



# PUENTE HILLS LANDFILL PARK MASTER PLAN

County of Los Angeles Department of Parks and Recreation  
Supervisor Don Knabe, 4th District and Supervisor Hilda Solis, 1st District

A PARK FOR ALL





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## **County of Los Angeles Department of Parks and Recreation**

John Wicker, Director  
Norma Garcia, Deputy Director  
Planning and Development Agency

## **County of Los Angeles Board of Supervisors**

Supervisor Don Knabe, Fourth District  
Supervisor Hilda Solis, First District

February 2017

PUENTE HILLS LANDFILL  
FACING SOUTHWEST,  
MARCH 2015.

Prepared by:  
**Withers & Sandgren**  
**Landscape Architecture and Planning**

### **Acknowledgments:**

Gracious thanks to the hundreds of community participants, stakeholders and public officials who dedicated time, energy and vision to this grand park for future generations.

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Edward Humes, author of *Garbology, Our Dirty Love Affair with Trash* for sharing the human stories of the Puente Hills Landfill and revealing the staggering global impacts of our modern-day waste. Your journalism inspires our urgency for responsible stewardship of this earth.

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Outreach: Arellano Associates, Day One and VPE



THE MULTI-LEVEL TOPOGRAPHY OF THE PUENTE HILLS LANDFILL, FACING EAST, MARCH 2015.

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DAYBREAK ON THE SCHABARUM-SKYLINE TRAIL: EARLY-MORNING HIKER MARIA LUCERO MORA'S PHOTOGRAPH CAPTURES THE SUNRISE OVER THE VAST EASTERN DECK.

## 0.1 MESSAGE FROM THE DIRECTOR

The County of Los Angeles Department of Parks and Recreation is proud to present the Puente Hills Landfill Park Master Plan. On October 25, 2016, the Los Angeles County Board of Supervisors unanimously approved the park master plan, a major step towards transforming the former landfill into **Los Angeles County's first new regional park in more than 30 years!**

This document presents a carefully crafted, visionary plan that envisions a future "Park for All" offering recreational, educational and cultural opportunities to a diverse audience. **The long-range plan provides a road map to develop a premiere destination park in the San Gabriel Valley** that celebrates the site's unique history, technological innovation, urban-wildland location, scale and topography.

The Puente Hills Landfill, which operated from 1956 until it closed in 2013, was formerly the nation's second largest landfill. The 1,365-acre site is uniquely situated at the northern terminus of the 31-mile long Puente-Chino Hills corridor. **Over time, 142 acres of the site will be reclaimed as public parkland for the residents of Los Angeles County and beyond.**

More than two-thirds of the future park will be dedicated to passive uses and flexible open spaces that will not only provide an extraordinary setting for enjoying the natural landscape, but will support the sensitive ecology of the surrounding lands.

The Puente Hills Landfill Park Master Plan aims to maximize the recreational potential of the complex site to deliver the greatest community benefit, while balancing a multitude of objectives. **Environmental sustainability will be integral to the future regional park, which will serve as a leader in the County park system.** Green design will be incorporated into buildings and landscapes, and park operations will promote the use of renewable energy, reuse and reduction of waste, minimal water use, and multi-modal transportation.

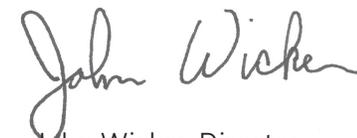
Park programming will reflect a distinctive identity that incorporates nature, art, recreation, education and sustainable technologies, while remaining flexible in order to adapt to changes in the landscape over time.

The Puente Hills Landfill Park Master Plan was completed in 18 months, starting in April 2015 and ending in October 2016. Broad-based consensus for the plan was achieved through an **unprecedented community engagement effort and extensive collaboration** with elected representatives, key project stakeholders, local community groups, numerous county departments and public agencies.

I would like to thank all of those who participated in shaping the great vision for this future regional park, including the County of Los Angeles Sanitation Districts, which will continue post-closure maintenance of the landfill for decades alongside park operations.

Additionally, this plan would not have been possible without the support of the Los Angeles County Board of Supervisors, which has repeatedly demonstrated its commitment to realize a new future at the Puente Hills Landfill.

Sincerely,



John Wicker, Director



**PROPOSED PARK TOP DECKS**

## 0.2 PARK STATEMENT

**ACROSS THE COUNTRY,  
THE PRACTICE OF TURNING  
LANDFILLS INTO PARKS IS  
INCREASINGLY POPULAR IN  
URBAN ENVIRONMENTS WHERE  
OPEN SPACE IS SCARCE.**

**A Park for All.** This project is about framing an extraordinary future today, for ourselves, our children, their children, and the ages beyond. This is that rare restoration endeavor that evolves over a long period of time, with the ground literally moving under one's feet over the decades. The closure of the Puente Hills Landfill presents an extraordinary opportunity to provide the region, the residents of the eastern San Gabriel Valley, and particularly those of the surrounding neighborhoods with a park that offers trails, fitness activities, access to an adjacent nature preserve area, and unique ways to experience stunning panoramic views and open space.

Creating a more livable environment for residents of the greater Los Angeles area includes providing additional parks and open space for park poor communities. With ever increasing urban density, the availability of over a hundred acres for park land is a boon to disadvantaged populations that need recreational space for family activities and fitness. The first of several conditional use permits between Los Angeles County and the Sanitation Districts in 1983 set in motion the eventuality that a regional park be developed within the larger landfill site once it closed.

The future park at the Puente Hills Landfill literally elevates a park into the hills, which over time will provide a distinctive recreational experience that takes advantage of the landfill slopes, the landfill capped top decks and regional trail connectivity on the Puente Hills ridgeline. The initial projects, a fraction of the total site, will establish a new narrative that will highlight the inherent beauty of the site and set the scene for stunning landscapes to evolve over the next generation.

At Puente Hills, an extraordinary place that has served Southern California for over half a century will be renewed. It will be unusually optimistic in its ultimate outcome, among the greatest and most beautiful public parks in the County, and in its faith in the greater community's commitment to the future. This project embodies the idea that infrastructure and beauty are at their best, inseparable and deeply meaningful. Eventually, more land within the landfill may become available for inclusion into the Park to further support both recreational and wildlife connectivity in the Puente Hills.

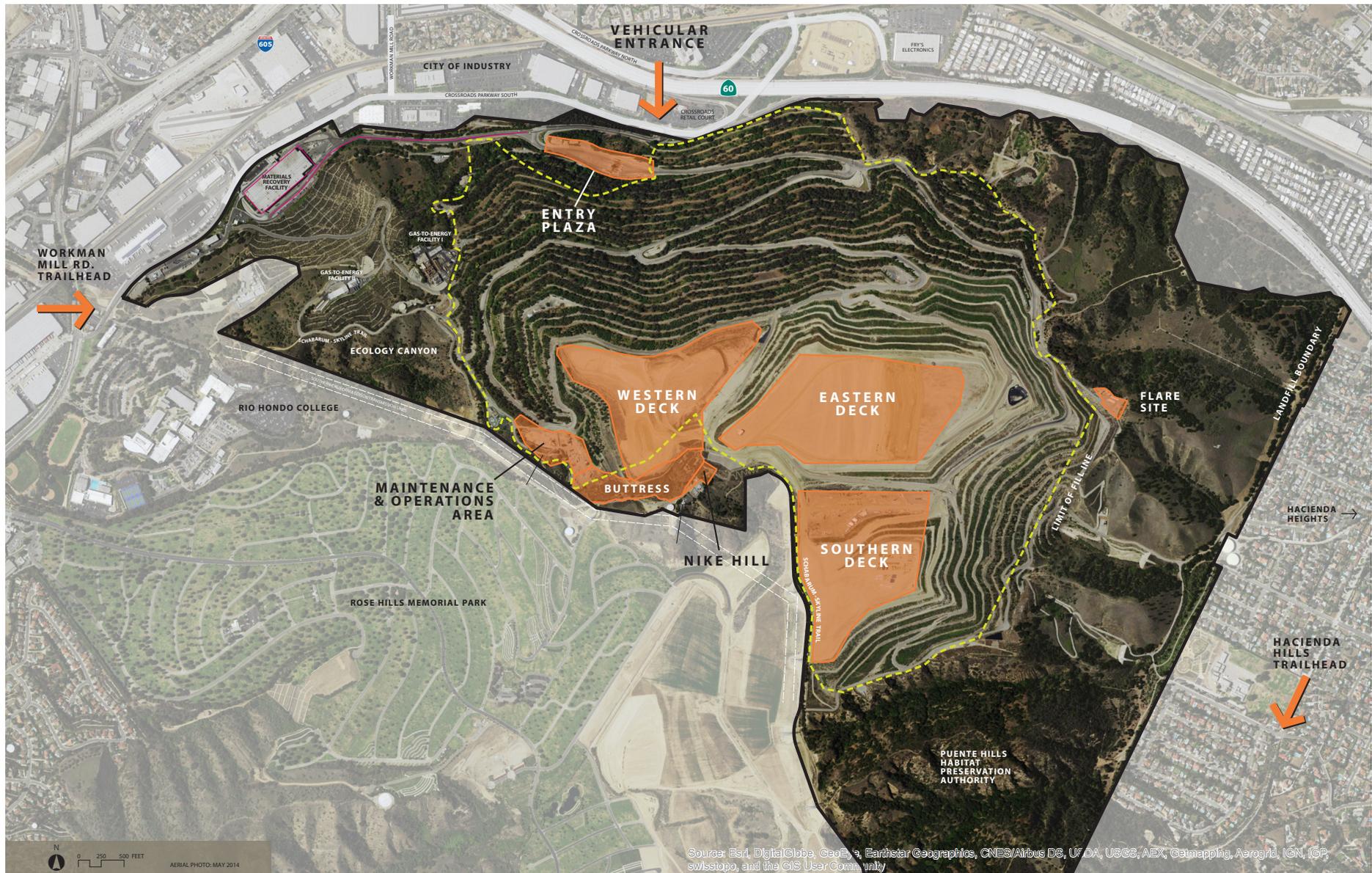


METHANE PIPES ON THE SOUTHERN DECK RIM CREATE A STRIKING JUXTAPOSITION WITH THE NATIVE OAK WOODLANDS AND THE CITY BEYOND.



# 1.0

## INTRODUCTION



**SITE ORIENTATION MAP AND THE PROPOSED AREAS OF THE PARK.**

# 1.1 INTRODUCTION

Located at the western tip of the Puente Hills rising high above the San Gabriel River, the site of a former landfill is being transformed into a regional park by the Los Angeles County Department of Parks and Recreation. The extraordinary placement of new parklands atop a capped mountain of waste inspires a sense of wonder and awe when viewing the scenic river and valley far below from the highest point on the site.

The landfill evolving over the decades is a profound marker of human history in the Puente Hills. Just as the Puente Hills Landfill was once native hills and canyons, once again the site will evolve to accommodate a regional park. The Puente Hills Landfill Park Master Plan will convert the nation's former largest landfill to a regional park for the greater Los Angeles area.

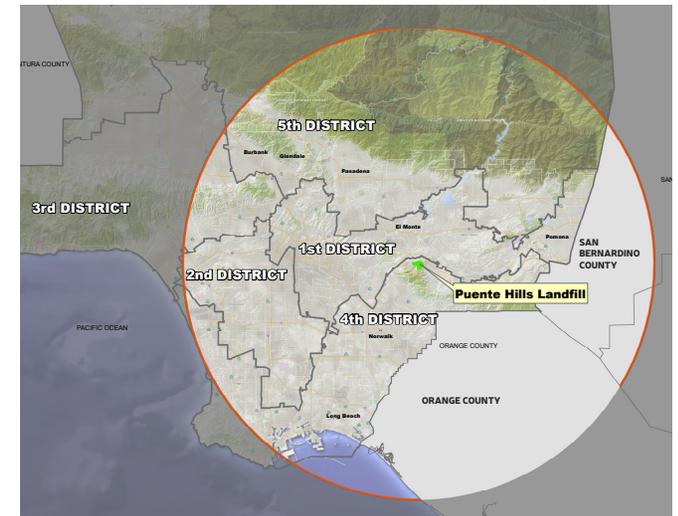
Approximately 142 acres set within the 1,365-acre former landfill site is included in the master plan for park development. The top decks of the landfill will be re-invented and improved over time to make the site function as a park from the first phase to the final phase. Park spaces, landscape and programming will transition and adapt as necessary as the landfill continues to settle. Layers of trails, layers of programmed spaces and layers of vegetation will be lightly placed into the Park in response to the dynamic shifting of the flat capped decks.

Threading through the vegetated slopes and lines of actively collecting methane pipes, the Schabarum-Skyline Trail provides an amazing and highly active trail connection through the landfill site that extends from the San Gabriel

River through the Puente Hills Significant Ecological Area. The east-west trail connectivity throughout Puente Hills is a unique and valued recreational component. This existing regional trail will remain the recreational backbone of the future park throughout its evolution over the next fifty to seventy-five years.

Adaptation and flexibility of spaces will be on-going in response to post-closure landfill maintenance and repairs. Anchoring this ever-changing environment are three park structures strategically placed on non-fill. The Visitor Center will welcome patrons at the park entry, a scenic terrace will be part of the overlook at the very top and a trail lift will provide public transportation between the entry and the overlook.

**THE PUENTE HILLS LANDFILL, FORMERLY AMERICA'S LARGEST AND DEEPEST, IS READY FOR A NEW LIFE: TO BE UPCYCLED AND RECREATED INTO LOS ANGELES COUNTY'S NEWEST PARK**



**THE 25-MILE REGIONAL PARK SERVICE RADIUS AROUND THE LANDFILL COVERS A THIRD OF LOS ANGELES COUNTY AND PORTIONS OF SAN BERNARDINO AND RIVERSIDE COUNTIES.**

## PUENTE HILLS LANDFILL PARK STATISTICS:

- Master Plan Scope: 20 years
- Regional Park: 25-mile service radius
- The Park is approximately 142 acres or 9.6% of landfill property.
- Eventual park acreage: 600 acres, including side slopes (available after 75+ years)
- Total landfill property is 1,365 acres.
- Landfill operated for 56 years (1957-2013).
- Landfill contains 130 million tons of waste.
- Deepest fill area: 500 feet.
- The filled areas will shift and settle over time.
- Maximum settling: 125 feet.
- Time needed for majority of settling to occur: at least 30 years.
- Time needed for methane gas production to complete, making side slopes available for park use: over 75 years
- Highest point in park (Nike Hill): elev. 1,160'
- Park entry (Crossroads Pkwy South): elev. 300'
- Park Entry Plaza: elev. 400'
- Western trailhead (Workman Mill Rd.): elev. 240'
- Eastern trailhead (Hacienda Hills): elev. 500'
- Maximum elevation change: 920' (Western trailhead to Nike Hill)
- Trail lift: 1.2 mile route, 760' elevation change (Park Entry Plaza to Nike Hill)
- Site is the western terminus of the 31 mile-long Puente-Chino Hills Wildlife Corridor



PANORAMIC VIEW FROM NIKE HILL OVER THE WESTERN, EASTERN AND SOUTHERN DECKS OF THE LANDFILL.



WESTERN AND EASTERN DECKS WITH VIEW NORTH TO THE SAN GABRIEL MOUNTAINS NATIONAL MONUMENT.

## EASTERN DECK

## SOUTHERN DECK



SOUTHWEST VIEW TO ECOLOGY CANYON AND RIO HONDO COLLEGE.



EASTERN AND SOUTHERN DECKS WITH NORTHEAST VIEW OF THE SAN GABRIEL VALLEY.



## 1.2 MASTER PLAN PROCESS

The Puente Hills Landfill Park Master Plan is the first step of many down the path of transforming a landfill into a park. It represents a significant milestone of consensus building between the Sanitation Districts and Los Angeles County Department of Parks and Recreation. These two parties were joined to a common purpose by a Joint Powers Agreement in 1987. Most recently in the Conservation Open Space Policy of the Los Angeles County General Plan, adopted in October 2015, Los Angeles County designated the Puente Hills landfill site as “Recommended Open Space” and the ultimate use of the landfill site upon closure has been identified for recreational use.

The inherent site complexities have required extensive site study, discussion, review and feedback from all those involved. Multiple agencies, community groups, local and regional stakeholders and two Los Angeles County Supervisors have been, and will continue to be involved throughout the planning process.

The Los Angeles County Department of Parks and Recreation has taken the lead in the development of a concept plan and related technical studies. Ongoing management and maintenance requirements of the landfill continue to inform the proposed park design and park programming.

The Final Concept Plan and subsequent phasing plans are diagrammatic and flexible, providing a

road map for park development that will change and evolve over the life of the master plan and beyond.

### **Desired Outcomes of the Planning Process**

- Set the stage for a destination regional park and create a flexible & adaptive plan for evolving future needs.
- Provide sequential resource-efficient park phasing through full park build-out.
- Demonstrate through the public outreach process that the park vision, design and goals are responsive to the community, stakeholders, County agencies and the Board of Supervisors.
- Meet the operations and maintenance needs of both the Los Angeles County Department of Parks and Recreation and the Sanitation Districts, optimizing areas for shared facilities and operations.

An Environmental Impact Report (EIR) will be completed in early fall of 2016, informed by the Final Concept Plan and technical documents. Public comment on the EIR will lead to additional revisions to the draft document, resulting in the Final Master Plan. Adoption of the Final Master Plan is anticipated in October 2016. Portions of Phase One park construction may commence as early as 2019.

**FACING PAGE: “LIMIT OF FILL” MARKER AT THE SOUTHERN EDGE OF THE LANDFILL.**

## 1.3 SITE HISTORY

### Landfill History

The Puente Hills Landfill first opened in 1957 as the privately-owned San Gabriel Valley Dump, operating in the Puente Hills canyons. In the mid-1960s, the Sanitation Districts identified the 500 acre dump site as a location to provide the long-term disposal capacity for the southern and eastern portions of Los Angeles County and in 1970, the Sanitation Districts purchased 1,214-acres for a landfill site which included the dump. The Sanitation Districts renamed it the Puente Hills Landfill and operated the Class III sanitary landfill (restricted from liquid, hazardous or radioactive wastes) as a regional solid waste disposal site, ultimately enlarging the site to its present 1,365 acres.

