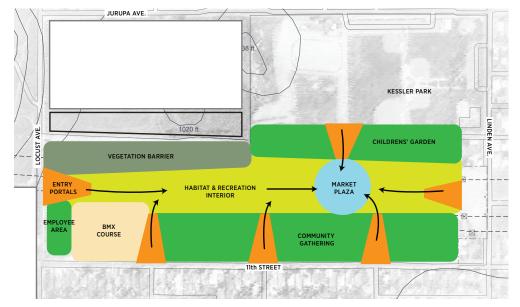


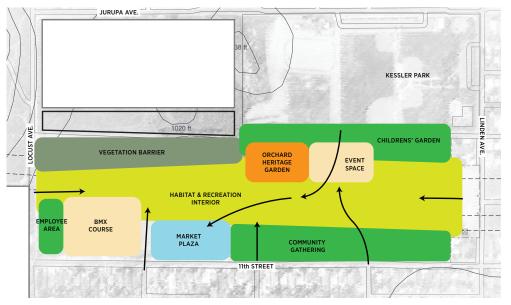
Image source: Pinterest user @leueenm

## DESIGN DEVELOPMENT BUBBLE DIAGRAMS

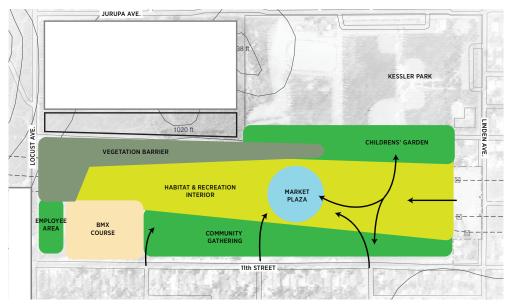
