US Army Corps
of Engineers®
Los Angeles District

Los Angeles River Ecosystem Restoration Feasibility Study

DRAFT – APPENDIX J
REAL ESTATE PLAN

September 2013

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1. PURPOSE

This appendix is prepared in accordance with Engineering Regulation (ER) 405-1-12, 12-16, Real Estate Plan, and presents the real estate requirements for the Los Angeles River Ecosystem Restoration Study tentatively selected plan, described below. The City of Los Angeles (City) is the non-Federal sponsor for the study.

The primary purpose of the proposed project and alternatives considered in the study is to restore 11 miles of the Los Angeles River from approximately Griffith Park to downtown Los Angeles by reestablishing riparian strands, freshwater marsh, and aquatic habitat communities and reconnecting the river to major tributaries, its historic floodplain, and the regional habitat zones of the Santa Monica, San Gabriel, and Verdugo Mountains while maintaining existing levels of flood risk management. A secondary purpose is to provide recreational opportunities consistent with the restored ecosystem within this 11-mile reach of the river. This reach is identified as the "Area with Restoration Benefits and Opportunities for Revitalization" reach, or ARBOR reach (referred to herein as ARBOR reach or study area).

The Los Angeles River, once the backbone for a vast natural system of riparian foothill and freshwater marsh habitat, carrying seasonal rains and subterranean flows to the coastal plain and the Pacific Ocean, has been degraded over time by a cycle of increasing urban development, flooding, and channelization, culminating in the mid-20th century with the Federal flood risk management project known as Los Angeles County Drainage Area (LACDA). LACDA was undertaken by the USACE in partnership with the Los Angeles County Flood Control District (LACFCD, today known as the Los Angeles County Department of Public Works but referred to as LACFCD throughout this

real estate plan for consistency). The LACFCD, the non-Federal sponsor for LACDA, and the City of Los Angeles, the non-Federal sponsor for the restoration study, are separate governmental bodies. The LACDA project encased the river in concrete banks and a partially concrete bed which straightened the river's course, diminishing its plant and wildlife diversity and quality, disconnecting it from its floodplain and significant ecological zones, and dramatically changing its appearance.

The ARBOR reach has the greatest potential for restoration compared to the rest of the river because it includes the Glendale Narrows, one of the few reaches in the river with a non-concrete bed with natural flows fed by underground sources, and has connections to the Verdugo Wash and Arroyo Seco tributaries that can link to significant habitat areas as well as adjacency to Griffith Park, the eastern terminus of the Santa Monica Mountains. For these reasons, the ARBOR reach is the focus of the restoration alternatives.

This Study is authorized by Senate Committee on Public Works Resolution, approved June 25, 1969, reading in part:

> *Resolved by the Committee on Public Works of the United States Senate, that the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby requested to review the report of the Chief of Engineers on the Los Angeles and San Gabriel Rivers and Ballona Creek, California, published as House Document Numbered 838, Seventy-sixth Congress, and other pertinent reports, with a view to determining whether any modifications contained therein are advisable at the present time, in the interest of providing optimum development of all water and related land resources in the Los Angeles County Drainage Area.*

Section 4018 of the Water Resources Development Act of 2007 (Public Law 110-114) provided authorization for a "feasibility study for environmental ecosystem restoration, flood control, recreation, and other aspects of Los Angeles River revitalization that is

consistent with the goals of the Los Angeles River Revitalization Master Plan published by the city of Los Angeles….” The Corps of Engineers (Corps) implementation guidance for this section identified that the scope and substance of the study under the Senate resolution is identical to the study mandated by section 4018 and directed that the ongoing study incorporate the section 4018 study.

This Real Estate Plan will focus on the real estate requirements for the tentatively selected plan, Alternative 13 “ARBOR Corridor Extension (ACE),” referred to herein as the tentatively selected plan or TSP.

Alternative 13, ACE, includes restoration features throughout the 11 mile project reach. Alternative 13 widens the river at Taylor Yard, restores the confluence with the Arroyo Seco tributary, and restores a historic wash at the Piggyback Yard site. It also includes several daylighted streams and side channels.[1]

In this Real Estate Plan, an appendix to the Integrated Feasibility Report, the Corps must, for each project purpose and feature, fully describe the lands, easements, and rights-of-way, relocations, and disposal sites required for construction, operation, and maintenance of the project, including the acreage, estates, number of tracts/parcels, ownership, and estimated value. The Corps must include other relevant information on sponsor ownership of land, proposed non-standard estates, existing Federal projects and ownership, required relocations under the Uniform Relocation Act, presence of contaminants, and other issues as required by ER 405-1-12. The current plan is an in-progress document and will be refined and completed during the study process.

[1] More detailed feature descriptions are provided, relative to the LERRD required, below.

2. DESCRIPTION OF LANDS, EASEMENTS, RIGHTS OF WAY, RELOCATIONS AND DISPOSAL SITES (LERRD)

The Los Angeles River Ecosystem Restoration Feasibility Study is analyzing the ecosystem restoration opportunities along the ARBOR reach. The non-Federal sponsor owns lands within and adjacent to the river in several cases, discussed in section 3, below. As noted above, the study area also overlaps with a part of the existing Federal flood risk management project on the Los Angeles River, LACDA. The interests previously provided for that project and their inadequacy to fully support the restoration project are discussed in section 5, below.[2] The TSP has been divided into 8 reaches based on their physical characteristics for purposes of formulation and evaluation. The lands required for each reach are described below, with discussion of number of parcels, acreage, non-Federal sponsor ownership, public and private ownership, and whether the lands are within the existing LACDA project boundary. A summary table follows this narrative.

Reach 1 Pollywog Park Area of Griffith Park

Reach 1 extends from Pollywog Park/Headworks to the downstream edge of the concrete portion of the river. It is approximately 1.5 miles in length. In this reach lands for the TSP will be used for riparian planting on the overbanks. Overbanks are defined in the report as "…areas adjacent to the river where overland flow in flood events could occur in a natural river environment." The TSP would restore approximately 60 acres of riparian habitat corridors along the overbanks of both sides of the river.

[2] Because the interests previously provided in land for the LACDA flood risk management project are not sufficient to support the proposed restoration project features, and the restoration project sponsor must provide the remaining interests needed, the lands affected by the LACDA project are identified below as "within the existing LACDA project boundary" rather than "previously provided for the LACDA project." This complex issue is discussed in detail in Section 5 of this real estate plan.

There are eight parcels needed for this reach. The eight parcels total 47.18 acres, of which 12.83 acres are within the existing LACDA project boundary. The non-Federal sponsor owns six parcels in fee totaling 46.92 acres, of which 12.57 acres are within the existing LACDA project boundary. The other two parcels total 0.26 acres and are within the existing LACDA project boundary. The Non-Federal Sponsor would need to acquire these two parcels that are under public ownership in fee.

The following table lists the acreages needed for Reach 1 of the TSP:

	Total Acres needed for project including LACDA in Reach 1	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	46.92	12.57	6
Public other than NFS	0.26	0.26	2
Private	0	0	
TOTAL	47.18	12.83	8

Reach 2 Bette Davis Park Area of Griffith Park

Reach 2 begins at the midpoint of Bette Davis Park to just past the bridge crossing of Interstate 5. It is approximately ¾ miles in length. Habitat corridors/riparian planting measures in this reach would create approximately 21 acres of riparian habitat corridors along the overbanks of the river similar to reach 1. Restoration of the Bette Davis Park area of the right bank of the river, a portion of Griffith Park of the left bank will also take place in this reach of the TSP.

Three parcels are needed for this reach of the project for a total of 21.22 acres. Of this 21.22 acres, which is already owned in fee by the Non-Federal Sponsor, 2.06 acres is within the existing LACDA right of way. The following table lists the acreages needed for reach 2 of the TSP:

	Total Acres Required for the project including LACDA in Reach 2	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	21.22	2.06	3
Public other than NFS	0	0	0
Private	0	0	0
TOTAL	21.22	2.06	3

Reach 3 Ferraro Fields/Verdugo Wash Area of Griffith Park

Reach 3 begins at Ferraro Fields and ends at Brazil Street. It is approximately 1 mile long. In this reach the TSP calls for a side channel to divert water from the 10-year event into a side channel flowing through an area known as Ferraro Fields. A stream will also be daylighted on the right bank of the river in the Zoo Drive area. Two smaller streams will be daylighted on the left bank. Daylighted streams will support a riparian fringe, open water and freshwater marsh at their confluence.

Four parcels (totaling 8.71 acres) will be needed for this reach of the project. Two parcels with a total acreage of 7.86 acres are already owned in fee by the Non-Federal Sponsor. Of the 7.86 acres owned by the non-federal sponsor, 4.11 acres is in the existing LACDA footprint. Two other parcels with acreage of 0.85 acres will need to be acquired from the LACFCD. These two parcels are within the existing LACDA right of way. The following table lists the acreages needed for reach 3 of the TSP

	Total Acres Required for the project including LACDA in Reach 3	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	7.86	4.11	2
Public other than NFS	0.85	0.85	2
Private	0	0	0
TOTAL	8.71	4.96	4

Reach 4 Griffith Park

Reach 4 starts at Brazil Street and ends at Los Feliz Boulevard. It is 1.75 miles long. This reach aims to daylight and restore stream geomorphology and habitat in seven

areas, a side channel through the Griffith Park Golf Course on the west and the Los Feliz Golf Course on the east bank and a riparian habitat corridor. The storm drains in this reach will also be opened and naturalized as tributaries as far upstream as possible within the right of way of the existing river.

In this reach 13 parcels (totaling 24.61 acres) are needed for the TSP. Six parcels totaling 23.19 acres are already owned in fee by the Non-Federal Sponsor. Of those 23.19 acres 5.79 acres is part of the existing LACDA footprint. The Non-Federal Sponsor will also need to acquire two parcels (0.60 acres) from the LACFCD which are within of the existing LACDA right of way. Five parcels totaling 0.82 acres will need to be acquired in fee from private owners. The following table lists the acreages needed for reach 4 of the TSP:

	Total Acres Required for the project including LACDA in Reach 4	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	23.19	5.79	6
Public other than NFS	0.60	0.60	2
Private	0.82	0.66	5
TOTAL	24.61	7.05	13

Reach 5 Riverside Drive

Reach 5 starts at the Los Feliz Boulevard Bridge and ends at the Glendale Freeway. It is approximately 1.55 miles in length and will continue the implementation of the habitat corridor restoration in a narrow strip on the east bank of the river avoiding interference with the existing levee system. In this reach one stream will be restored and daylighted with a riparian fringe and freshwater marsh. Storm drains in this reach will be opened and naturalized as tributaries.

One parcel totaling 0.22 acres is needed for this reach and is already owned in fee by the Non-Federal Sponsor. The following table lists the acreages need for reach 5 of the TSP:

	Total Acres Required for the project including LACDA in Reach 5	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	0.22	0.20	1
Public other than NFS	0	0	0
Private	0	0	0
TOTAL	0.22	0.20	1

Reach 6 Taylor Yard

Reach 6 extends from the Glendale Freeway to the Interstate 5 freeway. It is approximately 2.34 miles in length. In this reach, the TSP includes riparian corridors and widening of the soft bottom river bed by over 300 feet with additional slope back to the overbank elevation along the length of the reach. At the upstream end of the reach, a back water wetland will be developed on a setback bench. There will also be a small terraced area on the downstream end of what is known at the bowtie parcel. In this reach the banks of the river will also be restructured to support overhanging vines and other vegetation.

Reach 6 contains the parcel known as Taylor Yard, a key opportunity area. The Taylor Yard area is considered an important parcel in the study because it provides an opportunity for restoration of large contiguous expanses of riparian and aquatic habitat. The Taylor Yard area is also the only area in the TSP where the channel will be widened and connectivity between the river and the historic floodplain will be restored. Widening of the channel will allow the river and overbank to approach more natural dynamics, enhancing riparian and in-stream habitat for plants and wildlife.

A total of 57 parcels are needed in this reach. The total acreage needed for this reach is 100.55 acres, of which 44.20 acres are within the existing LACDA project boundary. The non-Federal sponsor has ownership of 11 parcels (29.48 acres, of which 27.83 acres are within the existing LACDA project boundary). The non-Federal sponsor will need to acquire 23 parcels (43.34 acres, of which 6.5 acres are within the existing LACDA project boundary) from private owners and 20 parcels (10.16 acres, of which 9.87 acres are within the existing LACDA project boundary) under public ownership from the LACFCD and the Los Angeles Metropolitan Transit Authority. It is anticipated that the non-Federal sponsor will request approval to acquire a lesser interest permanent ecosystem restoration easement, for 3 State-owned parcels (17.57 acres) at the Rio de Los Angeles State Park, as discussed in Section 4, below. The following table lists the acreages for reach 6 of the TSP:

	Total Acreage needed for the project including LACDA in Reach 6	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	29.48	27.83	11
Public other than NFS	27.73	9.87	23
Private	43.34	6.50	23
TOTAL	100.55	44.20	57

Reach 7 Arroyo Seco/LA State Historic Park

Reach 7 extends from the 5 freeway downstream to Main Street. It is about 1 mile in length. In this reach of the project the Arroyo Seco tributary will be restored with riparian habitat. The stream itself will have its banks and bed softened for approximately half a mile upstream. At the confluence of the Arroyo Seco and the River a backwater riparian wetland will be established and restructuring of the banks of the river will occur in order to support vegetation on the banks.

A total of 14 parcels are required for this reach. The total acreage needed for this reach is 17.21 acres, of which 9.59 acres are within the existing LACDA right of way. The non-Federal sponsor owns 12 parcels in this reach totaling 16.63 acres. Of the 16.63 acres, 9.30 acres are within the existing LACDA right of way. The non-Federal sponsor will need to acquire two parcels totaling 0.58 acres from the Los Angeles County Metropolitan Transit Authority. The following table list the acreages required for reach 7 of the TSP:

	Total Acres Required for the project including LACDA in Reach 7	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	16.63	9.30	12
Public other than NFS	0.58	0.29	2
Private	0	0	0
TOTAL	17.21	9.59	14

Reach 8 Piggy Back Yard

This reach extends from Main Street to First Street. It is approximately 1 mile in length and will restore riparian habitat in the site known as the Piggy Back Yard. The Piggy Back Yard area will also restore a historical wash that once ran through the area. The restored historical wash would meander through the property and would be connected to the existing river channel through a culvert or designed confluence.

Piggyback yard is a key opportunity area due to its location, close proximity to Downtown Los Angeles, lot size, number of owners and lack of buildings. It is also one of two parcels identified in the TSP which provides an opportunity to restore large expanses of riparian and aquatic habitat which is rare in a highly urban Los Angeles. It is a key site because as previously stated in the previous paragraph it was once home to an ephemeral stream currently in conceptual plans will be restored.

In this reach, 13 parcels are required for the project (100.58 acres, of which 4.66 acres are within the existing LACDA project boundary). The non-Federal sponsor owns 1 parcel totaling 4.66 acres which is part of the existing LACDA right of way. One parcel totaling 2.15 acres will need to be acquired from the Los Angeles County Metropolitan Transit Authority. A total of 11 privately owned parcels (93.77 acres) will need to be acquired in fee. The 11 parcels make up the area known as the Piggyback yard. The following table list the acreages needed for Reach 8 of the TSP:

	Total Acres Required for the project including LACDA in Reach 8	Acres in LACDA Boundary	Number of Parcels
Non Federal Sponsor	4.66	4.66	1
Public other than NFS	2.15	0	1
Private	93.77	0	11
TOTAL	100.58	4.66	13

Staging areas

Throughout the 8 reaches of the project, potential staging areas have been identified. In most cases, the staging areas identified are areas the non-Federal sponsor owns in fee. The TSP identifies that the City already owns approximately 32 acres in various locations of the project area that would be used for staging areas.

Currently, the TSP identifies the following additional staging areas to be acquired through a temporary work area easement:

-In Reach 4 and 5, 3 parcels (11.77 acres).

-In Reach 5, 1 parcel (3 acres) (site known as North East Interceptor Sewer 2 Shaft Site).

-In Reach 6, parcels totaling 10 acres owned by Los Angeles Community College District, State of California, and a private owner.

-In Reach 7, 4 acres in private ownership.

-In Reach 8, 6.5 acres in private ownership.

Additionally, in some cases in Reaches 3, 4, and 6, the study team has identified potential to use lands to be acquired in fee for restoration as staging areas prior to construction at those sites if the timeline permits. These areas total 32.14 acres.

Other rights of way

Tie backs or counterforts have been described in both the Geotechnical and Design Appendices for features such as daylighted streams, planter boxes and vertical walls. The current plan is designed with project features that fit within the identified right of way. A scouring analysis and other technical evaluations are scheduled to take place at a later date which may change the identified right of way. A permanent easement (such as a flood protection levee easement) is the likely interest, but the interest and estate required will be determined once the feature has been designed and analyzed.

During construction of restoration features in each of the soft bottom reaches of the project, short term invasive vegetation removal within areas of existing vegetation in that reach may be necessary to avoid proliferation of invasive vegetation into the restoration footprint. These areas are currently within the LACDA right of way. This would call for a temporary construction easement unless the existing interest held for the LACDA project is determined to be sufficient.

Fig. 1 – Summary Table – acreages and ownerships

	Acres Outside LACDA Boundary	**Acres Within LACDA Boundary**	**Total Acreage**
Lands Required for Restoration			
Non-Federal Sponsor owned	83.66	66.52	150.18
Public parcels to be acquired (FEE)	2.73	11.87	14.60
State parcels to be acquired with Ecosystem	17.57	0	17.57

Restoration Easement (NSE)			
Private parcels to be acquired (Fee)	130.77	7.16	137.93
Total			320.28
Staging Area			
Non-Federal Sponsor owned	32		32
Staging areas within lands being acquired for restoration (no additional credit)*	32.14		32.14
Temporary Work Area Easement to be acquired	35.27		35.27
Total			99.41 (67.27 for TWAE credit)
Other Rights of Way	TBD	TBD	TBD

*This acreage is included in fee acquisitions under "lands required for restoration" above and would not be additionally credited for staging area use.

3. SPONSOR OWNED LERRD

The non-Federal sponsor for the Los Angeles River Ecosystem Restoration Study is the City of Los Angeles. The non-Federal sponsor currently owns approximately 42 parcels of land, 150.18 acres out of the 320.28 acres needed, for the tentatively selected plan. Of the 150.18 acres owned by the non-Federal sponsor, 66.52 acres are within the existing LACDA project boundary. The 42 parcels, although owned by the City, are managed by different departments within the City. According to the Los Angeles County Assessor records, 7 parcels are owned by the Los Angeles City Department of Water and Power and 1 parcel is owned by the Los Angeles City Department of Recreation and Parks. The remaining 34 parcels are indicated in Assessor's records as owned by the City of Los Angeles.

4. PROPOSED NON-STANDARD ESTATES

The standard estate for ecosystem restoration according to ER 405-1-12, chapter 12 is fee title. The standard estate for ecosystem restoration would be provided except for the three parcels of land currently owned by the State of California as State Park

lands. The State is supportive of the restoration project use of State Park lands at Rio de Los Angeles State Park but would not be supportive of transferring ownership from State Parks to the City. .;. We have reviewed the other standard estates, and none address the needs of the project because they do not include sufficient rights to establish, operate and maintain an ecosystem restoration project. Instead, the sponsor is likely to request approval for use of an ecosystem restoration easement. An ecosystem restoration easement would be sufficient for the construction, operation and maintenance of the project by including rights to construct restoration features, operate and maintain in perpetuity, and exclude conflicting uses. The fee title would continue to be owned by the State of California as a State Park for the benefit of the people of California. Sample language of a ecosystem restoration easement is being drafted.

5. EXISTING FEDERAL PROJECT

Where there is an existing Federal project within the area proposed for a new project, such lands must be identified, and the sufficiency of those lands for the proposed project must be evaluated. The Corps may not "credit twice" -- no crediting is permitted for lands previously provided by any project sponsor[3] as an item of local cooperation. In this case, the existing project footprint/boundary for LACDA overlaps with the lands required for the restoration project TSP. The interests previously provided for the LACDA project are not sufficient to support the ecosystem restoration project because they are less than fee, but they do not conflict with the restoration project. The interests previously provided by the LACFCD for the flood risk management project would not be required to be provided by or credited to the City as restoration project sponsor. The underlying fee ownership would generally be needed to support a restoration project, and

[3] Regardless of whether sponsors of the existing and proposed projects are different, as they are in this case.

that is the interest that would be required to be provided and credited. (Valuation is discussed briefly at the end of this section.)[4]

As described above, the study area includes part of the existing LACDA flood risk management project. The portion of LACDA within the study area was constructed by the Corps from the 1930s through the 1950s with the partnership of the LACFCD. The existing LACDA project within the study area consists of channel and levee, some reaches with stone side slopes and other reaches with concrete side slopes. The LACDA project within the study area covers approximately 550 acres, which includes the river bed, channel walls, levees, and adjacent maintenance roads. A portion of the lands within the LACDA right of way within the study area would be included in the TSP features, as discussed in Section 2, above.