In 1983, The Los Angeles County Department of Regional Planning approved Conditional Use Permit No. 2235-(1) which allowed for the continued operation and expansion of the Puente Hills Landfill. Notably, Condition No. 21 of the CUP required the Sanitation District to enter into an irrevocable agreement with the County of Los Angeles or alternate public agency to designate the refuse-filled (referred to as “fill”) portions of the site as open space in perpetuity. The two entities entered into a Joint Powers Agreement (JPA) in 1987 which required the Sanitation District to offer the County portions of fill areas for park and recreation purposes after they were brought to finished or final elevation and grade and no longer needed for landfill operations.

The JPA also acknowledged the Sanitation District’s need to operate and maintain the environmental control systems in the designated



open space areas and that the Park and any subsequent improvements would not impair the Sanitation District’s activities or systems that protect public health, safety, and the environment. In 2002, the County extended the permit for the Landfill’s operations with CUP Case No. 02-027-(4) and conditions related to the final recreational use of the site were further refined.

Over the years, the landfill has employed numerous innovative, environmental approaches including generating electricity from landfill gas, managing materials recovery and recycling programs, and acquiring and maintaining local native habitat as open space. “Tipping fee” surcharges for deposited waste created funds that established the Puente Hills Native Habitat Preservation Authority. These funds are also for the acquisition and preservation of land, and for the development of the future Park.

On October 31, 2013, the Puente Hills Landfill ceased operations after 56 years of receiving trash from homes and businesses in over 60 cities and unincorporated areas within Los Angeles County. Refuse has been placed on approximately 602 acres of the 1,365 acre premises. Final protective clay earthen caps cover the fill areas at varying thicknesses of 5 to 12 feet, and prevent stormwater from infiltrating into the fill.

Although the Puente Hills Landfill is closed and no longer accepting trash, operations and post-closure maintenance will continue for 75+ years until the buried trash is fully settled and stable. In 2016, the JPA is expected to be amended and

**ABOVE: LANDFILL OPERATIONS IN 2012, WITH WASTE COVERED EACH DAY BY A SOIL LAYER.**

SAN JOSE CREEK

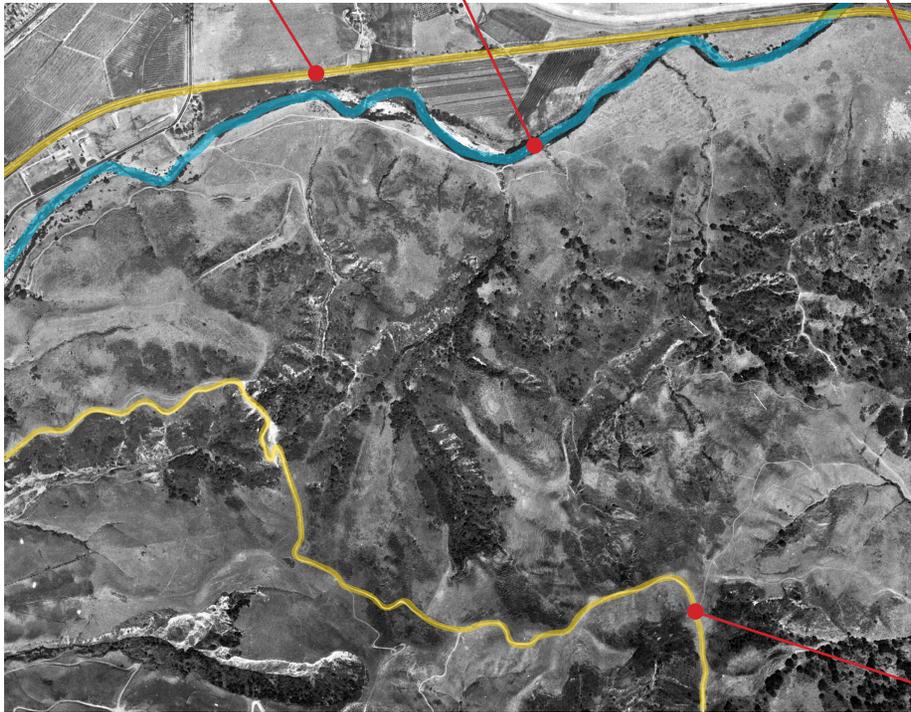
THE MATERIALS RECOVERY FACILITY (MRF) AT THE BASE OF THE LANDFILL SORTS RECYCLABLE MATERIALS.

A FUTURE "WASTE-BY-RAIL" SYSTEM WILL SHIP TRASH IN CONTAINERS 200 MILES SOUTH TO A NEW LANDFILL NEAR THE SALTON SEA.

130 MILLION TONS OF WASTE OVER 56 YEARS FILLED AND BURIED THE CANYONS. SOME FILL AREAS ARE NOW 500 FEET DEEP.

DURING THE ENSUING SIX DECADES SAN JOSE CREEK WAS CHANNELIZED NORTH OF THE RAILROAD LINE.

UNION PACIFIC RAILROAD LINE



1954

2015

SCHABARUM-SKYLINE TRAIL REMAINS RELATIVELY UNCHANGED DURING THE LAST SIX DECADES.

THIS PAGE: COMPARISON OF 1954 AND 2015 AERIAL PHOTOGRAPHS.

restated by the two parties, to incorporate developments from the park master planning process and include more detailed agreements about respective roles and responsibilities in the development, operation and maintenance of specific areas of the site.

### Cultural Resources Survey Overview

A cultural resources survey was completed for 11 areas where park facilities are proposed at the Puente Hills Landfill, pursuant to environmental planning regulations of the California Environmental Quality Act (CEQA) for this park master planning process. The survey was completed July 8, 2015, by ECORP Consulting, Inc. Except for a portion of Nike Hill, all areas are graded, disturbed, or covered by landfill.

Results of the records search conducted at the South Central Coastal Archaeological Information Center (SCCIC) indicate that 15 cultural resources studies have been previously conducted between 1978 and 2011 on the landfill property, which includes the Project survey areas.

A total of 13 cultural resources had been previously documented on the landfill property, (Table 1). All were evaluated as not significant and the archaeological sites were destroyed by landfill operations.

A search of the Sacred Lands File was conducted with the Native American Heritage Commission (NAHC) in Sacramento, California. The search was requested to determine whether there are sensitive or sacred Native American resources in the vicinity of the Project area that could be affected by the Project. The NAHC reports that a search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in or near the Project area.

### Cultural Landscape

The Puente Hills Landfill is a highly altered landscape. The existing canyons were filled with refuse and then covered with soil taken from elsewhere on the Landfill property. The engineered slopes that contain the covered refuse were terraced and trees (pine, eucalyptus, and pepper) and shrubs were planted. This artificial landscape was created between 1970 and 2013 and was not in its final form until circa 2013. Because it is not yet 50 years old, the landscape is not considered a historical resource.

There are no known Historical Resources in the Project area, therefore the Project will not result in significant impacts to any known Historical Resources.

### Nike Missile Site (Nike Hill) History

Nike Hill gets its name from the historical guard structure and plaque which were moved to the hill to commemorate the Cold War-era Nike missile sites that ringed Los Angeles County around 1954-1974. For two decades a ring of 16 Nike missile sites surrounded the Los Angeles basin to protect the region from Soviet bombers. However, there was never a Nike missile site at this location.

The State of California Department of Parks and Recreation has record of the resource as “Nike Air Defense Missile LA-14/29 Commemorative Site.” The guard structure was relocated from its original location, Site LA-14 in South El Monte off Workman Mill Road. It also commemorates Site

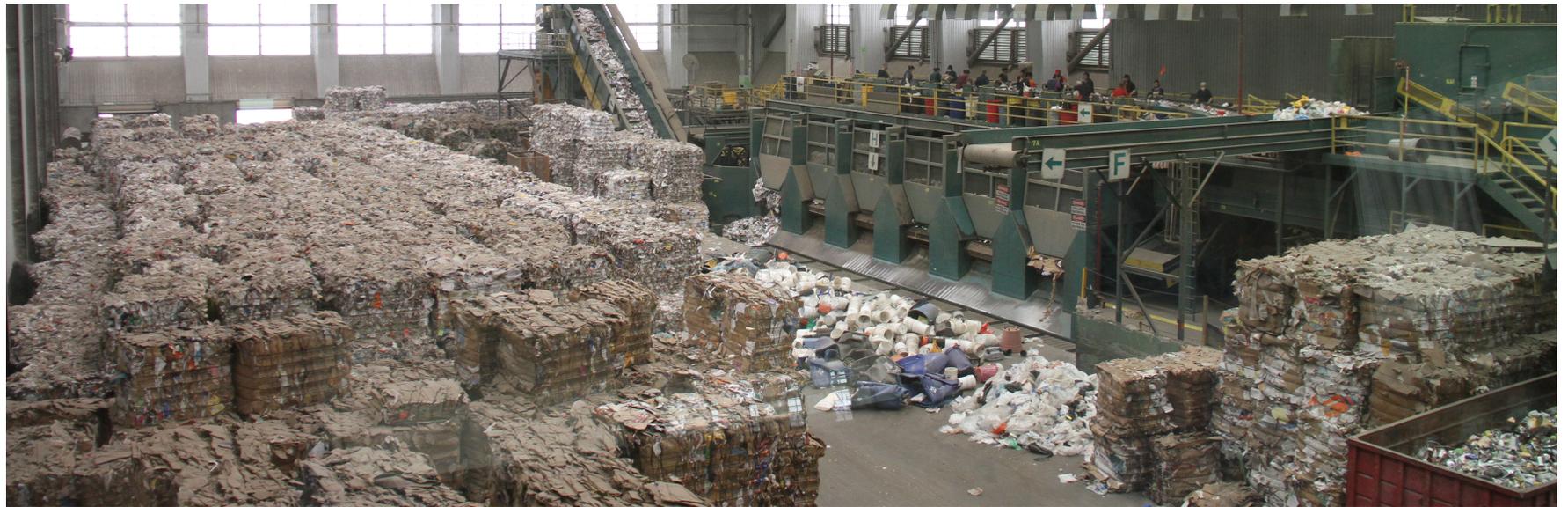
LA-29 which was in the Puente Hills in Brea, now since cleared and redeveloped. The Nike Missile Site consists of a guard house and a plaque that were moved from elsewhere. The Nike Missile Site (P-19-188496) has been evaluated as not eligible for the California Register of Historical Resources.

No archaeological material more than 50 years old was found during survey of this area. The Nike Missile Site (P-19-188496) is not eligible for the CRHR and is not a Historical Resource as defined by CEQA.

**TABLE 1: PREVIOUSLY RECORDED CULTURAL RESOURCES ON THE LANDFILL PROPERTY**

Resource Designation	Period	Description	Recorded By
P19-002553	Prehistoric	Four mano fragments	R. Shepard 1997
P19-002554	Prehistoric	Three mano fragments	R. Shepard 1997
P19-002555	Historic	Brick platform for an oil well	R. Shepard 1997
P19-002556	Historic	Livestock watering trough and access road	R. Shepard 1997
P19-002557	Historic	Platform with bricks dated 1921	R. Shepard 1997
P19-002558	Historic	Material from demolished corral with scattered cattle or horse bones	R. Shepard 1997
P19-002559	Prehistoric	Ground stone fragments	R. Shepard 1997
P19-002560	Prehistoric	Ground stone fragments	R. Shepard 1997
P-19-188496	Historic	Nike Missile Site	W. Becker and M. Bassett 2009
P-19-190505	Historic	SCE transmission line	W. Becker and H. Crane 2010
P-19-190508	Historic	SCE transmission line	W. Becker, H. Crane, and M. Bassett 2010

Source: ECORP Consulting, Cultural Resources Survey for the Puente Hills County Regional Park Master Plan Project, July 2015.



CLOCKWISE FROM TOP LEFT: (1) LANDFILL OPERATIONS IN 2008. (2) NIKE HILL GUARD STRUCTURE. (3) THE PUENTE HILLS MATERIALS RECOVERY FACILITY (MRF), WHERE WORKERS SORT RECYCLABLE MATERIALS AT THE BASE OF THE LANDFILL. THE FACILITY HELPS LOS ANGELES COUNTY MEET THE 50% DIVERSION RATE REQUIRED UNDER CALIFORNIA LAW.

## 1.4 ONGOING LANDFILL SETTLEMENT AND ENVIRONMENTAL CONTROL SYSTEMS

### Regulatory Requirements

Federal and State regulatory requirements include the post-closure activities of inspection and maintenance, environmental monitoring and as-needed repairs. It is anticipated that ongoing maintenance, inspections and monitoring activities of the in-place environmental systems during the post-closure of the landfill will occur on a regular basis for a minimum of 30 years from its closure on October 31, 2013.

The extensive environmental control systems include the final cover, surface water drainage system, landscape and irrigation, containment structure, groundwater quality protection system, bio-gas recovery systems, and fire control measures. Facilities that will continue to operate include the Materials Recovery Facility (MRF), the Puente Hills Field Office, and the landfill gas management facilities including the energy conversion plant and associated flares, several maintenance yards, and the water system reclamation, storage and irrigation.

### Landfill Settlement

Decomposing landfill trash will lose about 25% of its volume over roughly 30 years, leading to the layers of trash shifting and settling over time. This decomposition process occurs because the organic trash in landfills such as yard waste and kitchen scraps break down over time. As they break down and get compacted, gases are released and collected in pipes. Older areas of the landfill which have been settling for decades



**LANDFILL GAS COLLECTED BY A NETWORK OF PIPES FUELS TWO GAS-TO-ENERGY PLANTS. ELECTRICITY PRODUCED POWERS 70,000 HOMES, THE SAN JOSE CREEK WATER RECLAMATION PLANT AND SANITATION DISTRICTS OFFICES.**

are reaching their stable point. This ongoing and inconsistent settling limits the types of development that can take place on the surface in the near term. Such settlement will cause foundations to break and sink, utility and irrigation pipes to burst, roads and paving to crack and heave, light poles to tilt, and sports fields to crumple.

### Landfill Gas

The Landfill will remain the Sanitation Districts' responsibility for possibly the next 75 to 100 years, until the landfill stops producing methane as determined by the Los Angeles Regional Water Quality Control Board.

Gas is contained by low gas permeability liners that line the bottom and walls of the landfill by causing lateral and downwards movement of the gas. About 1,500 landfill gas collection wells

at depths of 60 to 100 feet collect gas from the perimeter and slopes of the landfill. Horizontal trenches 100 to 260 feet apart made of 15 to 18 inch diameter pipes collect gas that is drawn through the openings between the pipes into header pipes.

Above-surface header pipes are located on the side slopes beginning approximately 30 feet below the top decks, and placed every 40 feet apart to collect bio-gas. As the gas leaves the waste and enters the cooler above-ground landfill gas collection, the water vapor in the gas condenses. This condensate then flows to a treatment center before flowing into the sewer. The gas is destructed by flaring or energy generation. About 52 megawatts of electricity are created in the Puente Hills Gas-to-Energy facilities and the remaining gas is burned in existing flares.



**LANDFILL SETTLEMENT PROJECTION (ISO-SETTLEMENT CONTOURS).** THIS EXHIBIT SHOWS THE ESTIMATED AMOUNT OF SETTLEMENT IN FEET, WHICH WILL OCCUR OVER A 30-YEAR PERIOD. THE EASTERN DECK WHICH CONTAINS THE DEEPEST FILL AREA, WILL SETTLE THE MOST—APPROXIMATELY 125 FEET IN 30 YEARS.

### Ongoing Inspection and Maintenance Activities

Specific types of work required to maintain these systems include plumbing and pipe fitting, electrical, instrumentation and welding. Continuous plumbing and pipe fitting work is required to maintain the integrity of the environmental control and the irrigation systems. Some systems are centrally located and others are located throughout the landfill. Routine inspections will determine the extent of the maintenance and associated equipment required for each system.

### Ongoing Monitoring Activities

Environmental monitoring requires regular sampling and chemical analysis of the landfill gases, the Leachate Collection and Removal System (LCRS), groundwater, and surface water runoff. For this task landfill employees use gated access points along the boundary of the site.

Inspections of the side slope and top deck clay caps for surface cracks, differential settling, ponding or erosion will be necessary after every significant rain event or major earthquake during the settlement period. The protective clay caps vary in thickness from 5 to 12 feet and must remain sealed to keep stormwater from infiltrating the landfill.

Both surface and sub-surface pipes have been placed throughout the landfill for methane gas collection. Surface pipes, both on the terraced slopes and on the top decks, may crack and leak as the landfill settles. The Sanitation Districts' maintenance staff must be able to inspect, monitor, maintain and extend this pipe system until methane production subsides or ceases per regulatory requirements. Buried pipes are also monitored in place to ensure that they are performing to standard.



**THE PUENTE HILLS LANDFILL GAS-TO-ENERGY FACILITIES CONVERT METHANE INTO ELECTRICITY.**

The Sanitation Districts staff will also continue to measure emissions from the surface of the top deck to ensure that landfill operations meet South Coast Air Quality Management District standards.

### Water Concerns

All precipitation and subsequent runoff will not be allowed to pond and percolate into the landfill. The top decks will be maintained at a minimum two percent slope to shed surface water. Additional drainage controls, structures and facilities on the top decks will be necessary to divert run-off into the existing drainage system. When necessary, temporary structures shall be installed as needed to comply with this requirement.