#### CONCEPT 1: PORTS OF ENTRY



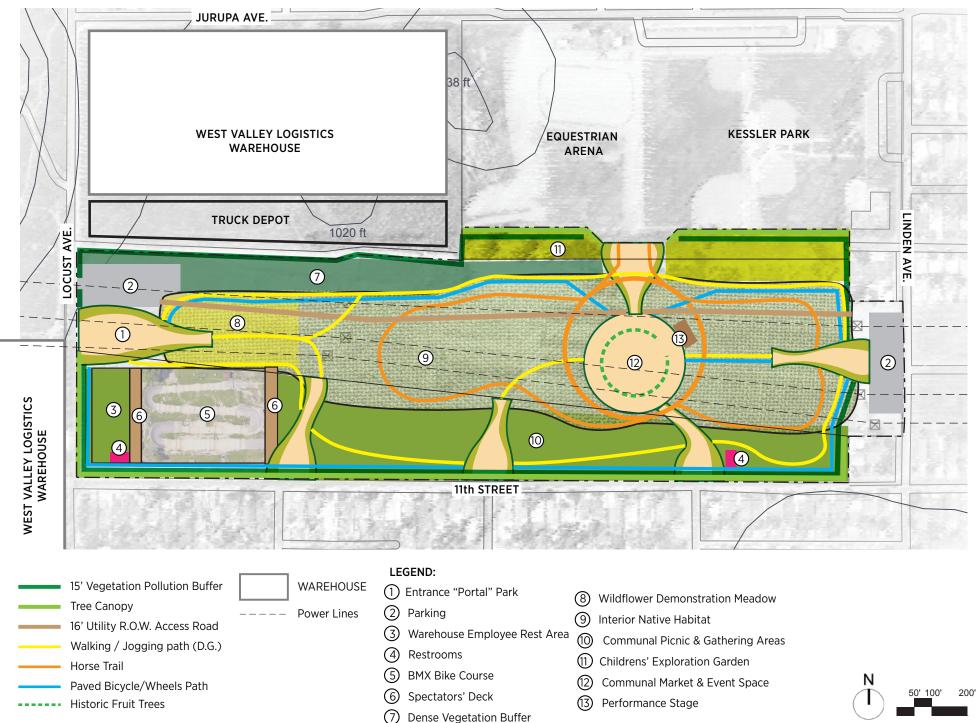
## CONCEPT 2: WILD INTERIOR



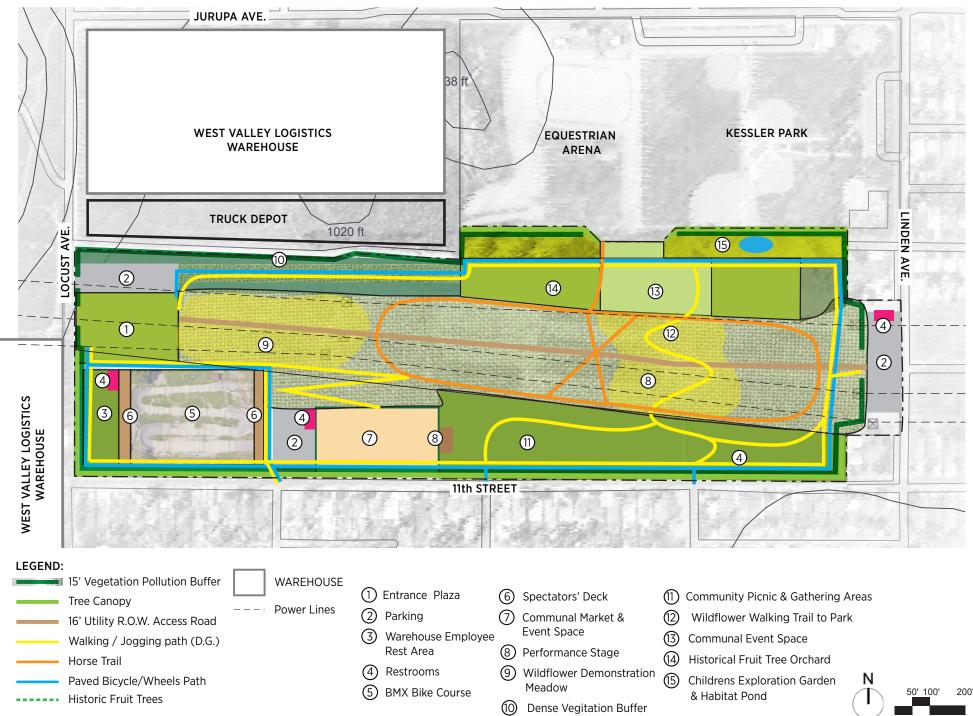
### CONCEPT 3: HEALING ZONES



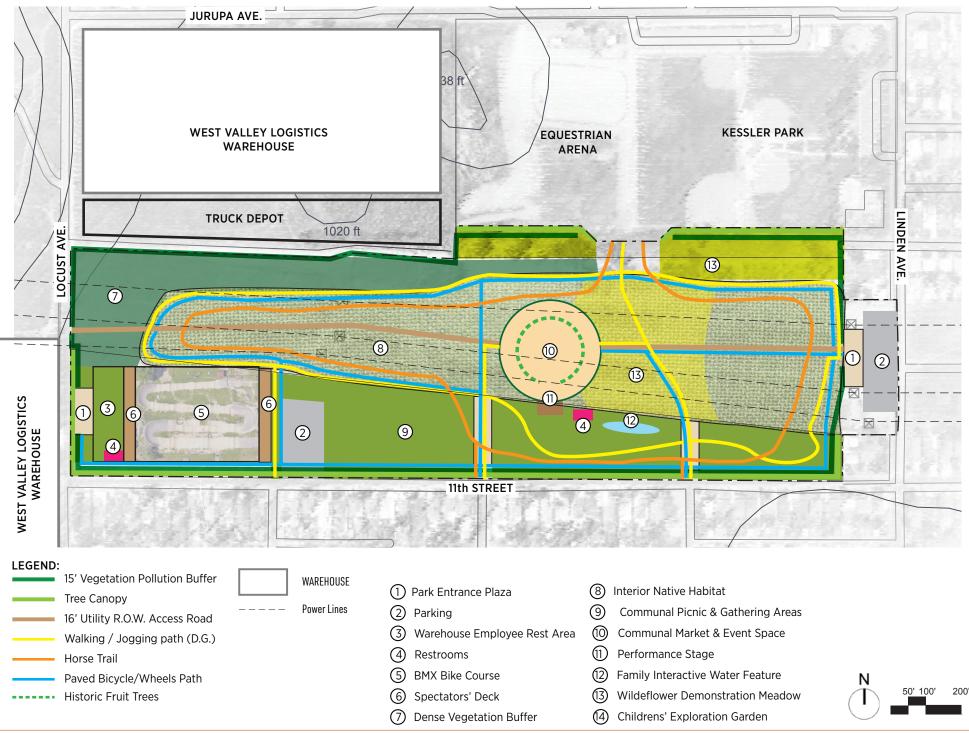
#### SITE PLAN CONCEPT 1 "PORTS OF ENTRY"