The LACDA project in the study area was constructed under several authorizations with evolving requirements. Portions of the project were begun under the Emergency Relief Acts, under which the LACFCD was required to make a cash contribution and provide rights of way. The project was further authorized and expanded under the Flood Control Acts (FCAs) of the 1930s and 1940s. According to the Flood Control Act of June 22, 1936, LACFCD was responsible for acquiring all lands, easements and rights of way for the construction of the project, some of which it already held at the time of the project.[5] Although certain lands for the LACDA project outside

[4] The restoration project sponsor, City of Los Angeles, proposed to waive reimbursement of LERRD that exceeds its share of total ecosystem restoration costs. This request was granted by the Assistant Secretary of the Army (Civil Works) on August 8, 2013. Therefore, no credit will be afforded for LERRD provided or performed by the sponsor that exceeds its 35 percent share of total ecosystem costs. This is further described later in this REP and in Chapter 7 of the IFR.

[5] The Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRRR) Manual for the LACDA project, LADM No. 1130-2-13, summarizes the history of the real estate and operations and maintenance responsibility changes in the early years of the project. The June 22, 1936, Flood Control Act directed the local sponsor to provide all LER needed for the construction of the project. However, the

the study area, such as lands within flood control basins, were acquired in fee and are owned by the United States, a lesser interest or right was generally acquired for construction and operation of channels, and the existing LACDA project area within the study area contains a patchwork of ownerships, easements, and permits.

Due to the age of the existing LACDA project, the Corps does not have detailed records showing what specific interests were required to be provided for the project as the necessary "rights of way" within the LACDA boundary in the study area. The understanding at this time is that for most parcels, LACFCD, and in a few cases both LACFCD and the United States, hold(s) an easement "for the purpose of the construction and maintenance thereon of a channel and appurtenant works to carry and confine the flood and storm waters of the Los Angeles River and its tributaries in, over and across [the described real property]" or similar language. In other cases, LACFCD is the fee owner of parcels within the existing project boundary in the study area, but based on the rest of the LACFCD ownerships in the study area and other channel reaches, it does not appear fee was required to be provided for LACDA.[6] Where the City of Los Angeles is the fee owner of LACDA lands, as it is for a portion of the existing LACDA project area within the study area as described in Section 3 above, it granted permits for construction

action of June 28, 1938 amended this provision to direct that title to all LER should be acquired by the United States or obtained by the local sponsor and conveyed to the United States, and that the United States should operate and maintain the system. According to the manual, in response to the 1938 law, the United States retained or took on operation and maintenance responsibilities for facilities completed after the date of the law and arranged for responsibilities for completed facilities to be transferred back to the Corps. The FCA of 1941 repealed certain parts of the 1938 law and reinstated the parts of the June 1936 law directing local sponsors to operate and maintain the project after completion, but the Corps continued to operate certain features. The FCA of 1941 approved the general comprehensive plan for the LACDA project. Other FCAs further amended and appropriated funds for the LACDA project.

[6] This assessment will be investigated further in the course of this study. If additional research identifies, contrary to the current understanding, that LACFCD was required to provide the fee interest for the LACDA project in the areas where it owns fee, the non-Federal sponsor for the restoration project would not be required to acquire, nor would it be credited for, the underlying fee interest in the areas with LACFCD fee ownership within the LACDA boundary.

and long-term operation of the flood risk management project rather than an easement, and committed under City ordinance that river lands shall not be transferred from City ownership. Permit language from the City to the County and United States is similar to the easement language. These ownerships and interests will be confirmed through the course of the study and the acquisition process.

The easements and permits provided for the LACDA project by LACFCD would not be sufficient to support construction and operation of an ecosystem restoration project, as they are limited to construction and operation for the flood risk management purpose. The underlying fee ownership would generally be needed to support a restoration project, and that is the interest that would be required to be provided. This remaining interest has a very low value compared to unencumbered fee.

Although a detailed examination of all easements, permits, and other rights in land for existing LACDA LER has not been conducted, as noted above, the easements reviewed do not contain language that would directly conflict with an ecosystem restoration project. The Corps is in the process of a longer-term effort with LACFCD to assess rights in the portion of the river the Corps must OMRRR and ensure that the Corps has adequate assignment of rights from LACFCD. Compatibility with the purpose of the existing project as a flood risk management channel is a central constraint of the proposed project alternatives, and the two OMRRR manuals will be complementary.

The City would not be credited for the interests and rights in land (the easement interests and permit rights) previously provided for the LACDA project or held by the Federal government. To avoid “double-counting” lands previously provided for the LACDA project, the City as sponsor of the restoration project would be required to

provide the underlying fee interest with LACFCD (and the United States in some limited cases) continuing to hold the easements and permits. This will be reflected in the land valuation; The cost estimate for the restoration lands reflects that the fee is encumbered. The remaining value of the underlying fee to be provided is estimated to be very low compared to the value of unencumbered fee.

6. FEDERALLY OWNED LAND

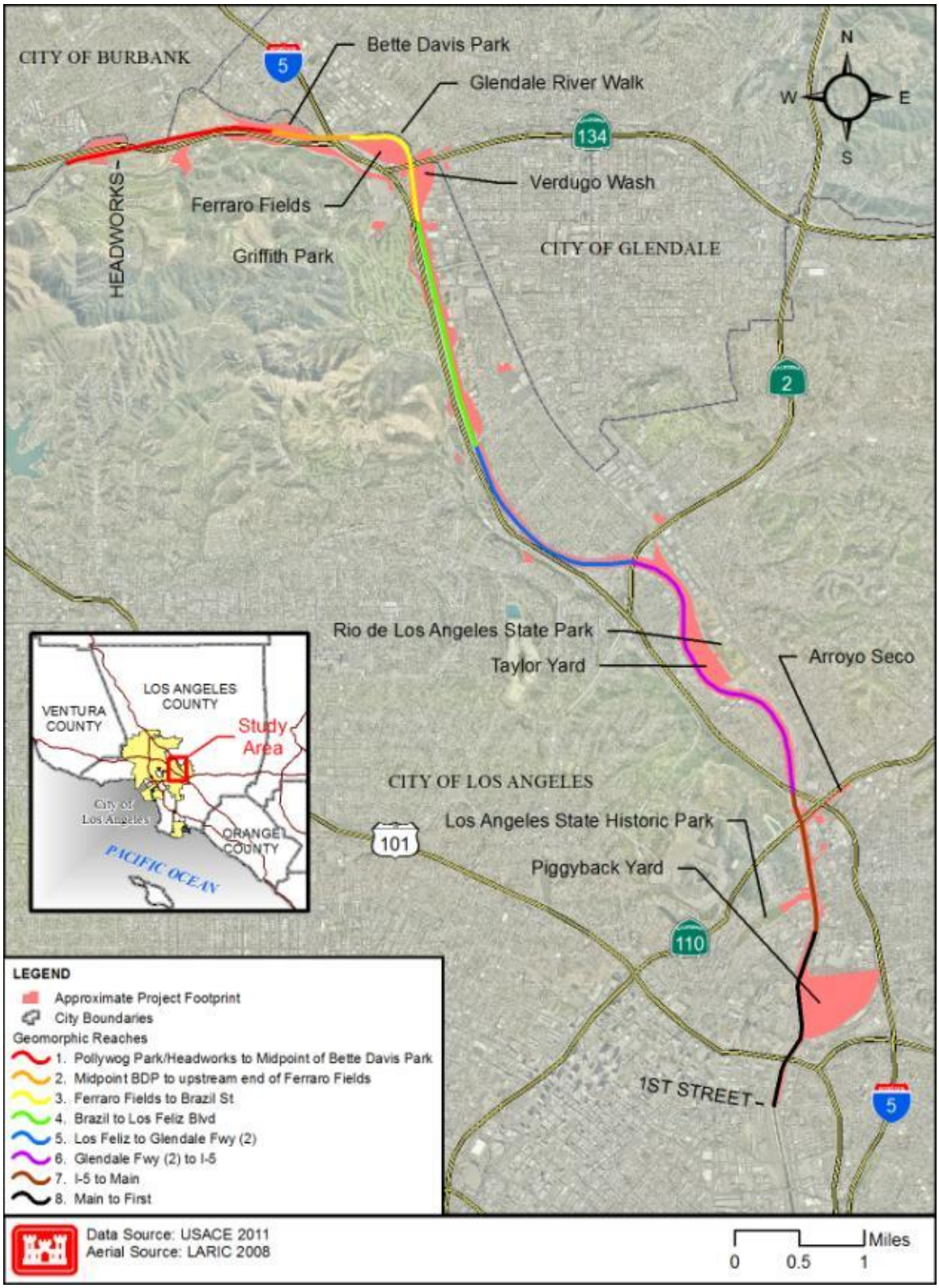
Although the Corps has operation and maintenance responsibility for LACDA in all 8 reaches of the Los Angeles River within the study area, no land is owned in fee by the United States. As discussed in section 5 above, in some cases the United States has easement that was transferred from the LACFCD. In other cases where the study non-Federal sponsor, City of Los Angeles, has ownership within the existing Los Angeles River, permits were issued to the LACFCD and the United States to construct, operate, and maintain the channel, as discussed in section 5 above. The City would not be credited for interests and rights previously provided for the LACDA project or held by the United States.

7. EXTENT OF NAVIGATIONAL SERVITUDE

Navigational servitude is the dominant right of the Government under the Commerce Clause of the U.S. Constitution that allows use, control and regulation of navigable waters of the United States and the submerged lands.

Exercise of Federal Navigational Servitude is not applicable to this project and is not being invoked.

8. MAP


CITY OF BURBANK
Bette Davis Park
Glendale River Walk
Verdugo Wash
Ferraro Fields
Griffith Park
HEADWORKS
CITY OF GLENDALE
Rio de Los Angeles State Park
Taylor Yard
Arroyo Seco
CITY OF LOS ANGELES
Los Angeles State Historic Park
Piggyback Yard
1ST STREET
N
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E
S
5
134
2
101
110
LOS ANGELES COUNTY
VENTURA COUNTY
Study Area
City of Los Angeles
ORANGE COUNTY
PACIFIC OCEAN
LEGEND
Approximate Project Footprint
City Boundaries
Geomorphic Reaches
1. Pollywog Park/Headworks to Midpoint of Bette Davis Park
2. Midpoint BDP to upstream end of Ferraro Fields
3. Ferraro Fields to Brazil St
4. Brazil to Los Feliz Blvd
5. Los Feliz to Glendale Fwy (2)
6. Glendale Fwy (2) to I-5
7. I-5 to Main
8. Main to First
Data Source: USACE 2011
Aerial Source: LARIC 2008
Miles
0
0.5
1

This map shows the overall project. More detailed maps by reach are included at the end of this Real Estate Plan as Attachment "B."

9. EXTENT OF INDUCED FLOODING

As stated in the Hydrology and Hydraulics Appendix, the restoration project features and modified OMRRR plan for flood risk management will not create induced flooding compared to existing conditions. The Corps will design the project to avoid negative impacts on the conveyance capacity compared to the original design conditions of the river. This would minimize the uncertainties to mitigate for induced flooding. In the next phase of the project the hydrology and hydraulics analysis will assess whether and how the new features may result in minor differences to channel conveyance compared to design condition.

10. BASELINE COST ESTIMATE

A gross appraisal is currently being performed by the non-Federal sponsor with the oversight of both a District and MSC review appraiser. This section will be updated when the gross appraisal is complete. A preliminary cost estimate was developed (also with oversight of District and MSC appraisers) for planning purposes for each alternative, and the estimated LERRD costs for the TSP are presented below; these costs will be updated with the more refined information from the gross appraisal.

Non-Federal Administrative Cost was estimated using a monthly rate of $32,000 per parcel, with each acquisition estimated to take approximately two months.

Tentatively Selected Plan	**Lands* (LERRDs)**
Non-Federal Sponsor owned Land, Easements & Right-of-Way	
Fee (150.18 acres)	**$15,637,695**
83.66 acres	
66.52 acres LACDA System	

Land, Easements & Right-of-Way to be acquired by Non-Federal Sponsor	
Fee (152.53 acres)	**$219,507,157**
133.50 acres	
19.03 acres LACDA System	
Easements (17.57 acres)	**$15,303,973**
Relocations Facility/Utility	**$12,330,740**[7]
Relocations PL 91-646	**$1,016,620**
Acquisition Cost-Administration	**$8,400,000**
Federal Admin. ($1,680,000)	
Non-Federal Admin ($6,720,000)	
Sub-Total	**$272,196,185**
Contingency 20%	**$54,439,237**
Total Real Estate Costs Rounded	**$326,635,422**[8]

11. PL 91-646 RELOCATION ASSISTANCE BENEFITS

Currently, the tentatively selected plan identifies displacement of businesses in Reach 8 of the project. The non-Federal sponsor is aware of and will comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Act of 1970, Public Law 91-646, as amended, in acquiring the lands, easements and rights-of-way and performing relocations. Based on the analysis of the tentatively selected plan, it appears that 2 business owners (4 parcels) will need to be relocated in Reach 8. According to Public Law 91-646, each business is entitled to search expense payments not to exceed $2,000, reestablishment expenses not to exceed $10,000, moving costs, and lost revenue. Preliminary relocation costs for Reach 8 are $1,016,620. These estimates

[7] The Cost Appendix currently provides this estimate for the 23 utility relocations; however, this is subject to adjustment to reflect the type of transmission tower and the full cost of providing a functionally equivalent facility, and will be refined in the final report.

[8] The total real estate cost presented above includes both the non-Federal sponsor's and federal administration cost to perform the activities such are negotiation and appraisal work needed to acquire the necessary right of way for the project, which are not included in the cost estimates used in the IFR. The costs will be refined in the final report.

were based on an inventory that was put together by internet and visual research (driving past the businesses), as well as moving-company-supplied average costs for moving office and specialized equipment.

12. DESCRIPTION OF PRESENT OR ANTICIPATED MINERAL ACTIVITY

There are no present or anticipated mineral activities in the proposed project area.

13. PROJECT SPONSOR'S LAND ACQUISITION ABILITY

The preliminary Assessment of Non-Federal Sponsor's Real Estate Acquisition Capability (Appendix 12-E) demonstrates that the City is fully capable with its acquisition ability.

14. ENACTMENT OF ZONING ORDINANCE

At this time there are no foreseen enactments of zoning ordinances to facilitate acquisition of real property.

15. LAND ACQUISITION SCHEDULE AND MILESTONES

Currently, the study is anticipated to be implemented in phases; thus the acquisition of right of way needed for the TSP will be accomplished over several years. The following are the anticipated phases for the project as described in the integrated feasibility report section 7.1.4:

Phase 1: Arroyo Seco and daylight channels (Reach 7 to 8) -City cleans Taylor Yard/Bowtie while this phase is in construction

Phase 2: Taylor Yard/Bowtie and vegetated banks (Reach 6)

Phase 3: Daylight channels Reaches 3 to 5, side channels Ferraro, Griffith and Los Feliz-City cleans PBY

Phase 4: PBY and remaining habitat corridors

A land acquisition schedule will be developed to support the construction schedule following the design phase.

16. DESCRIPTION OF FACILITY/UTILITY RELOCATIONS

A preliminary assessment of the utilities within the TSP has been completed using a desktop survey of utilities within the study area in the design appendix and guidance set forth in Real Estate Policy Guidance Letter No. 31. Based on the preliminary assessment of the utilities, reaches 6 and 7 have been identified as having potential facility utility relocations. At this time the potential relocations are less than 30% of the estimated total project cost; therefore a real estate assessment answering the following questions has been completed:

1. Is the identified utility facility generally of the type eligible for compensation under the substitute facilities doctrine?
2. Does the District have some valid data or evidence that demonstrates that it has identified an owner with a compensable interest in the property?

There are approximately up to eight electrical transmission tower structures identified in reach 6 of the TSP that may be impacted by the project. The transmission towers identified are owned by the Los Angeles Department of Water and Power (LADWP) and in one section of Reach 6, three transmission lines have been identified on a parcel owned in fee by LADWP. As stated in section 2 for Reach 6, the TSP plans to widen the channel in this section of the river thus removing the existing channel wall where the transmission tower structures are located and create marsh/wetland on the property adjacent to the river. Based on the real estate assessment, the transmission towers are of the type eligible for compensation and LADWP has been identified as

having a compensable interest in the property in the cases where the LADWP has been identified as the fee owner of the right of way. Three out of the eight towers identified as potential relocations are on parcels owned in fee by the LADWP. In the cases where LADWP has not been identified as the fee owner of the right of way further research of the real estate documents will need to be completed in order to make a final determination if the LADWP has a compensable interest.

The second area identified as having potential utility relocations is Reach 7. There are up to 15 utility transmission towers identified as potential relocations. These structures are also of the type generally eligible for compensation; however, further research will need to be completed to see if the owner of the structures (LADWP) holds a compensable interest in the property. In this reach of the study area the TSP will restructure the banks of the river to support vegetation. The current assumption is the electrical transmission towers will not have to be relocated in this reach in order to achieve the construction set forth in the TSP, however, any cost to protect in place will be treated as a facility/utility relocation.

The Los Angeles Transportation Center (LATC) also known as the Piggyback Yard is a facility that will also need to be relocated in order to implement the TSP. The Piggyback Yard has been determined to be a facility eligible for compensation under the substitute facility doctrine and has been identified as an owner with a compensable interest. A preliminary estimate has been included in the baseline cost estimate for the construction of a substitute facility.

Several storm drains, as discussed above, have also been identified in the TSP as being converted to daylighted streams that would become project features. The storm

drains in their daylighted state would continue to perform their existing function and would not be negatively impacted. Lastly, a LADWP sewer line has been identified running parallel to the river along the west end of the Piggyback Yard area in Reach 8. Currently, the study has determined that the TSP will not have an impact on this utility, but further analysis will be accomplished to finalize the determination.

Any conclusion or categorization contained in this report that an item is a utility or facility relocation to be performed by the non-federal sponsor as part of its LERRD responsibilities is preliminary only. The government will make a final determination of the relocations necessary for the construction, operation, or maintenance of the project after further analysis and completion and approval of final attorney's opinions of compensability for each of the impacted utilities and facilities.

17. KNOWLEDGE OR SUSPECTED PRESENCE OF CONTAMINANTS

The study area is located in a highly urbanized corridor that has been home to industrial development, with associated Hazardous, Toxic, Radioactive Waste (HTRW) contamination and petroleum product contamination. The District is identifying HTRW sites in accordance with ER 1165-2-132 (26 Jun 92) and avoiding them wherever practicable. Where HTRW-contaminated lands cannot be avoided, the appropriate procedures and requirements as described in ER 1165-2-132 will be applied.

A preliminary assessment of HTRW sites has identified three sites that cannot be avoided by any proposed project alternative, including the TSP. These sites are the Taylor Yard G1 and G2 parcels, in Reach 6, and the San Fernando Valley Superfund Site (SFVSS), a groundwater plume that runs underneath the majority of the study area. The

Taylor Yard parcels are currently being addressed by Southern Pacific Railroad under the oversight of the California Department of Toxic Substances Control, directed at cleaning the site to industrial land use. The sponsor would need, at 100 percent sponsor cost and non-project cost, to conduct any additional remediation of these sites needed to reach the use level needed for the restoration project prior to construction. The sponsor is committed to doing so. The SFVSS is currently being remediated through pumping and treatment under the oversight of EPA. However, the project would be unable to avoid all contact with the plume during construction activities such as dewatering, and the sponsor would have to pay the costs of treatment and disposal for any contaminants encountered from these activities. One additional site within the project footprint, Piggyback Yard, has undetermined levels of HTRW contamination, but based on the similarity of historical use at this site to Taylor Yard, some HTRW contamination can reasonably be anticipated. Further information on the nature and extent of contamination, remediation status, and impacts to the restoration project alternatives is contained in the HTRW appendix and will be refined throughout the course of the study and during the design phase.