It may be possible to provide some runoff storage by installing rainwater catchment systems, assuming that it does not interfere with top deck operations or structural integrity. Since the drainage system is based on gravity and the landfill will settle at different times, it is impor-



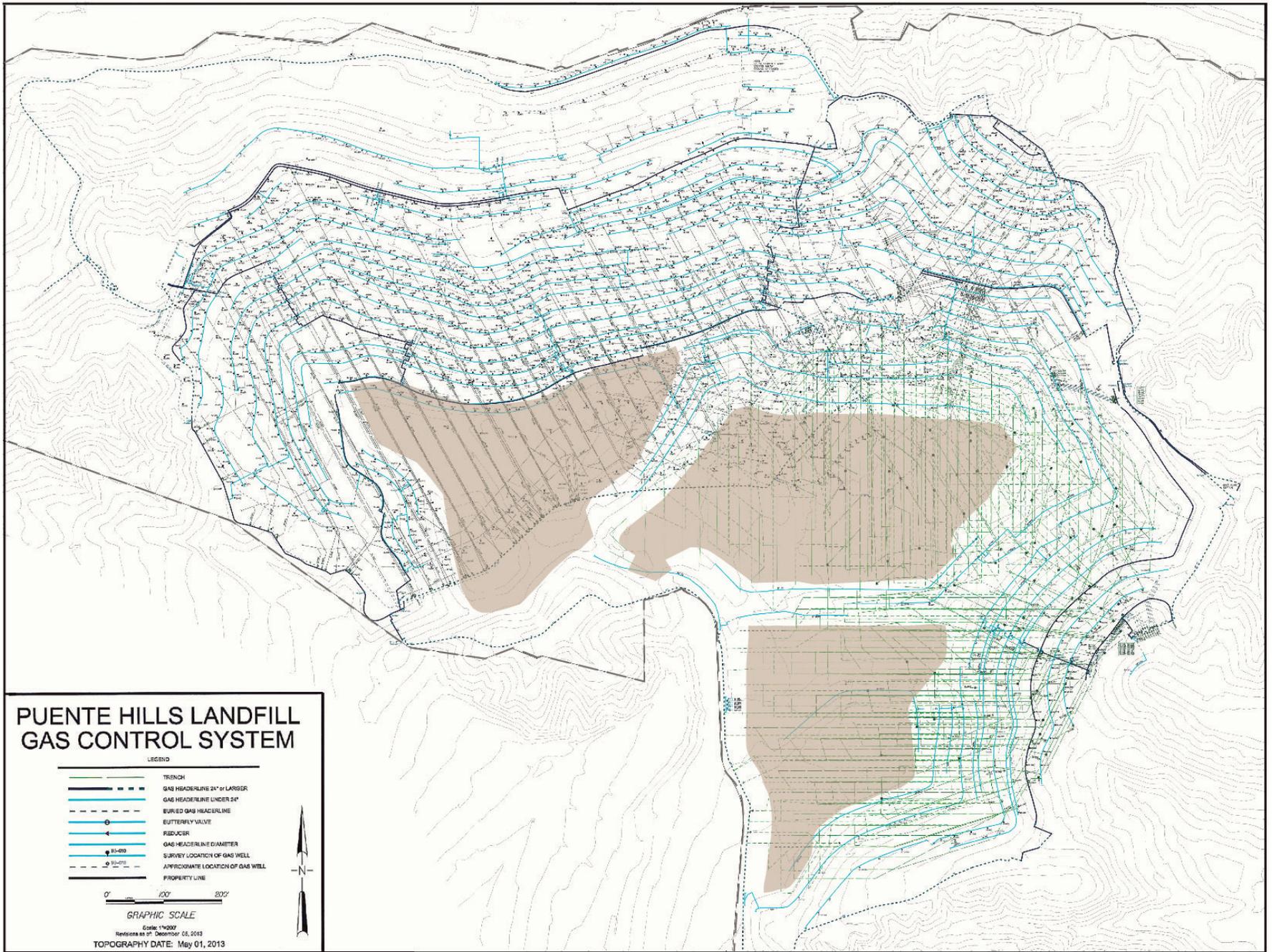
**SITE MONITORING WELL AT THE SOUTHERN ENTRY ALONG THE SCHABARUM-SKYLINE TRAIL.**

tant to make sure the drainage system is working properly. If drainage is no longer effective in an area, additional drains must be added or the slope must be reconstructed to at least a two percent grade. To avoid unplanned ponding, soil must be continuously added to low spots on the top deck.

### Soil Stockpile

Approximately 300,000 cubic yards of soil is stockpiled on 27 acres of the 40-acre Western Deck for use by the Sanitation Districts to maintain the clay caps of the fill areas.

A portion of the soil stockpile is proposed to be improved for recreational use as described further in Section 3.4, Western Deck.



A MAZE OF PIPES DRAWS OFF THE METHANE GAS PRODUCED BY THE LANDFILL, DIRECTING IT TO THE "GAS-TO-ENERGY" FACILITIES. THIS GAS CONTROL SYSTEM EXTENDS THROUGHOUT THE TOP DECKS OF THE PARK.

## 1.5 SITE ADJACENCIES AND REGIONAL SIGNIFICANCE

### Site Adjacencies

To the south, the site borders native hillsides and canyons managed by the Puente Hills Habitat Preservation Authority (Habitat Authority). Rose Hills Memorial Park and Mortuaries (Rose Hills) bounds the majority of the Park to the southwest, and Rio Hondo College neighbors the landfill to the west.

Surrounding land uses include office, light industrial and commercial uses to the west and north, residential use to the east, and a Southern California Edison electrical transmission line right-of-way along the southern border.

The multi-use Schabarum-Skyline Trail constructed and maintained by DPR adjoins the site connecting east-west over the former landfill.

Adjacent preserve areas which are aesthetically and ecologically significant to the site and to the region include approximately 230 acres within the landfill boundary currently managed by the Habitat Authority.

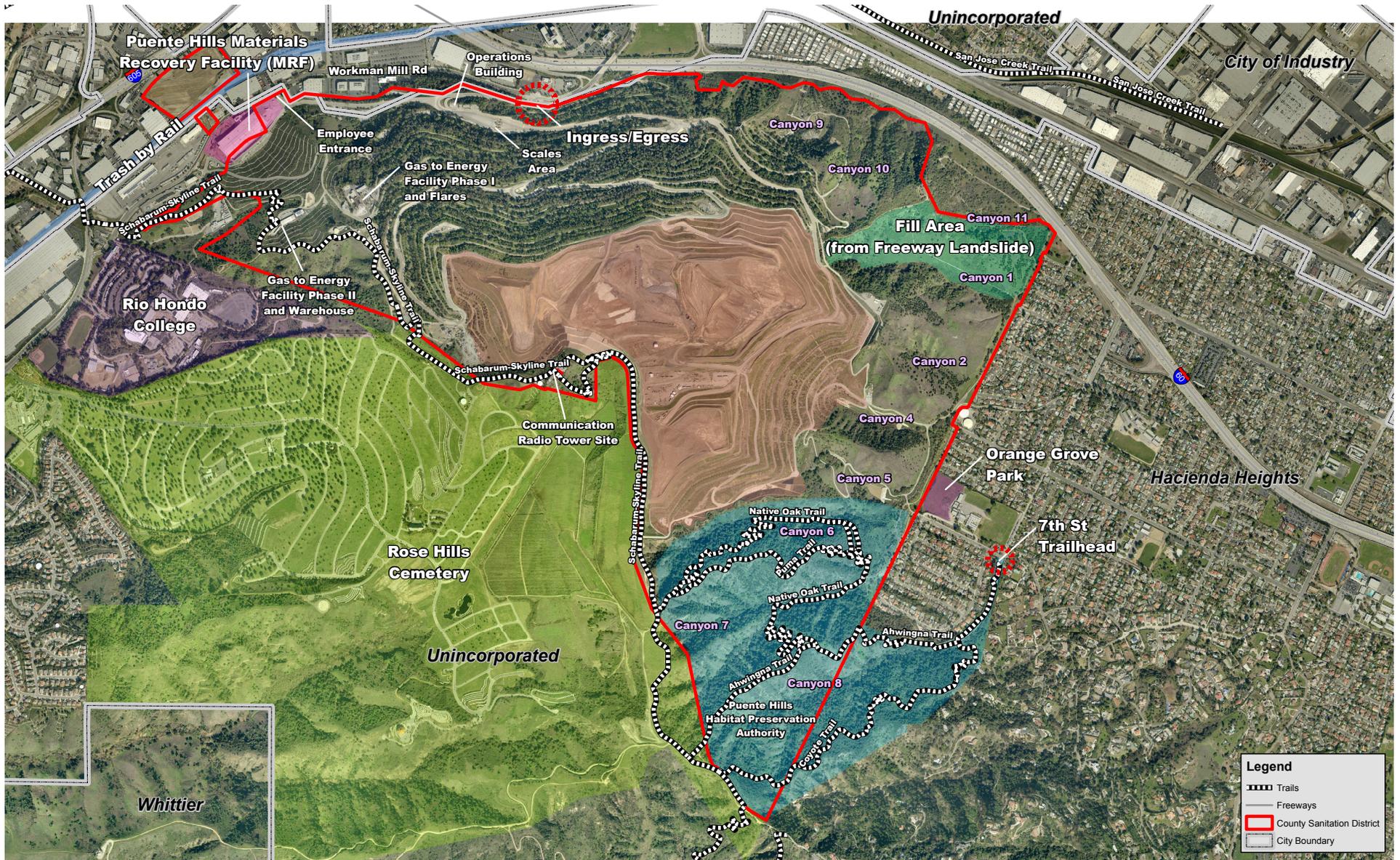
Located at the eastern landfill site boundary is a constructed riparian habitat and an oak tree replacement planting area maintained as natural open space. Ecology Canyon on the west face of the landfill is a 24-acre site and designated as a Significant Ecological Area (SEA) which is used by Rio Hondo College for study purposes.

These open space preserve areas are highly valued for resident and migrant wildlife populations and for native plant communities which include some highly valuable patches of pristine plant communities. The east-west migration of particular wildlife species through the Puente-Chino Hills is considered critical to the biological viability of some animal populations, specifically the Mountain Lion.

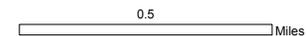
Two water troughs are located on the landfill site to support equestrian use of the Schabarum-Skyline trail and also support wildlife habitat in the greater Puente Hills.

Per Conditional Use Permit (CUP) 92-250 (4) from August 1994, a permanent 50-foot setback along the common boundary between Rose Hills Memorial Park and the landfill was established to provide a buffer from landfill operations and is landscaped, irrigated and kept in good repair by the Sanitation Districts.

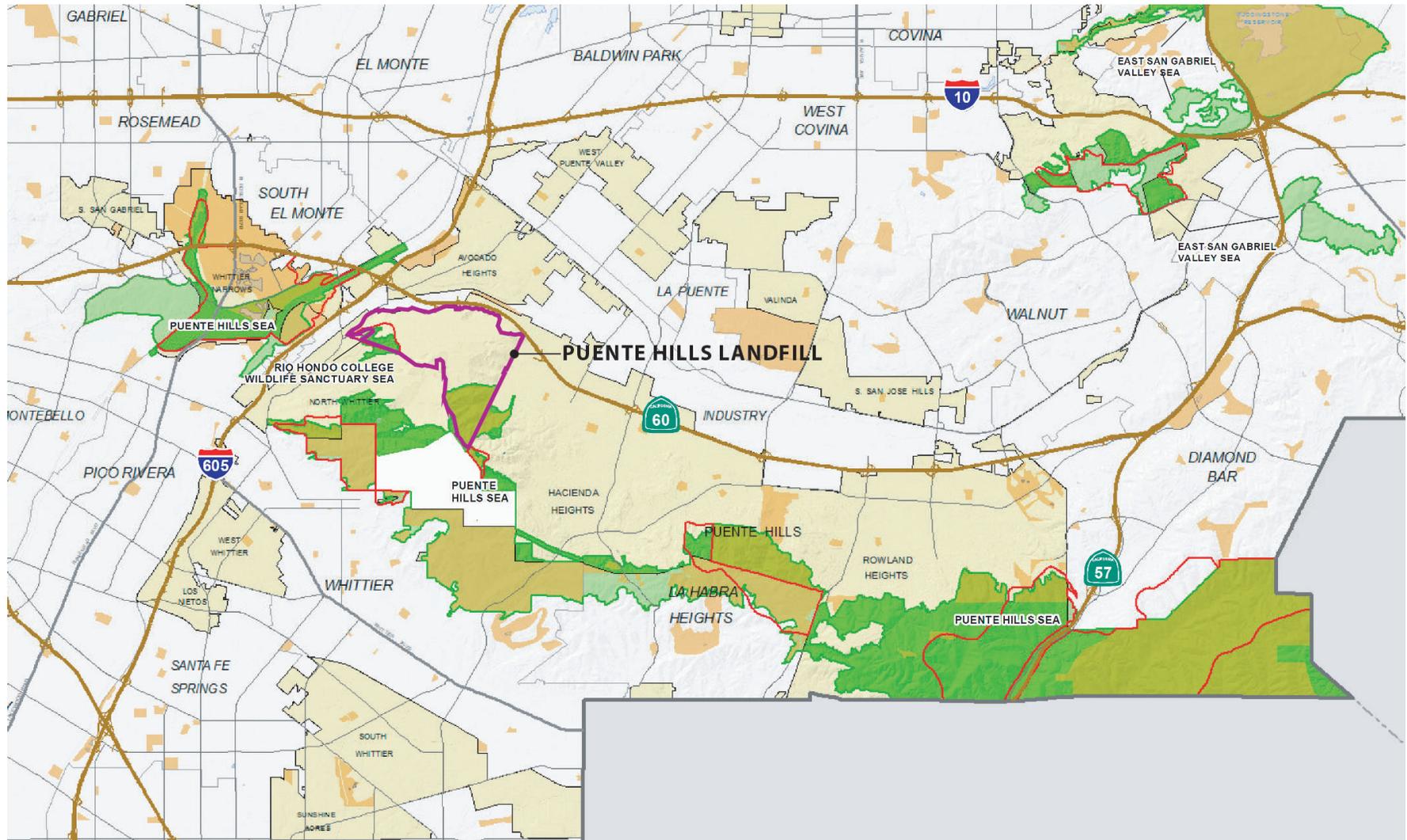
The permit resulted in an Amended Setback and Easement Agreement between the Sanitation Districts and Rose Hills Memorial Park, which addresses issues such as noise abatement, limits of operations, shared water storage reservoir, and other technical concerns regarding the operations of the landfill. Additionally the permit includes Rose Hills access for ingress and egress through the post-closure landfill.



**PUENTE HILLS LANDFILL ADJACENCIES ANALYSIS**  
 County of Los Angeles | Department of Parks & Recreation



Date: 07/30/2015  
 Map Prepared By: Planning and Development  
 Aerial: LARA/C3, ANCHY  
 Roads: CAMS  
 Trails: DPR



**PUENTE HILLS LANDFILL SHOWN IN RELATIONSHIP TO THE PUENTE HILLS SIGNIFICANT ECOLOGICAL AREAS (SEAs).**

Detail from Map: "Significant Ecological Areas and Coastal Resource Areas," General Plan, Los Angeles County Department of Regional Planning. Proposed SEA boundaries approved by Los Angeles County Board of Supervisors, October 6, 2015.

**LEGEND:**

- Significant Ecological Area (Proposed)
  - Coastal Resource Area\*
  - Significant Ecological Areas (Adopted)
  - Open Space
- Base Features**
- Perennial Water Body
  - Intermittent Water Body
  - Dry Water Body
  - City Boundaries\*\*
  - Unincorporated Area
  - National Forest

### **Regional Significance**

The Department of Parks and Recreation has the opportunity to create a new regional park uniquely situated at the western end of the Puente-Chino Hills and adjacent to the Habitat Authority. Portions of the landfill site lie within a greater Significant Ecological Area (SEA) connecting Chino Hills to the east all the way to the San Gabriel River to the west. SEAs are officially designated areas within the County identified for their biological value, and need for special management, as defined by the County's General Plan.

These areas contain rare or unique biotic resources; are critical to maintaining wildlife; preserve mostly undisturbed County habitat types; or serve as linkages. The landfill boundary overlaps with portions of the Rio Hondo College Wildlife Sanctuary SEA and the Puente Hills SEA. These areas are currently accessed by the Schabarum-Skyline Trail on the southern edge of the Park. While preserving the existing SEA boundaries, the park improvements will enhance native habitat, improve the existing wildlife corridor and strengthen local biodiversity.

### **The Puente-Chino Hills Wildlife Corridor**

The park site is at the western tip of the Puente-Chino Hills wildlife corridor, which stretches 31 miles to the Cleveland National Forest in Orange County. The Puente-Chino Hills are vital habitat for wildlife, now surrounded by urbanization and a natural, physical link between the Santa Ana Mountains and the San Gabriel River. The San Gabriel River flows from and links to the San Gabriel Mountains. By virtue of these linkages, the Puente-Chino Hills function as both an important regional connection and a resident habitat area for wildlife populations.



**THE PUENTE-CHINO HILLS WILDLIFE CORRIDOR CONSISTS OF 31 MILES OF VITAL HABITAT. THE PARK SITE LIES AT THE WESTERN TIP OF THIS BIOLOGICALLY DIVERSE CORRIDOR.**

## 1.6 DEMOGRAPHICS AND PARKS TRENDS

The region's demographics and shifting social trends will influence future decades of the Park's growth and program development. California's population growth is expected to continue at a rate of approximately 11% annually. This high rate is expected to continue into 2020 which will mean greater population densities and higher levels of urbanization.

Most of California's growth has been in its major metropolitan areas such as Los Angeles County. As a regional park, the future park at the Puente Hills Landfill will serve two of the fastest growing regions in the state. The Inland Empire is the second fastest growing region, after the Sierra foothills with Riverside County growing 26 percent and San Bernardino County growing almost 17 percent in the 2000's.

Growth in the Latino community is a trend that is observed countywide and in particular within the 25-mile service radius of the future park. Hispanics account for 69% of the population within one mile of the proposed park and 70% within five miles. The Latino community's preferences in recreational amenities and programming must be considered in the planning of the Park.

Income levels closest to the Park within 1 mile are higher than at the 5 mile and 25 mile radius, suggesting that the region may require a different range of park services than the local community. Housing near the Park is predominantly single family owner occupied. Renter occupied units

	1 mile		5 miles		25 miles	
Total Population	4,653		489,864		10,126,607	
White	848	18%	44,364	9%	2,574,321	25%
Black	60	1%	4,110	1%	736,059	7%
American Indian	5	0%	18,678	0%	18,678	0%
Asian	515	11%	90,737	19%	1,599,708	16%
Pacific Islander	0	0%	771	0%	28,542	0%
Other race	6	0%	558	0%	23,066	0%
Two or more races	25	1%	3,733	1%	194,128	2%
Hispanic	3,192	69%	344,666	70%	4,952,101	49%

increase at 5 miles to 42% and increase again at 25 miles to 53%. The Park's open space and recreation will be vital for this population.