#### SITE PLAN CONCEPT 2 "WILD INTERIOR"



#### SITE PLAN CONCEPT 3 "HEALING ZONES"



## **CONCEPT SKETCHES & INSPIRATION**

### ENTRANCE PLAZA





Image source: ojb.com

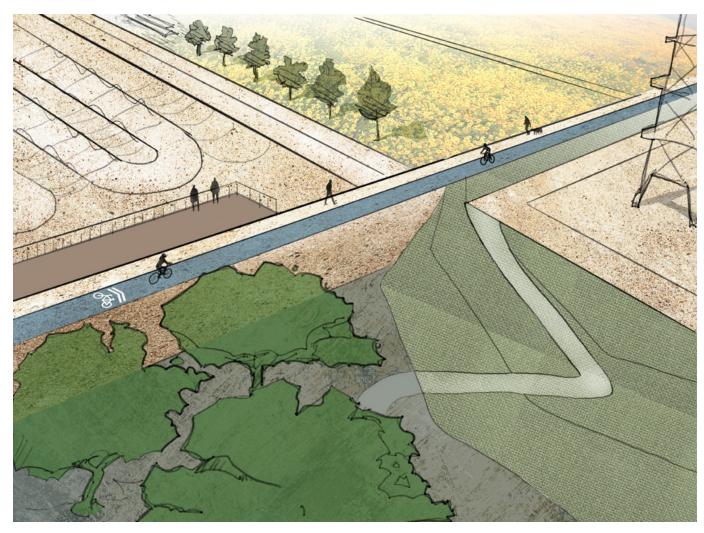


Image source: hydroquebec.com



Image source: landezine.com

#### FLOODABLE LANDSCAPE & PARK ENTRANCE



Brachychiton acerifolius, commonly known as the Illawarra flame tree, is a large tree of the family Malvaceae native to subtropical regions on the east coast of Australia. It is famous for the bright red bell-shaped flowers that often cover the whole tree when it is leafless.



