

# Section 1

## Introduction

This *City of Los Angeles, Integrated Resources Plan Final Environment Impact Report* (Final EIR) presents the responses to comments received on the *City of Los Angeles, Integrated Resources Plan Draft Environment Impact Report*, or Draft EIR. (City of Los Angeles et al., 2005). In addition to providing responses to comments, this Final EIR presents the Recommended Alternative and also provides updates, where applicable, to the Draft EIR. The City of Los Angeles, Department of Public Works (LADPW) is the Lead Agency for the California Environmental Quality Act (CEQA) process and has evaluated, directed, and supervised the preparation of this document. In accordance with CEQA, the Draft EIR and this Final EIR, together, comprise the Lead Agency's environmental analysis of the *Integrated Resources Plan Facilities Plan* (IRP Facilities Plan) (City of Los Angeles et al., 2004).

Numerous references are made throughout this Final EIR to the Draft EIR and to the Draft EIR appendixes. These documents were circulated previously and are not being reproduced. Copies, however, are available for inspection at the LADPW. The Draft EIR and supporting appendixes (State Clearinghouse Number [SCH No.] 2004071091 and Southern California Association of Governments Number [SCAG No.] 120040466) together with this Final EIR are the CEQA documentation for the IRP Facilities Plan.

### 1.1 Format of Final EIR

The abbreviated format used for this Final EIR complies with State CEQA Guidelines, Section 15132.

This Final EIR is organized in the following way:

- Executive Summary
- Section 1 – Introduction
- Section 2 – Modifications and Updates to the Draft EIR
- Section 3 – Responses to Comments on the Draft EIR
- Appendixes

The appendixes are identified as follows and are additional to those already included in the Draft EIR.

- D     Public Notices and Public Correspondence
- E     City Council Correspondence
- F     List of Public Commenters
- G     Mitigation Monitoring and Reporting Program

## 1.2 Summary of Public Notices and Hearings

### 1.2.1 Public Notice

The original comment period for the Draft EIR was 90 days to afford adequate time for public review and response to the City of Los Angeles (City). The Draft EIR was circulated for public comment from November 30, 2005, through February 27, 2006. The Lead Agency extended the comment period for an additional 32 days to allow additional public comment on the Draft EIR, and the comment period ended on March 31, 2006.

A Notice of Completion (NOC) was submitted to the Office of Planning and Research and is included in the Administrative Record. A Notice of Availability (NOA) of the Draft EIR was mailed to over 8,000 agencies, organizations, and interested persons, including residents within 500 feet of the NEIS II and GBIS alignments within the City of Los Angeles. A copy of the NOA is provided in Appendix D.

In addition, a notice was published in the *Los Angeles Times* on December 1, 2005, and the Draft EIR was distributed to the local libraries listed in the NOA. A distribution list for this Final EIR is included in the Administrative Record.

In addition, on February 6, 2006, at the request of the City of Glendale, the NOA of the Draft EIR was sent to all persons on the mailing list that the City of Glendale provided to the City of Los Angeles. The mailing list is included in the Administrative Record.

On February 27, 2006, a public announcement was distributed to all persons who had received the original NOA. The public announcement indicated that the public comment period for the Draft EIR had been extended to March 31, 2006.

The Draft EIR also was sent to governmental agencies including the State Water Resources Control Board (State Board), the Governor's Office of Planning and Research, applicable Responsible and Trustee agencies, and other jurisdictions. The Draft EIR also was posted on the IRP Web site for the City and is available for download and review at [www.lacity.org/san/irp](http://www.lacity.org/san/irp).

### 1.2.2 Public Hearings

Section 15087 of the CEQA Guidelines allows for at least one public hearing to be held on the Draft EIR. For the Draft EIR, the Lead Agency conducted four public hearings on the following dates and locations:

San Fernando Valley Area  
Van Nuys City Hall  
6262 Van Nuys Boulevard  
Van Nuys, CA 91401  
Wednesday, January 4, 2006 @7:00 p.m.

West Los Angeles Area  
Council District 11  
7166 W. Manchester Boulevard  
Los Angeles, CA 90045  
Saturday, January 7, 2006 @11:00 a.m.

Central Los Angeles Area  
DWP – John Ferraro Building  
111 N. Hope Street  
Los Angeles, CA 90012  
Wednesday, January 11, 2006 @10:00 a.m.

Los Angeles Zoo  
Witherbee Auditorium  
5333 Zoo Drive  
Los Angeles, CA 90027  
Thursday, January 12, 2006 @6:00 p.m.

Public comments on the scope and content of the Draft EIR were accepted at the public hearings, including oral testimony recorded by court reporters and for which transcripts have been prepared. Information for submitting comments in writing to the Lead Agency were provided in the NOA and at the public meetings.

## 1.3 Additional Coordination

This section documents the interim communication that occurred between the City of Los Angeles and the City of Burbank subsequent to the close of the public comment period. The interim activities included meetings and correspondence that focused on the relative merits of proposed alignments for the Glendale-Burbank Interceptor Sewer (GBIS). The City of Los Angeles met with the City of Burbank on various occasions (April 10, 13, 17, and 28, 2006) to discuss the alternatives to the GBIS alignment with the focus on reducing impacts to residential neighborhoods. Additionally, the City of Los Angeles and the City of Burbank corresponded, and copies of the correspondence are included in Appendix D.

During the public review period for the Draft EIR, the City of Los Angeles received six comment letters from the City of Burbank on the GBIS alignments analyzed in the Draft EIR. The responses to these letters and all comments received during the public comment period are provided in Chapter 3 of this Final EIR.

During the public review period, the City Council adopted a motion (see Appendix D) by Councilman Tom LaBonge to direct the City of Los Angeles Department of Public Works, Bureau of Sanitation and Bureau of Engineering to consider extending the Draft EIR public review period for 32 days (ending March 31, 2006) so that additional comments could be received on the Draft EIR, including the Northeast Interceptor Sewer II (NEIS II) and GBIS components. In response to the City Council Motion, the City of Los Angeles Board of Public Works prepared the *Draft Joint Report to City Council Motion 06-0234* (February 2006) that is in Appendix E of this Final EIR. The Draft Joint Report discusses why the Los Angeles River corridor is not a viable alternative for the sewer alignment and identifies the proposed alignment for GBIS that includes portions of both the GBIS North Alignment and the GBIS South Alignment evaluated in the Draft EIR. Section 1.5 of this Final EIR presents the Recommended Alternative, and Section 1.5.2.2 discusses the staff recommended GBIS Alignment and the rationale for its selection.

In an effort to be responsive to the City of Burbank and to others who commented on the GBIS alignments analyzed in the Draft EIR, the City of Los Angeles met with the City of Burbank. The meetings were conducted to review constraints and issues associated with the Los Angeles River alignment, review any additional information provided by the City of Burbank related to their concerns about the GBIS alignments (no additional information was submitted outside the comment letters on the Draft EIR), and consider measures to further reduce potential impacts to residents.

As a result of this coordination, the City of Los Angeles has included additional voluntary improvement measures that the City of Los Angeles will implement to address issues raised by the City of Burbank and other members of the public. These



voluntary improvement measures, which are presented in Section 1.5.2.2 and incorporated into the Final EIR, address traffic, noise, and vibration.

## 1.4 Summary of Impacts

The impacts associated with the IRP Facilities Plan and the alternatives to that plan evaluated in the Draft EIR are summarized in Table ES-1 of this Final EIR. In addition, Table ES-1 and Section 2 of this Final EIR include updated mitigation measures based on public comments received on the Draft EIR.

## 1.5 Recommended Alternative

The Draft EIR evaluated four project alternatives and a No Project Alternative. This section summarizes the process used by the Lead Agency to select the Recommended Alternative that the City of Los Angeles staff recommends for implementation. As part of the selection of the Recommended Alternative, the NEIS II alignments and the GBIS alignments also were finalized. The Recommended Alternative, which includes the NEIS II and GBIS alignments, is recommended to decisionmakers for approval and implementation. The process for environmental review and certification of this Final EIR, including a discussion of the roles of the LADPW, the Los Angeles Department of Water and Power (LADWP), and the Los Angeles City Council is in Section 1.5 of the Draft EIR.

Section 1.5.1 in this Final EIR discusses the process and criteria for selecting the Recommended Alternative, followed by Section 1.5.2 presenting the Recommended Alternative. The decisionmakers, at their discretion, could select either the Recommended Alternative for implementation or a different systemwide alternative.