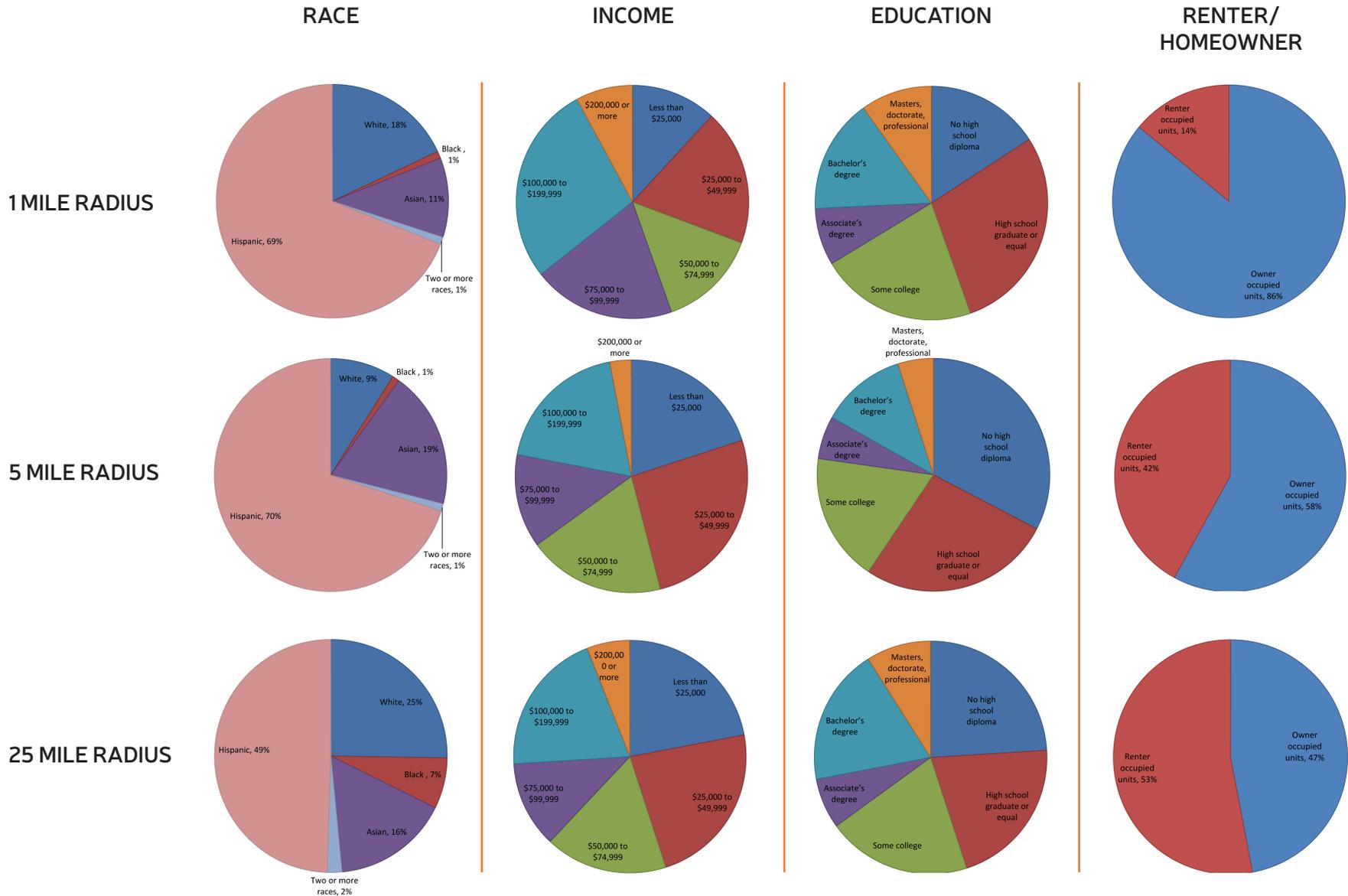
### Trends Impacting Parks and Recreation

Future park trends greatly affect the development and implementation of the Park Master Plan. Overarching considerations include well-documented links between health and exposure to green trees and nature, wellness and daily exercise, and human population growth and wildlife habitat protection. A park that inspires a healthy lifestyle can and will also protect and enhance wildlife populations over generations to come.

A key component to meeting the trends and needs of the future is planning for sustainability within the Park with a commitment to reducing environmental impacts.

Southern California regional park needs follow the national trends listed below. Parks must:

- Motivate a healthy lifestyle
- Manage an increase in visitorship
- Connect people with nature. "Nature Deficit Disorder" describes the modern problem of children growing up with diminishing exposure to nature, in a digitally immersed society
- Connect new and existing park and open space
- Connect users to their parks
- Stay relevant to millennials and beyond
- Serve an aging population
- Increase sustainability; green infrastructure will be increasingly important in the future
- Engage diverse communities
- Develop funding partnerships



DEMOGRAPHICS FOR THE 1-, 5-, AND 25-MILE RADIUS POPULATIONS AROUND THE FUTURE PARK AT THE PUENTE HILLS LANDFILL.

Source: U.S. Census Bureau, 2009-2013 American Community Survey.

## 1.7 COUNTYWIDE PARKS NEEDS ASSESSMENT

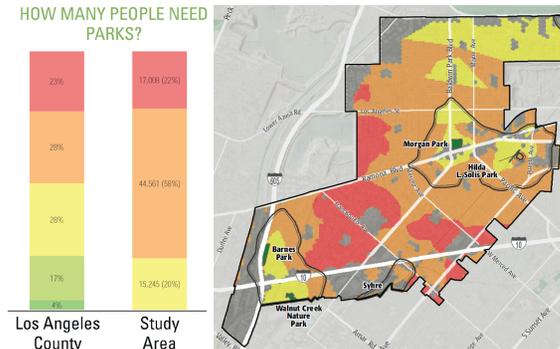
### Puente Hills Landfill Park Will Provide Needed Parkland Benefits for Park-Poor Communities

The recently completed *Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment*, adopted by the Board of Supervisors on July 5, 2016, determined that various communities adjacent to the Puente Hills Landfill Park site have a “Very High Need” or “High Need” for parks, including:

- Bassett/West Puente Valley (Unincorporated community)
- Valinda (Unincorporated community)
- Baldwin Park (City)
- El Monte (City)
- La Puente (City)

All of these communities have fewer than one acre of parkland per 1,000 residents, significantly lower than the County average of 3.3 acres per 1,000 residents and the County General Plan goal of 4 acres per 1,000 residents. Also, the percentage of residents in these communities living within one half-mile of a park is below the Countywide average of 49 percent.

The Parks Needs Assessment establishes the first-ever framework to assess park need from a Countywide perspective, and “In initiating the Parks Needs Assessment, the Board of Supervisors has affirmed the importance of parks as essential infrastructure in the County. Healthy, safe communities have thriving parks that contribute to public health and well-being, create a sense of place, increase community cohesion, improve the environment, and boost the economy.” (Executive Summary)



**EXAMPLE: THE CITY OF BALDWIN PARK HAS “VERY HIGH PARK NEED.” ONLY 22% OF RESIDENTS LIVE WITHIN 1/2 MILE OF A PARK, COMPARED TO THE 49% COUNTY AVERAGE. THE CITY ONLY HAS 0.3 PARK ACRES PER 1,000 PEOPLE, VS. THE COUNTY AVERAGE OF 3.3.**



**PARKS ARE KEY INFRASTRUCTURE NEEDED TO PROVIDE QUALITY OF LIFE BENEFITS FOR ALL COUNTY RESIDENTS.**

## PARKS AND PUBLIC HEALTH IN LOS ANGELES COUNTY:

A companion report includes key takeaways which inform master planning of the Puente Hills Landfill Park.

*Parks and Public Health in Los Angeles County* (Los Angeles County Department of Public Health, May 2016) complements the Parks Needs Assessment and provides further information on the important relationships between parks and public health. Important takeaways include:

- **Provide recreational programming for increased physical fitness.**

“The presence of recreational programming has been shown to greatly increase the numbers of persons engaging in moderate to vigorous physical activity in parks and other recreational settings.”

- **Provide programming to activate spaces and increase physical activity, safety and social cohesion.**

“By activating outdoor spaces via ... organized activities, programming can help parks feel safe ... Programming can therefore increase social cohesion as well as increase physical activity.”

- **Provide safe bike and pedestrian access to, within and between parks.**

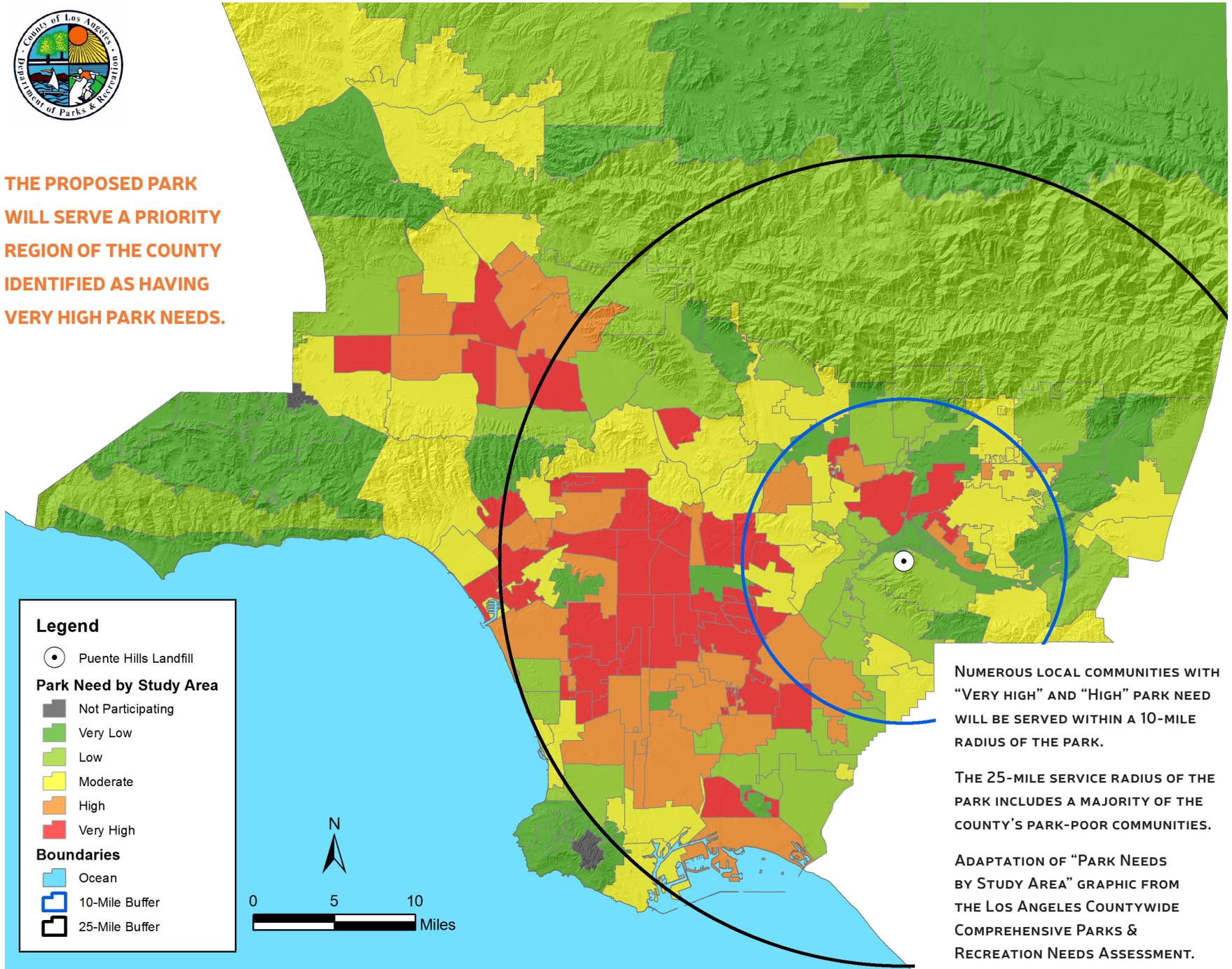
“Parks and the streets around them should be designed to encourage easy and comfortable access for all types of users, including those without a car. Bike and pedestrian paths within the park should connect and integrate with public transit stations and the transportation patterns of the surrounding community to encourage maximum use.”

- **Provide parks to improve community health and economics.**

“Cities and communities with less park space per capita on average had higher rates of premature mortality from cardiovascular disease and diabetes, higher prevalence of childhood obesity, and greater economic hardship compared with cities and communities with more park space per capita.”



**THE PROPOSED PARK  
WILL SERVE A PRIORITY  
REGION OF THE COUNTY  
IDENTIFIED AS HAVING  
VERY HIGH PARK NEEDS.**



**Legend**

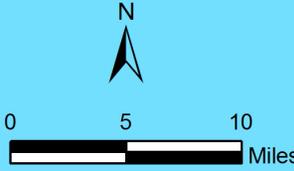
● Puente Hills Landfill

**Park Need by Study Area**

- Not Participating
- Very Low
- Low
- Moderate
- High
- Very High

**Boundaries**

- Ocean
- 10-Mile Buffer
- 25-Mile Buffer



**NUMEROUS LOCAL COMMUNITIES WITH  
“VERY HIGH” AND “HIGH” PARK NEED  
WILL BE SERVED WITHIN A 10-MILE  
RADIUS OF THE PARK.**

**THE 25-MILE SERVICE RADIUS OF THE  
PARK INCLUDES A MAJORITY OF THE  
COUNTY’S PARK-POOR COMMUNITIES.**

**ADAPTATION OF “PARK NEEDS  
BY STUDY AREA” GRAPHIC FROM  
THE LOS ANGELES COUNTYWIDE  
COMPREHENSIVE PARKS &  
RECREATION NEEDS ASSESSMENT.**

## 1.8 COMMUNITY WORKSHOPS AND VISIONING

Creation of the Park vision was reliant on the early outreach efforts to adjacent communities, special interest groups and agencies. Over the 18-month project planning timeline, the Department of Parks and Recreation in tandem with the consultant team listened to and documented the public’s needs and interests.

Based on the terms of the Conditional Use Permit which identified both passive open space and recreation as appropriate for the new park, a rich variety of park elements were selected for initial discussion and voting. A preliminary distilling of workshop information resulted in the development of several schematic park designs. This alternative plan development process actively sought diverse opinions, as listed below, to form three multi-layered, community-driven designs. The preferred design reveals the concept of a “park for all users” that reflects the opinions and efforts of many people.

- 5 Community workshops with Spanish, Mandarin and Korean translation

Workshops	Date	Attendance (signed-in)
Community Visioning	8-24-15	124
Alternative Concepts	9-30-15	111
Preferred Park Concept	11-3-15	65
Environmental Scoping	1-27-16	80
Public Outreach & Draft EIR Review	6-29-16	96



A SERIES OF FIVE COMMUNITY WORKSHOPS INVITED A COLLABORATIVE PARK VISIONING AND PLANNING PROCESS.

- 6 Mobile outreach events
- 5 Technical Advisory Committee meetings

### Interactive Public Feedback Methods:

- Post-it note visioning
- Electronic preference voting
- Sticker preference voting
- Flip chart comment stations
- Chalkboard “selfie” stations
- Workshop comment cards, letters and e-mails

### Six distinct park components emerged from this early process:

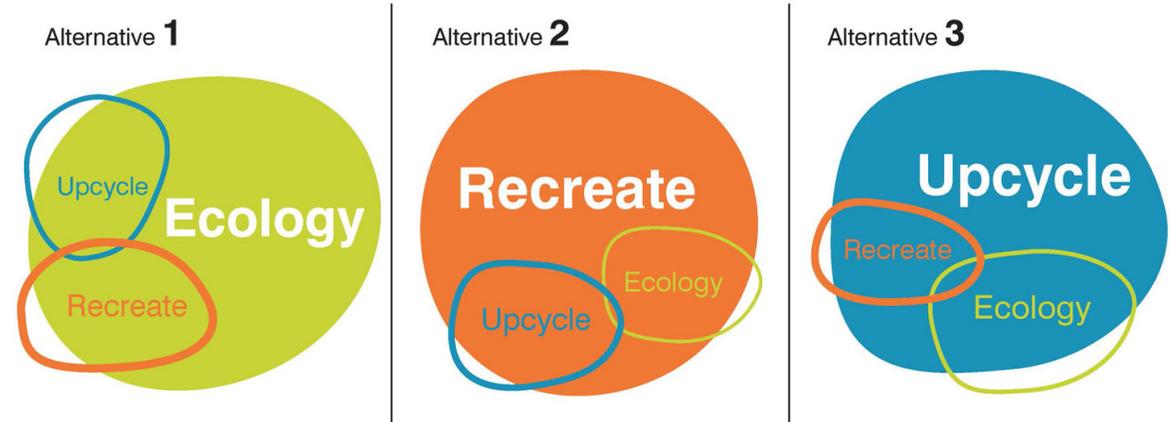
**Provide connections to nature:** Local residents hope the future park will complement or expand the neighboring Habitat Authority Nature Pre-

serve area. The public majority wants the site to be as natural as possible, with native habitat for wildlife emphasized. Given that the industrial qualities of the site will remain for up to seven decades, the master plan can identify the first steps towards this goal while building a park for public recreation.

**Provide ways for people to be healthy and active:** Regionally, the public is seeking fitness and recreation opportunities including trails for hiking and running, mountain biking and equestrian use. A strong bicycling constituency also emerged. Some users desire bike trails. Others voiced the need for a public bike skills park in the area and hoped the Park will offer activities for which they currently must travel further.



THE THEMES OF ECOLOGY, RECREATE AND UPCYCLE WERE CONSIDERED.



**Provide active sports facilities:** Both local residents and citizens from surrounding cities who experience the regional shortage of municipal sports fields voiced the need for these facilities. Due to the technical difficulties of the site's extreme land settling, however, it was determined that sports fields would be unsustainable at this site for at least the next 30 years, due to tremendous challenges to keep fields safe, level, irrigated and properly maintained.

**Provide access:** The local community emphasized the need for access to the large park from all directions. People also want the extremely hilly site to offer access and experiences to all users, regardless of mobility. Opinions are not unanimous on this topic as some homeowners have experienced unwanted activity at the neighborhood entries. As park phases are implemented over the decades, access issues will be reviewed and analyzed to find equitable solutions.

**Alleviate pressures on the existing Puente Hills trails:** Documented trail survey counts indicate that local trail usage is growing exponentially. The increased trail use has put pressures on

trailheads, parking, trail maintenance, residential congestion and wildlife habitat. Focusing on park ecology as a central theme lends hope that the future park will offer expanded trails and alleviate the problem of local hills being "loved to death."

**Provide gateways to environmental stewardship:** People are interested in the site as a catalyst for learning about critical environmental issues. An emphasis on park sustainability includes new technologies, environmental stewardship and education. Educational components that draw on the landfill's history and location include gas to energy conversion, recycle and reuse, and waste stream reduction in the post-industrial era.