Image source: Suncoastnews.com



Image source: https://landezine-award.com/



Image source: behance.net

## **CONCEPT SKETCHES & INSPIRATION**

### EMPLOYEE OASIS





Image source: ojb.com



Image source: Land8.com



Image source: michael-elkan.photoshelter.com

## **CONCEPT SKETCHES & INSPIRATION**

KESSLER PARK CONNECTION [entrance to adjacent site}





Image source: acreswild.co.u

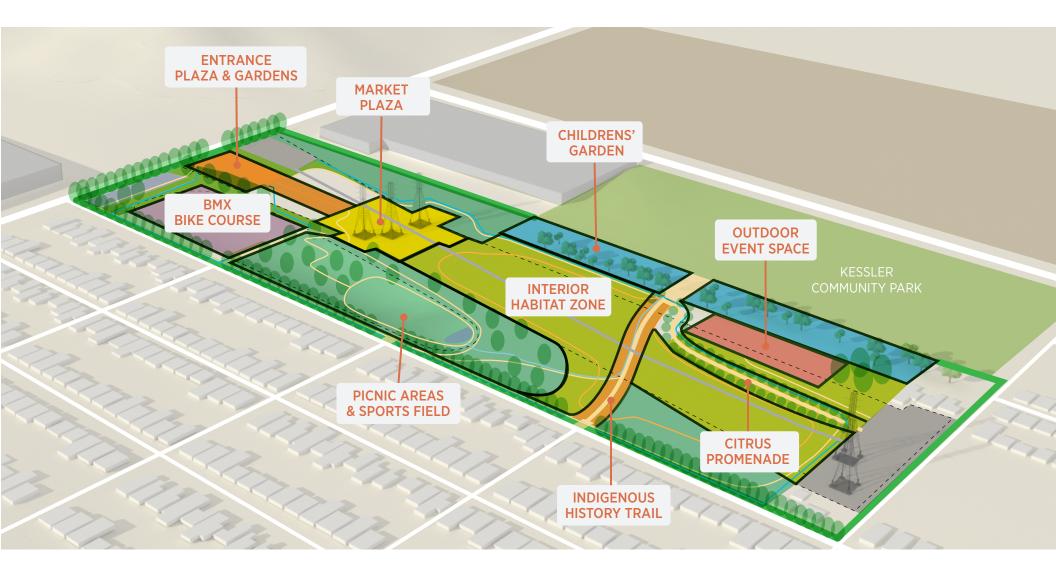


Image source: exoviajes.com



Image source: lotsafunmaps.com

## CONCEPTUAL SITE PLAN



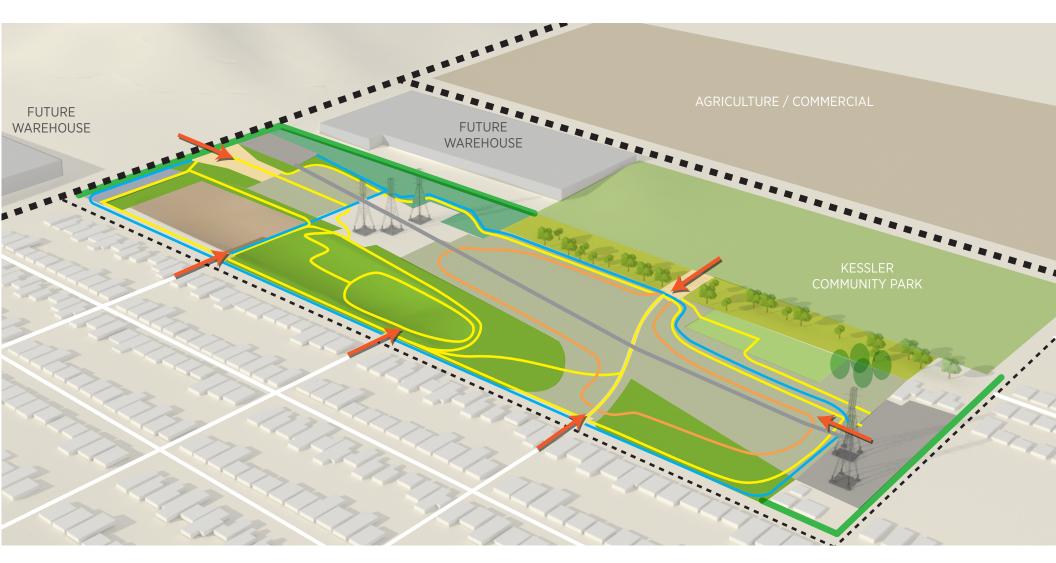
LEGEND

CONTINUOUS TREE CANOPY

VEGETATION BUFFER (POLUTION MITITGATINO)



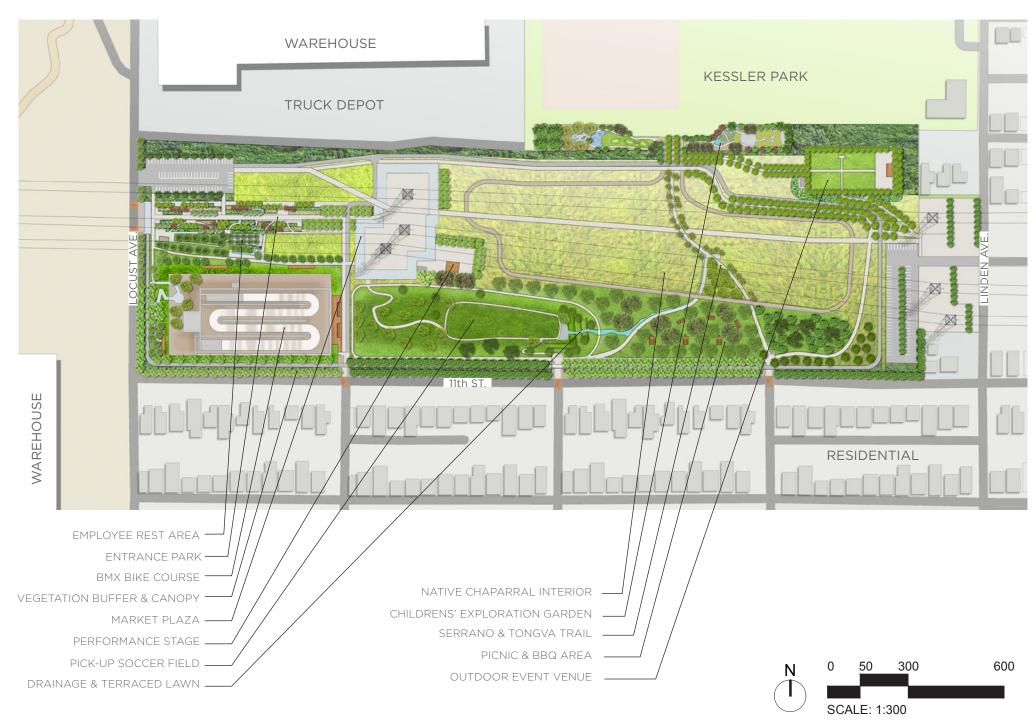
## CIRCULATION DIAGRAM







## ILLUSTRATIVE SITE PLAN



### **ENLARGEMENT:** PRIMARY ENTRANCE & BOTANICAL PARK



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## PARK SIGNAGE & GRAPHICS

#### CROSSWALKS



#### DIRECTIONAL SIGNAGE



#### IMMERSIVE TIMELINE

INSPIRATION IMAGE: Paved timeline displaying Fontana's industrial history.