### 1.5.1 Process and Criteria for Selection

To select the Recommended Alternative, the Lead Agency relied on: (1) the information contained in the Draft and Final EIRs (including the Project objectives, environmental analysis, and public comments on the Draft EIR); and (2) the IRP Facilities Plan quadrant analysis that evaluated the preliminary Proposed Project Alternatives originally discussed in the IRP Facilities Plan (City of Los Angeles et al., 2004). This section provides background on the alternatives evaluated in the IRP Facilities Plan and the EIR to provide context for the selection process for the Recommended Alternative. As discussed below, the Lead Agency applied various criteria to make its selection of the Recommended Alternative, including the environmental analysis in the Draft EIR, the public comments on the Draft EIR, the guiding principles of the IRP Facilities Plan, and methods used in the development of the IRP Facilities Plan alternatives (*IRP Facilities Plan, Volume 4: Alternatives Development and Analysis* (City of Los Angeles et al., 2004)).

#### 1.5.1.1 Background on Alternatives Evaluated in IRP Facilities Plan and EIR

For the IRP Facilities Plan, the City of Los Angeles conducted extensive and iterative stakeholder meetings with a Steering Group to develop alternatives that would achieve the multiple objectives of the IRP Facilities Plan (see Section 2.3.1 of the Draft EIR). The Steering Group comprises parties and individuals with an interest in



the long-term planning of the City wastewater system, and recycled water and runoff management approaches. The City of Los Angeles, in association with the Steering Group, developed 21 preliminary alternatives that addressed future (2020) wastewater, recycled water, and runoff needs.

The City of Los Angeles used the information from the Steering Group as the basis for ranking 21 preliminary alternatives, and those that ranked lowest were eliminated from further consideration. The details of the development and evaluation of the 21 preliminary project alternatives are contained in the *IRP Facilities Plan, Volume 4: Alternatives Development and Analysis* (City of Los Angeles et al., 2004).

The remaining alternatives were further evaluated in terms of the extent to which they addressed wastewater needs, achieved project objectives (including water resources management), provided leadership in water resources, and incorporated fiscal conditions. Applying various criteria, the 21 alternatives initially considered by City were eventually reduced to four that first were assessed in the IRP Facilities Plan and subsequently carried forward for analysis in the IRP EIR. In addition to these build alternatives, a No Project alternative was evaluated in the Draft EIR to comply with the requirements of CEQA to assess a No Project alternative.

The four alternatives evaluated in the IRP Facilities Plan and in the EIR are:

- Alternative 1: Expansion of Hyperion Treatment Plant (Hyperion) to 500 million gallons per day (mgd)
- Alternative 2: Donald C. Tillman Water Reclamation Facility (Tillman) Expansion (to 80 mgd) and Los Angeles-Glendale (LAG) Expansion (to 30 mgd)
- Alternative 3: Tillman Expansion (to 100 mgd) without Cisterns
- Alternative 4: Tillman Expansion (to 100 mgd)
- No Project Alternative

Alternative 1 would expand wastewater treatment capacity at Hyperion by increasing its current capacity of 450 mgd to 500 mgd. Alternative 1 also would upgrade Tillman to advanced treatment and add wastewater and recycled water storage at LAG. In addition, Alternative 1 would reuse up to 42,000 acre-feet per year of recycled water, (51,900 acre-feet with groundwater replenishment), as well as manage 42 percent of the dry weather and 47 percent of the wet weather urban runoff generated in the City.

Alternative 2 would expand wastewater treatment capacity at Tillman by increasing its assumed derated capacity of 64 mgd to 80 mgd and at LAG by increasing its assumed derated capacity of 15 mgd to 30 mgd. Both plants would be upgraded to advanced treatment, and wastewater and recycled water storage would be added at LAG. In addition, Alternative 2 would reuse up to 53,200 acre-feet per year of recycled water (69,200 acre-feet with groundwater replenishment), as well as manage 42 percent of the dry weather and 47 percent of the wet weather urban runoff generated in the City.



Alternative 3 would expand wastewater treatment capacity at Tillman by increasing its assumed derated capacity of 64 mgd to 100 mgd and upgrading its treatment processes to advanced treatment. This alternative would add wastewater and recycled water storage at LAG. In addition, Alternative 3 would reuse up to 43,400 acre-feet per year of recycled water (71,900 acre-feet with groundwater replenishment), as well as manage 26 percent of the dry weather and 39 percent of the wet weather urban runoff generated in the City. This alternative would manage less urban runoff than the other alternatives and, as such, would not implement cisterns to capture runoff for later reuse.

Alternative 4 would expand wastewater treatment capacity at Tillman by increasing the assumed derated capacity of 64 mgd to 100 mgd and upgrading treatment processes to advanced treatment. This alternative would add wastewater and recycled water storage at LAG. In addition, Alternative 4 would reuse up to 56,100 acre-feet per year of recycled water (79,900 acre-feet with groundwater replenishment), and manage 42 percent of the dry weather and 47 percent of the wet weather urban runoff generated in the City.

Under the No Project Alternative, integrated improvements would not occur to the wastewater collection and treatment system, recycled water system, and runoff system. Individual projects likely would be necessary in the future but would be designed and constructed as localized system needs occur, rather than being planned in a systemwide integrated manner. The projects would be subject to environmental documentation on a case-by-case basis.

Each of the alternatives involves wastewater treatment capacity expansion, but they do so at different locations. In addition, the alternatives would increase the amount of recycled water used for nonpotable reuse, but they would do so at different levels. Similarly, the alternatives differ in the amount of recycled water that could be used for groundwater replenishment if the City makes a policy decision in the future to pursue groundwater replenishment.

Regarding runoff, the alternatives differ in their effectiveness in managing dry and wet weather runoff. As an example, Alternatives 1, 2, and 4 would manage 42 percent of the dry weather and 47 percent of the wet weather urban runoff generated in the City. Alternative 3 would manage 26 percent of the dry weather and 39 percent of the wet weather urban runoff. Alternatives 1, 2, and 4 would capture wet weather runoff in cisterns for later reuse. Alternative 3, however, would manage less wet weather runoff than the other alternatives and would not capture wet weather runoff in cisterns for later reuse. To illustrate further the differences, Alternative 1 would use low-flow diversions of dry weather runoff to the sewer system in coastal areas and in inland valley areas, whereas Alternatives 2, 3, and 4 would use low-flow diversions only in the coastal areas.

### **1.5.1.2 EIR Alternatives Analysis**

As noted above, the Draft EIR evaluated the four alternatives developed in the IRP Facilities Plan and the No Project Alternative. The Draft EIR identified Alternative 1 as the Environmentally Superior Alternative and determined that each of the four Proposed Project Alternatives would meet the long-term goals of protecting public

health and safety, providing adequate wastewater treatment and conveyance capacity, and protecting the environment. Although Alternatives 1 through 4 would each result in short-term or temporary construction-related impacts, all of the alternatives were deemed to be superior to the No Project Alternative because they: (1) are designed to ensure that adequate wastewater treatment and conveyance capacity exists to prevent sewage overflows, (2) would comply with effluent quality requirements of the National Pollutant Discharge Elimination System (NPDES), and (3) would meet the requirements of applicable laws and regulations. On the basis of the analysis conducted in the Draft EIR, Alternative 1, Hyperion Expansion to 500 mgd, was determined to be the Environmentally Superior Alternative.

Also discussed in the Draft EIR (see Table ES-1 in the Draft EIR Executive Summary), the majority of the potentially significant impacts are associated with components that are common to all of the alternatives, such as the proposed new sewer alignments. Differences in impacts are most prevalent when considering alternate locations of proposed IRP treatment facilities. For example, all the Proposed Project Alternatives would result in potential odor impacts related to increased wastewater treatment capacity, but the potential for impacts to occur would differ depending on where a given alternative focuses the expansion of treatment capacity. Alternative 1 was identified as the Environmentally Superior Alternative because it would result in lower use of energy and fewer air pollutant emissions. The difference in environmental impacts among the Environmentally Superior Alternative (Alternative 1) and the other alternatives (Alternatives 2, 3, and 4) is one of several criteria in selecting the Recommended Alternative. The Lead Agency also applied the methods used in the IRP facilities planning process to differentiate the alternatives further and to facilitate selection of the Recommended Alternative. This process is discussed in Section 1.5.1.3 of this Final EIR.

In addition to considering the relative differences in environmental impacts among alternatives, the Lead Agency considered the comments received on the Draft EIR. Chapter 3 of this Final EIR contains copies of the comments received and responses to those comments. To help identify the Recommended Alternative, staff reviewed the comments that focused on systemwide issues. In general, the comment letters that made recommendations for specific systemwide alternatives emphasized the following:

- Expand treatment plants in areas distant from specific communities (e.g., the homeowners of Encino requested that Alternative 1 be selected because it avoids expansion of Tillman in the Sepulveda Basin)
- Maximize sustainability and select Alternative 2 and/or 4 because either alternative would use a watershed approach (e.g., Mono Lake Committee)
- Maximize use and reuse of urban runoff (e.g., Heal the Bay), and maximize recycled water production at LAG (e.g., City of Glendale)

The staff recommended alignments for NEIS II and GBIS are discussed in Section 1.5.2 of the Final EIR. Specific responses to comments on components of alternatives, such



as the comments on the GBIS alignment, are addressed in detail in Chapter 3 of this Final EIR.