**Park Themes: Ecology, Recreate, Upcycle**  
The design team coalesced the main themes that emerged from site analysis and the community/stakeholder visioning process into three alternative concepts.

**Ecology:** Emphasize habitat enhancement, native flora and fauna, nature education and programs, trails, scenic overlooks, and interpretation.

**Recreate:** Provide dynamic, active fitness options. Expanded fitness, family activities and programming.

**Upcycle:** Elevate the opportunity for a hybrid park to co-habitate with a working industrial facility; highlight the fascinating infrastructure and leverage the landfill site's history to inspire environmental awareness, sustainability, and innovation.

Results of public voting clearly selected ecology as the main theme. However, family recreation and fitness dominated the selection of recreational elements that were chosen for the new park. The preferred park concept retains aspects of the other themes as each alternative proposes unique solutions that can be transferred over to the ecology theme. As the ongoing post closure landfill maintenance will continue to be integral to future park development, the preferred park concept will embrace the specific requirements necessary for the environmental systems on the site. The design recommendations of the Draft Master Plan will remain flexible as co-operation agreements are finalized.

## 1.9 COMMUNITY ENGAGEMENT PROCESS

The outreach process is integral to the planning framework for ongoing discussion regarding the future park. The Department of Parks and Recreation remains committed to an open and equitable public process as the park plan is scrutinized in more detail through the CEQA process.

A robust dialogue continues between multiple agencies, policy makers, experts, communities, and local and regional stakeholders in anticipation of the final park design and its significance as a regional facility.

Comments received from the Draft Environmental Impact Report public comment period are gathered and formatted as part of the Final Environmental Impact Report. Interest in the project is anticipated to increase as public engagement continues throughout the duration of the project.

### Stakeholder Input Summary

A total of 18 organizations participated in a fact-finding and visioning process. Although all residents, employees, and visitors, are “stakeholders” in the neighborhoods’ long-term future, these initial meetings targeted individuals representing a diversity of interests and organizations to explore a broad range of issues and needs. The individual/small group nature of these discussions enabled participants to be more candid and in-depth than they otherwise might be in a larger community forum. Moreover, discussions could be focused on the topics important to each individual organization.



COMMUNITY FEEDBACK ACTIVITIES INCLUDED CHALKBOARD “SELFIE” STATIONS TO SHARE WHAT PARTICIPANTS LOOK FORWARD TO AT THE FUTURE PARK.

Outcomes reflected public input with one major addition. The majority of stakeholders envisioned the Park as a destination with a “WOW” factor that is completely unique to the region and would contribute to local economic improvement.

### Interviews, Presentations and Tours

- 18 stakeholder interviews
- 8 Park Ambassadors
- 12 community events
- 7 city and school board presentations
- 13 community group presentations
- 19 youth/school outreach presentations
- 2 public information hike/bike site tours
- 3 agency and media site tours

### Communications

- E-mail blasts: Database of 660+ residents, officials, agency and organization representatives
- Postcards: 3 workshop notices to database addresses and 5,500 properties within 1/2 mile of the project boundary
- Flyers: Local schools, community centers, churches, organizations
- Project website: [www.PuenteHillsLandfillPark.org](http://www.PuenteHillsLandfillPark.org) regularly updated with outreach schedule, workshop presentation archive, EIR documents, project background, photo gallery, inspiration and media links, e-mail subscription and contacts, with language translation engine



MOBILE OUTREACH AT COMMUNITY EVENTS SPREAD AWARENESS OF THE MASTER PLAN.

- Social media: Facebook, Twitter and Instagram accounts with sharable posts and videos
- Online media kit: Press release, Frequently Asked Questions, graphics
- Park4All public education campaign
- 8 Park Ambassador videos
- Compilation video for the Board of Supervisors

### **California Environmental Quality Act (CEQA) Process Input**

- 39 comment letters received for EIR Scoping Period
- 56 comment letters received for Draft EIR

### **Petitions of Support**

Two community petitions received support. As of October 12, 2016:

- 910 signatures, 294 additional change.org online signatures, and 75 comments support “the ‘Park for All’ Vision, Objectives and Plan”
- 402 change.org online signatures and 123 comments support “Create a Bike Park and Trail System at Puente Hills Landfill Park!”

### **City and School Board Resolutions and Letters of Support**

Resolutions and letters of support were received in response to the Draft EIR from:

- City of Baldwin Park, resolution
- City of El Monte, letters of support
- City of Industry, resolution
- City of South El Monte, resolution
- Rio Hondo College, resolution
- Hacienda-La Puente Unified School District, resolution



AERIAL RENDERING OF THE WESTERN, EASTERN AND SOUTHERN DECKS AT FULL BUILDOUT.



SAN GABRIEL MOUNTAINS NATIONAL MONUMENT

FLARE SITE

EASTERN DECK

SOUTHERN DECK

# 2.0

# PARK MASTER PLAN: SITE-WIDE



ABOVE: AERIAL RENDERING OF THE PARK AT FULL BUILDOUT OF THE MASTER PLAN. RIGHT: EXISTING VIEW.

## 2.1 PARK VISION AND OBJECTIVES

### The Park Vision

A highly industrial landscape will be lightly re-tooled to provide a recreational experience emphasizing the enjoyment of trails, fitness, scenic views at the top of the site, landfill history and the flora and fauna of the Puente Hills. New park elements will incorporate some of the fascinating industrial structures, adding to the unique qualities of this special place.

As a destination, facilities planning and development must encompass and solve the challenges of recreating on a landfill. This will be accomplished by inviting the public to gather in two specific areas, one area at the bottom and one area at the top of the mountain. From these distinct gathering spots, a variety of recreational activities will be available. The combination of unique and exciting facilities structures combined with unique and exciting park programming will provide a dynamic choice of recreational opportunities.

The front entry of the Park will be transformed to accommodate a park entry visitor center, a shuttle service gathering area, a trail lift and limited parking. Park visitors will be encouraged to board a shuttle, hike the Schabarum-Skyline Trail from Workman Mill Road, or take the aerial trail lift car which will ascend to a trail lift structure and scenic overlook located over the edge of the Nike site.

A one-way loop park road with an adjacent multi-use trail will accommodate vehicles, shuttles, bicycles, equestrians and pedestrians. All trails,

including the Schabarum-Skyline trail, will remain the central recreational element of the park with improvements to the trailheads, wayfinding, signage and trailside plantings.

Creating spaces for people while co-existing with post-closure landfill operations requires the construction of park elements which are either perched above the capped areas or easily moved on and off the shifting decks. Structures and amenities that cantilever over the site and aerial zip lines that are built over the slopes are light on the land. Custom site furniture, stairclimbs and slides can be easily moved and will be designed to be de-constructed and re-constructed as necessary to meet on-going maintenance needs.

Phased park development will include recreational elements that support sustainable technologies. These include bicycle rental, solar technology, a partially solar powered scenic trail lift to reduce emissions, electric car hook-ups, a Leadership in Energy and Environmental Design (LEED)-certified building, LEED environmental criteria, guided tours to the Materials Recovery

Facility, a MRF cam to view the daily waste cycle stream, interactive landfill settling measurement structure and rainwater capture. Later park phasing will include the de-commissioned Flare area. This industrial relic may evolve into a park destination with interpretive, educational and concessionaire components.

Landscape planting specifically for habitat enhancement will expand the mixed native chaparral and coastal sage scrub currently established on both the western and eastern slopes of the landfill. Underplantings of coastal sage scrub on the western deck slopes will in time connect the wildlife corridor between the adjacent preserve area and Ecology Canyon Significant Ecological Areas.

The landfill top decks will gradually evolve to native and drought tolerant grasslands dotted with compatible shrubs for wildlife cover with shaded trails throughout the decks for park visitors. A land bridge planted with native grasses and ephemerals will span the main park road and enclose a portion of the parking area.



## 2.2 PARK OBJECTIVES

1.	<b>Park For All</b>	Develop a “Park For All” that offers diverse, healthy, passive and active recreational experiences and programming for visitors of all ages, abilities, interests and backgrounds.
2.	<b>Unique Regional Destination</b>	Develop a regional destination park which uniquely reflects the site’s history, urban-wildland location, scale and topography.
3.	<b>Range of Recreation and Outdoor Fitness</b>	Develop a range of active and passive amenities to meet varied recreational demands and provide outdoor fitness opportunities to help address national trends related to inactivity, obesity and nature-deficit disorder.
4.	<b>Gateway to Nature for Diverse New Audiences</b>	Attract diverse, new audiences, particularly underrepresented or disadvantaged populations, to inspire connection to outdoor activities, nature, and environmental stewardship.
5.	<b>Integrated Recreation and Habitat</b>	Integrate active recreational facilities with natural habitats to enhance and sustain both the recreational and ecological functions of the park.
6.	<b>Wildlife Habitat Connectivity</b>	Promote and support wildlife movement and habitat connectivity through the Puente Hills Significant Ecological Area (SEA), the Rio Hondo College Wildlife Sanctuary SEA and the San Gabriel River.
7.	<b>Environmental Sustainability</b>	Demonstrate environmentally sustainable design and practices.
8.	<b>Multi-modal and Universal Accessibility</b>	Provide multi-modal, universal access and circulation into and through the park to the extent feasible.
9.	<b>Education and Interpretation</b>	Incorporate design elements for education and interpretation on the park’s unique landfill history and natural environmental features.
10.	<b>Captivating Trail Experience</b>	Provide a captivating trail experience within the park which also alleviates the overuse and degradation of the adjacent trail network.
11.	<b>Public Health, Safety and Landfill Operations</b>	Balance development of park facilities with landfill maintenance activities to protect public safety, water quality and meet the Sanitation Districts’ regulatory requirements.
12.	<b>Balance Multiple Objectives</b>	Balance multiple project objectives in a manner that considers the complex site constraints, park needs of the overall region, and the competing interests and needs of adjacent entities.

# 2.3 MASTER SITE PLAN



**Ecology**  
Recreate Upcycle



## 2.4 PARK FEATURES

The idea of a “Park for All People” shapes a new concept for a premier recreational experience in the heart of the Southland’s dense urbanization. Unlike traditional lands developed for parks, the functional patterning of the landscape for industrial use now becomes the new post-industrial language for many of the new park features including roads, forested slopes and scenic overlooks.

Inherent in the topography of this landfill mountain is a fitness course to wellness. Inherent in its ridgeline connectivity to the Puente Hills wildlife corridor and the Schabarum-Skyline trail are the solutions to an urban population’s nature deficit. Over time, with the puzzle pieces in place, the Park will be spectacularly responsive to its place above the San Gabriel Valley, greeting families at the Visitor Center and beckoning them to walk the Puente Hills ridgeline and play on the mountain top.

### **Access & Circulation:**

- Separate park traffic from Materials Recovery Facility (MRF) and Rose Hills traffic
- Roundabout to merge and turn safely
- One-way park road to control access and minimize conflict
- Trail lift for car-free experience

### **Ecology & Environmental Stewardship:**

- Visitor Center
- Interpretive overlooks & elements
- New trails: outer and inner loops
- Schabarum-Skyline Trail improvements

- Native plantings: grasslands and understory
- Native plant nursery
- Bird observation overlook
- Wildlife-proof trash cans
- Renewable energy, solar power
- Planted pedestrian bridge
- Materials Recovery Facility (recycling) tours
- Trail lift provides scenic views & site interpretation
- Eco-friendly mini café
- Westside bridge connection to Rio Hondo College

### **Recreate:**

- Running loops with mile markers
- Exercise terrace
- Stair climbs
- Play areas
- Picnic areas
- Performance space
- Bike rental
- Bike skills area
- Dog park
- Slides
- Zip lines
- Flare tower climb
- Temporary art installations

### **Hillside Amenities**

Utilizing the steepness of the site for fitness and gravity play, four stair climbs and two slides are proposed. Two zip lines are also located at the top elevation which will extend in opposite directions over the Park.

### **Fitness Amenities on the Top Decks**

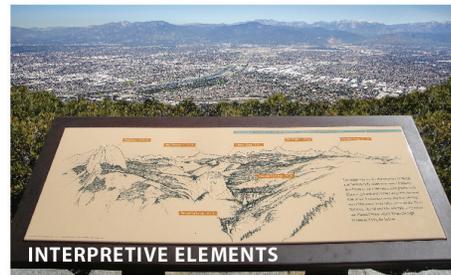
One of the top deck trails will be dedicated to a fitness running loop with distance markers. As the Western deck has settled more rapidly, this area will be developed first with a bike skills area utilizing the Sanitation Districts soil stockpile. Future phasing may move the bike skills area to the Eastern deck. A bike rental will be available for park patrons. The decommissioned Flare site will be developed for climbing and fitness as it is an intriguing feature adjacent to the Eastern deck.

### **Children’s Nature Play**

Nature play with loose parts (i.e. sticks, rocks, log rounds, fabric, crates, ropes, etc.) for young children is an ideal program in a park that must remain flexible in its use of any top deck area for many decades. The Park will encourage child fitness, waste stream awareness, history of the San Gabriel Valley and the Puente Hills, nature play with natural materials, wildlife education and native plant nursery growing.

### **Picnic Areas**

Picnic areas throughout the Park will be located near parking areas for family use. These areas will be planted to provide buffer and shade wherever possible. To encourage environmental stewardship the Park will promote zero-waste management and food containment to keep resident wildlife healthy.



THE PROPOSED PARK ELEMENTS WILL SUPPORT A WIDE RANGE OF RECREATION ACTIVITIES FOR A DIVERSE POPULATION.

## 2.5 VEHICULAR AND MULTI- MODAL TRANSPORTATION

One of the key objectives for park development is to provide multi-modal access and circulation throughout the Park and to ensure that inclusive mobility accommodations are provided for all user groups and people of differing abilities.

The Puente Hills Landfill Park Transportation Management Plan (TMP) was prepared in conjunction with this master plan to address these issues in further detail and inform the development and operations of the future park.

### Managing Circulation Challenges

Park conversion challenges facing the Department of Parks and Recreation (DPR) are most evident in the continuing demands for road use from a number of non-park activities. Portions of the park roadways will be shared by park visitors, staff and maintenance vehicles, Material Recovery Facility (MRF) trucks, Sanitation Districts landfill maintenance equipment, and potential Rose Hills funeral processions.

At the bottom of the hill, daily truck trips to the MRF are frequent and anticipated to increase. The MRF receives recycled materials from the region for salvage, and will remain in operation into the foreseeable future.

On top of and around the landfill, the Sanitation Districts will be performing regular inspections, maintenance, monitoring, and earth-moving, requiring shared park roads, travel routes and storage space. Rose Hills may potentially route funeral processions through the Park in



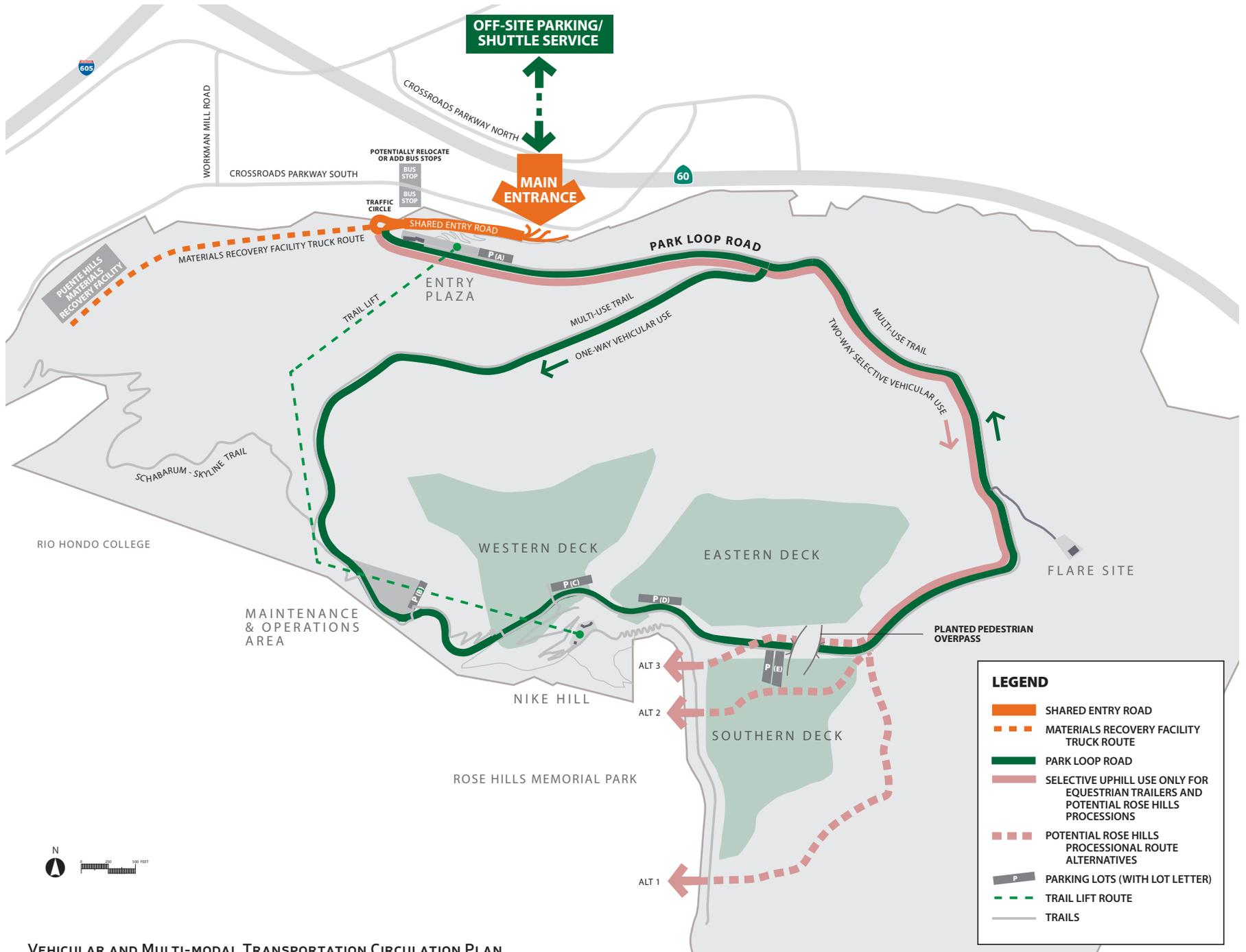
**(ABOVE) A TRAFFIC CIRCLE WILL SEPARATE PARK USERS FROM MATERIALS RECOVERY FACILITY TRASH TRUCKS.  
(BELOW) THE TRAIL LIFT WILL BE A DISTINCTIVE PARK FEATURE OFFERING UNIVERSAL ACCESS TO SCENIC VIEWS.**

the future; there are three alternative routes identified, which were analyzed to determine which would least impact park safety and activity.