Image Source: http://www.maki-and-associates.co.jp/

#### GRAPHIC LANGUAGE SYSTEM

This graphic system is applied to site graphics such as pedestrian crosswalks and site signage. Bright, bold crosswalks make safer crossing conditions with simple technology. The form language of the graphic design is inspired by the notion of finding an organic pathway through the plots of industry, with strong gridded shapes and a curviliear path woven through.





KEY PLAN: NTS

The Entrance Plaza is a linear park that moves visitors towards the center of the site where the market and performance space are. The transmission towers are like beacons on the horizon and serve as a strong directional landmark. This area features gardens with linear form, inspired by industry subdivisions, industrial plots and stacks of steel - broken up with interstitial spaces that lend visual movement. Curving pathways connect visitors to other intimate seating areas and gardens. There are paved blocks along this corridor with a graphic timeline, displaying important dates in Fontana's history and growth.

## **KEY SPECIES & MATERIALS:** PRIMARY PARK ENTRANCE

#### MATERIALS



caldg.com

earthstonerock.com

**COLORED DG:** Different colors of DG, particularly red hues, represent the raw ore and materials extracted from the Mojave desert and used to make steel at the Kaiser Steel plant.

#### **KEY SPECIES**

Plant species for this area of the site focused on climate-appropriate natives, and shade-providing trees that do not exceed 40' in height as directed by the Transmission R.O.W. zone restrictions.







ww.arborwest.com.au/

gardenia.net



earthstonerock.com



granite is a reference to the

**GRANITE BOULDERS:** Use of geology of the nearby mountains.

**RUSTIC WOOD:** Chunky and slatted wood construction is used to reference the agricultural movement and agrarian roots of Fontana during one of its biggest growth periods. This material is also approved for limited use underneath the transmission R.O.W. zone.



aspilitas.com

Western Redbud

Cercis occidentalis

naturehills com







California Sunflower

California Buckwheat

aspilitas.com/

Eriogonum fasciculatum

Encelia californica



norningchores.com



alphotos.berkelev.edu



gardenia.net

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the daily workforce across the street at the West Valley Logistics Center. it is located proximally to the street crossing that connects WVLC and the project site. There are shaded social areas for resting, sitting and eating meals during breaks. Turf mounds and trees provide soothing relaxation. Other soothing landscape elements include a reflecting pool and gardens.