There are 19 smaller sites within 500 feet of the TSP footprint that would be avoided directly by the TSP. They may have some indirect impacts to the TSP if groundwater contamination from these sites enters the TSP area and requires an approach similar to addressing ancillary SFVSS contamination during dewatering activities, but the HTRW impacts of these sites on the project are likely to be more limited because none of these sites are included in the LERRD for the sponsor to acquire. These sites are in various stages of remediation, and there are groundwater monitoring wells in several

locations to provide information on the location and levels of contamination. A fuller discussion of these issues is contained in the HTRW Appendix and will be refined throughout the course of the study and during the design phase.

18. SUPPORT/OPPOSITION FOR PROJECT

The project is supported by Federal, State, and local governmental entities and several non-profit organizations, as well as the public, and it has strong Congressional support. Several local non-profit organizations have an active involvement in the river from organizing cleanups to building pocket parks. Both residents and non-residents are in favor of a restored Los Angeles River. One such group that advocates for a restored River is Friends of the Los Angeles River (FOLAR). FOLAR has been instrumental in bringing people out to the river for cleanups, walking tours and studying adjacent parcels that can connect to the river. FOLAR currently has won 6 planning awards for the work it did in studying the Piggyback Yard site along the River, a key location for this restoration study. Another group involved in working for a natural restored river is North East Trees. North East Trees has been instrumental in building pocket parks affording passive recreation, removal of non-native vegetation and planting native vegetation. Currently, North East Trees and FOLAR are working together on the Forest Lawn-Sennett Creek Los Angeles River Greenway. According to the project description this project aims to create a public park and green space on an 8.3 acre parcel just above where the Los Angeles River Ecosystem Restoration Study begins. Along with creating recreational opportunities on this site both FOLAR and North East Trees plan to plant native vegetation, create a riparian area that will capture and treat urban runoff and create an

inviting healthy environment for birds and other wildlife. A further discussion of public and institutional support for the project is contained in the main IFR.

Union Pacific indicated that they currently have no intention of moving the Piggyback Yard based. Based on these statements Union Pacific is considered a reluctant seller; however, we have no basis on which to conclude that Union Pacific's potential reluctance to sell rises to the level of opposition to this project.

19. LAND ACQUISITION BEFORE PPA

The Sponsor will be advised in writing of the risks associated with acquiring land prior to the execution of the project partnership agreement.

20. OTHER RELEVANT REAL ESTATE ISSUES

One relevant real estate issue for the study is that of high land costs. In addressing the issue of high land costs and high LERRD percentage of total project costs, the study team has undertaken several efforts, including (1) a sequenced search of public lands within the study area to ensure all lands are adequately considered and the reasons for not including them well-documented, and (2) submittal of a request to the Assistant Secretary of the Army (Civil Works) (ASA (CW)). The submittal requested a waiver of the Corps policy requiring reimbursement of the sponsor for LERRD costs above its statutory share and requested acknowledgement of vertical alignment that all final array alternatives will have LERRD greater than the 25 percent of total project costs (which is identified in the Planning Guidance Notebook as a sensitive policy issue) and greater than the 35 percent sponsor share of total project costs. The Assistant Secretary of the Army (Civil Works) granted the requested waiver on August 8, 2013, and directed that the IFR document the offer and grant of waiver of reimbursement.

Based on the real estate cost issues identified through the planning process, the District submitted the memorandum to the ASA(CW) to address the policy issue and request waiver of reimbursement of sponsor costs above 35 percent of total ecosystem restoration costs, as referenced in (2) above. The submittal explains that, although land acquisition was minimized as part of the planning process, the high land values unavoidable in urban Los Angeles resulted in each alternative having LERRD costs that exceeded 35 percent of the total ecosystem restoration plan costs, ranging from approximately 45 percent to 85 percent LERRD, with higher LERRD percentages for the smaller alternatives. Lands outside the existing LACDA flood risk management channel boundary, including high-cost private lands at critical opportunity areas (Taylor Yard, Verdugo Wash, and Piggyback Yard), are essential to meeting the planning objectives. Because of these issues, the District was unable to identify best buy plans or highly cost effective plans that would have LERRD percentages under 35 percent. As part of its commitment to the study and the proposed project, the non-Federal sponsor has offered to waive reimbursement of LERRD above 35 percent. The waiver of reimbursement of sponsor costs that exceed 35 percent of total ecosystem restoration cost has been approved, and the approval is included as part of Attachment “A”.

Attachment "A"

CECW-SPD Date: 11 April 2013

Memorandum for Chief, Office of Water Project Review

Subject: Los Angeles River Ecosystem Restoration Feasibility Study, CA, Request for RE Waiver, Alternatives and Schedule Review

1. It is requested that the attached document be logged in and distributed for policy compliance review.

District: SPL

Project Phase: Feasibility Study

Type of Document: Exception Request

Initial Review/Back Check: Initial

Project-Specific Guidance:

RIT Review Manager / Location / Phone: Pauline Acosta/3H75/X4085

Reviewers Requested to Be Assigned:
OWPR: Scerno, Hughes, Hardesty
Counsel: Hostyk
Real Estate: Turner-Johnson
E&C: Webb
PCX and POC: N/A

Business Line: Ecosystem Restoration

Comments to be Provided to the Review Manger: May 3, 2013

Final HQ Comments to be Provided to the field: May 10, 2013

Encl

for Pauline Acosta
Bradd Schwichtenberg, P.E.
Deputy Chief, SPD-RIT
Directorate of Military Programs

DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1399

REPLY TO
ATTENTION OF

9-Apr 2013

CESPD-PDC

MEMORANDUM FOR Commander, US Army Corps of Engineers, ATTN: CECW-CE (Mr. James C, Dalton, P.E., Chief, SPD-Regional Integration Team), 411 G. Street, NW, Washington, DC 20314-1000

SUBJECT: Los Angeles River Ecosystem Restoration Feasibility Study, CA, Request for Waiver of Requirement to Reimburse Non-Federal Sponsor for LERRD Costs Exceeding 35 Percent of Total Project Cost, Alignment on Land Acquisition Policy Application to Study Alternatives, and Requested FY13 Study Completion Schedule

1. Reference memorandum, CESPL-PM-C, 27 March 2013, subject as above (Encl 1).

2. Los Angeles District (CESPL), City of Los Angeles, CA, and South Pacific Division (CESPD) would like to formally submit to the Assistant Secretary of the Army (Civil Works) (ASA (CW)) a request for a real estate policy waiver for the Los Angeles River Ecosystem Restoration Feasibility Study, CA. The Mayor of the City of Los Angeles, CA, the Honorable Mr. Antonio R. Villaraigosa, has formally provided a letter dated 22 March 2013 indicating the City's willingness to forgo reimbursement to Non-Federal Sponsor for Land, Easements, Rights-Of-Way, Relocation, and Disposal Areas (LERRDs) costs exceeding 35 percent of total project cost (TPS). The final array of alternatives (Encl 2) is inherently unable to avoid lands in such an urban area of the second largest city in the United States of America and to restore the river and ecosystem without impacts to acquiring high value lands is unavoidable. The Project Delivery Team (PDT) also investigated alternatives that minimize the scope of restoration but these minimalist alternatives produced even higher LERRDs percentage to TPS. The mix of public land and high value private lands within the study reaches (Encl 3) are necessary to formulate and provide connectivity of riparian, marsh, and wildlife habitats to restore the Los Angeles River ecosystem and not impact the flood risk management objective of the existing project. CESPD concurs with CESPL and the Mayor of Los Angeles request for a waiver by the ASA (CW) to the policy requiring reimbursement of the sponsor for LERRD cost over the sponsor's statutory 35 percent share of TPS and the final array alternatives will have LERRDs exceeding the 25 percent budget priority target and the 35 percent sponsor share.

3. Through a series of telephone calls and emails CESPD and CESPL were requested by HQ USACE and ASAO (CW) to provide a schedule to ensure the subject study would have a Chief of Engineer's Report by the end of calendar year 2013. Encl 1 sub enclosure 2 has that schedule to complete the study by December 2013. CESPD finds the schedule extremely aggressive and with multiple risks of releasing a draft report and environmental documents with limited agency reviews. However, with HQ USACE and ASA (CW)'s concurrence in the schedule we believe our motto of "Essayons" commands us to attempt this schedule. Your expedited approval of the schedule is extremely important based on the first critical milestone would need to be the Alternative Formulation Briefing (AFB) held on 14 May 2013 with the AFB documents submitted to HQ USACE on 30 April 2013.

4. My points of contact are Mr. Clark Frentzen, Chief, Planning and Policy Division, CEPSD-PDS-P, 415-503-6590, clark.d.frentzen@usace.army.mil, Ms. Mary Gillespie, Chief of Real Estate, CESPD-PDS-R, 415-503-6553, mary.l.gillespie@usace.amry.mil, and Mr. Paul Bowers, DST Lead, CESPD-PDC, 415-503-6556, paul.w.bowers@usace.army.mil .Your expedited approval of the LERRDs waiver, alignment of final array of alternatives above the policy LERRDs limit, and FY 13 study completion study will allow us to immediately initial these requests of the City of Los Angeles and HQ USACE.

Building Strong From New Mexico All The Way To The Pacific!

JOSEPH F. CALCARA
Director
Programs Directorate

Encls
1. SPL Memo
2. Alternative Array
3. Parcel Ownerships

Jim —
Report completion now accelerated to end Apr AND CWRB integrated back into mix per our call with Tab. We will need some nudges with the usual suspects at HQ on reviews nonetheless, & I still believe the NEXT discussion with ASA needs to occur sooner rather than later.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

CESPL-PM-C

27 March 2013

MEMORANDUM THRU Commander, South Pacific Division (CESPD-PDC/Mr. Paul Bowers), 1455 Market Street, San Francisco, CA 94103-1399

FOR Commander, HQUSACE (CECW-SPD/Mr. Bradd Schwichtenberg), 441 G Street, NW, Washington, DC 20314-1000

SUBJECT: Los Angeles River Ecosystem Restoration Feasibility Study, California - Request for Waiver of Requirement to Reimburse Non-Federal Sponsor for LERRD Costs Exceeding 35 Percent of Total Project Cost, Alignment on Land Acquisition Policy Application to Study Alternatives, and Concurrence on Study Plan Schedule

1. Background: The Los Angeles River Ecosystem Restoration Feasibility Study (study) is being conducted under the authority of a Senate Committee on Public Works Resolution, approved 25 June 1969, along with section 4018 of WRDA 2007. As described in the study document of the alternatives formulation process and presented during the In-Progress Reviews (IPRs) conducted from October to December 2012, the four action alternatives in the final array each propose the restoration of approximately 11 miles of the Los Angeles River, a highly degraded urban ecosystem. Although land acquisition was minimized as part of the planning process, the high land values unavoidable in urban Los Angeles resulted in each alternative having lands, easements, rights of way, relocations, and disposal sites (LERRD) costs that exceeded 35 percent of the total plan costs, ranging from approximately 45 percent to 85 percent LERRD.

2. USACE Policy: For specifically authorized ecosystem restoration projects, the non-Federal sponsor is obligated to contribute 35 percent of total project cost, regardless of LERRD cost. (33 USC section 2213(c)). The sponsor is responsible for providing all LERRD required for the project. (33 USC section 2213(i)). Where the LERRD value exceeds the non-Federal sponsor's 35 percent share, the Federal government reimburses the sponsor for the portion exceeding its share. (ER 1105-2-100, "Planning Guidance Notebook," 22 April 2000. Appendix E, para. E-31).

USACE guidance further directs that land acquisition for restoration projects be minimized: "Land acquisition in ecosystem restoration plans must be kept to a minimum. Project proposals that consist primarily of land acquisition are not appropriate." It then states that plans with LERRD exceeding a target of 25 percent of total project cost are likely to be given a lower budget priority. (ER 1105-2-100, Appendix E, para. E-30.f.) Los Angeles District recognizes that the 25 percent LERRD target for budget priority was established to help ensure that land acquisition did not become the primary goal of proposed restoration projects, as identified as the policy requirement; however, the 25

percent target for budget priority may inadvertently discourage or restrict restoration in urban areas, such as Los Angeles, where land values are high. HQUSACE has previously identified and addressed a similar concern for Continuing Authority Program restoration projects. (MEMORANDUM, CECW-PB, 30 Jun 04, subject: Waiver of Value for Land Required for Ecosystem Restoration Projects in Urban Areas Under the Continuing Authority Program (CAP).)

3. Policy application to the study: The LERRD identified for each of the alternative plans in the final array is needed to meet the planning objectives developed for the study. The study area includes an existing USACE flood risk management project, which was engineered to constrain, deepen, concrete, and increase the velocity of flows of the Los Angeles River, eliminating the natural features needed to sustain biological functions and breaking the connections to the floodplain and other habitat areas in the region. The lands adjacent to the existing project include commercial and industrial use, and the corridor is constrained by nearby freeways and railroad lines. Although the planning process was conducted with the criterion to minimize LERRD acquisition in general and private land acquisition in particular, the study findings are that lands outside the existing Los Angeles River flood risk management channel boundary, including high-cost private lands at critical opportunity areas (Taylor Yard, Verdugo Wash, and Piggyback Yard), are essential to meeting the planning objectives for riparian and marsh habitat and connectivity. Though these high-cost private lands comprise more than two-thirds of the LERRD costs for all alternatives in the final array and cause the alternatives to exceed the 25 percent target for budget priority, the LERRD are critical to achieving significant ecosystem structure and function improvements.

Under the planning process, all best buy alternative plans and highly effective plans identified had LERRD costs higher than the 35 percent sponsor share despite following the land minimization criterion. The District further evaluated plans that would keep LERRD below the sponsor's share and close to the 25 percent budget priority target but was not able to identify any low-LERRD cost-effective plans that would meet both the objectives of the study and the criteria for Federal investment; therefore, none is included in the final array. The District has complied with the land acquisition policy as stated in planning guidance but cannot meet the target for LERRD percentage with a plan that meets the objectives and merits Federal investment. The District would like to ensure the vertical team is aligned in understanding that the final array consists of plans that are consistent with the land acquisition policy but exceed the 25 percent cost target.

4. Sponsor Offer to Waive Reimbursement: In light of the LERRD cost and the considerations summarized above, the non-Federal Sponsor, the City of Los Angeles, has voluntarily committed to waive its right to reimbursement of LERRD costs that exceed its

statutorily-required share of total project costs. The Sponsor has confirmed this in writing, as documented in its letter dated 22 March 2013 (Enclosure 1). If the Assistant Secretary of the Army (Civil Works) (ASA(CW) agrees to waive the reimbursement policy consistent with the sponsor's request, the recommendation for project authorization would include appropriate waiver provisions to be incorporated into a project partnership agreement for construction.

5. Request for Waiver of Reimbursement Policy and Concurrence on Policy Application to Study: The District requests (a) a waiver by the ASA(CW) of the policy requiring reimbursement of the sponsor for LERRD cost over the sponsor's statutory 35 percent share of total project cost and (b) vertical team alignment that each of the final array alternatives will have LERRD exceeding the 25 percent budget priority target and the 35 percent sponsor share.

6. Proposed Schedule to Achieve December 2013 Completion: The District has been asked to develop a revised study schedule to achieve a Chief's Report in December 2013. The aggressive schedule (Enclosed 2) is contingent on several factors, including: ASA(CW) granting a waiver of the reimbursement policy; vertical agreement that the final array of plans identified by the District is acceptable as formulated; and concurrence on alteration and elimination of several standard procedures and processes for review as highlighted in the schedule. Provided that there is agreement with this schedule, the South Pacific Division – Los Angeles District can commit to delivering a Chief's Report in December 2013.

7. Point of Contact: The project manager for the subject study is Mr. Darrell Buxton, who may be reached at (213) 452-4007. The point of contact for this memorandum is the undersigned, who may be reached at (213) 452-3971.

FOR THE COMMANDER:

Encl

for: Kenneth R. Mann
DAVID M. VAN DORPE, P.E., PMP
Deputy District Engineer
for Project Management

ANTONIO R. VILLARAIGOSA
MAYOR

March 22, 2013

Colonel R. Mark Toy
Los Angeles District Commander
United States Army Corps of Engineers
915 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017

Dear Colonel Toy:

I write to inform you that the City of Los Angeles, as local sponsor of the Corps' Los Angeles River Ecosystem Restoration Feasibility Study (River Study), is supportive of the Los Angeles District's request for a real estate policy waiver for the River Study. The waiver will enable the recommended project to be built and the City of Los Angeles will forego the reimbursement for real estate-related costs above the thirty-five percent to support the project.

As you know, the River Study has advanced to a stage that has identified a set of viable alternatives. Cost estimates for the alternatives are indicative of the challenges we face in urban areas. Large cities such as Los Angeles with high land value may be stretched to meet the corps criteria for local match. In this particular case the City of Los Angeles believes that our best approach is to mirror the approach that Chicago took in 2011(Upper Des Plaines River and Tributaries, Illinois and Wisconsin Feasibility Study). In that case the City of Chicago whose land value was also high was willing to forego reimbursement above the 35%. The City of Los Angeles is prepared to do the same.

Although prevailing Corps policy indicates that projects with land costs exceeding 25% of the total project cost are not likely to be given a high priority for budgetary purposes, we are hopeful that our demonstrated commitment to the Los Angeles River and our productive partnership with the Corps will enable us to transform urban rivers like the LA River into a valuable economic, environmental and recreational asset for the region.

Very truly yours,

ANTONIO R. VILLARAIGOSA
Mayor

200 NORTH SPRING STREET • LOS ANGELES, CALIFORNIA 90012
PHONE: (213) 978-0600 • FAX: (213) 978-0750
EMAIL: MAYOR@LACITY.ORG

Enclosure 1

27 March 2013

Los Angeles River Ecosystem Restoration Feasibility Study – Schedule

The Los Angeles District (SPL) was directed by the Assistant Secretary of the Army (Civil Works) to prepare a schedule that would achieve completion of a Chief of Engineers Report (Chief's Report) for the subject study by the end of December 2013. The following is a summary of a proposed schedule that would complete a Chief's Report in December 2013 and comply with statutory requirements. Standard USACE procedures and processes are substantially altered in the proposed schedule using key tenets of SMART Planning because adherence to standard practices would not meet the goal of completing the Chief's Report in 2013. The existing schedule, which includes all standard procedures and processes, is shown below and does not allow for completion of a Chief's Report until December 2014.

Existing Schedule:

Milestone Summary:

Date	Description
June 13, 2013	Alternative Formulation Briefing, AFB, Report–to Division
June 21, 2013	Office of Water Policy Review–Logs Report
August 7, 2013	AFB Conference
December 2, 2013	Public Draft Report - Initiate Public Review
June 5, 2014	Division Engineer's Notice
July 24, 2014	Civil Works Review Board
September 30, 2014	State and Agency Review
December 10, 2014	Chiefs Report

The existing schedule is 12 months too long to complete the Chief's Report in 2013. Therefore, SPL has attempted to implement the philosophy of SMART Planning to meet the intent of USACE procedures and processes to produce a quality product and minimize risks and complete a Chief's Report within the requested time. This memo summarizes the proposed schedule, primary products, main procedural milestones eliminated, and major risks to the schedule. The most substantial recommended change is the absence of agency technical review (ATR) or policy review of the draft integrated feasibility report prior to public release of the draft report. Under this approach, the District accepts responsibility for developing a draft report that sufficiently addresses technical, policy, and legal requirements prior to public review and completing a thorough District Quality Control (DQC). The rationale for this approach is a function of the time constraints inherent in meeting a Chief's Report in December 2013 and having a quality integrated draft report ready to meet statutory time requirements for notice in the Federal Register.