When considering the comments on the Draft EIR regarding the Recommended Alternative, the Lead Agency prioritized comments that addressed system sustainability.

### 1.5.1.3 Recommended Alternative Selection Process

To assist further in the identification of a Recommended Alternative, City staff revisited the previous alternatives ranking process conducted for the Facilities Plan IRP (*IRP Facilities Plan, Volume 4: Alternatives Development and Analysis*; City of Los Angeles; 2004). In this process, staff applied the comprehensive principles of the IRP facilities planning process using a quadrant analysis method to evaluate the costs and benefits of the alternatives. The overall objectives of the IRP are to:

- Protect public health and safety
- Effectively manage system capacity
- Protect the environment
- Enhance cost efficiency
- Protect quality of life
- Promote education

For each of these objectives, a set of guiding principles was developed that described the objectives in greater detail in the context of the three service functions evaluated (wastewater, recycled water, and runoff management), as follows:

- **Wastewater.** On the basis of past investment and resources at Hyperion, wastewater benefits were defined in direct correlation to the volume of wastewater treated at that plant. A high benefit was assigned to alternatives that enhanced capacity at Hyperion, a medium benefit to alternatives that enhanced capacity at one upstream plant (e.g., Tillman), and a low benefit to alternatives that enhanced capacity at both Tillman and LAG.
- **Recycled water.** The City assigned higher benefits to alternatives that produced and used greater amounts of recycled water. The guiding principle for recycled water is to maximize volume of recycled water (in acre-feet per year) from wastewater effluent that could be used beneficially for irrigation and industrial purposes.
- **Runoff management.** The guiding principles for the IRP included increasing the amounts of dry weather and wet weather urban runoff that are diverted and treated or captured and beneficially used. For the quadrant analysis, runoff management benefits for both dry and wet weather runoff were defined as a combination of potential volume of runoff managed and volume of runoff beneficially used. For this analysis, beneficial use was defined as options that offset potable water use. The greater the level of potable water offsets (with treated runoff), the greater the benefit value the alternative was assigned. The guiding principle for runoff management is to maximize options that offset potable water use, such as smart irrigation, urban runoff plants,

local/neighborhood solutions (cisterns, onsite percolation, and neighborhood recharge), and nonurban regional recharge.

To apply the quadrant approach for the alternatives, staff conducted the following steps:

- Defined the benefits for the separate service functions (i.e., wastewater, recycled water, and runoff management).
- Plotted the benefits and costs for each alternative on the quadrant chart for each separate service function.
- Compared the results by service function and prioritized the highest to the lowest ranking alternative for each service function.
- Compared the service function quadrant charts and counted the number of times each alternative achieved the first or second place ranking.
- Evaluated results and selected the Recommended Alternative and implementation strategies.

This process was followed by a relative weighting and ranking process that reflected the priorities of City staff (based on environmental review and system needs). Based on the evaluation of the alternatives, the City recommended the following ranking of alternatives:

- Alternative 4 (highest ranking for recycled water, dry weather runoff, and wet weather runoff, and possible second choice for wastewater). Selection of Alternative 4 as the Recommended Alternative is attributable to great extent to its recycled water benefits. Changes in future regulations for the use of recycled water or future policy decisions on the use of recycled water for groundwater replenishment could reduce these recycled water benefits. If those conditions occur, then Alternative 1 could be considered a potential second choice, on the basis of its lower costs and moderate benefits.
- Alternative 1 (highest ranking for both wastewater and wet weather runoff, and possible second choices for dry weather runoff and recycled water).
- Alternative 2 (highest ranking for recycled water, wet weather runoff, and dry weather runoff, but not desirable for wastewater). Alternative 2 was ranked third and, therefore, not preferred because it produced similar recycled water and runoff management benefits than Alternative 4, but at higher costs. Also, it provided low benefits for the wastewater system, because it relied on expansion of two water reclamation plants, thereby resulting in impacts to multiple neighborhoods.
- Alternative 3 (possible second choices for wastewater and recycled water). Alternative 3 was ranked last and, therefore, not preferred, because of its lower recycled water, wastewater, and runoff benefits compared to all the other alternatives. In addition, its costs were similar to Alternative 1, but Alternative 1 would provide more benefits.



Because the environmental impacts of the alternatives comprise one criterion among many for selecting the Recommended Alternative, City staff relied on the comments on the Draft EIR in conjunction with the alternatives ranking evaluation discussed above to identify the Recommended Alternative. Because Alternative 4 was ranked the highest in the ranking evaluation summarized above, and because Alternative 4 also was recommended in comments on the Draft EIR that focused on systemwide and sustainability issues, Alternative 4 has been selected by staff as the Recommended Alternative.

### **1.5.2 Staff Recommended Alternative**

Based on the comments received on the Draft EIR and the ranking and criteria evaluation (quadrant analysis) summarized above, Alternative 4 (expansion at Tillman with high potential for water resources projects) is the highest ranked alternative and is, therefore, the systemwide staff Recommended Alternative (Recommended Alternative). Alternative 4 reserves the ability for future expansion at Tillman, while recognizing and supporting potential groundwater replenishment that the City could decide to pursue at a later time. If groundwater replenishment is not feasible in the future when wastewater flows generated in the San Fernando Valley require treatment capacity expansion, then a portion of the San Fernando Valley wastewater flows would be diverted downstream to Hyperion. Alternative 4 includes expanding Tillman to 100 mgd, adding new collection system sewers (NEIS II, GBIS, and Valley Spring Lane Interceptor Sewer [VSLIS]), adding storage to Tillman and LAG and adding a truck-loading facility, digesters, and secondary clarifiers to Hyperion.

In addition, Alternative 4 includes increasing the amount of effluent from Tillman and LAG that is recycled, onsite percolation of wet weather runoff at schools and government properties, and neighborhood-scale percolation at vacant lots and at parks/open space in the eastern San Fernando Valley. The timing and specifics of runoff management implementation will be coordinated with requirements of the total maximum daily load (TMDL) and subsequent Implementation Plans. Alternative 4 also includes continued implementation of water conservation programs, such as smart irrigation devices to reduce outdoor water use and urban runoff.

The schedule for implementing the components that comprise Alternative 4 will be initiated by monitored triggers that include population growth, increases in wastewater flow, regulatory changes, and policy decisions (including the decision to proceed with groundwater replenishment of recycled water from Tillman). The decision to upgrade Tillman to advanced treatment will be contingent on future regulations for discharges to the Los Angeles River, future regulations for the use of recycled water, and/or policy decisions for the use of water for groundwater replenishment, thereby requiring coordination between LADPW and LADWP. Also, if regulatory permit requirements result in a need for advanced treatment to discharge to the Los Angeles River, then advanced treatment could be added to LAG at its existing capacity, which would require partnership and coordination with the

City of Glendale. The addition of advanced treatment at LAG would not result in significant environmental impacts.

Alternative 4 is recommended based, in part, on its recycled water benefits. In the event that groundwater replenishment or other recycled water use is not feasible (based on public acceptability, costs, and future regulations) and if population increases (and associated increases in wastewater) trigger a need for additional wastewater capacity, then wastewater flows would be diverted to Hyperion, and Alternative 1 would be recommended.

At this time, implementation of the component projects that comprise Alternative 4 is organized into the following three categories:

- **Go Projects.** Implemented immediately because the population or flows trigger have been reached or will be reached within the next several years;
- **Go When Triggered.** Implemented in the future when the trigger is reached; and
- **Go Policy Directions.** Implemented on the basis of specific directions to staff on the next studies and evaluations required to provide progress on the programmatic elements (recycled water and runoff management).

#### 1.5.2.1 NEIS II

The Recommended Alternative includes three sewer projects that will have to be implemented to provide adequate wastewater conveyance capacity downstream of Tillman (NEIS II; GBIS; and VSLIS, which is a program-level component for which potential alignments have not yet been identified). A portion of the wastewater flow generated in the San Fernando Valley, including wastewater generated in the Cities of Burbank and Glendale, is conveyed through local sewers and trunk lines to the North Outfall Sewer (NOS), which then conveys the wastewater around the Santa Monica Mountains and Griffith Park through the central part of the City of Los Angeles to Hyperion (near Playa Del Rey) for treatment. The City of Burbank also discharges solids from the Burbank Water Reclamation Plant to the NOS for conveyance and treatment by City facilities. The NOS was constructed in the 1930s and has been operating at or near its hydraulic capacity. In addition, portions of the NOS are physically deteriorated and will require rehabilitation in the future. Because the NOS is at or near its hydraulic capacity and because the NOS will need to be rehabilitated in the future, a NEIS II alignment, a GBIS alignment, and the VSLIS will be implemented to accommodate wastewater flows from the San Fernando Valley including the Cities of Burbank and Glendale, to relieve the NOS and to facilitate the rehabilitation of the NOS.