KEY PLAN: NTS





KEY PLAN: NTS

#### **PERSPECTIVE:** MARKET PLAZA

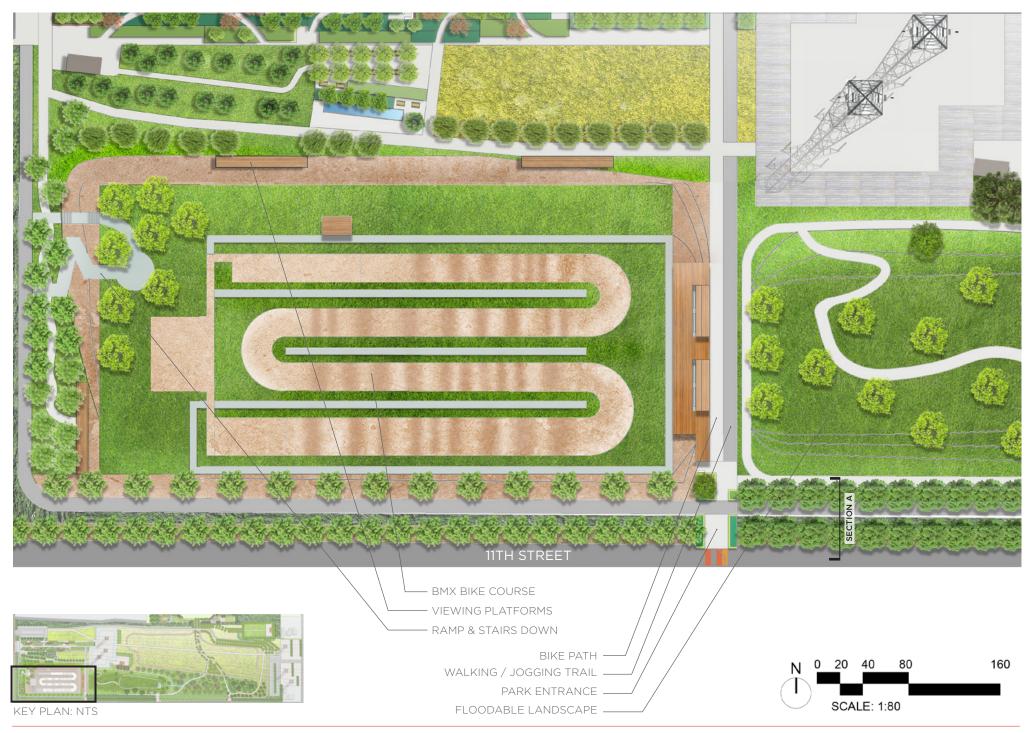




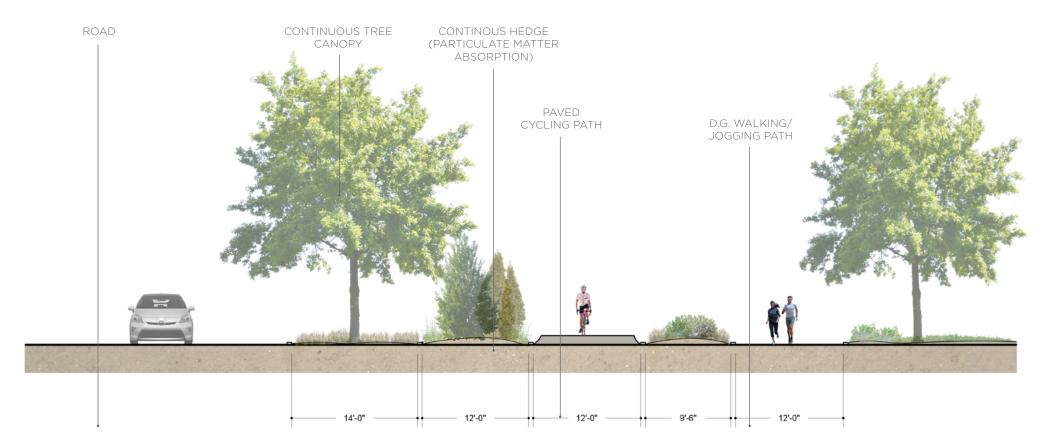
The Market Plaza in an energetic hub of the site, where events and daily programming take place. A paved plaza follows the clearance zone from the base of the trasmission towers, visually playing off the existing infrastructure and providing a space for pop-up happenings such as farmers markets and fairs. A small performance area behind is the perfect space for music or other events. The linear gardens here give way to larger meadow spaced, to be planted with native wildflowers and other indigenous species, thus celebrating and using local ecology.

KEY PLAN: NTS

## **ENLARGEMENT:** BMX BIKE COURSE & SOUTH ENTRANCE

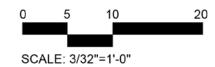


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Vegetation planting for pollution mitigation occurs along the permiter of the site. The planting is intended to occur as close as possible to the source of the pollution itself (the roadway). Two rows of continuous tree canopy absorb gaseous pollutants, and help cool the area for active visitors - this cooling also helps reduce emissions of idling cars. A continuous hedge of species selected for their ability to absorb particulate matter help protect the park and nearby homes. This continous band of vegetation also helps to cover-up undesirable views of the warehouses from the neighborhood.