ARV:dg

cc: Nancy Sutley Chair, Council on Environmental Quality, Executive Office of the President
Jeffrey Zients, Acting Director, Office of Management and Budget, Executive Office of the President
Jo-Ellen Darcy, Assistant Secretary of the Army for Civil Works
Ed P. Reyes, Los Angeles City Councilmember, District One
Sally Ericsson, Associate Director, Natural Resources Programs, Office of Management and Budget
Gary Lee Moore, P.E., City Engineer

1. Summary: The following schedule summary includes statutorily required milestones and timeframes with minimal additional time for associated comments, responses and necessary report updates. Other review times were greatly reduced, eliminated, or seamlessly incorporated into the refined schedule.
2. Proposed Schedule: 9 April 2013

Milestone	Description	Date
SPL assumes TSP	Transition PDT to revised schedule that completes a Chief's Report in Dec 2013; PDT focuses on preparing a public draft report and an AFB document.	04-10-13
Submit AFB document to SPD	SPL submits an AFB document to SPD. Abbreviated ATR performed on AFB document (approximately one week). Expedited review required for AFB milestone	04-30-13
Alternative Formulation Briefing	AFB Milestone	05-14-13
DQC Complete	SPL DQC will be the primary review for the overall quality of the draft report documentation. The DQC team commits to full and thorough review in an expedited timeframe. To meet the goal of a Chief's Report in December 2013, typical ATR and policy reviews outside SPL before public release of the draft are not possible. ATR Reviewers will have access to report documentation as it is developed, and it will be shared with tools such as SharePoint. PDT members and DQC reviewers will engage the relevant ATR and policy reviewers when possible for input, but there will not be any formal products submitted for review or comment during this time. In providing informal input, ATR reviewers and policy reviewers would focus on fatal flaws/decision-altering issues. Upon public release, the report will be submitted for concurrent public review/ATR/policy review/IEPR. DQC is completed upon DQC Certification. District Commander would then authorize the Chief of Planning Division to post the notice of public review in the Federal Register, consistent with the conditional approval to release the draft integrated report obtained at the TSP IPC meeting.	5-24-13
Post Notice to Federal Register	Post the notice of public review in the Federal Register.	05-27-13
Initiate Public Review/ ATR/Policy Review/IEPR	Public Review will be concurrent with ATR, Policy, and IEPR reviews of the draft integrated report.	06-03-13
Complete Public Review	Completion date includes a 45-day public review, 2 weeks to prepare responses and 2 weeks to incorporate changes.	08-15-13
Complete ATR Review of Draft Report	ATR will be completed during public review and finalized prior to final report preparation.	08-22-13
Complete Policy Review of Draft Report	Policy review will be completed during public review and finalized prior to final report preparation; includes completion of a Policy Guidance Memorandum.	08-22-13

Milestone	Description	Date
Complete IEPR	Review and respond to all IEPR comments. IEPR Certification (or equivalent). Initiate preparation of Final Report.	10-03-13
Feasibility Review Conference	Replaced with a potential In Progress Coordination (IPC) meeting – no special product will be prepared for this meeting	TBD
Civil Works Review Board	Hold Civil Works Review Board (The Final Report will be prepared following the IEPR Complete milestone and will continue through the CWRB milestone date)	10-17-13
Final Report	Prepare final report for state and agency review. (Includes submission of a draft Chief's Report).	11-07-13
State and Agency Review/Public Review	30 day review of final integrated report including EIS. Respond to any substantive, new comments on final EIS.	11-08-13 to 12-13-13
Chief's Report	HQUSACE coordination of the Chief's Report.	12-16-13 to 12-31-13

1. The AFB Milestone (including associated ATR and policy review) is replaced with a shortened TSP In-Progress Coordination (IPC) meeting (seamless checkpoint) that will be limited to receiving agreement on the TSP. This assumes SPL will be granted approval to release the Public Draft contingent on DQC certification and District Commander Approval.
2. ATR certification for public release will not occur, but ATR certification will be done during public review.
3. The Feasibility Review Conference is replaced with a potential IPC. This would be a seamless checkpoint to focus on necessary actions to complete the Final Report.
4. Civil Works Review Board deleted.

Combined or Concurrent Reviews and Approvals:

1. While the District PDT is preparing the draft report for public release, documents will be made available on SharePoint or similar for ATR and policy reviewers to access. PDT and DQC team members will engage ATR and policy reviewers as appropriate and update report documentation as necessary prior to public release. However, there will be no formal report submitted or checkpoint to coordinate comments and discuss responses, in order to complete report preparation by the date necessary to post the notice of public

review in the Federal Register. The DQC team will conduct a thorough review and have primary responsibility for the adequacy of review prior to public release.

2. ATR and policy review will occur during public review and IEPR review. All comments will be coordinated and discussed, and the District will prepare appropriate responses and make needed revisions following public review.

Risks

1. MII cost estimate: MII was not utilized in the cost estimates of the final array of alternatives. An abbreviated Cost and Schedule Risk Analysis (CSRA) will be performed on the final array. The TSP will have an MII estimate with a formal CSRA performed. Due to the use of an abbreviated CSRA on the final array, there is a risk that cost estimates will be different for the recommended plan since the final array will use an abbreviated method and the final will utilize a formal method. Coordination with the Cost MCX will be part of this effort.
2. Gross Appraisal: Efforts have been initiated to prepare a gross appraisal for alternative features which will be part of the TSP. Following approval of the TSP, efforts will focus on completing the gross appraisal, which will be completed prior to public release.
3. Levee vegetation guidelines: Compliance with the ETL 1110-2-571 guidelines are a primary concern. The recommended plan is not anticipated to include features that will require a variance to the vegetation guidelines. However, as this is an ecosystem restoration investigation, the proposed plan will include vegetation in the project area but plant placement will be organized in a manner to be in compliance with the ETL. SPL will prepare the public draft documentation with the current understanding that a variance will not be required. A detailed analysis of the authorized plan to ensure compliance or to justify a variance will be a critical part of the efforts during the preconstruction engineering and design phase.
4. CHAP Model Certification: Efforts are ongoing to obtain a one-time model certification of the CHAP model utilized to estimate ecosystem restoration benefits. We may have increased risk from potential changes and time extension if the CHAP model is not certified by the date we release the draft report. For planning purposes, SPL will utilize the CHAP modeling that has been done for this study as if it is certified. Any change or issue with CHAP certification that would require a reanalysis will not allow for study completion by December 2013.
5. Increased potential to miss issues during review: There could be a perceived pressure on reviewers to minimize comments due to potential effect on schedule. Prior to public review, ATR and policy comments would be limited to identifying fatal flaws to allow SPL's team to continue work toward meeting the public release deadline. Formal ATR, Policy, and IEPR comments would be addressed in full during and after the public review period and necessary changes made before release of the final draft. Risks could be

mitigated through vertical agreement and ATR team buy-in on proposed schedule, availability of draft products to reviewers as they are developed, and resolution of essential comments after public release. However, similar to SMART planning, some risks will be described and understood in the report documentation and accepted with the expectation that the plan will be validated and verified during design.

6. There is no schedule float in this proposed summary plan. Any delay during report processing will have an effect on our estimated completion date of the Chief's Report. An added risk to schedule delay is that a time extension request by members of the public is likely during public review. Granting an extension will not allow the Chief's Report to be complete in 2013.

Products:

1. RIT Concurrence Memo: This memo will show vertical Concurrence on the Tentatively Selected Plan (substitutes for full-fledged AFB or TSP conference) and conditionally approve the public release of a draft report subject to DQC certification and District Commander Approval.
2. DQC Certification
3. District Commander's Approval
4. ATR Certification: ATR team will review products as they are prepared, as needed, in order to support an expedited schedule.
5. Policy Review: Policy Guidance Memorandum.
6. Cost Share Waiver: Waives policy requirement to reimburse sponsor on LERRD costs above 35 percent of total project cost
7. Public Notice and Public Draft Documentation
8. ATR Certification
9. Policy Guidance Memo
10. IEPR Certification
11. Final Report
12. Chief's Report

Approval:

Signature grants approval to proceed with above outlined schedule in order to finalize a Chief's Report by December 31, 2013.

_____

[Signature] SPL

_____

[Signature] SPD

_____

[Signature] HQ

Los Angeles River Final Array of Alternatives for Analysis **February 19, 2013**

Final Array in 50% Document		New Final Array	
Alternative	**Reaches and Alternatives**	**Alternative**	**Reaches and Alternatives**
Upstream to Downstream Connector Combined Best Buy No. 7	Reach 1 A11 Reach 2 A11 Reach 5 A16 Reach 6 A14 Reach 7 A12 Reach 8 A15	**10** **ARBOR Riparian Transitions (ART)**	Reach 1 - A11 Reach 2 - A11 Reach 3 - A17 Reach 4 - A16 Reach 5 - A16 Reach 6 - A14 Reach 7 - A9 Reach 8 - A15
ARBOR Riparian Corridor Combined Best Buy No. 10	Reach 1 A11 Reach 2 A11 Reach 3 A16 Reach 4 A16 Reach 5 A16 Reach 6 A13 Reach 7 A12 Reach 8 A15	**13** **ARBOR Corridor Extension (ACE)**	Reach 1 A11 Reach 2 A11 Reach 3 A16 Reach 4 A16 Reach 5 A16 Reach 6 A13 Reach 7 A12 Reach 8 A15
		16 **ARBOR Narrows to Downtown (AND)**	Reach 1 - A11 Reach 2 - A11 Reach 3 - A16 Reach 4 - A16 Reach 5 - A5 Reach 6 – A13 Reach 7 - A12 Reach 8 - A3
Verdugo to Piggyback Combined Best Buy No. 17	Reach 1 A11 Reach 2 A13 Reach 3 A18 Reach 4 A16 Reach 5 A5 Reach 6 A13 Reach 7 A16 Reach 8 A3	**20** **ARBOR Riparian Integration via Varied Ecological Reintroduction (RIVER)**	Reach 1 A11 Reach 2 A13 Reach 3 A18 Reach 4 A16 Reach 5 A5 Reach 6 A13 Reach 7 A16 Reach 8 A3

ENCL 2

ARBOR Riparian Transitions (ART) – Alternative 10

- Restores x acres of Valley Foothills Riparian and x acres of freshwater marsh habitat
- Restores riparian corridors in overbank areas in 6 reaches (1, 2, 4, 5, 6, and 8)
- Daylights fourteen streams (three streams in reach 3, seven streams in reach 4, one stream in reach 5, and three streams in reach 7)
- Widens the soft river bottom in reach 6 at Bowtie and Taylor Yard by twenty-four feet
- Small terraced area in reach 6
- Restoration of historic wash through Piggy Back Yard

ARBOR Corridor Extension (ACE) - Alternative 13

- Restores x acres of Valley Foothills Riparian and x acres of freshwater marsh habitat
- Restores riparian corridors in overbank areas in 6 reaches (1, 2, 4, 5, 6, and 8)
- Daylights eleven streams (three streams in reach 3, seven streams in reach 4, and one stream in reach 5)
- Implements a side channel along the right bank behind Ferraro Fields in reach 3 and along the edge of Griffith Park golf course in reach 4
- Widens the soft river bottom in reach 6 at Bowtie and Taylor Yard by five hundred forty-four feet
- Small terraced area in reach 6
- Vegetation on channel walls in reaches 6 and 7
- Restoration of Arroyo Seco confluence
- Restoration of historic wash through Piggy Back Yard

ARBOR Narrows to Downtown (AND) -Alternative 16

- Restores x acres of Valley Foothills Riparian and x acres of freshwater marsh habitat
- Restores riparian corridors in overbank areas in 7 reaches (1, 2, 4, 5, 6, 7, and 8)
- Daylights eleven streams (three streams in reach 3, seven streams in reach 4, and one stream in reach 5)
- Implements a side channel along the right bank behind Ferraro Fields in reach 3, along the edge of Griffith Park golf course in reach 4, and through Piggy Back Yard in reach 8
- Widens the soft river bottom
    - in reach 5 by converting from trapezoidal channel to vertical and adds width at the downstream end of the reach, and
    - widens in reach 6 at Bowtie and Taylor Yard by five hundred forty-four feet
    - in reach 8 creates 500 feet of soft river bottom with 1000 additional feet on a bench at the 2 year flood interval and sloping up another 800 feet to overbank level in reach 8.
- Small terraced area in reach 6, and additional terracing in reaches 5 and 8
- Vegetation on channel walls in reach 6 and in notching at top of channel in reach 5
- Restoration of Arroyo Seco confluence in reach 7
- Restoration of historic wash through Piggy Back Yard

Riparian Integration via Varied Ecological Reintroduction (RIVER) – Alternative 20

- Restores x acres of Valley Foothills Riparian and x acres of freshwater marsh habitat
- Restores riparian corridors in overbank areas in 8 reaches
- Daylights twelve streams (three streams in reach 3, seven streams in reach 4, one stream in reach 5, and one in reach 7)
- Implements a side channel along the right bank behind Ferraro Fields in reach 3, along the edge of Griffith Park golf course in reach 4, and through Piggy Back Yard in reach 8
- Widens the soft river bottom
    - in reaches 2 and 5 by converting from trapezoidal channel to vertical and adds width at the downstream end of reach 5
    - in reach 6 at Bowtie and Taylor Yard by five hundred forty-four feet, and

    - in reach 8 creates 500 feet of soft river bottom with 1000 additional feet on a bench at the 2 year flood interval and sloping up another 800 feet to overbank level in reach 8.
- Small terraced area in reach 6, and additional terracing in reaches 5 and 8
- Vegetation on channel walls in reach 6 and in notching at top of channel in reaches 2 and 5
- Restoration of Arroyo Seco in reach 7 and Verdugo Wash confluence in reach 3
- Restores freshwater marsh wetlands in Los Angeles River State Historic Park with a terraced connection to the main stem
- Restoration of historic wash through Piggy Back Yard

Alternative 10 ARBOR Riparian Transitions (ART)-Alternative 10 includes restoration in all reaches throughout the study area. The difference between this version and the previous Alternative 7 is that Reaches 3 and 4 are included with daylighting of storm drains and habitat corridors planted along the top of channel in reach 4. Side channels at Griffith Park and Los Feliz are also restored. In Reach 7 storm drains are daylighted also.

Construction	34,419,492
Mobilization (7.5%)	2,581,462
Construction Subtotal	37,000,954
Contingency (25%)	9,250,238
PED/EDC (11%)	4,070,105
S&A (6.5%)	2,405,062
IDC	1,098,390
LERRDS	293,455,604
Total Cost Subtotal	**347,280,353**
Annualized Construction Costs	15,479,750
Annualized O&M Costs	579,141
Total Annualized Costs	16,058,891

Reach 1 - Restore riparian habitat corridors outside of the channel along the tops of both banks.

Reach 2 - Restore riparian habitat corridors outside of the channel along the top of both banks.

Reach 3 - Daylight large culvert just downstream of Ferraro Fields on right bank in the Zoo Drive Area; freshwater marsh will be located in the daylighted area outside of the channel. Daylight 2 small culverts on left bank.

Reach 4 - Restore riparian habitat corridor outside of the channel along the top of left bank. Implement a side channel along right bank. Daylight 1 storm drain on right bank. Daylight 6 culverts on left bank.

Reach 5 - Restore riparian habitat corridor outside of the channel along the top of left bank. Daylight 1 storm drain on left bank. There are no modifications to the hydraulic models within this reach. Daylighted storm drains will be evaluated separately to ensure they meet all appropriate Corps regulations and guidance.

Reach 6 - Restore riparian habitat corridor outside of the channel along the top of left bank. Include a small terraced area along the left bank with vegetation/
The Los Angeles River channel is re-configured to take advantage of the Taylor Yard 'bowtie' parcel. Restore riparian habitat along the sloped channel wall of the widened channel.

Reach 7 - Daylight 2 culverts on right bank. Daylight 1 culvert on left bank.

Reach 8 - Restore riparian habitat at Piggyback Yard outside of the channel.

Alternative 13 ARBOR Corridor Extension (ACE)-Features of this alterative are the same as those included in the previous Alternative 10.

Construction	79,547,000
Mobilization (7.5%)	5,966,025
Construction Subtotal	85,513,025
Contingency (25%)	21,378,256
PED/EDC (11%)	9,406,433
S&A (6.5%)	5,558,347
IDC	2,585,327
LERRDS	319,708,444
Total Cost Subtotal	**444,149,831**
Annualized Construction Costs	19,797,632
Annualized O&M Costs	872,445
Total Annualized Costs	20,670,077

Reach 1 - Restore riparian habitat corridors outside of the channel along the top of both banks.

Reach 2 - Restore riparian habitat corridors outside of the channel along the top of both banks.

Reach 3 - Restore riparian habitat corridors outside of the channel along the top of right bank. Implements a side channel along the right bank behind Ferraro Fields. Connect side channel to daylighted culvert just downstream of Ferraro Fields on the right bank in the Zoo Drive Area; freshwater marsh will be located in the daylighted area outside of the channel. Daylight 3 small culverts on left bank.

Reach 4 - Restore riparian habitat corridor outside of the channel along the top of left bank. Implement a side channel along right bank. Daylight 1 storm drain on right bank. Daylight 6 culverts on left bank.

Reach 5 - Restore riparian habitat corridor outside of the channel along the top of left bank. Daylight 1 storm drain on left bank. There are no modifications to the hydraulic models within this reach.

Reach 6 - Plant vegetation on right channel wall through entire reach. Allow vegetation on left and right channel walls. The Los Angeles River channel is re-configured to take advantageof the Taylor Yard 'bowtie' parcel. At RS 243+17, the channel invert starts to widen into the left bank. The invert width increases to more than 620 feet beforeit contracts back to the original channel size at RS 201+76. The eastern edge ofthe widened invert is sloped back at a 3:1 slope to the original ground elevationapproximately 15 feet from the railroad tracks.

Reach 7 - Plant vegetation on channel wall along right bank through entire reach and on left bank from RS 128+71 to downstream end of reach. Restore riparianhabitat outside of the channel at the Arroyo Seco confluence along the top ofboth banks. Restore riparian habitat along theArroyo Seco Channel by removing concrete and re-configuring the channel crosssection.

Reach 8 - Restore riparian habitat at Piggyback Yard outside of the channel.

Alternative 16 ARBOR Narrows to Downtown (AND)
This alternative has the same feastures as Alternative 13 above in reaches 1 through 5. Reach 5 includes widening of the channel on the right bank and terracing the channel on the left bank and installation of habitat corridor. Reaches 6 and 7 are the same as in Alternative 13. Reach 8 (Piggyback yard) is the same as Alternative 20 below with channel widening and restoration of the entire Piggyback Yard site.

Construction	264,110,460
Mobilization (7.5%)	19,808,284
Construction Subtotal	283,918,744
Contingency (25%)	70,979,686
PED/EDC (11%)	31,231,062
S&A (6.5%)	18,454,718
IDC	16,928,049
LERRDS	352,897,118
Total Cost Subtotal	**774,409,378**
Annualized Construction Costs	34,518,693
Annualized O&M Costs	2,074,398
Total Annualized Costs	36,593,090

Reach 1 - Restore riparian habitat corridors outside of the channel along the top of both banks

Reach 2 - Restore riparian habitat corridors outside of the channel along the top of both banks.

Reach 3 - Restore riparian habitat corridors outside of the channel along the top of right bank. Implements a side channel along the right bank behind Ferraro Fields. Connect side channel to daylighted large culvert just downstream of Ferraro Fields on the right bank in the Zoo Drive Area; freshwater marsh will be located in the daylighted area outside of the channel. Daylight 2 small culverts on left bank.

Reach 4 - Restore riparian habitat corridors outside of the channel along the top of bank. Implement a side channel along right bank. Daylight 1 storm drain on right bank. Daylight 6 culverts on left bank.

Reach 5 - Restore riparian habitat corridor outside of the channel along the top ofleft bank. Daylight 1 storm drain on left bank. The right bank of the channel changes from trapezoidal to verticalconfiguration for entire reach. A 2-foot by 2-foot notch along the top of rightchannel wall is added for hanging vines. The left bank of the channel transitionsfrom trapezoidal to vegetated terraces from RS 356+22 to RS 286+05. The fiveterraces are 12-feet wide by 4-feet deep and tie into the existing ground elevationat a 3:1 slope. The left bank then transitions from terraces to a verticalconfiguration from RS 286+05 to RS 271+89 and then transitions back into thedesign channel configuration starting at RS 274+78.29, before the channelpasses under the Glendale Freeway.

Reach 6- Plant vegetation on right channel wall through entire reach. Allowvegetation on left channel wall from RS 270+28 to RS 262+72 and from RS191+61 to RS 144+23. Include a small area of widening up to 150' to accommodate in channelgeomorphology and vegetation along the left bank from RS 265+38 to RS251+78. The Los Angeles River channel is re-configured to take advantage of the

Taylor Yard 'bowtie' parcel. At RS 243+17, the channel invert starts to widen intothe left bank. The invert width increases to more than 620 feet before it contractsback to the original channel size at RS 201+76. The eastern edge of the widenedinvert is sloped back at a 3:1 slope to the original ground elevation approximately15 feet from the railroad tracks. Restore riparian habitat along the sloped channel wall of the widened channel.

Reach 7 –Plant vegetation on channel wall along right bank through entire reachand on left bank from RS 128+71 to downstream end of reach. Restore riparianhabitat outside of the channel at the Arroyo Seco confluence along the top ofboth banks. Restore riparian habitat along theArroyo Seco Channel by removing concrete and re-configuring the channel crosssection.