Creating the Park Loop Road to accommodate a multi-use trail as well as vehicular traffic will involve redesigning the limited existing road widths, which are bracketed by methane pipes

and concrete drainage channels of varying sizes.

The topography of the site is also an enormous challenge for the public, the Sanitation Districts, and DPR to navigate on a daily basis. Additional maintenance resources will be necessary as continuous landfill settling creates unpredictable environmental conditions affecting the road.



VEHICULAR AND MULTI-MODAL TRANSPORTATION CIRCULATION PLAN.

### **Park Circulation: the Park Loop Road**

Creating an internal Park Loop Road will essentially re-purpose selected existing roads, with the addition of a connector road, to form an intensely utilized circulation system for multi-modal recreational activities.

At the bottom of the hill, the Main Entrance to the Park from Crossroads Parkway South will be a gated, multi-lane entrance road shared by the combined site users, including MRF trucks and park visitors (see Circulation Plan, page 49).

The combined traffic flow will be controlled for safety by a modified road system that may include: crosswalks at the street, additional road lanes, lane demarcation, wayfinding, and additional signalization or a traffic circle once inside the site.

From the shared entry road (solid orange), MRF trucks will continue straight (dashed orange), while park visitors will split off, turning left into the Park Entry Plaza, then continue up the hill on the Park Loop Road (green). Visitors will turn right to travel uphill in a counter-clockwise direction, and at the top a new connector road segment will complete the loop, allowing visitors to circulate through the park and return down the hill. (See road cross-sections, facing page)

### **Multi-modal Transportation**

The Park design is geared to limit vehicles in order to encourage multi-modal transportation to-and-from the Park (pedestrian, cyclist, equestrian, transit, off-site parking shuttle), as well as provide internal multi-modal transportation within the Park (shuttle, Trail Lift).

Parking on the top decks will be limited in order to encourage fitness, enhance park aesthetics and support the existing habitat corridor that

connects the Significant Ecological Areas in the Puente Hills. Limitation of vehicles on the top decks will ensure that the trails and magnificent viewshed overlooks are valued and protected as vital recreational components of the Park.

As the park matures and phased development is evaluated, elimination of parking lots and vehicles on the top decks altogether may become a priority as open space becomes increasingly valuable for recreation and/or habitat protection.

### **Multi-modal Park Transportation Solutions include:**

- Multi-use trail along the loop road throughout the park
- Seven miles of trail development
- Multi-use ADA entry access from Crossroads Parkway South
- Additional bus stops near the park entry
- Future connectivity to the Rio Hondo College Metrolink station
- Internal electric park shuttles for park patron pick-up and drop-off
- Event busing and/or shuttle service from off-site parking facilities
- Trail lift from Entry Plaza to the top of Nike Hill
- Equestrian staging area
- Bicycle rental

Both regional and internal multi-modal transportation opportunities will contribute greatly to the sustainability, educational and habitat protection ideals that the park embraces.

### **Internal Park Transportation and Parking**

In anticipation of the various traffic needs required of these challenging roads, park shuttles and a Trail Lift are proposed in order to relieve the potential for traffic congestion.

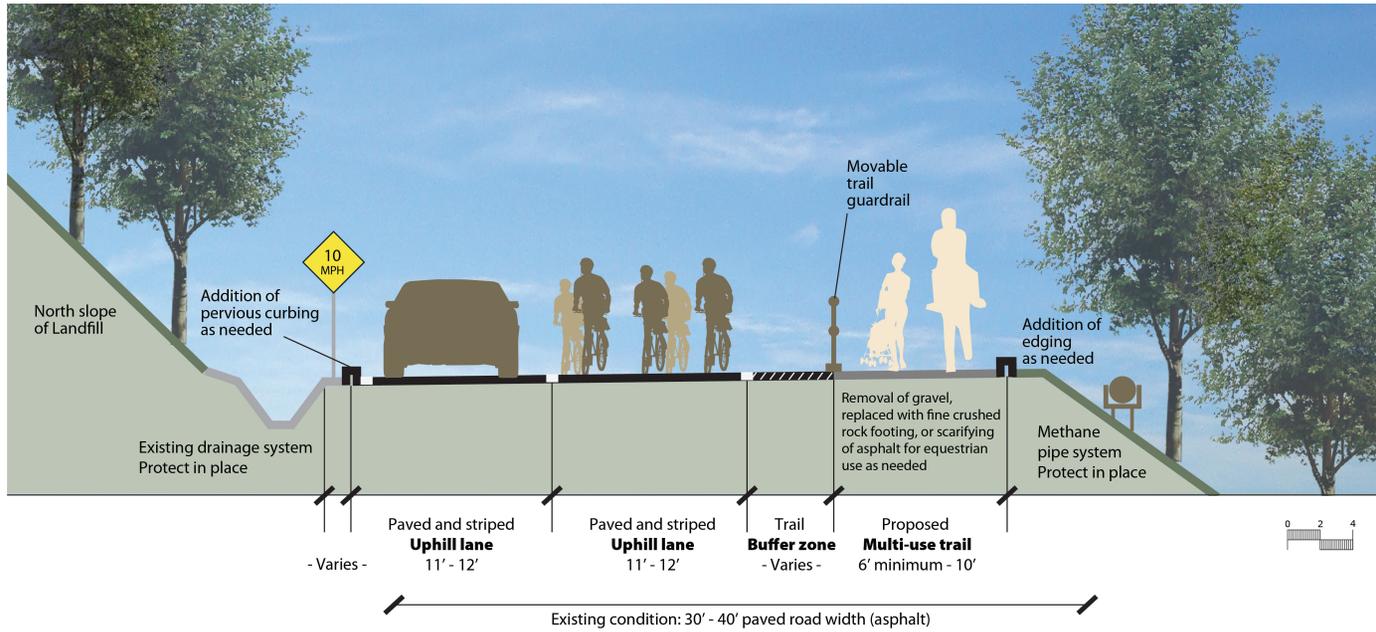
Off-site parking and a park shuttle will take visitors to the trail lift at the entry plaza or to the Western Deck for special programmed events.

The Entry Plaza associated with the Visitor Center will provide shuttle drop-off, bus loading and unloading, and park visitor gathering. A parking area at the base will be utilized for trail lift loading and for park patrons using the stair climb to the Western Deck and other fitness activities.

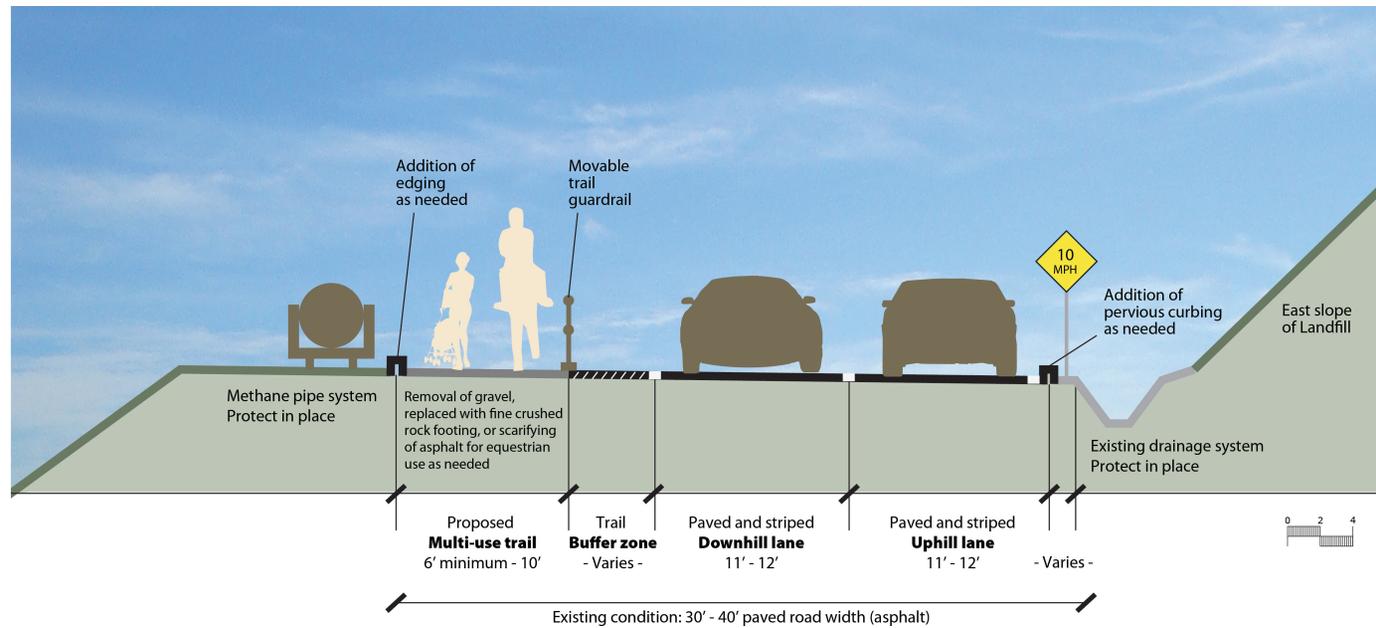
Five small gravel parking areas located near park facilities on the top decks are necessary for programming/event loading and unloading, family use, and for trail staging. Although the Park will encourage alternative modes of transportation, some parking will be necessary. The strategy for cars on the landfill is to disperse vehicles in five parking locations located close to the park loop road in order to preserve the expansive views from each of the top decks and from the Nike site outwards to the west, north and east.

A partially solar-powered Trail Lift is proposed as a transportation system option for park visitors to access hilly, difficult-to-navigate terrain. The Trail Lift will provide the opportunity for all park visitors, especially those with mobility difficulties to ascend 760 feet to the highest elevation of the park to enjoy the scenic views at the Nike Hill scenic overlook.

Visitors will rise above the treeline, taking in bird's eye views of the Park, the Gas-to-Energy Plant, and 360-degree vistas. The Park Trail Lift is an environmentally friendly and efficient method to connect two points when the challenge is steep topography. Additionally, these cable-propelled people movers will effectively reduce the impact of vehicles in the Park.



CONCEPTUAL WEST SIDE  
PARK ROAD SECTION:  
TWO LANES UP.



CONCEPTUAL EAST SIDE  
PARK ROAD SECTION:  
ONE LANE UP,  
ONE LANE DOWN.

## 2.6 MULTI-USE TRAILS AND EXISTING TRAIL ENHANCEMENT

A series of multi-use trails designed to climb the mountain, loop around the top of the park and link to the existing Schabarum-Skyline Trail will add over 14 miles of new trail experiences to the region. Trail users will be rewarded with extraordinary 180+ degree views high above the San Gabriel Valley.

### The Schabarum-Skyline Trail

Hikers, wildlife viewers, equestrians, and mountain bikers currently use the Schabarum-Skyline Trail which hugs the southern landfill boundary. This regionally significant 30-mile trail connects the San Gabriel Valley to the Puente Hills and the adjacent preserve areas.

An existing segment of the Schabarum-Skyline Trail on Rose Hills' property will be relocated so the trail is completely within the park boundary. This trail segment will be located on the M&O buttress fill area along with a section of the park loop road and an ADA accessible switch-back trail up to the scenic overlook. From the Schabarum-Skyline Trail, visitors will be able to connect to each of the park decks.

Enhancing the existing trail will be a priority for elevating the trail experience. Trails in the Puente Hills have experienced a tremendous increase in use in recent years, and the Schabarum-Skyline Trail is anticipated to become a major recreational component of the Park. Enhancements to the trail and the County's Workman Mill Road Trailhead will include signage, wayfinding, additional design elements and plantings.



THE SCHABARUM-SKYLINE TRAIL ENTERS THE PARK FROM THE SOUTH AND THREADS UP AND OVER NIKE HILL.

The steep slopes provide a premier trail workout experience. With one hour of trail climbing, a hiker can reach Nike Hill starting from the Workman Mill Road trailhead to the west, or the Hacienda Hills Trailhead to the east, via the Ahwigna Trail.

### Park Loop Road Multi-Use Trail

At Crossroads Parkway South, a visually beautiful, switchback ADA ramp and trail will provide safe access up to the Park Entry Plaza, avoiding the vehicular entry. The Park Loop Road Multi-Use Trail then begins, following the side of the road uphill to the top decks of the Park, providing a challenging fitness climb and four-mile trail loop.

### Internal Park Trails

An **Inner Loop Trail** connecting the three decks will evolve as the decks settle and stabilize. From this main trail, decomposed granite paths will connect to ADA-compliant **Deck Loop Trails** around the edge of each top deck. Internal paths and trails across the top decks will provide a scenic recreational experience and lead to the

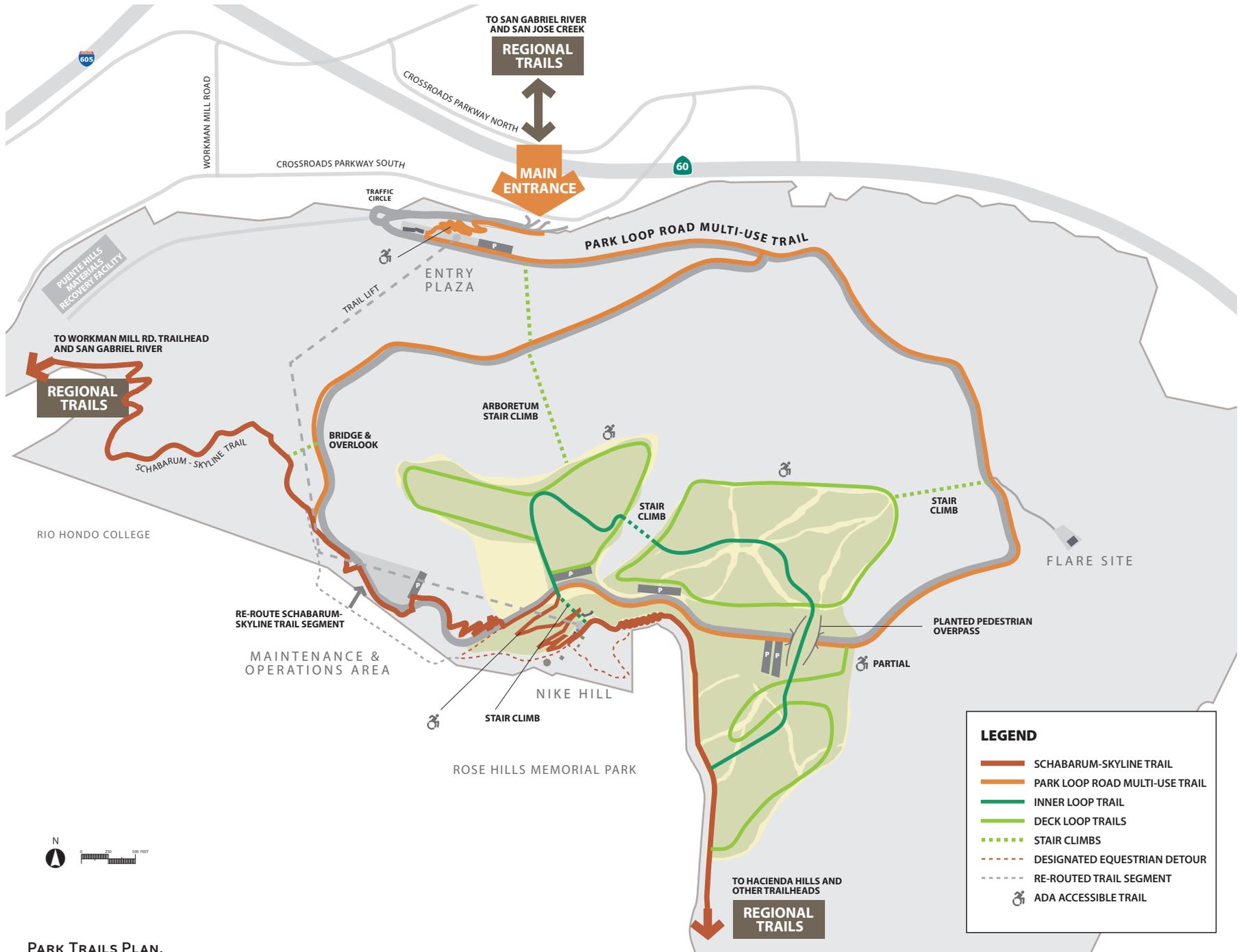
various interior park spaces. The top deck trail systems may combine or separate trail users: pedestrians, equestrians and bicyclists.

### Connectors: Stair Climbs and Bridges

Four stair climbs and two bridges are key circulation connectors for the Park. The Nike Hill stair climb is within Phase I. Both the planted pedestrian overcross connecting the eastern and southern decks, and the pedestrian bridge overlook on the west side of the Schabarum/Skyline trail will be the last park features to be installed due to landfill settlement.

### Design goals for internal and adjacent trails:

- Improve existing trailheads
- Improve existing multi-use trail condition
- Enhance planting
- Design and implement wayfinding signage
- Add trail interpretation
- Add mileage markers
- Provide fitness trail loops
- Link park trails to regional trails
- Implement stair climbs and bridges in key locations in later park phases



PARK TRAILS PLAN.

## 2.7 PARK STRUCTURES & ARCHITECTURAL STYLE

### **Sustainability**

In a Southern California park setting, and at the Puente Hills Landfill in particular, the opportunity for sustainable design is most appropriate, and these buildings aspire to be of the highest standards of sustainability.

The buildings will be designed to be energy neutral, at minimum, and energy producers ideally. Fresh air, natural light, easy indoor-outdoor flow will be the basic attributes of sustainable and inspiring buildings.

The Park will be realized in a time of rapid technological advancement and new environmental aspiration. Technologies of today and tomorrow will allow for virtually every surface to be a source of energy production and conservation. This will build on a major legacy of the Park, the enormous production of energy from methane. Carbon-free photovoltaics, wind, water capture-and-cleanse, all of these exist today and will be second nature in these buildings and places.

All surfaces, roofs, walls, and ground plane will be designed to control, conserve, cleanse, and utilize nature's resources, particularly the water and sunlight that come in contact with them.