#### **PERSPECTIVE:** BMX COURSE & ENTRANCE

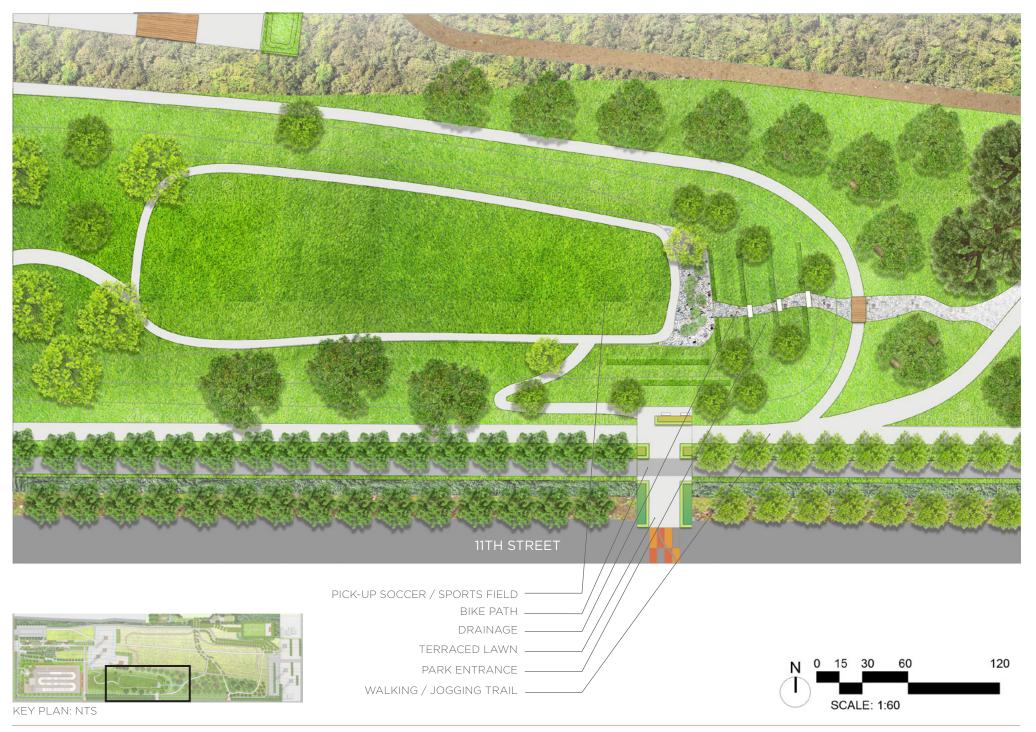


This view of the South West entrance to the park highlights the potential for recreation and activity, as well as how strongly connected the entrances are to other areas of the site. As soon as one enters, they can begin their journey on a walking or cycling trail; there are also viewing platforms to watch the activity at the BMX course.



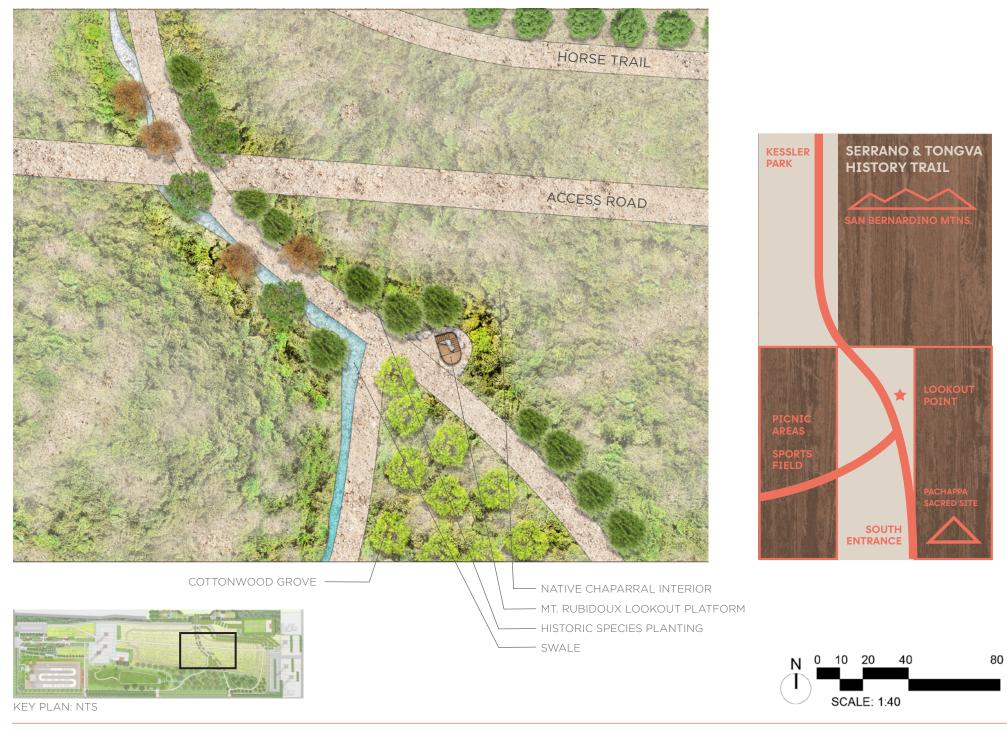
KEY PLAN: NTS

### **ENLARGEMENT:** FLOODABLE LANDSCAPE AREA



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### **ENLARGEMENT:** SERRANO & TONGVA TRAIL