Reach 8 - Include 3-foot deep terraces along the right bank within the extent ofthe LADWP parking lot and tie into the existing ground with a 3:1 slope. Theterraced area begins with one 3-foot deep terrace at RS 83+61 and ends withseven 3-foot deep terraces at RS 68+38. The Los Angeles River channel is reconfiguredto take advantage of the Piggyback Yard parcel. At RS 69+93, thechannel invert starts to widen into the left bank. The invert width increases tomore than 500 feet before it contracts back to the original channel size at RS38+47. Within the Piggyback Yard extent, a bench up to 1000-feet wide extendsfrom RS 64+92 to RS 50+15. The bench is established at approximately the 2-year water surface elevation and includes marsh vegetation. The eastern edge ofthe bench is sloped back up to the original ground elevation to a point about1800 feet from the channel.

Alternative 20 ARBOR Riparian Integration via Varied Ecological Reintroduction (RIVER)
Features of this alterative are the same as those included in the previous Alternative 17.

Construction	362,473,621
Mobilization (7.5%)	27,185,522
Construction Subtotal	389,659,142
Contingency (25%)	97,414,786
PED/EDC (11%)	42,862,506
S&A (6.5%)	25,327,844
IDC	21,237,152
LERRDS	481,212,935
Total Cost Subtotal	**1,057,714,364**
Annualized Construction Costs	47,146,791
Annualized O&M Costs	2,332,573
Total Annualized Costs	49,479,364

Reach 1 - Restore riparian habitat corridors outside of the channel along the topof both banks.

Reach 2 - Restore riparian habitat corridors outside of the channel along the topof both banks. From RS 542+40 to RS 509+00, the right bank of the channelchanges from trapezoidal to vertical configuration and includes a 2-foot by 2-footnotch along the top of the channel for hanging vines.

Reach 3 - Restore riparian habitat corridors outside of the channel along the topof bank. Implements a side channel along the right bank behind Ferraro Fields.Connect side channel to daylighted large culvert just downstream of FerraroFields on the right bank in the Zoo Drive Area; freshwater marsh will be locatedin the daylighted area outside of the channel. Daylight 2 small culverts on leftbank. Verdugo Wash is changed tosoft-bottom channel from the confluence of Verdugo Wash and the Los Angeles River to approximately 1,200 feet upstream. Verdugo Wash is also widened toallow for marsh vegetation.

Reach 4 - Restore riparian habitat corridors outside of the channel along the topof bank. Implement a side channel along right bank. Daylight 1 storm drain onright bank.Daylight 6 culverts on left bank.

Reach 5 - Restore riparian habitat corridor outside of the channel along the top ofleft bank. Daylight 1 storm drain on left bank. The right bank of the channel changes from trapezoidal to verticalconfiguration for entire reach. A 2-foot by 2-foot notch along the top of rightchannel wall is added for hanging vines. The left bank of the channel transitionsfrom trapezoidal to vegetated terraces from RS 356+22 to RS 286+05. The fiveterraces are 12 feet wide by 4 feet deep and tie into the existing ground elevation at along a 3:1 slope. The left bank then transitions from terraces to a verticalconfiguration from RS 286+05 to RS 271+89 and then transitions back into thedesign channel configuration starting at RS 274+78.29, before the channelpasses under the Glendale Freeway.

Reach 6 - Allow vegetation on right channel wall through entire reach. Allowvegetation on left channel wall from RS 270+28 to RS 262+72 and from RS191+61 to RS 144+23. The Manning's roughness coefficients in the hydraulicmodels were adjusted to account for vegetation on the walls within the channel.Include a small area of widening up to 150' to accommodate in channelgeomorphology and vegetation along the left bank from RS 265+38 to RS251+78. The Los Angeles River channel is re-configured to take advantage of theTaylor Yard 'bowtie' parcel. At RS 243+17, the channel invert starts to widen intothe left bank. The invert width increases to more than 620 feet before it contractsback to the original channel size at RS 201+76. The eastern edge of the widenedinvert is sloped back at a 3:1 slope

to the original ground elevation approximately15 feet from the railroad tracks. Restore riparian habitat along the sloped channelwall of the widened channel.

Reach 7 -. Daylight 1 storm drain on right bank.Daylighted storm drains will beevaluated separately to ensure they meet all appropriate Corps regulations andguidance. Four 4-foot deep terraces on the right bank from RS 102+15 to 97+99are added adjacent to the Cornfields site. At Cornfields, thewestern edge of the terrace is sloped back up to the original ground elevation.Restore riparian habitat outside of the channel at theArroyo Seco confluence along the top of both banks. Restore riparian habitatalong the Arroyo Seco Channel by removing concrete and re-configuring thechannel cross section.

Reach 8 - Includes 3-foot deep terraces along the right bank within the extent ofthe LADWP parking lot and ties into the existing ground with a 3:1 slope. Theterraced area begins with one 3-foot deep terrace at RS 83+61 and ends withseven 3-foot deep terraces at RS 68+38. The Los Angeles River channel is reconfiguredto take advantage of the Piggyback Yard parcel. At RS 69+93, thechannel invert starts to widen into the left bank. The invert width increases tomore than 500 feet before it contracts back to the original channel size at RS38+47. Within the Piggyback Yard extent, a bench up to 1000-feet wide extendsfrom RS 64+92 to RS 50+15. The bench is established at approximately the 2-year water surface elevation and includes marsh vegetation. The eastern edge ofthe bench is sloped back up to the original ground elevation to a point about1800 feet from the channel.

Alt #	Name	Restored Acres	Average Annual Cost ($ Millions)	Increase in Average Annual Habitat Units	Total First Costs of Construction and Lands ($ Millions)	First Costs of Construction ($ Millions)	Lands (Real Estate) Costs ($ Millions)	Annualized Operations & Maintenance Costs ($ Millions)
10	ART	338	$16.1	5,321	$346.2	$52.7	$293.5	$0.58
13	ACE	406	$20.7	5,902	$441.6	$121.9	$319.7	$0.88
16 A	AND	464	$39.1	6,509	$757.5	$404.6	$352.9	$2.07
20 A	RIVER	499	$51.9	6,782	$1,036.5	$555.3	$481.2	$2.33

LA River Project

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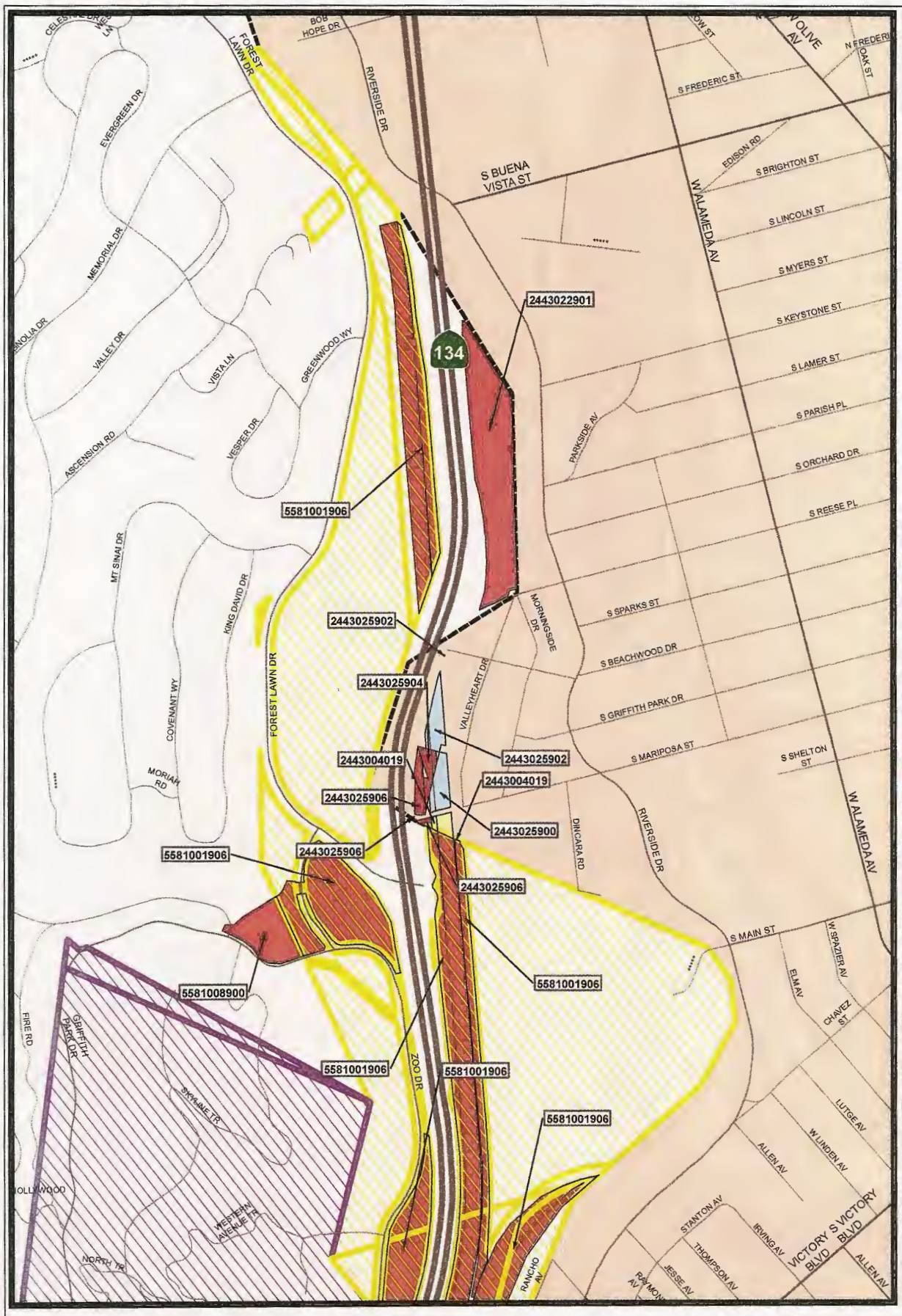

Parcel Ownership
- Private
- Glendale City
- LA City
- LA Co Flood Control District
- Metro
- Railroad
- State of California
- DWP Yard
- Arroyo Seco Sanitation Yard
- Albion Dairy & Park Site
- LA Equestrian Ctr/Bette Davis Pk
- Griffith Park GC & LA Zoo Pkg Lot
- Bette Davis Park
- Ferraro Fields
- North Atwater Park

LA City Boundary

Antonio R. Villaraigosa
Mayor

LA DPW ENGINEERING TRANSFORMING LOS ANGELES

Cary Lee Moore, P.E.
City Engineer

Our River, Our Future

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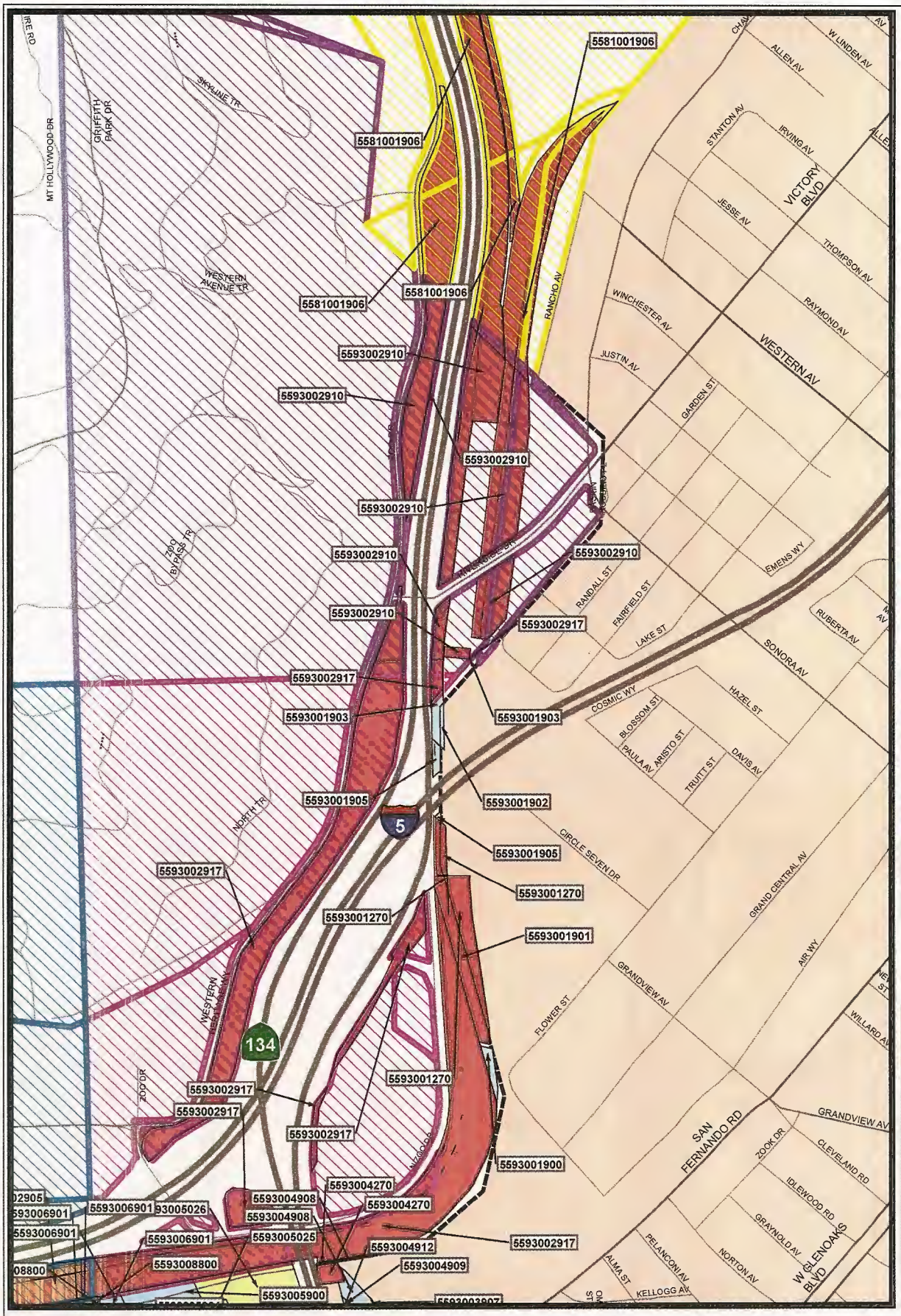
LA River Project

Page 2



Antonio R. Villaraigosa
Mayor

LA DPW ENGINEERING TRANSFORMING LOS ANGELES

Gary Lee Moore, P.E.
City Engineer

Our River, Our Future

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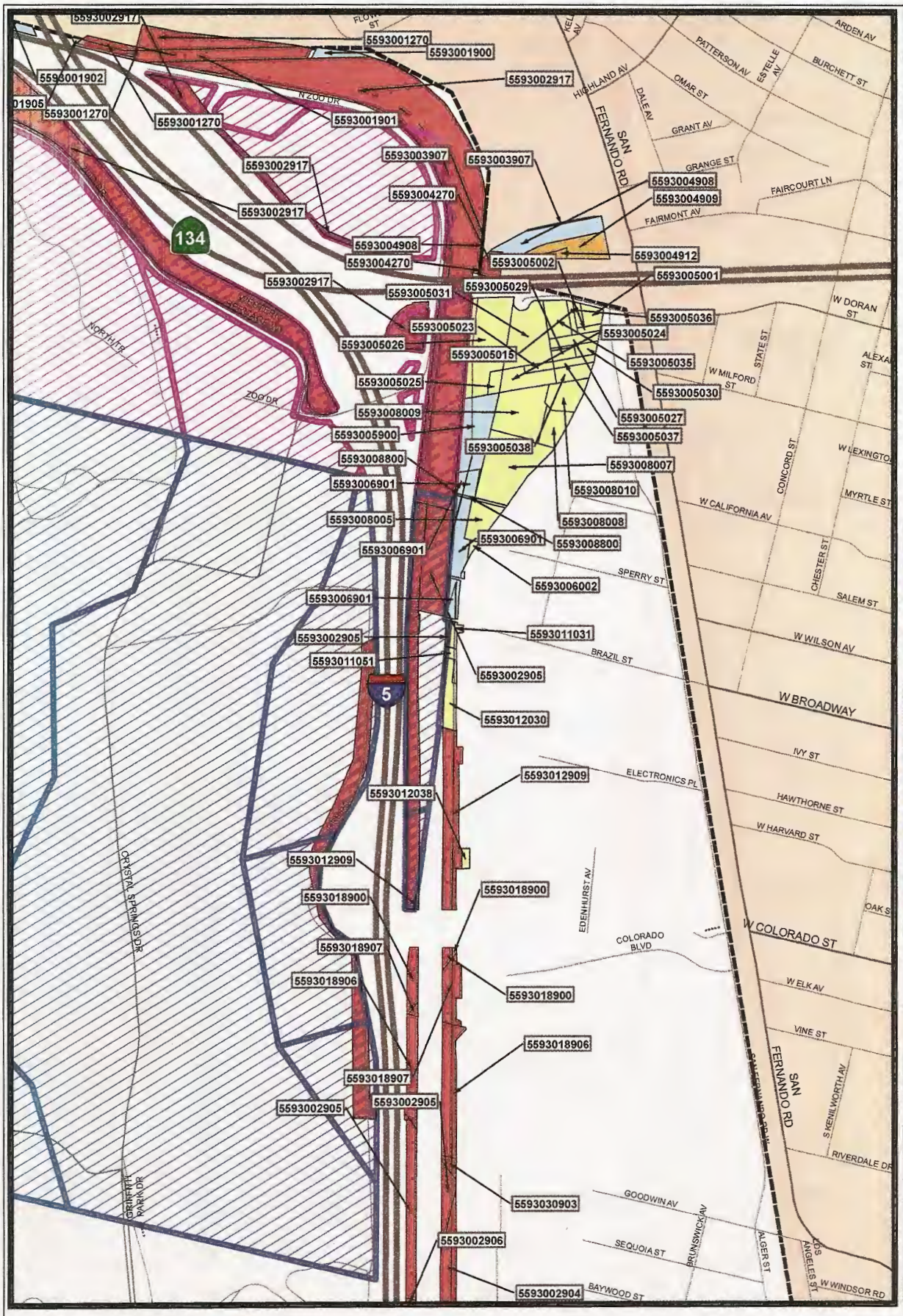
LA River Project



Parcel Ownership
- Private
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- LA City
- LA Co Flood Control District
- Metro
- Railroad
- State of California
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LA City Boundary

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LA River Project

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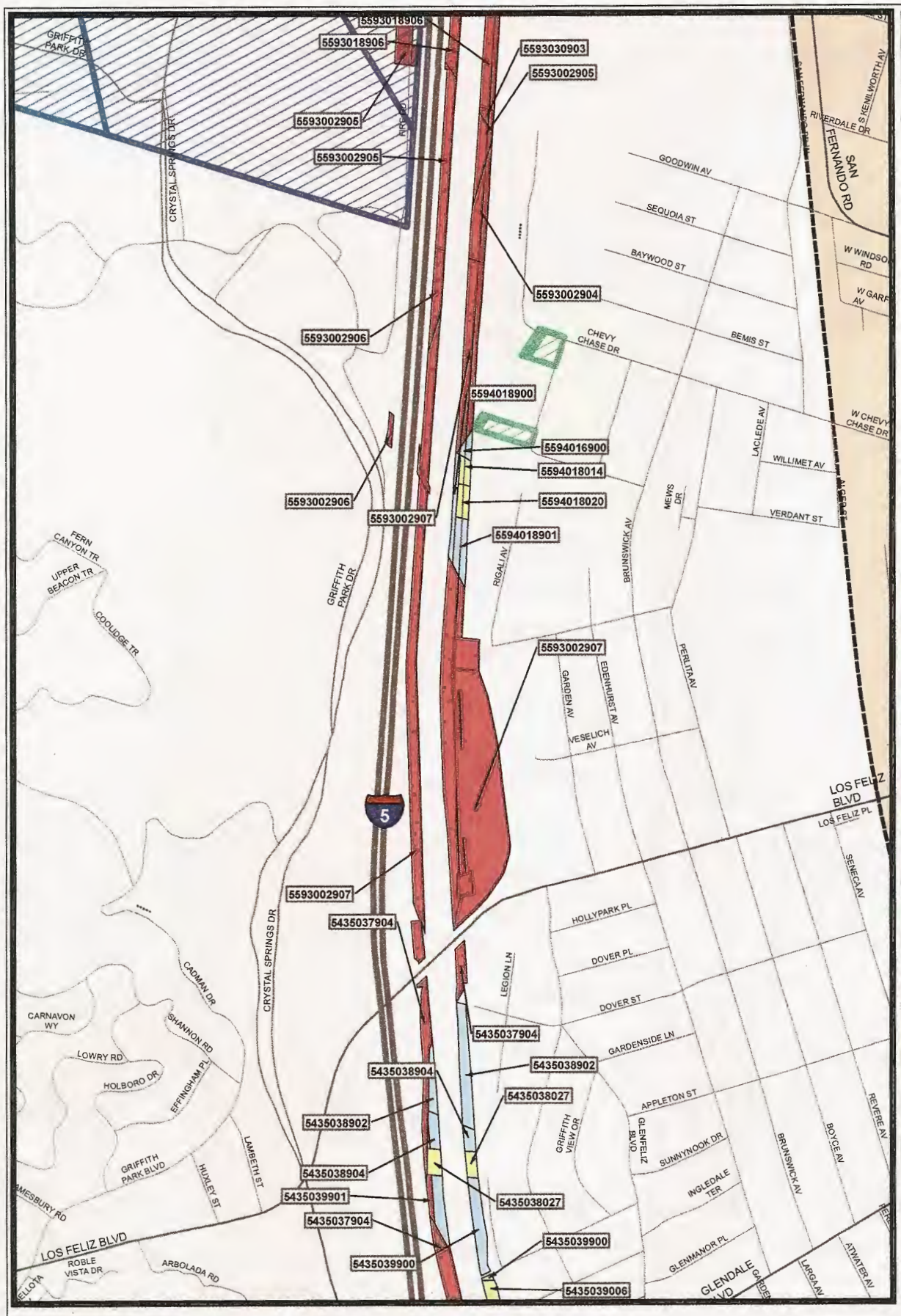