The Draft EIR evaluated two NEIS II alignments at a project-level, the NEIS II East Alignment and the NEIS II West Alignment. The NEIS II East Alignment extends from the Eagle Rock area of the City and generally follows a north-south corridor located to the east of San Fernando Road to the vicinity of the Los Angeles Zoo. The NEIS II West Alignment would also extend from the Eagle Rock area northward to the vicinity of the Los Angeles Zoo, but would use an alignment located west of the Los Angeles River through Griffith Park.



In evaluating which NEIS II alignment would be recommended for implementation, City staff considered the following:

- Constructability
- Availability of right-of-way
- Other factors

### ***Constructability***

Because NEIS II would be constructed using tunneling methods, geologic conditions are a primary consideration. The majority of the NEIS II West Alignment would be constructed in bedrock (consolidated soil) that poses a more uniform medium and minimizes the need for additional construction support processes such as grouting to mitigate the potential for settlement. The NEIS II East Alignment would be constructed primarily in alluvium, although bedrock areas would be encountered. Varying soil conditions (consolidated soil such as bedrock and loose alluvium) between construction shaft sites pose more difficult construction conditions because the different consistencies generally require different tunnel-head technologies. In addition, the potential for settlement is greater when tunneling through alluvium than through bedrock.

Another factor to consider during construction is the presence of groundwater. Because NEIS II would be constructed at depths up to 120 feet below the ground surface, it would be below the water table. Bedrock is less permeable than alluvium and, therefore, transmits groundwater at a slower rate. As a consequence, construction in bedrock is more favorable than in alluvium when the construction is below the water table because less groundwater management is required. Staff recommends the NEIS II West Alignment on the basis of constructability conditions compared with the construction conditions of the NEIS II East Alignment.

### ***Availability of Right-of-Way***

In general, the City prefers to minimize acquisition of right-of-way, property, or easements, although other factors may result in the need for some acquisitions. The NEIS II East Alignment would require acquisition of private parcels for the Verdant Shaft Site and possibly for the Brazil Street Shaft Site. Easements would be required where the alignment extends beneath privately owned parcels. The NEIS II West Alignment would require fewer easements than the NEIS II East Alignment and would not require the acquisition of privately owned parcels for the shaft sites. Because the NEIS II West Alignment would require fewer easements or parcel acquisitions, staff recommends the NEIS II West Alignment, and, in particular, Option B, which minimizes the need for an easement through the golf course.

### ***Other Factors***

The City considered several factors (hazardous materials and accessibility) in the identification of a recommended NEIS II alignment. The NEIS II West Alignment would be constructed mostly beneath roadways that extend through Griffith Park; whereas, the NEIS II East Alignment would extend near San Fernando Road in more industrialized areas. In addition, the NEIS II West Alignment would not extend within contaminated groundwater to the extent of the NEIS II East Alignment.

Regarding accessibility, the NEIS II East Alignment would use the Verdant Street Shaft Site, which likely would be accessed via the moderately narrow Alger Street. Commercial and industrial uses are located along the west side of Alger Street. The NEIS II East Alignment would include a connecting sewer in Alger Street from Chevy Chase Street to the Verdant Street Shaft Site. Although the street would remain open, construction could cause access delays to businesses along Alger Street. The NEIS II West Alignment, in contrast, would use a shaft site at the south end of the Crystal Springs picnic area and would not result in access impacts to the picnic grounds.

Because the NEIS II West Alignment would have less potential to encounter hazardous materials and has fewer accessibility constraints, the NEIS II West Alignment is the staff recommended alignment.

The NEIS II West Alignment, as described in the Draft EIR, included several optional shaft site locations: the Los Angeles Zoo Shaft Site, the Observatory Annex Shaft Site, and the Pecan Grove Shaft Site. The existing NOS is located north of Zoo Drive (in the vicinity of the Los Angeles Zoo), and extends near the Pecan Grove Shaft Site. Because the NEIS II would need to relieve the NOS by diverting flows from the NOS to NEIS II, the Pecan Grove Shaft Site, which is close to the NOS, is the recommended northern terminating shaft for NEIS II. The Los Angeles Zoo Shaft Site and the Observatory Annex Shaft Site are no longer under consideration.

#### ***Staff Recommended NEIS II Alignment***

Based on the above considerations, the NEIS II West Alignment, Option B, is the staff recommended NEIS II alignment. The Division Street Shaft Site, the Griffith Park Shaft Site, and the Pecan Grove Shaft Site would be used to construct the NEIS II West Alignment. Figure 1-1 shows the staff recommended NEIS II West Alignment.

#### **1.5.2.2 GBIS**

The Draft EIR evaluated two GBIS alignments (the GBIS South Alignment and the GBIS North Alignment) at a project level of analysis (see Section 2.2.1.10 of the Draft EIR). The GBIS South Alignment would extend from the Los Angeles Zoo area and generally follow a westward corridor along Zoo Drive, Forest Lawn Drive, and Valley Spring Lane, terminating near the U.S. Highway 101 near Moorpark Street. The GBIS North Alignment would extend generally northward from the Los Angeles Zoo area, cross the Los Angeles River, head westward along the north side of the Los Angeles River to Riverside Drive, and would follow Riverside Drive west to the vicinity of U.S. Highway 101.

During the public comment period for the Draft EIR (see Section 1.3 of this Final EIR), numerous comments were received on the proposed alignments (see Section 3 of this Final EIR), including comments from the City of Burbank; City of Glendale; Forest Lawn Memorial Park Association and Forest Lawn Mortuary (Forest Lawn); and residents of the City of Burbank, City of Glendale, and community of Toluca Lake. Many of the commenters in the Burbank area expressed concern about potential GBIS construction and facilities at the Valley Heart Shaft Site, Riverside East Shaft Site, and Riverside West Shaft Site, all of which are located along the eastern half of the GBIS North Alignment. Toluca Lake area residents and Forest Lawn also commented on the GBIS South Alignment, in particular on the western portion of the GBIS South



Alignment. In addition, comments were received on a possible construction shaft site and air treatment facility (ATF) at Woodbridge Park.

The above comments were conveyed in various written comments submitted to the City, and/or in oral testimony presented at one or more of the four public hearings conducted during the public review period.

To be responsive to public comments on the proposed GBIS alignments evaluated in the Draft EIR in a way that also facilitates the objectives of the City for designing and constructing the project improvements in accordance with sound engineering practices and that ensures public health and safety, the City has combined the two proposed GBIS alignments (see Section 2.2.1.10 of the Draft EIR). This will substantially reduce impacts and alleviate many of the concerns expressed by various commenters, yet still adhere to the project objectives and to the City goals for design feasibility. In addition, City staff met with various representatives of the City of Burbank to discuss the concerns expressed by the City of Burbank and how best to address those concerns, as described in Section 1.3. The following section describes the GBIS alignment recommended for approval and implementation.