### **FACING PAGE,**

**UPPER: RENDERING OF THE PARK ENTRY PLAZA**

**MIDDLE: TRAIL LIFT EXAMPLE**

**LOWER: MODULAR BUILDING EXAMPLE FOR  
MAINTENANCE & OPERATIONS YARD**

### **Architectural Style and Function**

The architecture for the future Park will create a sense of place and style that basks in light, and sits lean and light on the land.

The landscape will be an important partner to the proposed patios, projecting balconies and adjacent outdoor spaces that the architecture creates. Canopied places of arrival and focus will nurture community pride, gathering, work (for staff), and repose.

While not necessarily large in actual area, each roof structure will be designed to mark its place with an appropriate level of importance. Roofs and canopies will harness and control the sun's light and energy while providing shade and dappled light. These canopies will unify indoor and outdoor spaces to enhance the activities that will happen under them.

Color will be a powerful and cost-effective tool to enhance the Park, predominantly emphasizing natural places and processes, and succinctly spotlighting the handful of small, but powerful new places of focus within the vast 1,365-acre site. Earthen colors will meld built form, particularly stairs and path-related structures, into the land.

Light, occasionally bright and fresh color will be employed to provide a sense of joy and playfulness. These colors—whites, reds, oranges, yellows, greens, blues, silvers, black and grays—will embrace the inventiveness of this Park.

Nature, the rustic, and the relationship to the past, present, and future drive this mixed palette of earthen tones and brighter colors, each in its place—to maximize a powerful sense of place.

White and silver canopies will capture the sun's light and its shadows in ways that can be exhilarating. Fresh and light as they provide protection from harsh sun, they will also highlight the blueness of the sky above these canopies on both clear and gray days.

The Visitor Center will have a large canopy that will unite the existing Sanitation Districts and new Parks & Recreation offices. It will meld new indoor rooms and outdoor patios and terraces with spectacular overlooks to the north, and the verdant slopes of Puente Hills' northern slopes to the south. It will capture the essence of the place, a working post-industrial site and a park, all coming together at the Visitor Center.

The Nike Hill overlook with its canopies and terraces extending out from the hill will showcase the ravishing views of a large portion of Los Angeles County. Elsewhere, prefabricated service structures can be selected to match the architecture style created for the Park.

Transformation of this place is the big idea here. It can be the embodiment of the awesome optimism of this park endeavor in simultaneously bold and delicate ways.



## 2.8 ADAPTIVE AND MOBILE POP-UP STRUCTURES

Conditions on the landfilled decks will require the use of adaptive and mobile structures in lieu of traditional park structures and elements. The Sanitation Districts' gas monitoring engineers must be able to scan all surfaces for soil cracks. Structures like shade pergolas, park furniture and fencing, therefore, cannot be permanent on the decks and must be solved with alternatives. Instead, adaptive and mobile structures and vehicles can do the same jobs as fixed park elements, with the added benefit of being able to "pop-up" around the park and adapt to changing needs.

These items should aspire to be functional art pieces which uniquely accentuate the park. Using public art funding for innovative designs, these structures can express the park's distinct identity.

### **Mobile Ranger Vehicles and Activity Carts**

A recent phenomenon fusing rangers, hands-on activities and food truck culture, mobile "roving ranger" vehicles are flexible, portable interpretive centers with eye-catching graphics, staff and interactive experiences.

Examples range from the National Park Service's \$92,000 "LA Ranger Troca" truck to the Friends of the Los Angeles River's "River Rover," a 38-foot long, \$500,000 mobile visitor center/classroom. For smaller activities, simple push carts like those used at the Huntington Library and Gardens, or tables and chairs, can be set up for pop-up programming with live plants, artifacts, and other objects.

### **Shade Structures**

Pop-up tents and larger tensile shade structures will be needed to provide shade at numerous locations until tree canopies mature. These offer opportunities for striking aesthetic designs. Anchoring can be accomplished with stakes in the ground and ballast blocks or bags (weights).

### **Performance Shell**

The performance shell is a major structure on the Western Deck. Remarkable units are available which can be taken down or relocated as needed, but are optimized for structural efficiency and sound quality (see photo, Section 3.4).

### **Movable Fencing**

At least four types of semi-permanent or temporary fencing will be required at the park:

#### **Separation fencing: Multi-use trail/Road**

Approximately 17,000 feet of low fencing will separate the park loop road from the multi-use trail. The Sanitation Districts periodically patch the road or re-asphalt it as it buckles due to subsurface settling, and the multi-use trail may require similar maintenance. The fencing must be impermanent to allow such access.

#### **Demarcation fencing: Decks/Slopes**

Approximately 19,000 feet of boundary-marking fencing will be needed to demarcate off-limits landfill slope areas. This fencing at the decks' edges may be located downslope of visitors, to keep scenic views clear. Continuous wire fencing will likely be too costly for the great distances required, would be challenging to move for

monitoring access and maintenance, and could appear off-putting and cage-like. Instead, an inexpensive solution like low posts and rope or chain, familiar in zoos and botanical gardens, may effectively demarcate the park boundary.

#### **Perimeter fencing: Bike skills, Nature play**

Fencing of these areas can be low and informal, indicating the boundary of the bike skills or nature play areas, but not requiring seamless security like the dog park or nursery.

#### **Secure perimeter fencing: Dog park, Nursery**

Secure semi-permanent fencing will be required for the dog park area to keep dogs from escaping, and for the native plant nursery area to deter wildlife from consuming young plants.

#### **Furniture: Picnic Tables, Benches, Trash Cans**

Park furniture on the decks will likely need to be loose. Although installing footings in the soil cover is possible, over time these items may upheave due to differential settling. Instead, lighter, loose furniture which spreads its weight distribution can allow flexible adjustment in response to changing conditions.

#### **Storage Containers/Sheds**

Secure on-deck storage may be needed for loose items such as banners, folding tables and chairs, hands-on materials, etc. On the Western Deck, nature play materials may stay outside or be stored in bins. On the Eastern Deck, bike rental is envisioned in a converted cargo container or the like. These storage containers/sheds will need to be movable for monitoring access.



CLOCKWISE FROM UPPER LEFT: A SEMI-PERMANENT PERFORMANCE SHELL WOULD ALLOW FOR SANITATION DISTRICTS' MONITORING NEEDS. A MOBILE RANGER VEHICLE LIKE THE NATIONAL PARK SERVICE'S "ROVING RANGER" CAN PROVIDE POP-UP PROGRAMMING ANYWHERE IN THE PARK. SHADE STRUCTURES SUCH AS "STRETCH TENTS" WILL OFFER VERSATILE COVER FOR EVENTS. MOVABLE DEMARCATION FENCING CAN ADD TO THE PARK IDENTITY WITH STYLE AND COLOR. ALL STRUCTURES, EVEN CANOPIES, SHOULD ASPIRE TO BE FUNCTIONAL ART PIECES THAT CONTRIBUTE TO THE PARK'S UNIQUE "LOOK AND FEEL."

## 2.9 PRELIMINARY GRADING, DRAINAGE, EROSION CONTROL & WATER QUALITY PLANS

The park experience will, throughout the many phases of growth, be defined by the previous industrial shaping of the landscape. Visible stripes on the mountainsides reveal the intensive grading and drainage patterning necessary to shed water rapidly off of the top decks and slopes. Also visible for miles around is the flat topped profile of the site contained within the Puente Hills; the telltale signature look of a modern landfill. The complex functions that initially created the aesthetics of the landfill will remain in place for many decades to come. A maturing of the park landscape will be a dynamic process, influenced by the shifting, settling land and the capacity to gradually alter what is there now in order to nurture the needs of people and enhance native habitats for wildlife.

### **Site Hydrology**

Stringent water restrictions on the top decks require close monitoring of both natural rainfall and proposed irrigation in order to prevent infiltration into the fill and protect groundwater quality. However, the top deck's monolithic clay cover ("mono-soil") also needs planted cover to prevent erosion, and a certain moisture (water balance) maintained to prevent cracking and gas escape, while avoiding soil saturation and soil percolation. Erosion control and positive drainage are the fundamental requirements of the park's three top deck areas.

Reliance on seasonal rainfall alone in a region experiencing drought conditions is difficult and most likely is not an option for the maintenance of protective plant cover. The goals of sustainability for the park must include the maintenance of drought tolerant plantings for erosion control, water balance in the clay caps of the top decks plus the establishment of the hedgerows, grasslands and coastal sage scrub slopes that make up the park landscape.

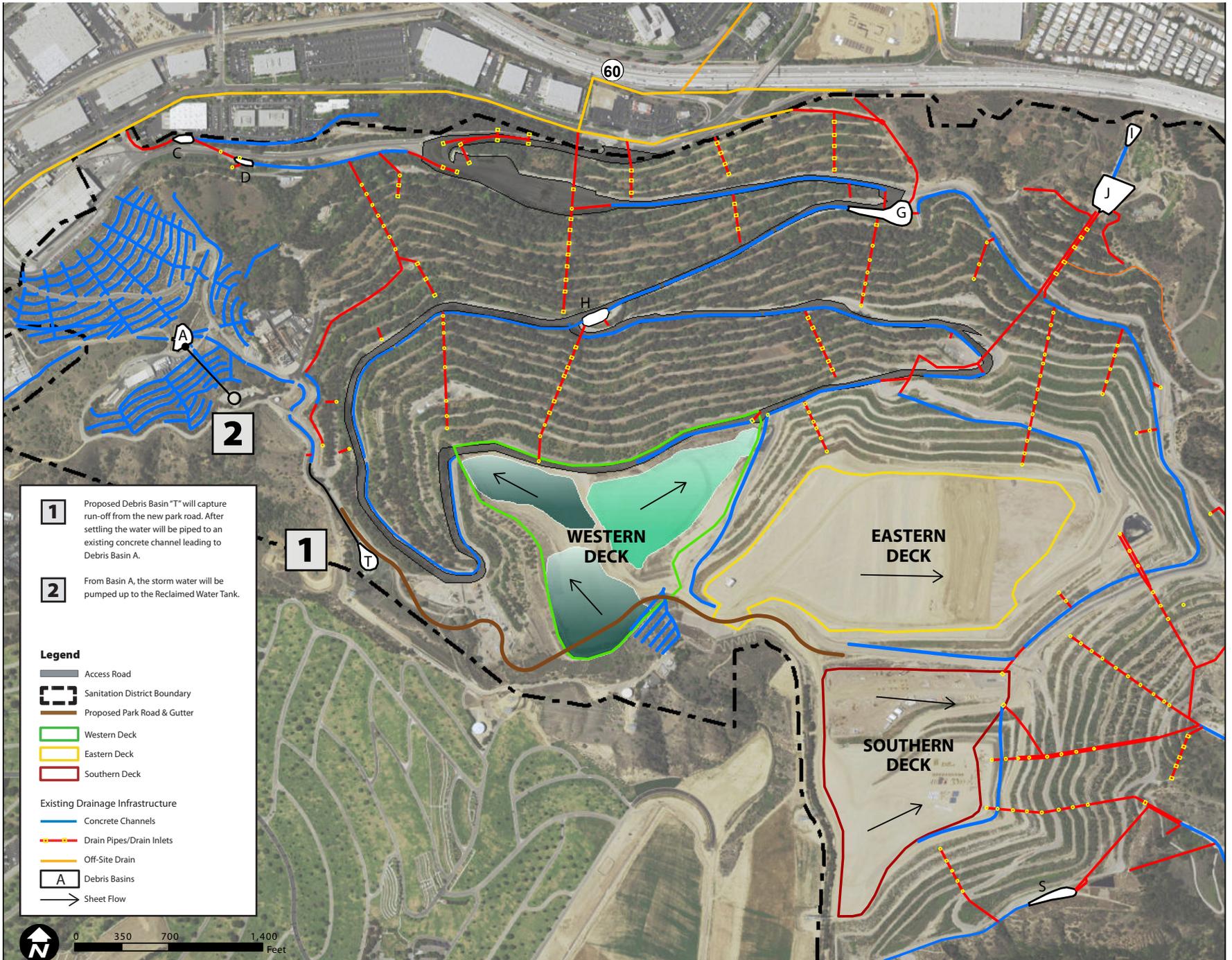
Future application of monitoring tubes and soil moisture probe technology may bridge the reduced water need requirement of the landfill caps with the shade and aesthetic needs of a park landscape. These strategically placed irrigation components can ensure that the wetting systems beneath a shallow layer of import material will not saturate the clay soil and may provide the solution to new plant establishment.

### **Water Capture**

Although the Sanitation Districts use reclaimed water from the San Jose Creek Water Reclamation Plant for the establishment and maintenance of plant material, dust control and soil compaction, stormwater capture may become necessary in order to supplement the allotment of reclaimed water available for the park. Water conservation has reduced the availability of reclaimed water as well. Proposed stormwater capture includes the creation of a sediment basin,

utilization of the existing drainage system and a water treatment mechanism. Efforts to capture stormwater runoff for irrigation may be necessary to counterbalance or remove salt buildup over time from the reclaimed water supply.

Steps towards a sustainable park include approvals from regulatory agencies. The balance of parkland needs and environmental system monitoring and maintenance will require on-going communication, research, discovery and creative solutions. Over time, the overarching park objectives of sustainability and education will gain momentum. The availability and placement of utilities, water sources, and park structures will significantly define what the Park becomes.



THE EXISTING DRAINAGE SYSTEM PREVENTS STORM WATER PERCOLATION INTO THE LANDFILL.

## 2.10 SUSTAINABILITY PLAN

The realization of a new future for this magnificent site harnesses the existing innovations of gas to energy and recycling with new sustainable technologies. By actively modeling environmentally sustainable design and practices, the Park as it evolves will place the County in a regional leadership role for sustainable practices.

The **over-arching goals** for the Park will be:

- Modeled on healthy systems and processes.
- Compatible with responsible stewardship of the planet.
- Evaluated for reduction of impacts on scarce resources.
- Capitalize on contextual opportunity with the regional ecology of the Puente/Chino Hills.

**Park planning and practice** will consist of:

- Plans that will be evaluated against sustainable design performance criteria.
- Sustainable landscapes that may model on the Sustainable SITES Initiative rating system.
- Sustainable buildings that may model on the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) criteria.
- Recreational elements that will be developed that are "light on the land" and support sustainable technologies.
- A prefab building for the Maintenance and Operations facility that will be implemented.
- Use of existing topography vs. extensive land grading as a design feature and mitigation measure.

- Minimized pavement application reduces the impacts of stormwater runoff.
- Mobile, "pop-up" programming vs. resource-intensive bricks-and-mortar facility needs is part of the park programming objectives.
- An native plant nursery will provide educational and habitat enhancement opportunities on-site.

**Renewable Energy Systems** will consist of:

- Solar (photo-voltaic) panels will be a part of infrastructure development.
- Electric vehicle hook-ups will be installed
- Electricity generated at the on-site Gas to Energy facility can be used at the Park.
- Hybrid technology including solar/electrical and electrical/natural gas may be utilized for:
  - Trail Lift
  - County maintenance Equipment (solar powered blowers)
  - Park vehicles
  - Mobile educational carts
  - Concessionaire facilities

**Sustainable design features** will include:

**Multi-Modal Transportation**

- Limit vehicular access over time as the park matures.
- Provide for off-site parking.
- Utilize solar-powered electric park shuttles.
- Design and implement partial solar-powered electric trail lift. (Model: Telluride "Green Gondola Project" powered by local solar arrays)

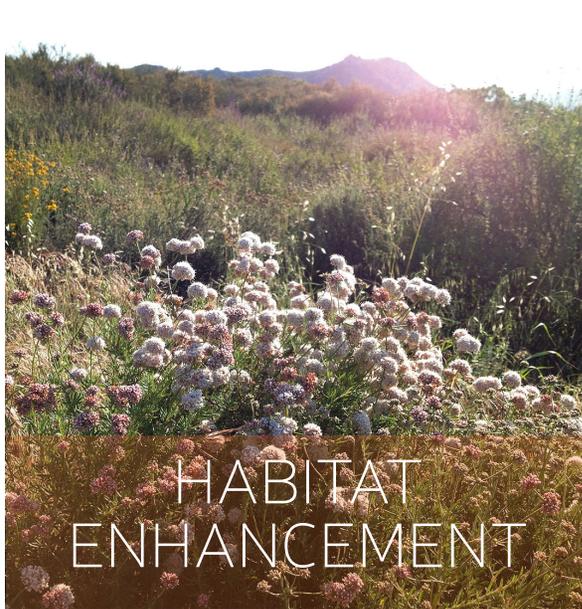
- Promote regional transit, biking, walking, hiking and equestrian access.
- Provide bicycle rental.
- Capitalize on regional connections to Emerald Necklace, Schabarum-Skyline Trail and potential future Metrolink station(s).

**Water Management**

- Capture and reuse stormwater utilizing existing on-site retention basins for 'soft water' flush of saline build-up.
- Share existing recycled water system for supplemental park irrigation.
- Commit to low-water, native plantings to reduce water consumption and enhance habitat.

**Reuse and reduction of waste**

- Explore creative reuse of reclaimed materials and discarded products.
- Enforce plastic bottle ban. The park will have water refilling stations. Visitors are encouraged to bring their own reusable bottle or purchase one. (Model: Bottle-free policies at National Parks such as Zion and Grand Canyon have eliminated 60,000 plastic water bottles per park, equal to 5,000 pounds of plastic waste avoided annually).
- Create programs to include interpretive & public art utilization of recycled materials.



HABITAT  
ENHANCEMENT



RENEWABLE  
ENERGY



RAIN  
CAPTURE



SUSTAINABLE  
DESIGN



NO DISPOSABLE  
BOTTLES



WASTE  
AWARENESS

PUENTE HILLS LANDFILL PARK WILL TAKE A LEADERSHIP ROLE IN THE COUNTY FOR DEMONSTRATING SUSTAINABLE PRACTICES.

## 2.11 PARK LANDSCAPE

The proposed planting is a rich mosaic of ecologies. This industrial, altered landscape is a novel ecology; patches of natives and non-natives that are mixed on the top decks of the landfill. The park, as part of the landfill, is not covered over. By moving park users through shade and sun, planted and open, the created moments of the industrial landscape are revealed. Sown grassland strips of varying heights create strata of texture. Over this are shrub layers in patterns that define outdoor rooms for flexible park spaces. The ecology of the Park is the 'base layer' on top of which are the flexible programmed spaces, the bird observation areas, the interpretive areas and the trails throughout the top decks.