Parcel Ownership

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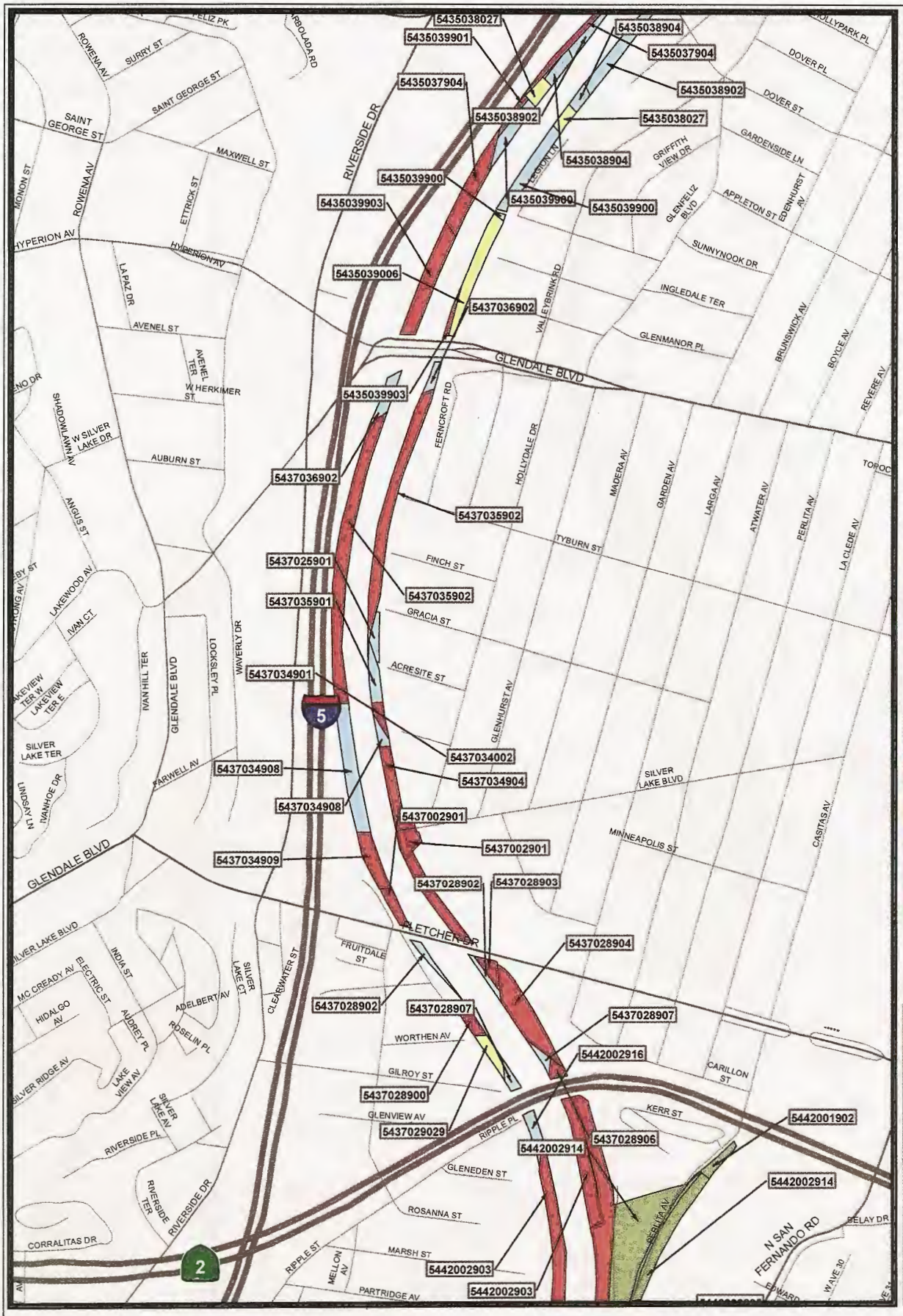

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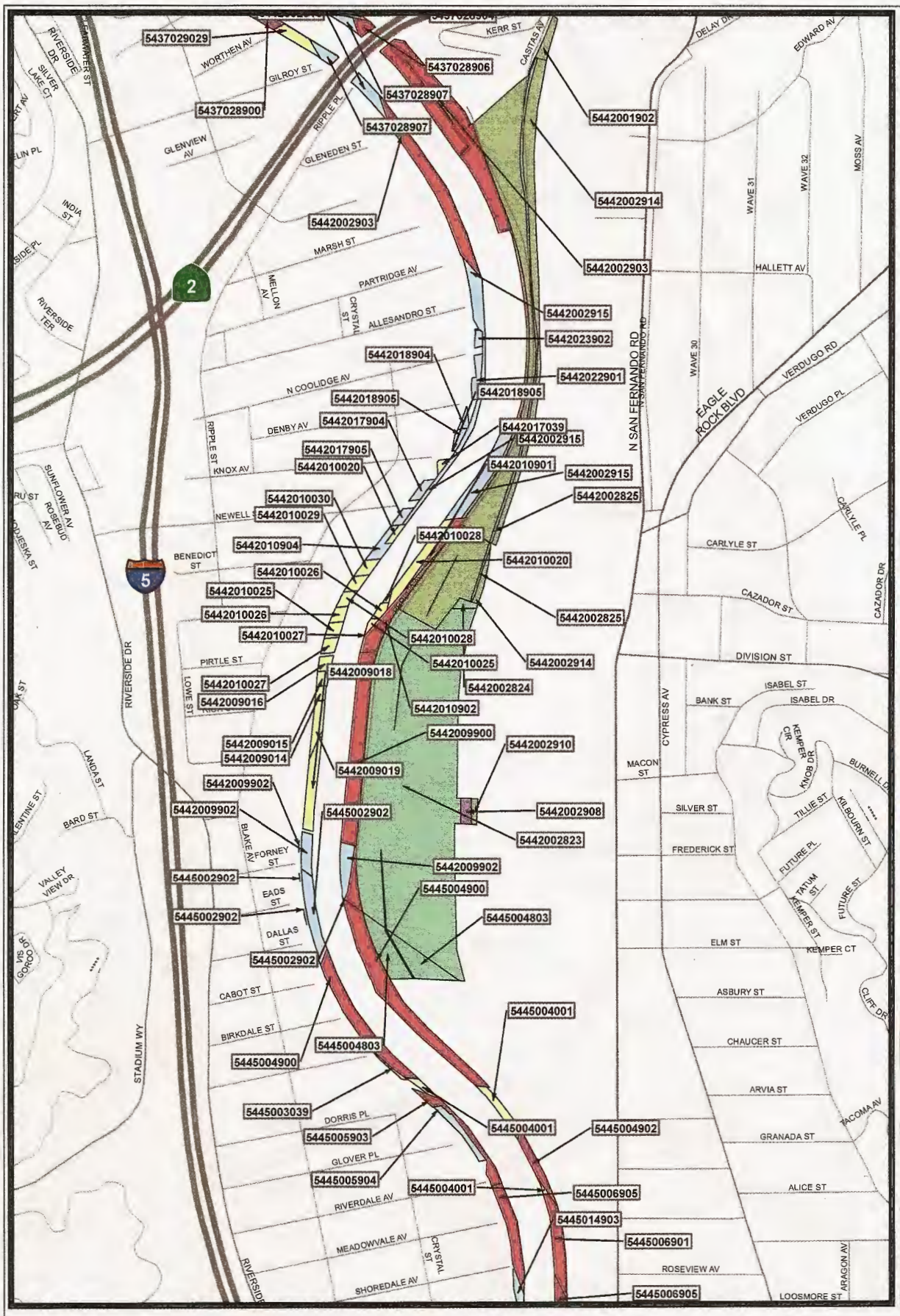

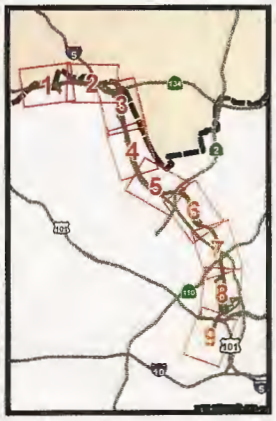

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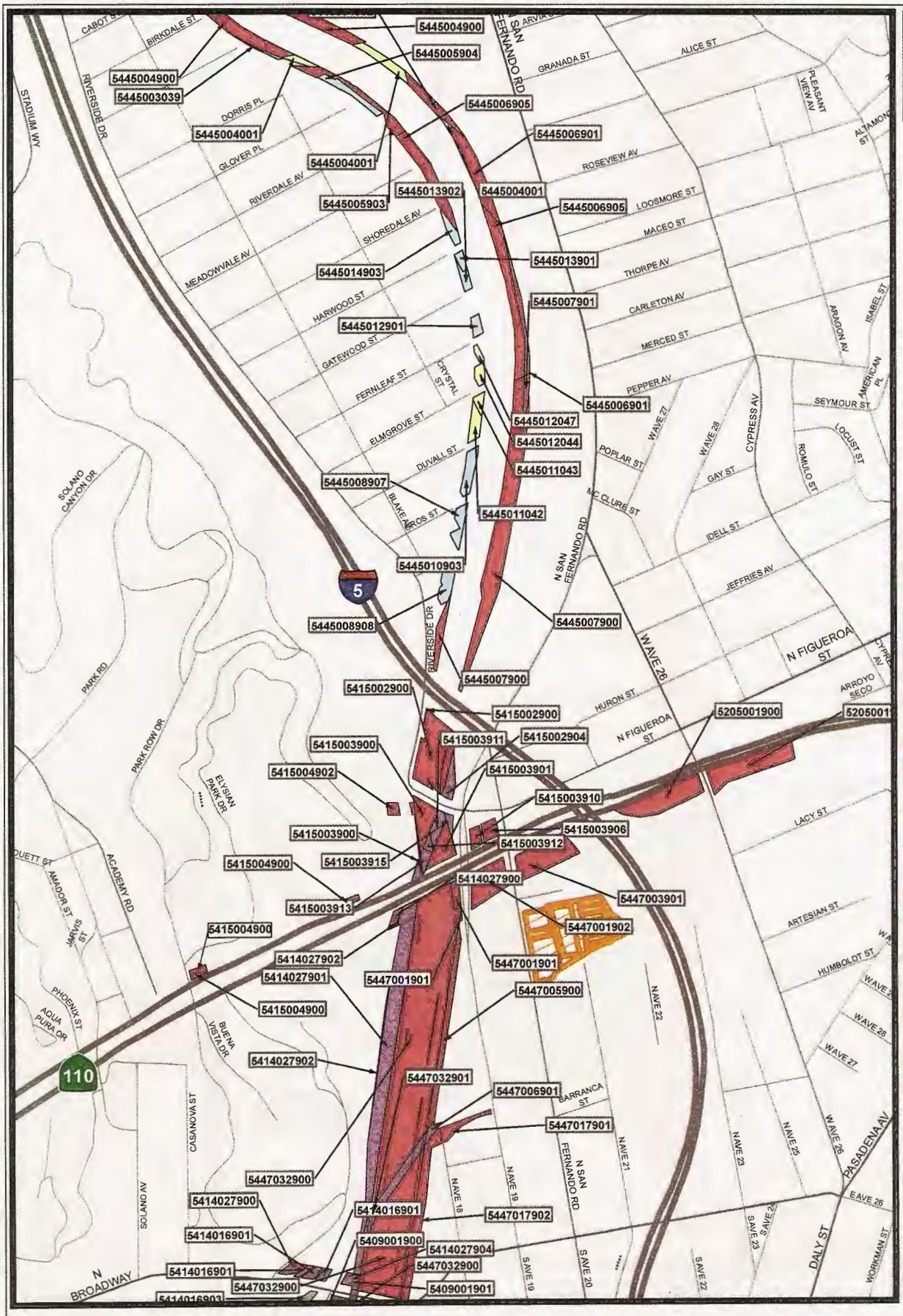

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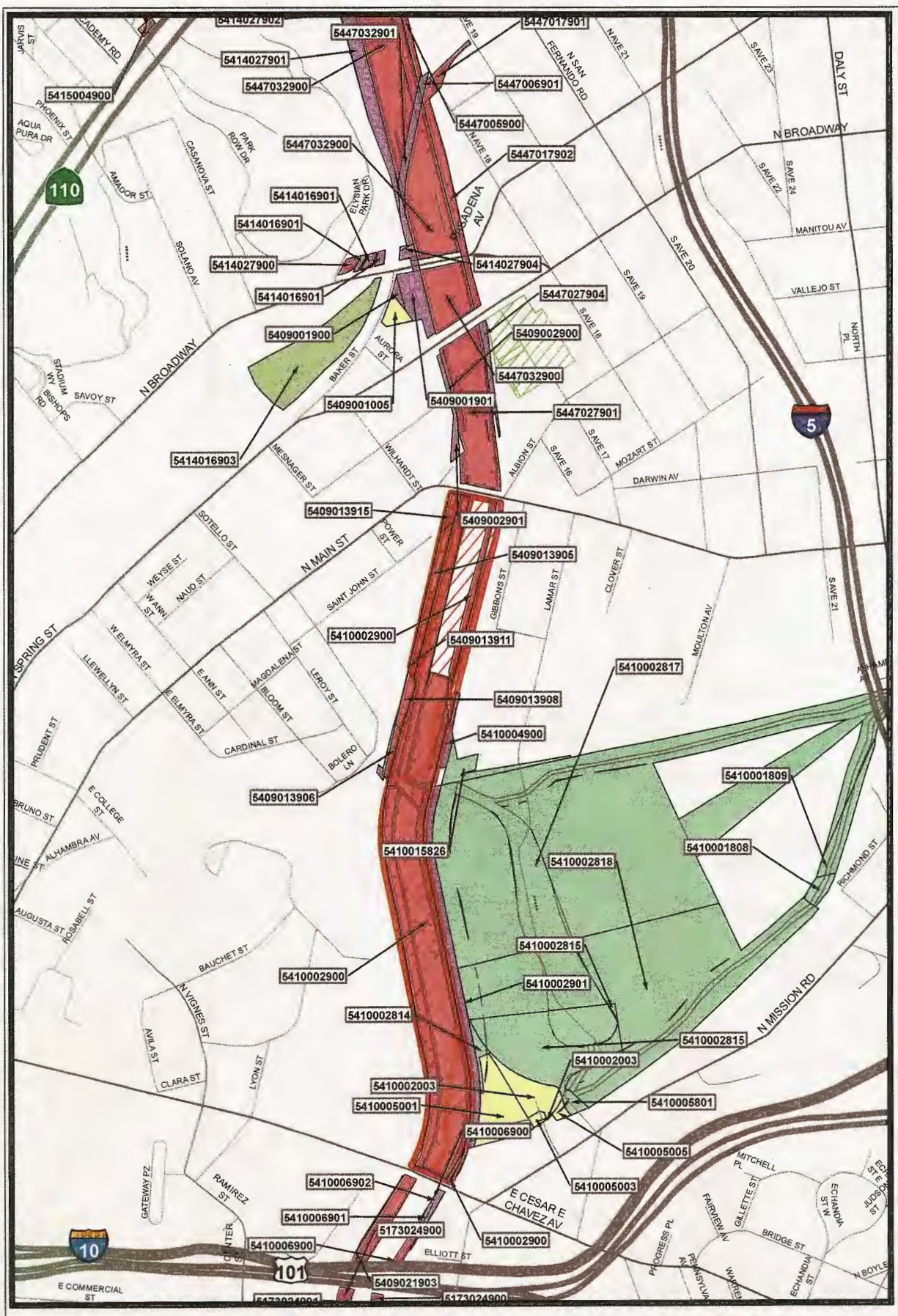

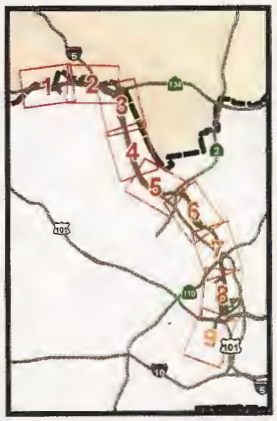

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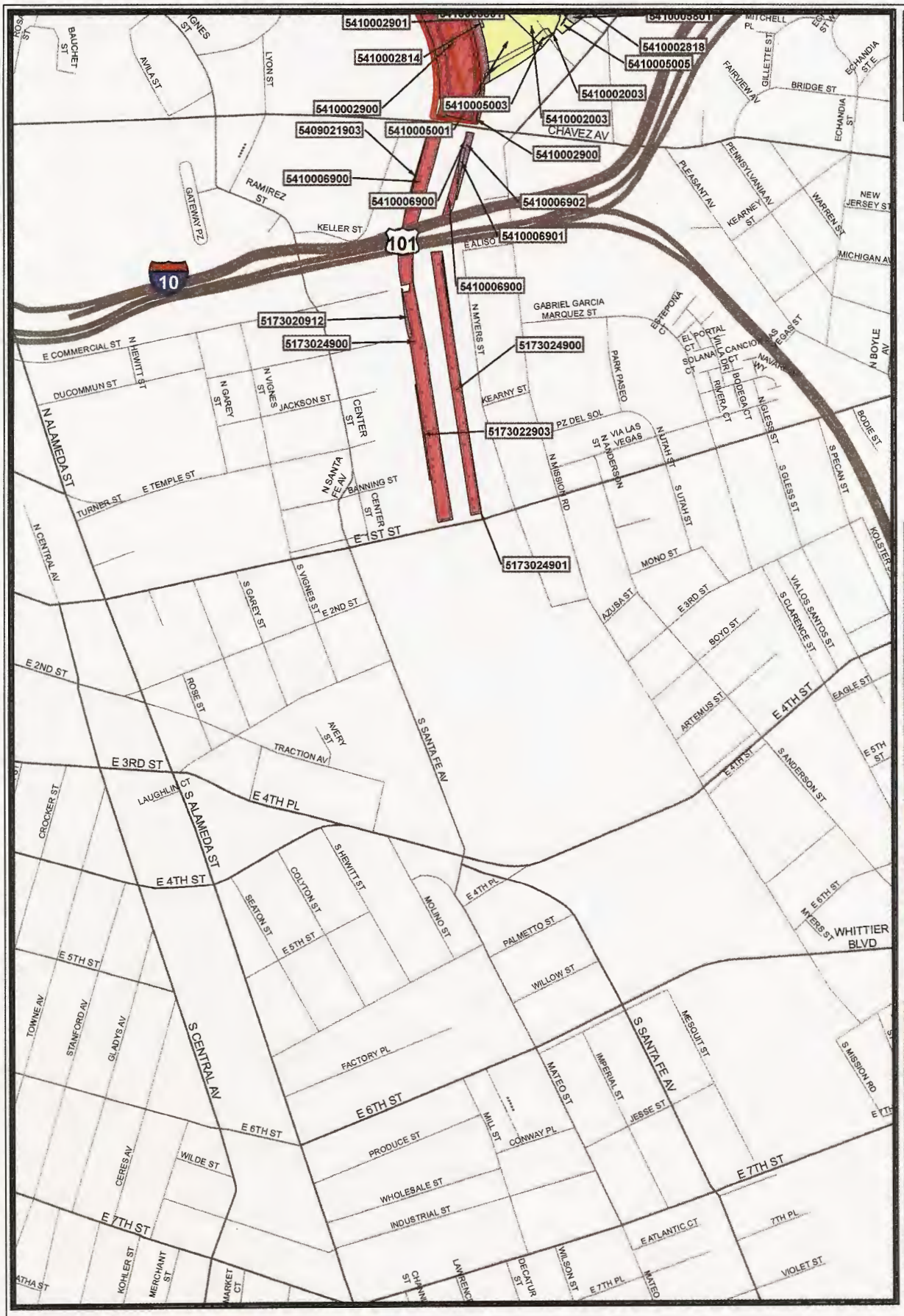

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DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
CIVIL WORKS
108 ARMY PENTAGON
WASHINGTON DC 20310-0108

AUG - 8 2013

MEMORANDUM FOR DIRECTOR OF CIVIL WORKS

SUBJECT: Los Angeles River Ecosystem Restoration Feasibility Study, California – Real Estate Waiver

In response to a July 11, 2013 memorandum from the Chief, Planning and Policy Division, I have evaluated the Corps request for me to grant an exemption to the Army policy in order to allow the city of Los Angeles to forego reimbursement for real estate acquisition which may exceed the legislated 35 percent non-federal share of a Los Angeles River ecosystem restoration project. In a March 22, 2013 letter to the District Engineer, the Mayor of Los Angeles stated that the city would forego reimbursement for real estate costs in excess of the 35 percent non-federal share. The city indicated that they believe that their action would enable a project to be built to restore fish and wildlife habitat in the Los Angeles River corridor.