### ***Staff Recommended GBIS Alignment***

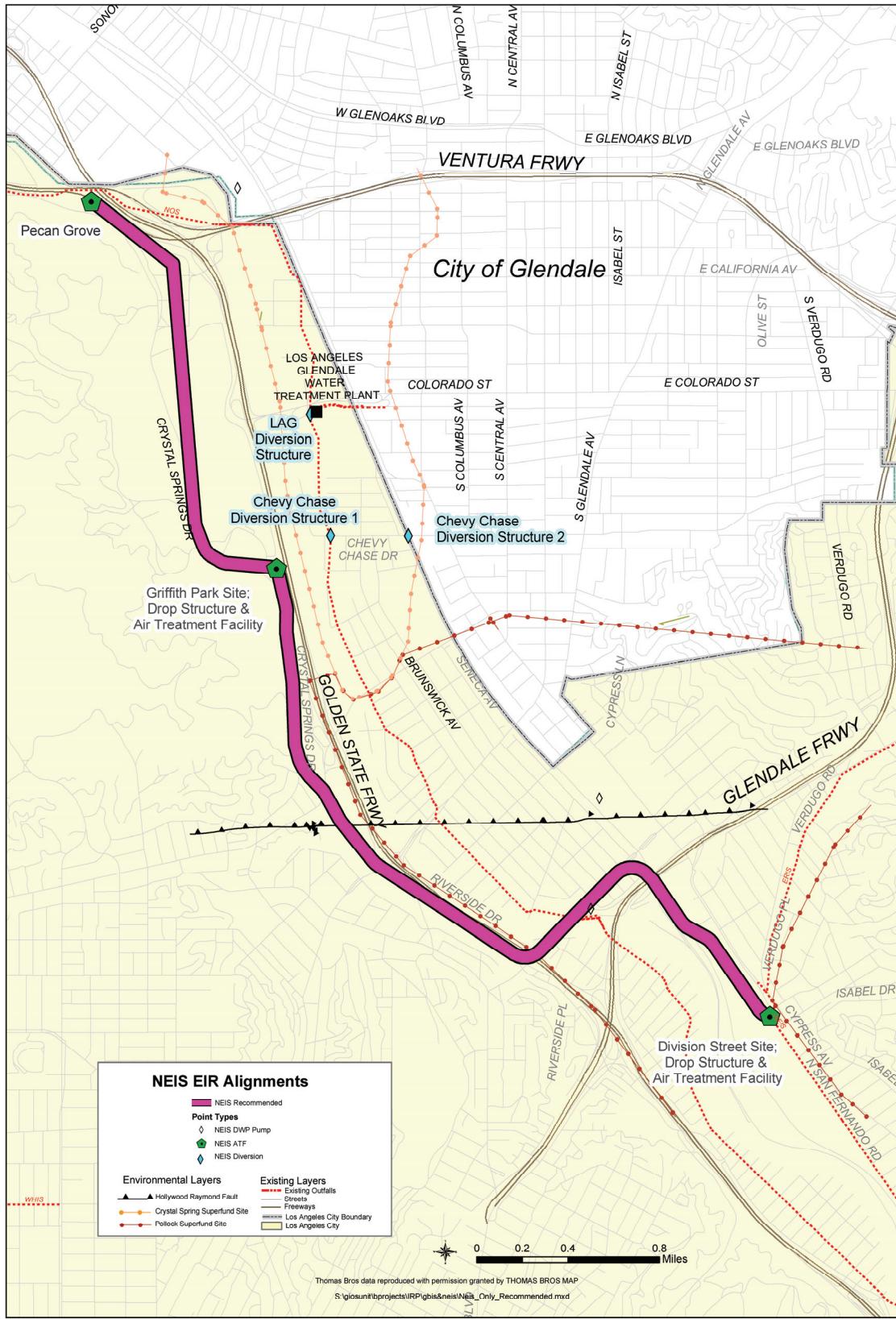
The GBIS alignment recommended by staff for implementation connects the eastern half of the GBIS South Alignment and the western half of the GBIS North Alignment with a short section of tunnel beneath Pass Avenue in the City of Burbank. Figure 1-2 of this Final EIR shows this combined GBIS alignment overlaid on the GBIS South Alignment and the GBIS North Alignment, as described in the Draft EIR.

The staff recommended GBIS Alignment, depicted in blue in Figure 1-2, would be constructed using tunneling methods. Tunneling would occur from or between the following shaft sites (analyzed in the Draft EIR as part of the GBIS South Alignment):

- Pecan Grove Shaft Site
- Travel Town Shaft Site
- Barham Shaft Site
- California Department of Transportation (Caltrans) North Hollywood Maintenance Yard Shaft Site

The Pecan Grove Shaft Site is recommended because it would avoid potential impacts to the Los Angeles Zoo parking lot and is consistent with the comment letter from the Los Angeles Zoo (Comment O16 from the Los Angeles Zoo supports the Pecan Grove Shaft Site).

The Caltrans North Hollywood Maintenance Yard Shaft Site is recommended because the site would avoid a construction shaft site and ATF at Woodbridge Park. The shaft sites at Woodbridge Park, the Los Angeles Zoo, and the Observatory Annex described in the Draft EIR no longer are being considered and are not a part of the staff recommended GBIS Alignment.

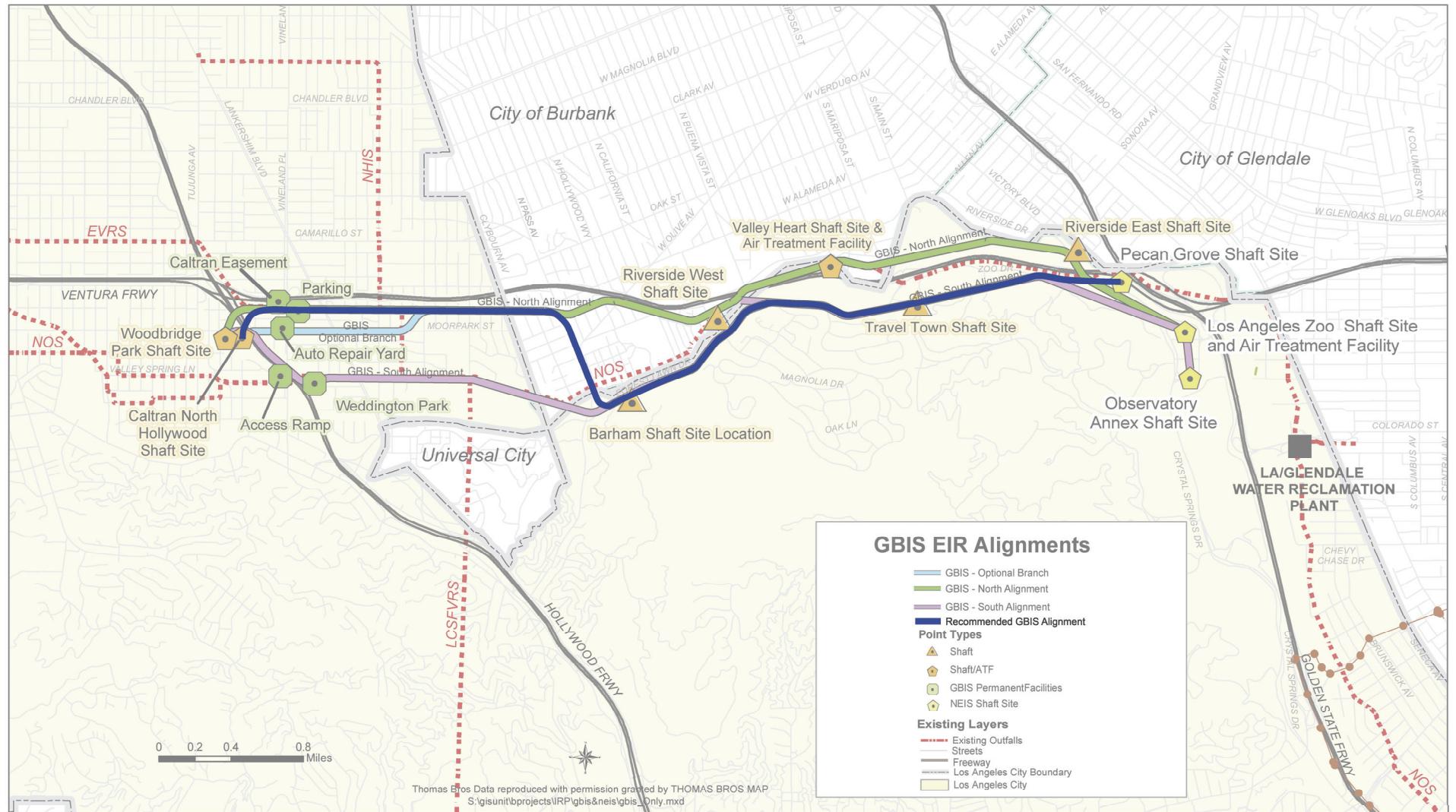


**Figure 1-1**  
**Staff Recommended NEIS II Alignment**



Source: Bureau of Sanitation, City of Los Angeles

Integrated Resources Plan  
Environmental Impact Report



**Figure 1-2**  
**GBIS Alignments**

Integrated Resources Plan  
Environmental Impact Report

**CH:CDM**

Figure 1-3 shows the staff recommended GBIS Alignment and the construction shaft sites that are recommended for implementation.

In addition, ATFs could be placed at the Pecan Grove site and the Caltrans North Hollywood Maintenance Yard site. The GBIS alignment tunnel would begin at the Pecan Grove Shaft Site and would extend beneath Zoo Drive for a short distance, then extend beneath the northernmost hillside in Griffith Park to the Travel Town Shaft Site. From the Travel Town Shaft Site, the staff recommended GBIS Alignment would be tunneled to and beneath Forest Lawn Drive to the Barham Shaft Site located along Forest Lawn Drive (just east of Barham Boulevard). (This section of the staff recommended GBIS Alignment is the eastern portion of the GBIS South Alignment described in the Draft EIR.)