### **Hedgerow Planting**

The dominant design focus is a weaving concept that pulls together the various landscape planes as experienced from the ground and as viewed from above. Long allees of shrubs or trees are strategically planted to emphasize the industrial nature of the spaces through the architectural angling and composition of the plantings. The dark lines throughout the plan indicate "hedgerows". These hedgerow plantings create and define specific spaces on the vast flat landscape of the top decks. The hedgerows act like stitches, functioning to weave the disparate landforms together visually and functionally. These will evolve over time as top decks continue the settling process in a dynamic and shifting environment.

A secondary design concept that moves through all areas of the park is to reveal and frame the industrial landscape against the backdrop of the park and the adjacent landscapes that vary so greatly in function and aesthetics. The striking juxtaposition of lush green grass to the south, with native hills to the east, and flat, arid landscapes on the top deck are embraced by a park design that further challenges the senses.

Order from the surrounding visual tapestry is found by searching for the meaning of the various lines and planes laid out over the park landscape. By this exercise park users are stimulated by the various opportunities presented to them in such an unusual fashion. Flexible spaces for recreational programmed uses are then found to be lightly placed into the landscape in a very temporary and ephemeral way that is completely unique and site specific.

### **Native Planting**

Parkland buffering, screening and shade are the transformative landscape plantings to be initiated over the first two phases of park development. Edge conditions created between paths, trails and slopes may be planted with a chaparral-coastal sage scrub mix to blend with the existing slope planting. Suitable native and drought tolerant trees and large shrubs proven effective on the eastern landfill slopes that are tall enough to provide shade are the Mexican Elderberry, Toyon, Laurel Sumac, Sugar Sumac and Lemonade Berry.

The park landscape is strategically designed throughout the parklands and the landfill slopes to provide the following functions:

- Create shade on the top decks
- Organize the flexible spaces
- Provide safe planting barriers between park use and ongoing landfill operations
- Move park users through the park from one event to another
- Indicate an event such as a stair-climb
- Protect and buffer one use from another
- Increase habitat quality and quantity over time

### **WHAT IS A HEDGEROW?**

**A HEDGEROW IS A LINE OF CLOSELY SPACED NATIVE SHRUBS AND TREES, PLANTED AND TRAINED TO FORM A BARRIER OR TO MARK THE BOUNDARY OF AN AREA.**



**LARGE NATIVE SHRUBS SUCH AS TOYON, ELDERBERRY AND SUMAC WILL FORM HABITAT-ENHANCING PARK HEDGEROWS.**

## 2.12 LANDSCAPE & HABITAT PLAN

Although the landfill and top decks comprise a disturbed landscape, the proximity of the natural open space of the Puente Hills to urban populations makes the park site a potentially valuable biological resource. To visually transform the landfill into a regional park over a period of 30 years, each phase of park development will require selective plantings for screening, shade, barriers, aesthetics and habitat enhancement. The Master Plan proposes to create a park landscape that is inclusive of connectivity to adjacent preserve wildlands and identifies areas of the site for strategic habitat enhancement efforts.

In general, the urban adjacencies impact wildlife in this area to such an extent that the future park site offers only marginal local corridor value on its own and does not provide any additional connectivity for the fragmented areas within the Puente-Chino Hills wildlife corridor. The mission then of the landscape habitat plan is to create and effectively maintain larger habitats within a wildlife corridor and providing a larger urban buffer for less tolerant species.

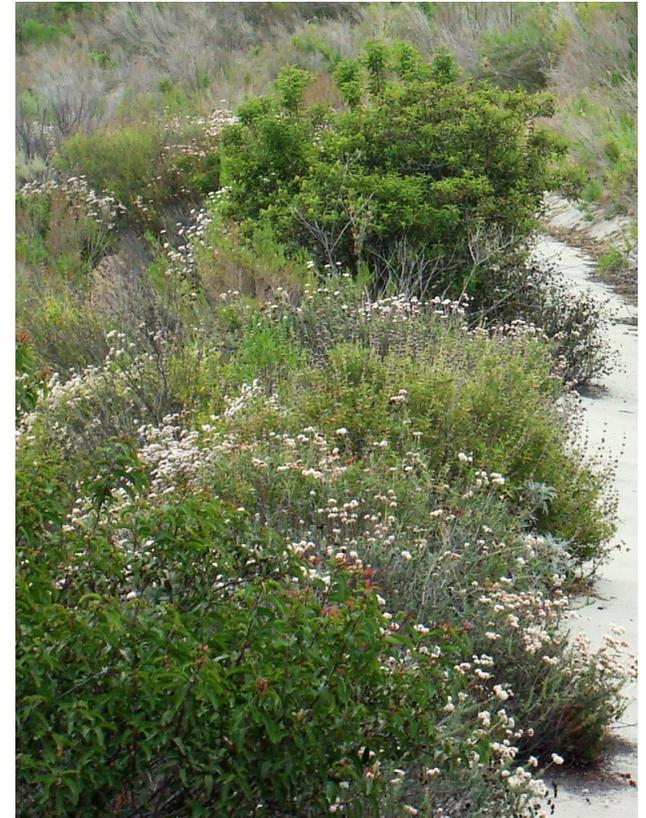
Most of the non-fill sites and areas adjacent to the top decks are vegetated and provide some shelter as wildlife moves through the area. Mature ornamental plantings on the northern slopes change to California native plant ecologies on the eastern and western slopes of the landfill. The landfill slopes provide the cover and habitat to facilitate wildlife movement if not residency.

Continual land shifting and settling demands that maintenance be allowed to cut, prune and remove vegetation for necessary repair to the decks and slopes. However, over time, the dominant coastal sage scrub proposed as underplanting on the northern slopes and the Nike Hill slopes will expand resident habitat and increase connectivity for certain species.

The approach for phasing of the landscape includes a salt tolerant plant palette. One of the most significant constraints is soil quality and salinity. Over time, top deck plantings will move towards California natives. Survival rates and plant evolution will determine the final percentage of natives and non-native plants in the heavy clay soil environment.

Transformative landscape planting for park aesthetics and wildlife corridor enhancement will include the following:

- Provide ecological connectivity to the adjacent Significant Ecological Areas (SEAs) to the east and west of the park.
- Enhance a wildlife corridor by providing the natural resources to support wildlife movement through the area including the parklands.
- Improve the regional environment by providing a landscape that is resilient and enhances site sustainability.
- Identify wildlife corridor area and coordinate on-site nursery growing and planting of native plants for food, cover and shelter.



**ABOVE: COASTAL SAGE SCRUB ON THE PLANTED EASTERN SLOPES OF THE LANDFILL.**

**FACING PAGE: WILDLIFE AT HOME ON THE LANDFILL.**



## 2.13 PARK PROGRAMMING

The former landfill site offers a wondrous and varied landscape into which the Park will develop. This diverse setting with its visual and topographic extremes encourages a wide range of recreational activities for all user groups. Its topography attracts the bicycle enthusiast, the fitness groups and hikers. The extraordinary views and vast flatlands beckon equestrians and families with children.

The Master Plan promotes a lively mix of programs by developing the setting for a host of recreational activities. Over time, the various educational, technology, and stewardship programming components may strengthen further in response to community need.

Ultimately, the goal of the park plan and phasing plan is to provide for a flexible program that will become increasingly diverse and focused in response to regional and local interests.

### **Programming Goals**

- Create a distinctive programmatic identity for the Park that incorporates nature, art, recreation, education, sustainable technologies, and open space. Partner with the Los Angeles County Arts Commission to fund arts competitions.
- Partner with stewardship groups to cultivate a native plant nursery program, volunteer program, community planting and maintenance, educational curriculum, nature programs and tours.
- Provide adaptability and flexibility into the park design framework to accommodate changes over time.
- Concentrate active programs and structures at two locations; at the front entry Visitor Center and at the Nike site at the highest elevation.
- Concentrate activities close to the spine of the Schabarum-Skyline trail and loop top deck trails and park elements back to the spine to preserve open space, maintain a wildlife corridor, and enhance habitat.

The transformative power of the landfill conversion has the potential over time to invite the region, if not the nation, to a site that identifies itself as a destination for clean technology, education and recreation. Rising to the challenge of creating greener urban environments, the new regional park will be at the heart of California's goals and policies regarding sustainable urban environments.

The rare and unique achievements of the former landfill operations will be an on-site example for the education components featured at the Visitor Center. The complex technologies of the landfill and the Materials Recovery Facility will be incorporated into the park program.

The park programming and design is geared to limit single occupancy vehicles in order to encourage multi-modal transportation. Transportation methods include bicycling, hiking, riding on horseback, shuttle service and a partially solar powered trail lift. Off-site parking and a park shuttle will take visitors to the trail lift at the entry plaza or to the Western Deck for special programmed events. The trail lift will bring park visitors up from the Visitor Center to the highest point of the park at the Nike Hill scenic overlook.



FITNESS &  
WELLBEING



NATIVE PLANT  
NURSERY



NATURE  
EDUCATION



ART  
EXPLORATION



HABITAT  
PLANTING



OUTDOOR  
PERFORMANCES

PARK PROGRAMMING WILL BE FLEXIBLE TO RESPOND TO EVOLVING PARK FACILITIES AND CHANGING COMMUNITY INTERESTS, WHILE OFFERING A LIVELY VARIETY OF OPPORTUNITIES FOR A DIVERSE REGION.

## 2.14 INTERPRETIVE AND CIVIC ART PROGRAM

Thematically rich, this landfill park site is full of material—literally—for interpretation and artistic reflection. Numerous subjects emerge from the site’s dramatic juxtapositions of history, future, city, nature, waste, conservation, industry, infrastructure and environment.

Many of the park’s most interesting stories are not obvious. One hundred thirty million tons of trash are completely invisible, covered under layers of planting and soil. Although the signatures of the landfill reveal hints such as unusual pipes, mysterious monitoring equipment, and terraced mesas, the park requires clever artistic interpretation to peel back the hidden layers and engage the public’s intellect.

Interpretive opportunities abound. As the Park is designed to display the site within the context of the Puente Hills, every point within the park can enrich the visitor experience. Interpretive themes may include:

### Waste Education and Interpretation

A key “light bulb moment” will be when park visitors gazing out to the striking mountain panorama realize that they are perched on a mountain of trash.

This site reveals the urgent opportunity and responsibility to examine the profound impacts of modern disposable culture and its severe toll on the natural environment. These massive landforms, some 500 feet deep, are made of the Los Angeles region’s collective trash.



The Puente Hills Landfill received national media coverage and a starring role in the book “Garbology,” for its mammoth scale of operations, industry innovations and eventual closure. Its evolution into a park with a conscience opens up a new chapter and role in serving the public.

The transformation of this park into a special destination will not ignore or hide the fundamental issue, waste, that created this place. By promoting creative ways to reuse resources and by tackling waste reduction through education and interpretation, Puente Hills Landfill Park can be a catalyst for change in Los Angeles County. A key point is that landfills result from collective waste, and only collective solutions will set the region on a more sustainable trajectory.

Education and interpretation of the landfill, waste stream, gas to energy conversion, history of the site, impacts of waste around the world, resource depletion, habitat loss and ocean garbage patches are just some of the many themes that can be developed for the park.

Interpretive signage, cameras into the MRF, tours to the MRF, park elements constructed from recycled materials, park structures that meet LEED criteria are significant topics for educational development.

Surprisingly, several other sister landfills are clearly visible from the park: in the Montebello Hills to the east and the BKK Superfund site in West Covina. Mapping the region’s numerous landfills will highlight their quantity, proximity and the impacts of our often hidden waste stream processes.

### Artistic interpretation

A few examples of site-specific opportunities are listed below:

- **Settlement Measuring Stick**  
An oversized sculpture at the Flare Site positioned to visually mark and record the Eastern Deck’s settlement over time. Future generations will see how high the landfill used to be, and how much it has settled, possibly 125 feet.
- **Window into our Trash**  
A glass window exhibit embedded into a landscaped slope, revealing a cross-section of buried waste from each decade. (e.g. 1964 cereal boxes, 2003 cell phones)
- **Landfill Growth Rings**  
Large labels along the park loop road mark the accelerating years of the landfill’s growth (“1963”, “1973”, “1983”, “1993”, “2003”, “2013”) as visitors ascend to the top of the landfill.
- **Stained glass trash**  
At the scenic overlooks, embedded in clear acrylic/glass panels or flooring: colorful, thinly sliced collages of landfill waste.
- **Ribbons of E-waste**  
Undulating lengths of electrical cords, fiber optics and circuitry, encased in acrylic arches and bands.
- **Waving Inflatable Tubes**  
Occasional eruptions of color and movement.
- **Artist-in-Residence Program and Partnerships**  
Led by artists, designers and architecture makers and curators.



“UPCYCLED” PIPES AS INTERPRETIVE VIEWING SCOPES. DISCARDED SECTIONS OF METHANE PIPES CAN GAIN A NEW LIFE AS SIGNATURE PARK VIEWING SCOPES, PROVIDING A PEEK INTO THE GROUND, OR FOCUSED ON DISTANT LANDMARKS AND SITE PHENOMENA.

FACING PAGE: EXAMPLES OF ARTISTIC AND INTERPRETIVE OPPORTUNITIES. (UPPER) ARTIST DUSTIN YELLIN CREATES 3D COLLAGES WITH LAYERS OF GLASS AND RESIN. (MIDDLE) THE WASTE-IN-FOCUS PHOTOGRAPHY PROJECT DOCUMENTED ONE WEEK OF FAMILIES’ WASTE. (BOTTOM) WASTE INFOGRAPHICS.

## Site History and the Puente-Chino Hills

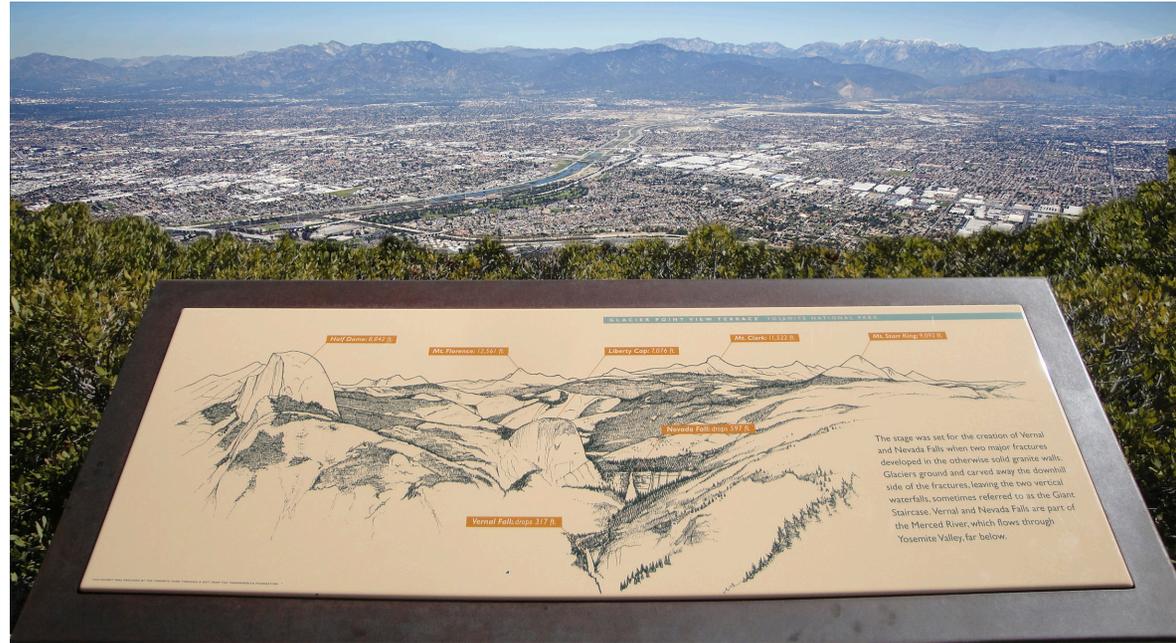
For thousands of years indigenous people utilized the Los Angeles basin for hunting and gathering. In the 1700s the Spanish Missions converted the land to agriculture and cattle grazing. But it was the arrival of the railroad and the discovery of oil in the earth's fault lines that moved the region into the industrial age. Interpretive themes may include:

- Landfill history, Nike Missile history
- Puente-Chino Hills history
- Created by seismic uplift, Whittier Narrows
- Tongva-Gabrielino history in region
- Ethnobotany: Cultural uses of plants

## Native flora and fauna

Home to many special creatures and plants, the Puente-Chino Hills are a refuge of natural beauty and biological significance in a sea of urbanization. Nature surrounds the landfill and the Puente-Chino Hills wildlife corridor stretches about 26 miles southeast all the way to the Cleveland National Forest (almost 25,000 acres).

- Plant communities including coastal sage scrub, grasslands and oak woodlands
- Identification and information of resident and migrating species including deer, coyote, mountain lion, rabbit, raptors, birds, bats, insects, lizards, and pollinators
- A plant nursery will be part of the park's educational component. Native and drought tolerant plants will be grown to actively replace and replant park areas requiring patching, repair or re-construction due to landfill settling.
- Ideal locations for bird observation and wildlife observation will be marked along particular trails. Habitat restoration planting and monitoring will be identified.



THE PARK'S MANY SCENIC VIEWPOINTS CAN BE AUGMENTED WITH IDENTIFICATION OF GEOGRAPHIC LANDMARKS AND STORYTELLING (EXAMPLE MOUNTAIN PEAK SIGN SUPERIMPOSED ONTO THIS PHOTOGRAPH FROM NIKE HILL, LOOKING OUT TO THE SAN GABRIEL MOUNTAINS NATIONAL MONUMENT).

## Understanding the Views Around Us

### Mountains, Rivers, Natural Landmarks

- Peaks of the San Gabriel Mountains
- San Gabriel River
- Rio Hondo River
- Residential development
- Industrial impacts

### Landscape of Infrastructure

- River settling basins, flood control
- San Jose Creek water reclamation plant
- Freeways, rail shipping lines
- Oil drilling, power lines, landfills

## Urban/Suburban Connections

- Local landmarks
- Downtown Los Angeles skyline
- San Gabriel Valley cities
- Residential development
- Industrial impacts

## Regional Connectivity

The ongoing efforts to restore regional open space and link communities can be illustrated from the vantage point atop Nike Hill, and other locations.