The Serrano & Tongva Trail is a path that runs North-South through the project site, connecting the neighborhood to Kessler Park. Geographically, this trail runs as though from the San Bernardino Mountains, towards the Santa Ana River and Mt. Rubidoux, known as "Pachappa" to the area's first inhabitants. Mt. Rubidoux also held Easter services after the arrival of Spanish missionaries, which it still continues to do, lending an additional historical layer that represents a bigger picture of Fontana's development. Because all three of these landmarks were important to Serrano and Tongva, this path is decidated to their history. A viewing tower provides visitors a better view of Mt. Rubidoux in the distance.

KEY PLAN: NTS

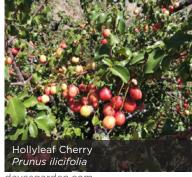
#### **KEY SPECIES & MATERIALS:** SERRANO & TONGVA TRAIL

#### **KEY SPECIES**

The Serrano & Tongva trail path is planted with species known to be important to their culture and survival. Information graphics made of natural materials such as stone or wood are elegantly integrated into the landscape.







davesgarden.com







homegroundhabitats.com



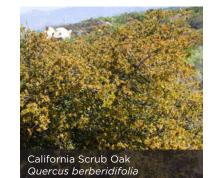
suncrestnurseries.com/



flickr.com/photos/tcorelli/4618390779



wikipedia.org



inaturalist.org



Image source: richmondstandard.com



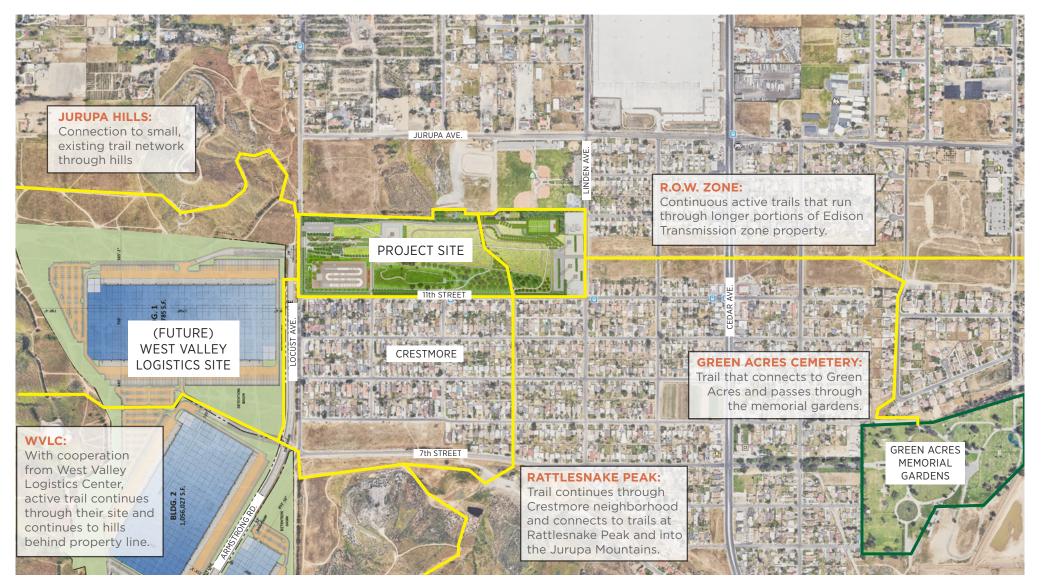
Image source: idnworld.com

#### **ENLARGEMENT:** CHILDRENS' EXPLORATION GARDEN & KESSLER PARK ENTRANCE



**KEY PLAN: NTS** 

### SITE CONNECTIVITY: TRAIL NETWORK



#### CONNECTING TO A BIGGER PICTURE

With its robust network of trails, this project has the potential to connect to a larger trail system throughout the area. Some existing trails, such as in the adjacent Jurupa Hills trail, offer a strong opportunity for connection. Cooperation with other sites, such as the future West Valley Logistics Center and additional SoCal Edison land could also help develop an interconnected network of longer trails, taking advantage of beautiful natural hills and opens spaces in the area.

NTS

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