From the Barham Shaft Site, the staff recommended GBIS Alignment then would be tunneled northwest to cross beneath the Los Angeles River to Pass Avenue where the tunnel would be directed northward beneath Pass Avenue to Riverside Drive. This section of sewer beneath Pass Avenue is the segment that connects the eastern portion of the GBIS South Alignment with the western portion of the GBIS North Alignment. Other connector streets, such as Rose Street or Clyborne Avenue, would not be used to connect the GBIS South and GBIS North Alignments.

Section 3 of the Draft EIR evaluates and discloses the anticipated environmental effects of the GBIS North Alignment and the GBIS South Alignment. The staff recommended GBIS Alignment in this Final EIR does not constitute a new Project component because: (1) the GBIS North and GBIS South Alignments have been evaluated in the Draft EIR; (2) the staff recommended GBIS Alignment primarily is composed of portions of both GBIS alignments; and (3) the combined GBIS alignment would be constructed from the same shaft sites as the GBIS South Alignment as discussed in the Draft EIR. The staff recommended GBIS Alignment combines portions of the GBIS North Alignment and GBIS South Alignment in a way that minimizes impacts to a greater extent than implementing either the North Alignment or the GBIS South Alignment independently. The former GBIS alignments proposed in the Draft EIR would be joined by a 0.5-mile connector along Pass Avenue (see Figure 1-2), which would not result in new significant impacts.

As discussed in detail below, the staff recommended GBIS Alignment, including Pass Avenue, would not result in differences in the types and intensity of impacts from those disclosed in the Draft EIR. Specifically:

- Potential impacts from a tunnel along Pass Avenue would be similar in type and intensity as those discussed in the Draft EIR.
- The staff recommended GBIS Alignment is a combination of the proposed alignments analyzed in the Draft EIR.
- The staff recommended GBIS Alignment would be constructed from the shaft sites associated with the GBIS South Alignment, as analyzed in the Draft EIR.
- Mitigation measure GEO-MM-2 (that controls settlement) would apply to all portions of the tunnel alignment.

- Mitigation to address potential impacts to noise and vibration, settlement, and traffic will be implemented.
- The staff recommended GBIS Alignment would substantially reduce the potential for impacts compared with the GBIS North Alignment and will address commenters' concerns along the GBIS South Alignment.

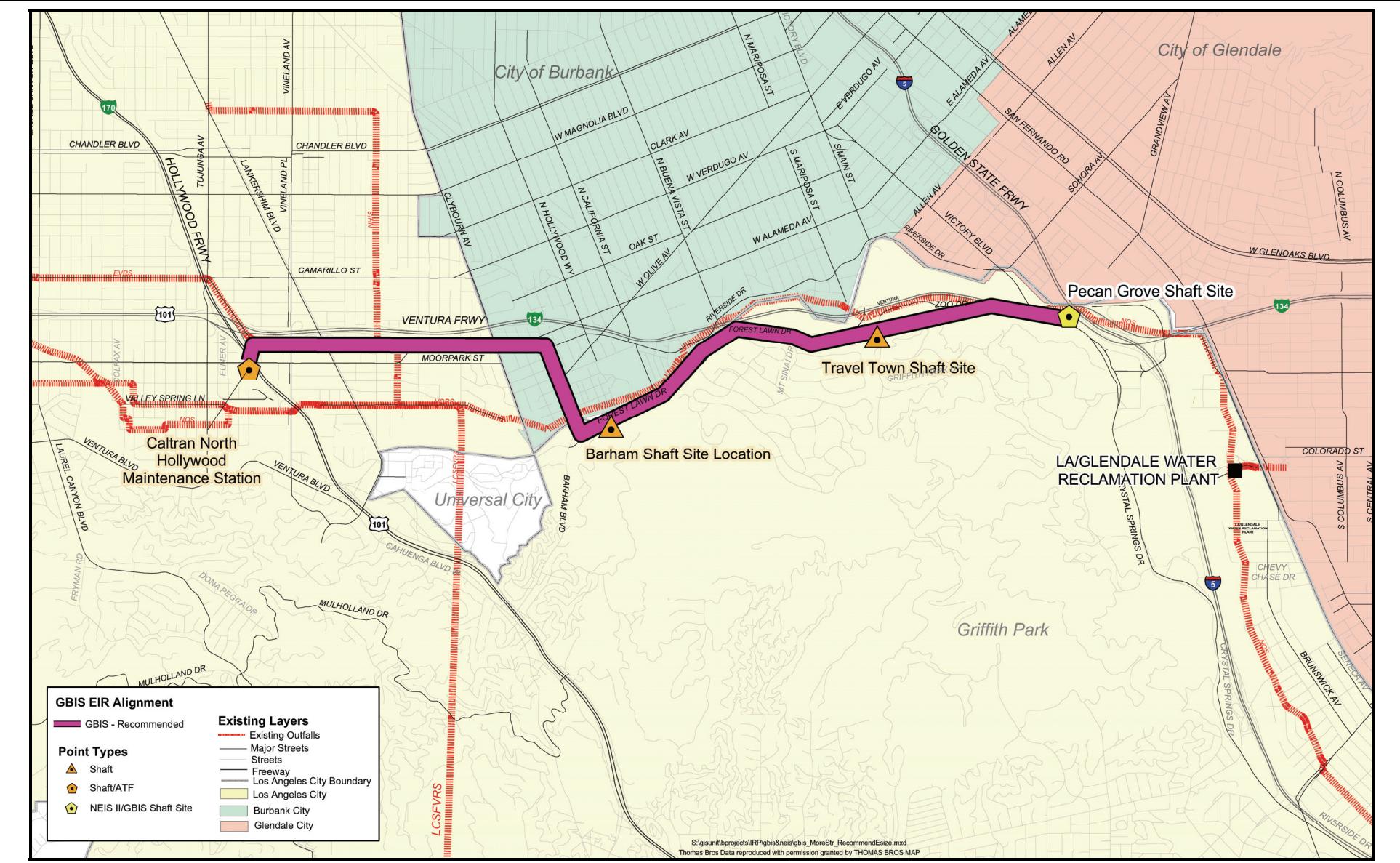
Potential noise and vibration, settlement, and traffic impacts along Pass Avenue would be similar to those discussed in the Draft EIR for tunneling activities. The staff recommended GBIS Alignment would include a 0.5-mile section of tunnel beneath Pass Avenue and would not have maintenance hole structures along Pass Avenue that could require surface construction. This, along with implementation of mitigation measure TRA-MM-2 (preparation of traffic control plans) would minimize the potential for traffic impacts and keep potential traffic impacts at a less than significant level.

The experience of the City with the recently constructed NEIS, which is similar in depth and ground type with GBIS, demonstrates that vibrations from tunneling would not be substantial. Vibration charts generated by monitoring devices indicated that vibrations from normal surface vehicular traffic exceeded vibrations generated by NEIS tunneling operations. In addition, noise and vibration mitigation measures identified in Section 3.13 of the Draft EIR (NV-MM-3, NV-MM-5, NV-MM-7, NV-MM-8, and NV-MM-9) would be implemented to mitigate potentially significant noise and vibration impacts, and would: (1) require the contractor to prepare a Vibration Control Plan to ensure that groundborne vibration does not exceed the applicable levels at locations along the alignment going through Pass Avenue; (2) require the use of rubber pads (or ties) or other vibration-insulating material beneath rails to absorb or dampen vibrations; (3) require speed restrictions for muck cars; (4) require the use of new or like-new rail and muck cars, and ensure that rails are aligned with minimal seams; (5) require monitoring of noise and vibration; and (6) implement a Community Liaison Program.

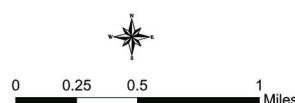
The tunnel section beneath Pass Avenue would extend approximately 0.5-mile through the City of Burbank, which is a shorter distance than the approximate 1.25-mile section that would extend beneath Riverside Drive in the City of Burbank with the GBIS North Alignment that was evaluated in the Draft EIR. In addition, mitigation measure GEO-MM-2 in the Draft EIR, which limits potential settlement to 0.75-inch along the tunnel alignment, has been modified in this Final EIR to establish a surface settlement goal of 0.5-inch or less, which would further decrease the potential for significant settlement impacts along the staff recommended GBIS Alignment, particularly through the City of Burbank.

As mentioned above, the staff recommended GBIS Alignment would be constructed from the same shaft sites as the GBIS South Alignment (Pecan Grove, Travel Town, Barham, and Caltrans North Hollywood Maintenance Yard Shaft Sites), and these shaft sites were evaluated in the Draft EIR. Because the staff recommended GBIS Alignment would not use the Valley Heart, Riverside East, and Riverside West shaft sites for construction or for the placement of an ATF, potential impacts to Burbank residents associated with the staff recommended GBIS Alignment would be considerably less than discussed in the Draft EIR for the GBIS North Alignment.