According to the Corps, the final array of alternatives includes four plans with total costs that range between about $350 million, to over $1 billion. Real Estate costs could range from 45 percent to as much as 85 percent of the project costs. Additionally, the city would be responsible for providing clean lands for the project that are consistent with guidance for hazardous, toxic, and radiological waste.

While I cannot support the city's conclusion that foregoing reimbursement would automatically enable the project to be built, I am granting this requested exception. The feasibility report should clearly state that the city of Los Angeles has voluntarily agreed to waive reimbursement for the value of real estate above the 35 percent share and explicitly document the estimated real estate costs as well as an estimate of the reimbursement waived. I am withholding my evaluation of whatever plan the Chief of Engineers may ultimately recommend until he provides his report for my review.

Jo-Ellen Darcy
Assistant Secretary of the Army
(Civil Works)

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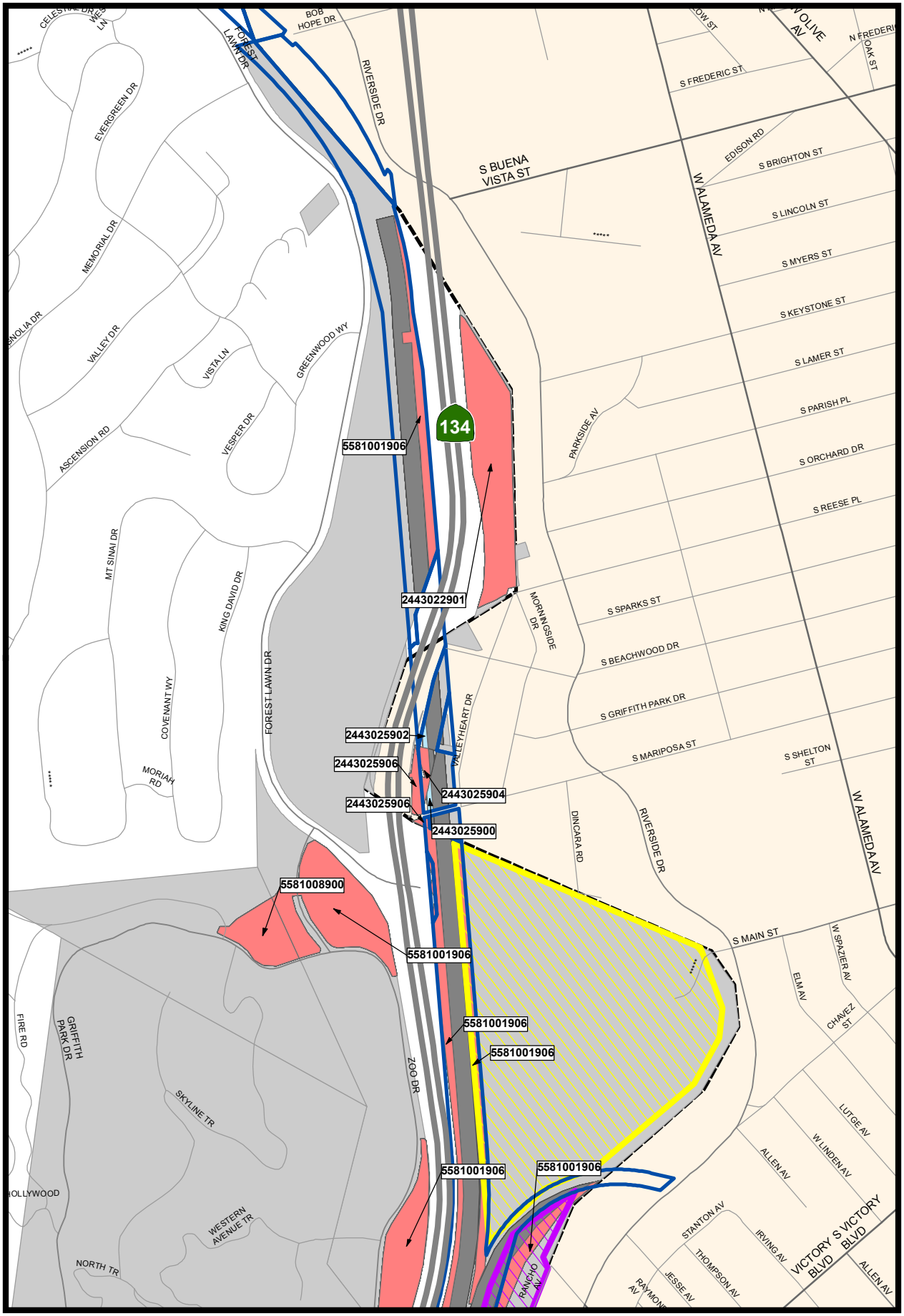
Attachment "B"

LA River Project

Page 1



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Railroad

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All other alternatives parcel

Los Angeles County Parcels

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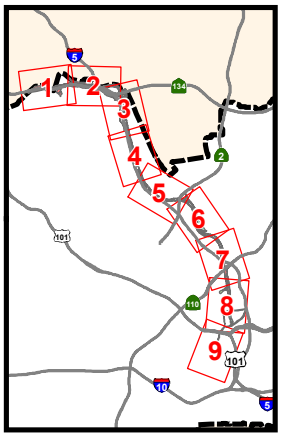

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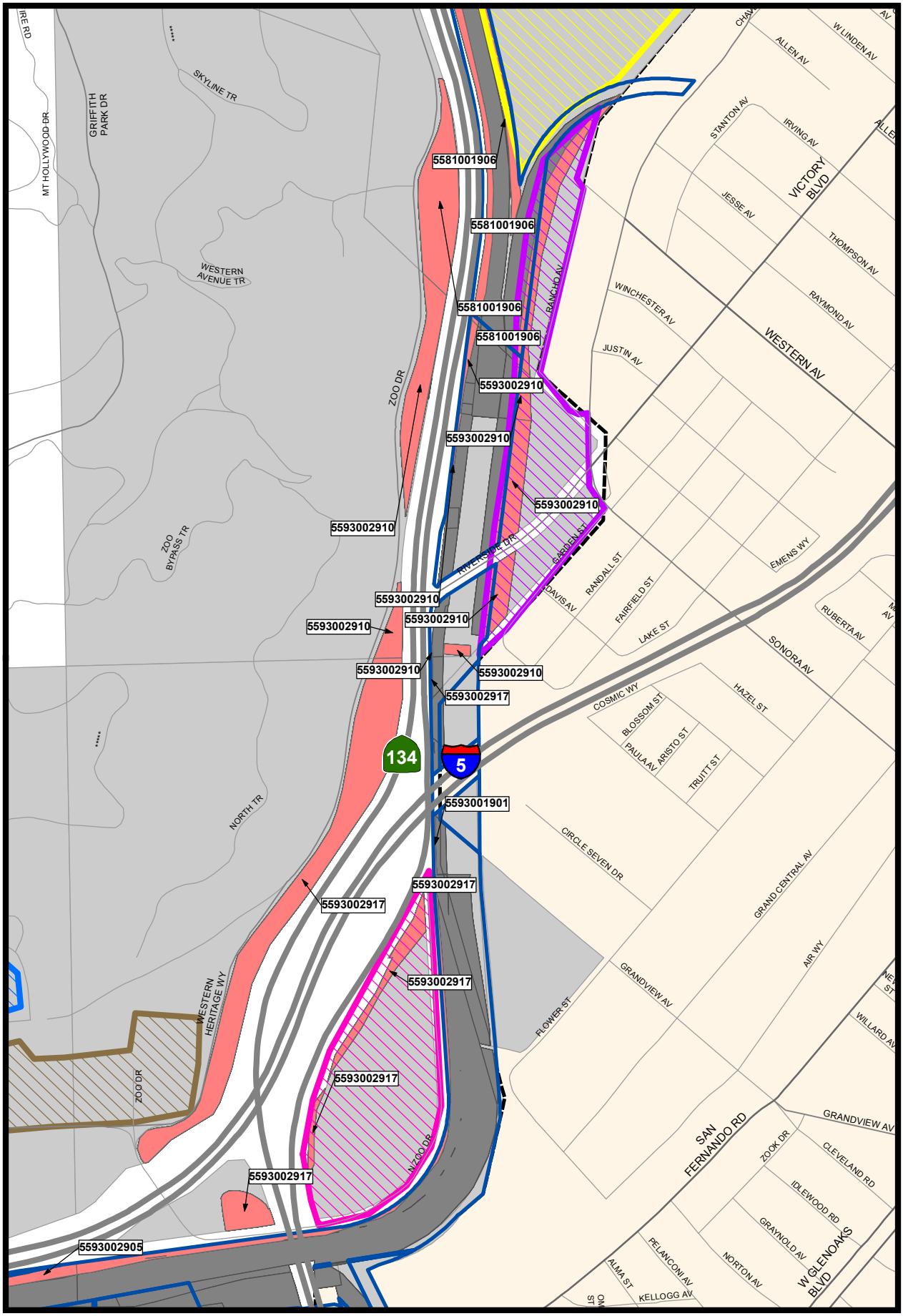

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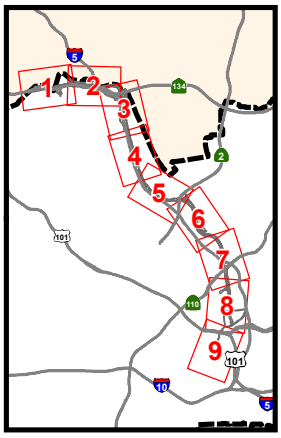

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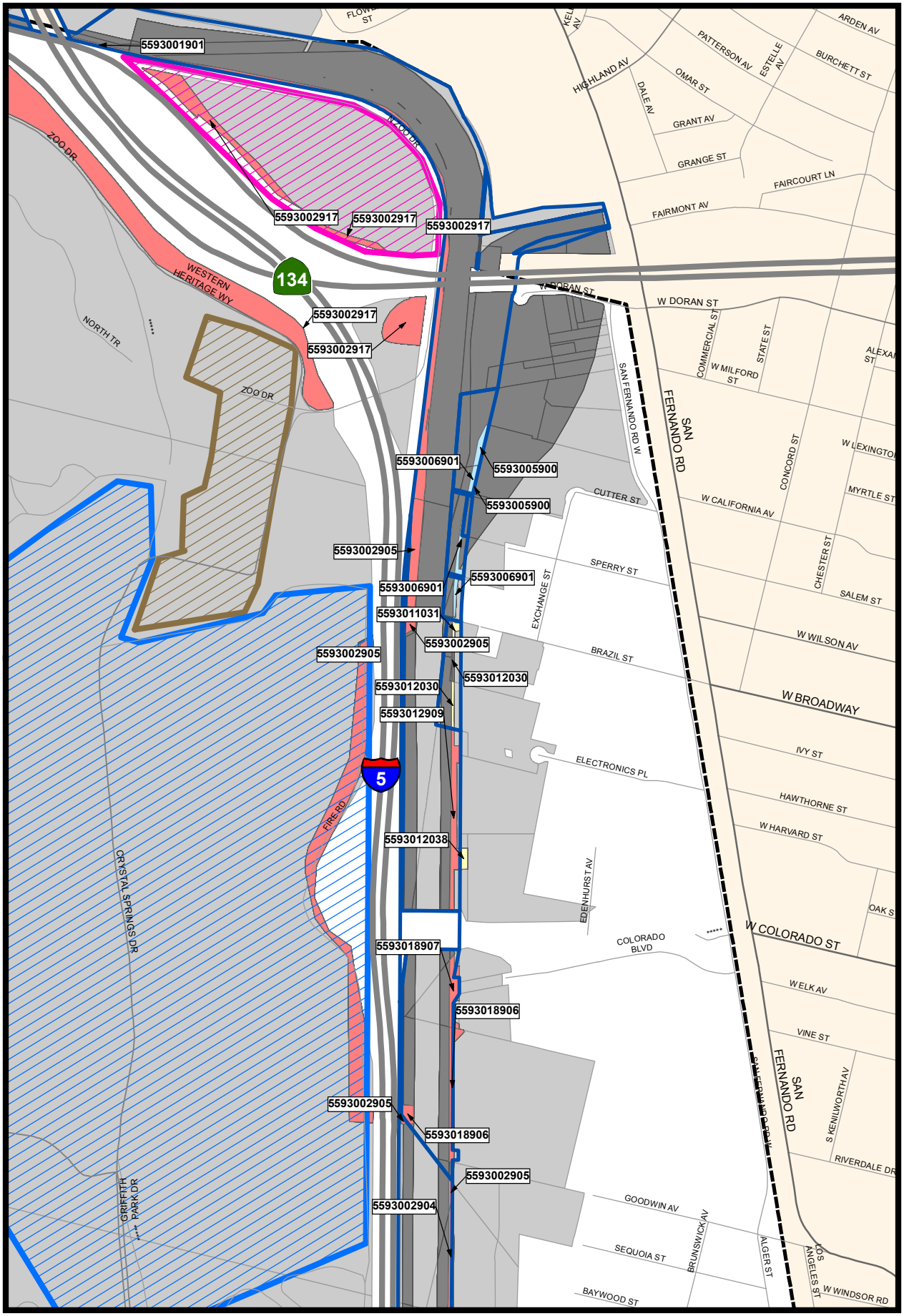

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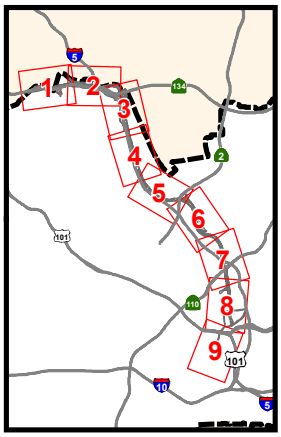

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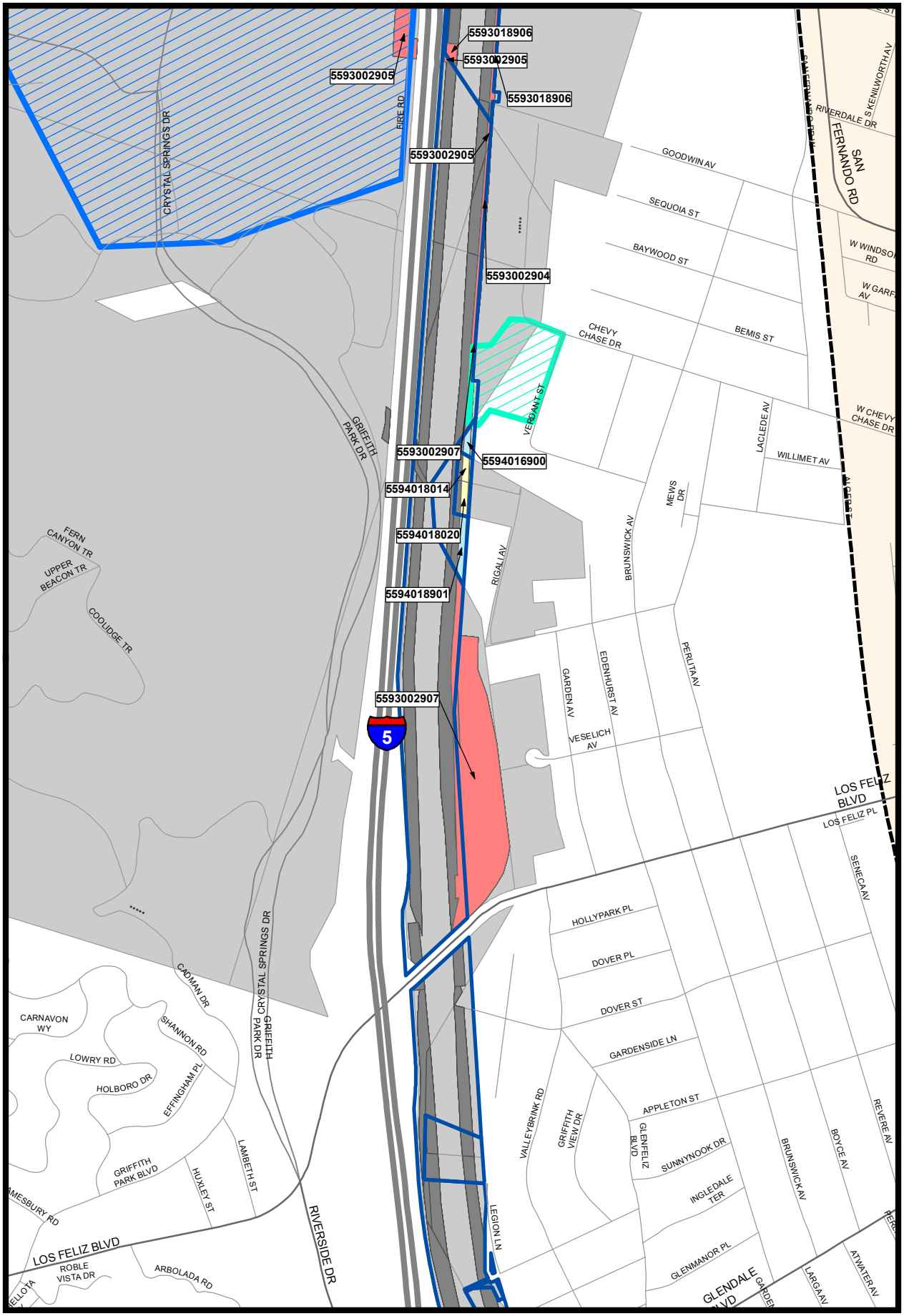

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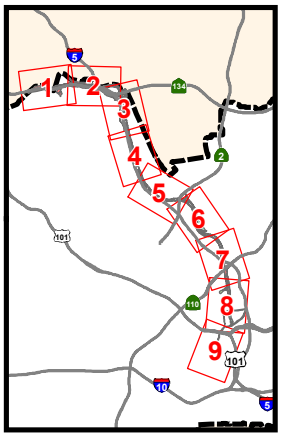