**Figure 1-3**  
**Staff Recommended GBIS Alignment**



Source: Bureau of Sanitation, City of Los Angeles

**CH:CDM**

Integrated Resources Plan  
Environmental Impact Report

The staff recommended GBIS Alignment also would avoid impacts along the western portion of the GBIS South Alignment, as expressed in many of the comments received on the Draft EIR.

In addition, City staff met with various representatives of the City of Burbank (summarized in Section 1.3) to address concerns expressed by the City of Burbank regarding an alignment along Pass Avenue. Based on that coordination, the City of Los Angeles is incorporating the following voluntary measures into the design of the staff recommended GBIS Alignment:

- Maintenance hole structures. The City will attempt to eliminate the placement of maintenance hole structures within the City or Burbank, including along Pass Avenue.
- Tunneling Construction Sites. No tunneling construction sites would occur within the City of Burbank, unless a construction emergency situation requires such construction (no such construction emergencies are anticipated).
- Minimize or Prevent Surface Construction. Minimize, if not avoid, surface construction activities for GBIS in the City of Burbank, including along Pass Avenue.
- Implement Additional Measures. Implement additional voluntary measures to reduce potential traffic, noise, and vibration impacts based on past experience constructing other recent City of Los Angeles sewer tunneling projects, including:
  - Traffic: With no maintenance hole structures in the City of Burbank, haul trucks from construction would be a potential source of project traffic. Traffic Control Plans will be prepared and approved and would include restricted hours, travel time restrictions for construction-related traffic to avoid peak travel periods, local traffic detours, protective devices and traffic controls, and provisions to maintain emergency access through construction work areas. In addition, haul routes to and from the construction shaft sites and freeway access ramps would be included in the Traffic Control Plans for the shaft sites. Furthermore, haul routes would be established to minimize travel through residential areas, including traffic associated with the construction of maintenance holes near the City of Burbank.
  - Noise: Require the contractor to prepare a Noise Control Plan and also require (in construction contracts) that all construction equipment be equipped with mufflers and other suitable noise-attenuation devices.
  - Vibration: Experience with the recently constructed NEIS line, which compares closely in depth and ground type as GBIS, was very positive. Vibrations related to NEIS tunneling operations were not significant. Vibration charts generated by monitoring devices along the NEIS alignment indicated that vibrations due to normal surface vehicular traffic exceeded vibrations generated by tunneling operations. Measures used in the recent NEIS construction would be applied to GBIS, including requiring the contractor to prepare a Vibration Control Plan to ensure that groundborne vibration does not exceed the applicable levels at locations along any Pass Avenue alignment.

The vibration control plan would include the use of rubber pads (or ties) or other vibration-insulating materials beneath rails to absorb or dampen vibrations, using new or like-new rail and muck cars, and ensuring that rails are aligned and have minimal seams.

To ensure that the design and construction of the staff recommended GBIS Alignment and LADWP projects that would be close to each other do not conflict, staff of both departments have begun to meet regularly to coordinate planning and preliminary design activities. Once a GBIS alignment is approved by City Council, the coordination efforts will include detailed requirements for the River Supply Conduit Improvement – Lower Reach, River Supply Conduit Improvement – Upper Reach, and City Trunk Line South Project, including:

- Designing sewer maintenance holes , tunnel shafts, and tunnels to ensure the integrity of trunk lines
- Providing appropriate spacing between maintenance hole risers and other sewer appurtenances with trunk lines and distribution mains
- Providing design submittals for coordination and review purposes

#### ***Rationale for Selection of the Staff Recommended GBIS Alignment***

As discussed above, the staff recommended GBIS Alignment that combines portions of the proposed GBIS alignments evaluated in the Draft EIR is the GBIS alignment recommended for implementation in this Final EIR. This section presents the rationale for that recommendation. In addition, as described above, the City combined the GBIS South and the GBIS North Alignments to respond to public comments (concerns about potential impacts) made during the public comment period on the Draft EIR.

The City considered the following criteria in making its decision on the recommended alignment:

- Key Concerns about Potential Impacts
- Surface Construction Activity
- Contingency Response
- System Relief
- System Risks
- Public Rights-of-way

#### ***Key Concerns about Potential Impacts***

Numerous comments were received during the public review and comment period expressing concerns about key areas, primarily to impacts to residential and recreational areas.

- ***Impacts to Residential Areas.*** Many comments were received expressing concerns about potential air quality, aesthetic, health, land use, noise, impacts, traffic, and emergency access impacts to residential areas that could result from the surface elements of the GBIS North Alignment and underground elements of the western portion of the GBIS South Alignment, and the section of the GBIS alignment beneath Pass Avenue.

The majority of concerns about the GBIS North Alignment focused on construction and operational impacts at the Valley Heart Shaft Site. Single-family homes are located in the immediate vicinity of the Valley Heart Shaft Site, and comments focused on possible impacts to these nearby homes. The nature of concerns included potential traffic impacts along residential streets, construction noise, air quality, contaminated soils, and unsightliness. In addition, many of the same comment letters recommended selecting the GBIS South Alignment to avoid these potential impacts.

The majority of concerns regarding the GBIS South Alignment focused on impacts to residential areas along the western portion of the GBIS South Alignment. The western portion of the GBIS South Alignment would extend beneath the Los Angeles River to Valley Spring Lane and would be directed westward beneath this street to U.S. Highway 101. The GBIS South Alignment then travels north along the east side of U.S. 101 to Moorpark Street, where it would head west to its terminus at the Woodbridge Park Shaft Site or the Caltrans North Hollywood Maintenance Yard Shaft Site. Residences are located along Valley Spring Lane; and many comment letters were received from community members expressing concerns with potential impacts related to settlement, noise, air quality, and traffic. In addition, many of the same comment letters recommended selecting the GBIS North Alignment as a way to avoid their concerns.

The City combined the eastern portion of the GBIS South Alignment with the western portion of the GBIS North Alignment via a 0.5-mile tunnel beneath Pass Avenue to reduce the potential for impacts along the two GBIS alignments. A small number of comment letters received from the public on GBIS expressed concerns about potential impacts along the Pass Avenue section, including the potential for settlement impacts, noise and vibrations, and traffic.

Many of the concerns expressed about potential impacts to residential areas are related to construction, specifically groundborne vibration and, to some extent, potential settlement. Other impacts identified in the Draft EIR related to the Valley Heart Shaft Site, where the potential presence of a permanent operating ATF is likely to continue to be controversial and objectionable to nearby residents. As a consequence, the GBIS North Alignment is considered the least desirable of the GBIS alignments in terms of potential impacts to residential areas. The GBIS South Alignment and the staff recommended GBIS Alignment are more desirable than the GBIS North Alignment. The staff recommended GBIS Alignment is deemed to be more desirable than the GBIS South Alignment because contingency response activities, described below, have the potential to result in greater disruptions to residential areas along Valley Spring Lane than Pass Avenue because of the constraining presence of large-diameter sewers in the narrow Valley Spring Lane.

- **Impacts to Recreational Areas.** In addition to concerns to residential areas, numerous comments were received during the public review and comment period expressing concerns with impacts to recreational areas.

Some comments were received about potential recreational impacts related to a tunnel construction shaft site at the Riverside East Shaft Site, which would be located in a portion of the Bette Davis picnic area. This site contains numerous landscaped trees, and the shaft site would require the removal of some of the trees. Although the removed trees would be replaced following completion of the 3-year construction period, concerns about the changes to the park setting were expressed.

The Valley Heart Shaft Site is at an extension of Griffith Park that was bisected from the main portion of Griffith Park by State Route (SR) 134. This site is also known as Pollywog Park and is used by local residents to exercise their horses and to gain access to the horse trails in Griffith Park south of SR-134. Numerous comments were received expressing concerns about potential impacts to the recreational use of this site from both construction of GBIS and the operation of a permanent ATF at this site. The concerns included general incompatibility of construction activities and related noises with the presence of horses, the possibility that construction noises could frighten horses thereby posing safety issues, and the possibility of construction blocking access trails. Comments also were submitted about the ATF and resultant odor impacts at this recreational site, as well as aesthetic impacts to the site as a recreational area. Many of the same comment letters expressing concerns also recommended selecting the GBIS South Alignment to avoid these potential impacts.

The GBIS alignments described in the Draft EIR identified either the Woodbridge Park Shaft Site or the Caltrans North Hollywood Maintenance Yard Shaft Site as the terminating shaft site. Numerous comments were received from users of Woodbridge Park, including students of Oakwood Elementary School, expressing concerns about impacts to Woodbridge Park, about the loss of use of the park, and about the ATF proposed for the site. Several commenters pointed out that the park recently was improved using Proposition K funds. Many of the same comment letters expressing concerns for Woodbridge Park recommended selecting the Caltrans North Hollywood Maintenance Yard Shaft Site as a way of avoiding impacts to Woodbridge Park.