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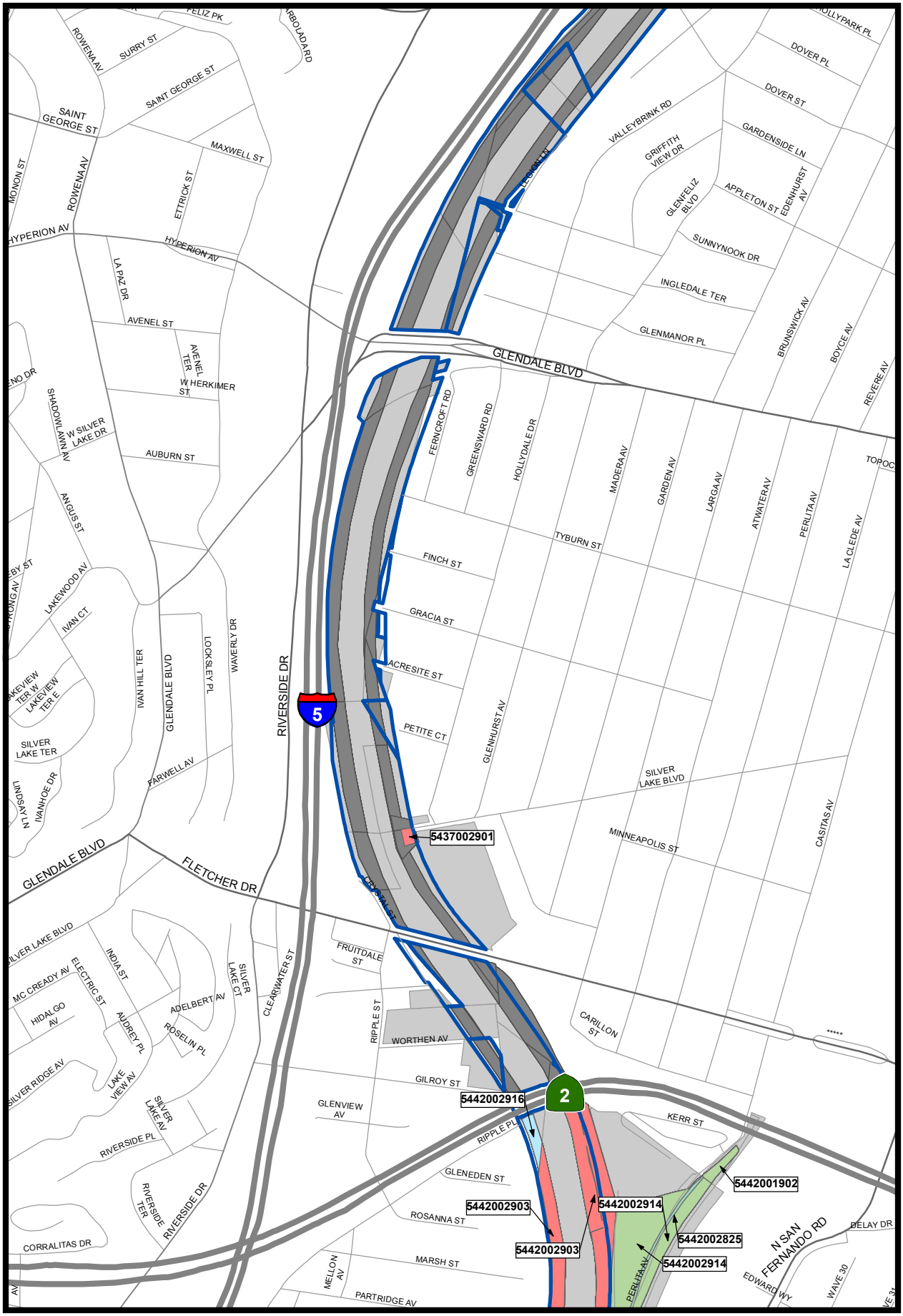

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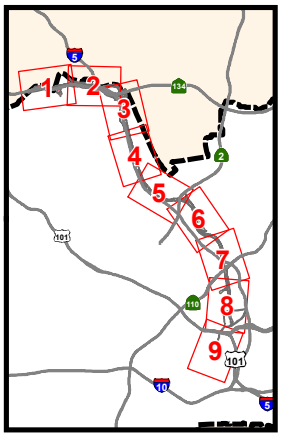

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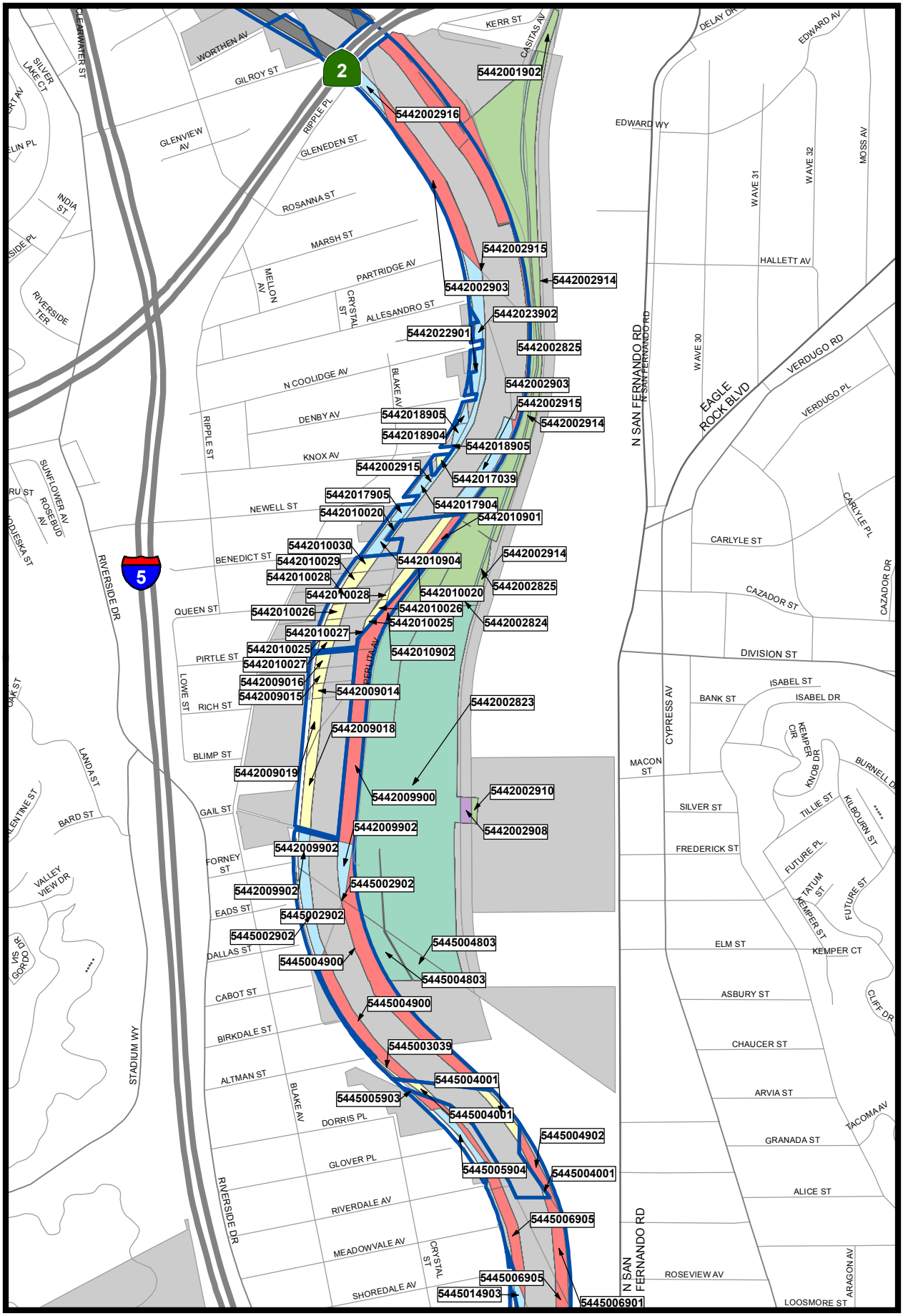

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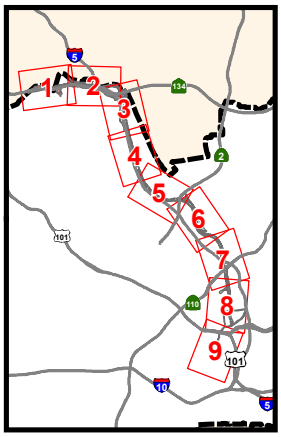

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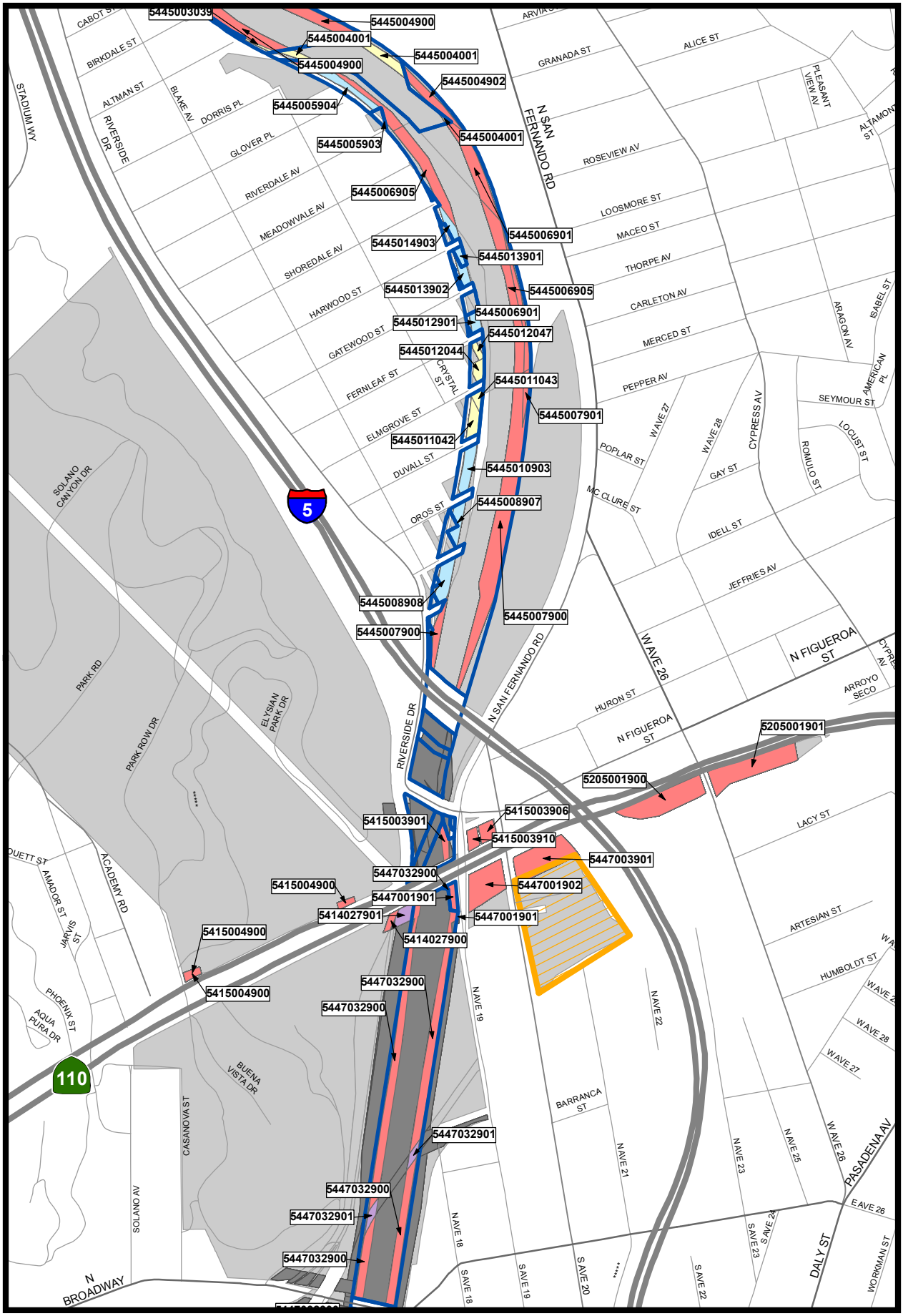

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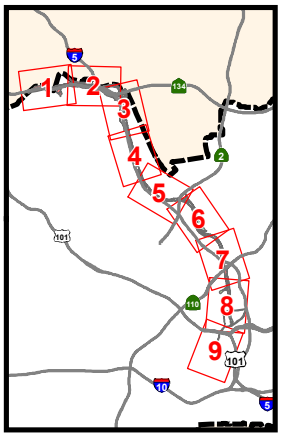

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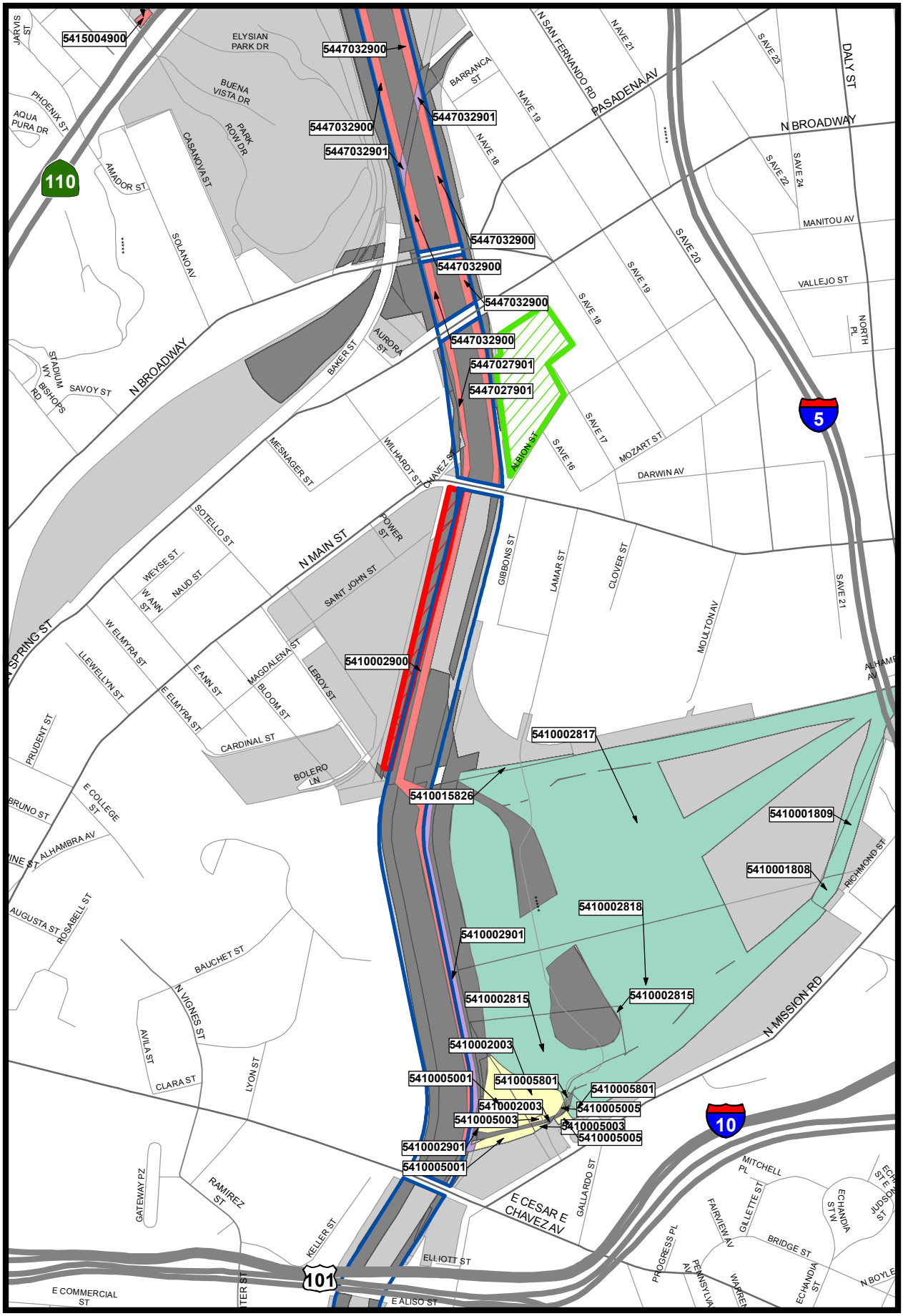

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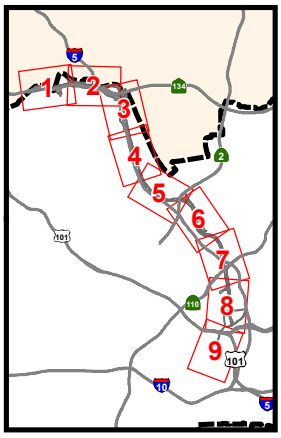

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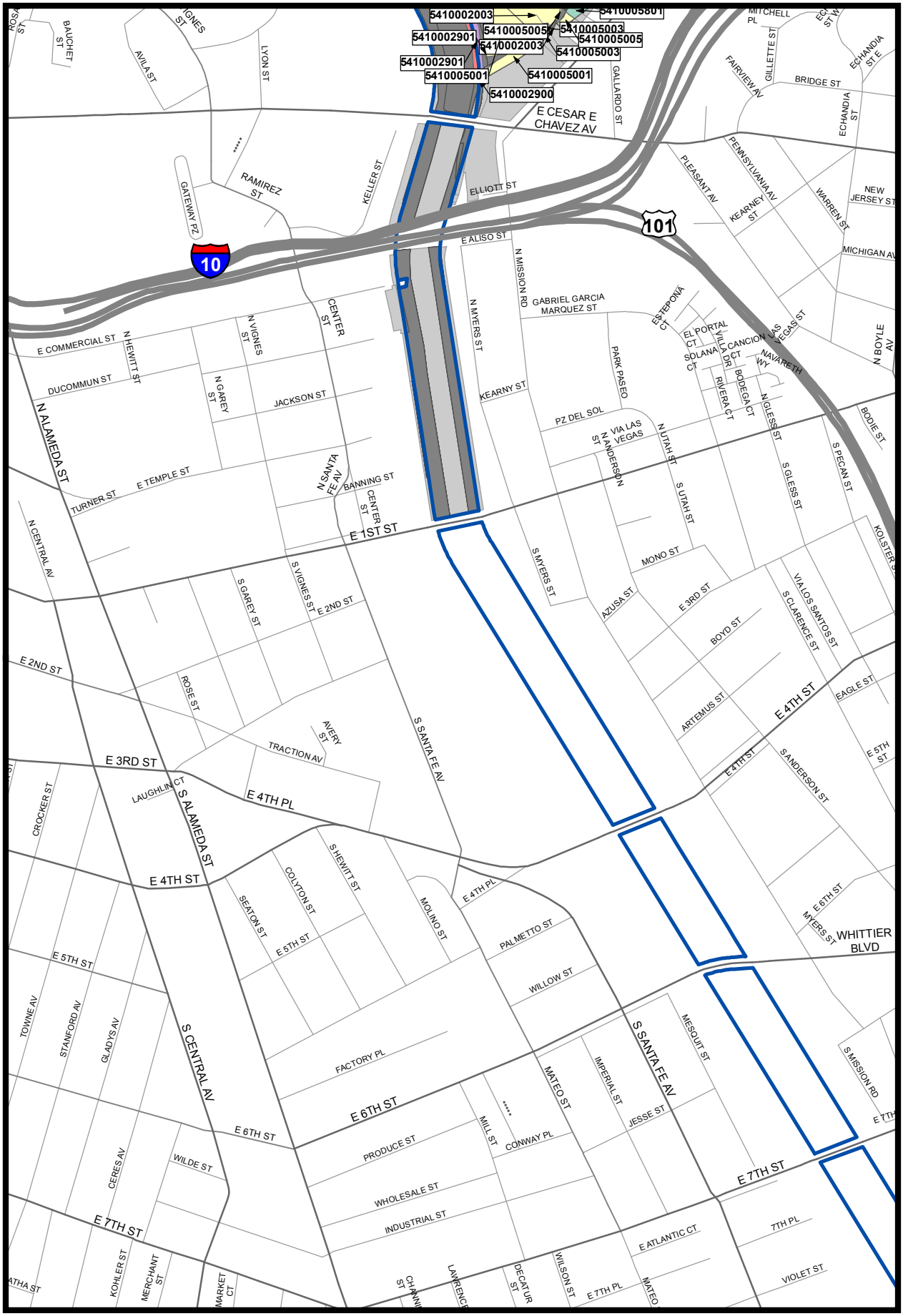

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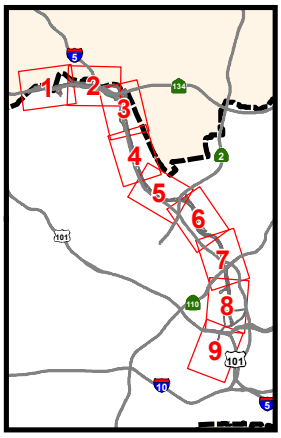

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