- **Summary of Key Concerns about Potential Impacts.** Many of the anticipated impacts associated with each of the proposed GBIS alignments have been analyzed in the Draft EIR and can be mitigated to a level that is less than significant. As an example, concerns were expressed about the potential for groundborne noise, traffic, and settlement impacts along the western portion of the GBIS South Alignment and the Pass Avenue section of the staff recommended GBIS Alignment. These impacts are addressed through the application of mitigation measures discussed in the Draft EIR, such as noise-dampening pads between rails and ties (mitigation

measure NV-MM-7), preparing construction traffic management plans (TRA-MM-1), and establishing settlement control limits during tunneling (GEO-MM-2), as well as other mitigation measures specified in the Mitigation Monitoring and Reporting Program in Appendix G of this Final EIR. Some impacts could remain a concern to residents regardless of the adequacy of mitigation measures, including potential impacts related to permanent operation of facilities such as ATFs. In addition, as noted in various comments on the Draft EIR, the GBIS North Alignment would affect numerous recreational facilities as a result of construction and/or operation because of the number of parks that could be used as tunnel shaft sites. In considering potential impacts to both residential areas and recreational resources associated with the GBIS alignments, the staff recommended alignment is the combined GBIS alignment, because it avoids most of the potential impacts to residential and recreational areas associated with the eastern portion of the GBIS North Alignment, and because it avoids most of the concerns of potential impacts to residential areas along the GBIS South Alignment.

#### *Surface Construction Activity*

Although GBIS would be constructed primarily underground using tunneling techniques, some surface construction would be required to install maintenance holes, and possibly to inject grout along the tunnel alignment as a method to control the potential for settlement in areas of unfavorable subsurface conditions. The western section of the GBIS South Alignment would extend beneath Valley Spring Lane. Several large-diameter sewers are currently beneath Valley Spring Lane (Valley Outfall Relief Sewer [VORS] and the NOS), and the amount of horizontal space they occupy within Valley Spring Lane would make it difficult to inject grout along the tunnel alignment if unfavorable subsurface geotechnical conditions are encountered. In addition, grouting from the surface likely would require that one lane of traffic be closed temporarily. The closure of a single lane of traffic along Valley Spring Lane (GBIS South Alignment) is considered less desirable when compared with Riverside Drive for the GBIS North Alignment or Pass Avenue with the staff recommended GBIS Alignment because of the narrowness of Valley Spring Lane. Riverside Drive along the western portion of the GBIS North Alignment travels through a predominantly residential area of the City of Burbank, whereas the areas in the vicinity of Pass Avenue are more commercial (even though some residential structures are located along the northern section of Pass Avenue). The Pass Avenue section of the staff recommended GBIS Alignment is more conducive to surface construction activities that could be required if unfavorable subsurface soil conditions are encountered.

#### *Contingency Response*

GBIS would be constructed by tunneling underground between construction shaft sites. Although subsurface soil condition information can be explored during the planning and/or design phase of the project, the actual subsurface soil conditions along the alignment cannot be known in their entirety because

soil borings cannot be taken along every point along the alignment. When tunneling, the potential always exists to encounter unfavorable soil conditions that could make the tunneling process more difficult, or in more extreme circumstances, could result in the need to excavate to the tunnel boring machine (TBM) from the ground surface. In such emergency circumstances, the City could have to excavate from the surface to the TBM, make repairs to the TBM, or in extreme cases, retrieve the TBM for above-ground repairs. Although such a contingency response is not considered likely, its possibility cannot be discounted. As a consequence, the City has considered the GBIS alignments in the context of contingency response.

Contingency response is related primarily to the potential need to develop surface access from within the public property along street rights-of-way during emergency responses. In considering the GBIS alignments, the width of the streets and subsurface utilities are important considerations. Forest Lawn Drive and Zoo Drive are both wide enough to accommodate contingency response activities along the GBIS South Alignment, if needed. Valley Spring Lane is a relatively narrow street and contains two large-diameter sewers (Valley Outfall Relief Sewer or VORS, and the North Outfall Sewer or NOS). These sewers occupy a large portion of the horizontal subsurface area beneath the street and cannot be moved or relocated readily, unlike smaller utility lines. As a consequence, this portion of the GBIS South Alignment is not desirable in the context of contingency response.

A large portion of the GBIS North Alignment extends beneath Riverside Drive, which is considered wide enough to accommodate contingency response activities, if needed. The eastern portion of Riverside Drive is considered less desirable than the western portion because the eastern portion extends through a predominantly residential area, whereas the western portion extends through a mixed commercial and residential area.

Utilities along Riverside Drive are not expected to pose a hindrance to contingency response. The section of the staff recommended GBIS Alignment along Pass Avenue is considered viable for contingency response based on the width of Pass Avenue. Some residential structures are located along a short section of Pass Avenue; however, the length of this section is considerably shorter than the length of Riverside Drive that extends through residential areas under the GBIS North Alignment. The staff recommended GBIS Alignment would be constructed beneath Zoo Drive, Forest Lawn Drive, Pass Avenue, and the western portion of Riverside Drive, all of which are wide enough to accommodate contingency response activities, if needed. The staff recommended GBIS Alignment, therefore, is considered the most desirable GBIS alignment for contingency response. In addition, Optional Alignment A (Riverside Branch), as described in Section 2.2.1.10 of the Draft EIR, is the preferred route along the western portion of the staff recommended GBIS Alignment from a contingency response standpoint because Riverside Drive is wider than Moorpark Street (Optional Alignment B) and would provide

greater flexibility in responding to unfavorable subsurface soil conditions during tunneling, if encountered.

#### *System Relief*

One of the primary purposes of GBIS is to provide more immediate hydraulic relief to several sewer lines in the vicinity of the alignments, and these sewers would include the East Valley Relief Sewer (EVRS), the VORS, and the NOS. In addition, at some point in the future, wastewater flow in the North Hollywood Interceptor Sewer (NHIS) would have to be rerouted from the EVRS to GBIS.

Each of the proposed GBIS alignments includes a diversion structure along Woodbridge Street near Colfax Avenue to divert flow from the NOS to the VORS. The GBIS North Alignment (along Riverside Drive) is located closer to the EVRS and NHIS, and would better facilitate connection with the EVRS and NHIS in the future. The western portion of the GBIS South Alignment would occur within Valley Spring Lane, which is located farther south of EVRS and the existing NHIS outlet. In addition, because two existing sewers are located in Valley Spring Lane, extending and connecting the NHIS to GBIS as a separate future project would pose greater challenges than to a GBIS alignment in Riverside Drive. As a consequence, the western portion of the GBIS North Alignment and the staff recommended GBIS Alignment are more desirable for system relief than the western portion of the GBIS South Alignment.

#### *System Risks*

As mentioned above, two large-diameter sewers (the VORS and NOS) currently are located in Valley Spring Lane. These outfall sewers collect and convey wastewater from different parts of the San Fernando Valley and extend beneath Valley Spring Lane at relatively shallow depths (less than 30 feet below the ground surface). The placement of GBIS beneath Valley Spring Lane proposed under the GBIS South Alignment is less desirable than the staff recommended alignment because it would concentrate three major sewers in the same street, which would expose all three sewers to risks if any one sewer becomes damaged. In addition, the placement of GBIS within the Los Angeles River channel, as suggested in several comments on the Draft EIR, is not desirable because of the potential risks to the river as a flood conveyance channel or because of the potential for stormwater to enter the sewer system. To minimize risks to the outfall conveyance system and other infrastructure, such as the Los Angeles River, the staff recommended GBIS Alignment is proposed for implementation.

#### *Public Rights-of-Way*

It is the City of Los Angeles' policy to place key public infrastructure facilities, such as sewers and storm drains, in the public right-of-way to avoid impacts to private property and to facilitate access and future maintenance and inspection activities. Some members of the public suggested placing GBIS beneath the Lakeside Golf Course as an alternative to Valley Spring Lane. To

minimize impacts to private property, the staff recommended GBIS Alignment is proposed for implementation.

***Conclusions***

On the basis of a consideration of common concerns about potential impacts identified in various comment letters, surface construction activity issues, contingency response issues, the need to provide system relief, and the need to minimize risks to the conveyance system, the staff recommended GBIS Alignment and the specific shaft site and ATF sites are recommended for implementation. The staff recommended GBIS Alignment minimizes potential impacts to residential areas and recreational resource while effectively accommodating system needs and constructability.