Appendix U

Biological Resources Technical Memorandum

Metro

TECHNICAL MEMORANDUM

Biological Resources

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	Study Team
PREPARED BY:	CH2M HILL Team
DATE:	December 2012
PROJECT NUMBER:	428908

The purpose of this memorandum is to describe the potential sensitive biological habitat and linear feet of drainages affected by SR-710 alternative routes.

The Level II screening analysis evaluated 12 alternatives (with 3 variations) including a TSM/TDM improvement, 3 bus rapid transit, 4 light rail transit, 4 freeway, and 2 highway alternatives along with the No Build conditions.

Methodology

Biological resource information made available from federal, state, and local resources was compiled using Geographic Information Systems (GIS) tool and Arc Map data viewer and compared to the alternative alignments to determine what habitats and drainages would have the potential to be impacted. In addition, high resolution aerial photographs were carefully inspected to supplement the data sources and assist with the assessment of existing conditions. No biological level one screening was done for the SR-710 study area and will not be mentioned further in this memo.

Regional Setting

The general area for the project alternatives includes six regional U.S. Geological Survey quadrangle map (quad) areas: Pasadena, Burbank, Mt Wilson, Hollywood, Los Angeles, and El Monte. The study area is at the western end of the San Gabriel Valley, with the San Gabriel Mountains to the north and Montebello Hills and Puente Hills to the southeast. The southern portion of the study area is characterized by low-lying hills, which transition to the Los Angeles plain farther south. The Verdugo Mountains/San Rafael Hills border the northwestern part of the study area, with the Santa Monica Mountains to the west of the study area. The eastern extent of the Santa Monica Mountains includes the Griffith Park and Chavez Ravine areas, which are immediately east of the study area.

There are a few significant river and stream courses in the region. The most significant of these is the Los Angeles River, which originates to the northwest of the study area, becoming a concrete lined channel near the I-5 and SR-110 interchange. A major tributary to the Los Angeles River is the Arroyo Seco, which originates in the San Gabriel Mountains to the north of the study area, passing through the study area, and joining the Los Angeles River just downstream of its unlined portion. Much of this drainage is concrete lined through the study area, but is unlined north of the Devil's Gate Reservoir, near the northern edge of the study area.

Much of the region is characterized by existing development, with substantial areas of impervious surfaces and

storm and urban water runoff that is captured in underground storm drains and concrete-lined flood control channels. However, there are relatively small pockets of recreational and natural open space scattered through the region, primarily in the hill areas. The more mountainous areas, primarily the San Gabriel Mountains to the north and the Verdugo Mountains to the northwest are relatively undeveloped, with extensive native habitat, as well as non-native grassland areas. The Griffith Park area to the west of the study area also contains substantial amounts of the native habitat.

Local Setting

The immediate area most affected by the alternatives is within Los Angeles and Pasadena quads where most of the SR-710 alternative routes have been mapped. Within this area the primary drainage is the Arroyo Seco which is mostly concrete-lined; the concrete-lined portion of the Los Angeles River is on the western edge of the study area. Most of the smaller original drainage courses in this area have been replaced with underground storm drain facilities. However, portions of some of these, such as the Laguna Channel along the northern end of SR-710, remain as above-ground, concrete-lined flood control channels.

Los Angeles County (designated in the Los Angeles County General Plan and plan update) has five existing Significant Ecological Areas (SEAs) and six proposed SEAs located in the vicinity of the SR-710 alternatives. The existing SEAs within the El Monte quad are, Sycamore-Turnbull Canyons, Whittier Narrows Dam County Recreation Area, and the Rio Hondo College Wildlife Sanctuary which also has proposed boundaries. Much of the proposed Puente Hills SEA, which includes the existing Sycamore-Turnbull Canyons SEA, is designated Critical habitat by the U.S Fish and Wildlife Service for the Coastal California Gnatcatcher (*Polioptila californica californica*). The Mt. Wilson quad includes two mapped proposed SEAs, San Gabriel Canyon and Altadena Foothills and Arroyos which cross over into the Pasadena quad. The Burbank quad's existing and proposed SEAs are the Verdugo Mountains which cross into the Pasadena quad and Griffith Park. The Hollywood quad has both existing and proposed SEA boundaries for Griffith Park. Figure 1 shows the existing and proposed SEAs in the SR-710 Study Area.

Resources in Study Area

In addition to the larger surrounding open spaces described in the Regional Setting above, there are scattered smaller patches of discontiguous native habitat areas, as well as recreational open spaces that contain substantial native vegetation. Notable areas with native vegetation are in the vicinity of Eagle Rock Reservoir and Annandale Country Club in the San Rafael Hills at the northwestern border of the study area, the Arroyo Seco, and the Mount Washington area north of downtown Los Angeles. Relatively small patches of native vegetation around the Pasadena and Los Angeles quads have potential resources. A walnut forest in the Los Angeles quad located in the Ernest E. Debs Regional Park located west of Monterey hills and the peregrine falcon (*falco peregrinis anatum*) and western mastiff bat (*Eumops perotis californicus*) have been documented at the south end of the Annandale Golf Club in Pasadena. The Pasadena quad has two SEAs, Verdugo Mountain, and Altadena Foothills and Arroyos, which are located at the northern section of the SR-710 study area. Figure 1 also shows the walnut forest, Western Mastiff Bat, oak scrub and wildlife habitat in the SR-710 Study Area. The Los Angeles River, Laguna Channel, and Arroyo Seco drainage courses are also within the study area and are shown in Figure 2.

Level II Screening

Biological resources were screened using information made available from federal, state, and local resources that have been compiled into arc map data viewer and inspection by aerial photographs.

TSM/TDM

No resources were identified within this alternative. The improvements associated with this alternative are located within existing urban areas and are unlikely to contain biological resources.

BRT-1

The Los Angeles River is the only biological resource located in this alternative.

Altadena Foothills and Arroyos
San Gabriel Canyon
Western Mastiff Bat
Wildlife Habitat
Oak and Scrub
Walnut Forest
Whittier Narrows Dam County Recreation Area
Puente Hills
Rio Hondo College Wildlife Sanctuary
Puente Hills
Sycamore-Turnbull Canyons
La Canada Flintridge
Sierra Madre
Pasadena
San Marino
Arcadia
South Pasadena
San Gabriel
Temple City
Alhambra
El Monte
Rosemead
South El Monte
Monterey Park
Los Angeles
Montebello
Vernon
Maywood
Commerce
Huntington Park
Pico Rivera
Whittier
Bell
Bell Gardens
Cudahy
Downey
South Gate
Santa Fe Springs
2
210
134
5
110
159
10
710
60
19
42
605
72
105
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LSA

LEGEND

- Level II Disturbance Limit Lines (DLL)
- Proposed Significant Ecological Areas
- Existing Significant Ecological Areas
- CNDDB Occurrences
- Habitat Locations

0 1 2 Miles

SOURCE: CNDDB (8/2012); ESRI (2012); CH2M Hill (2012); AECOM (2012); LSA (2012)

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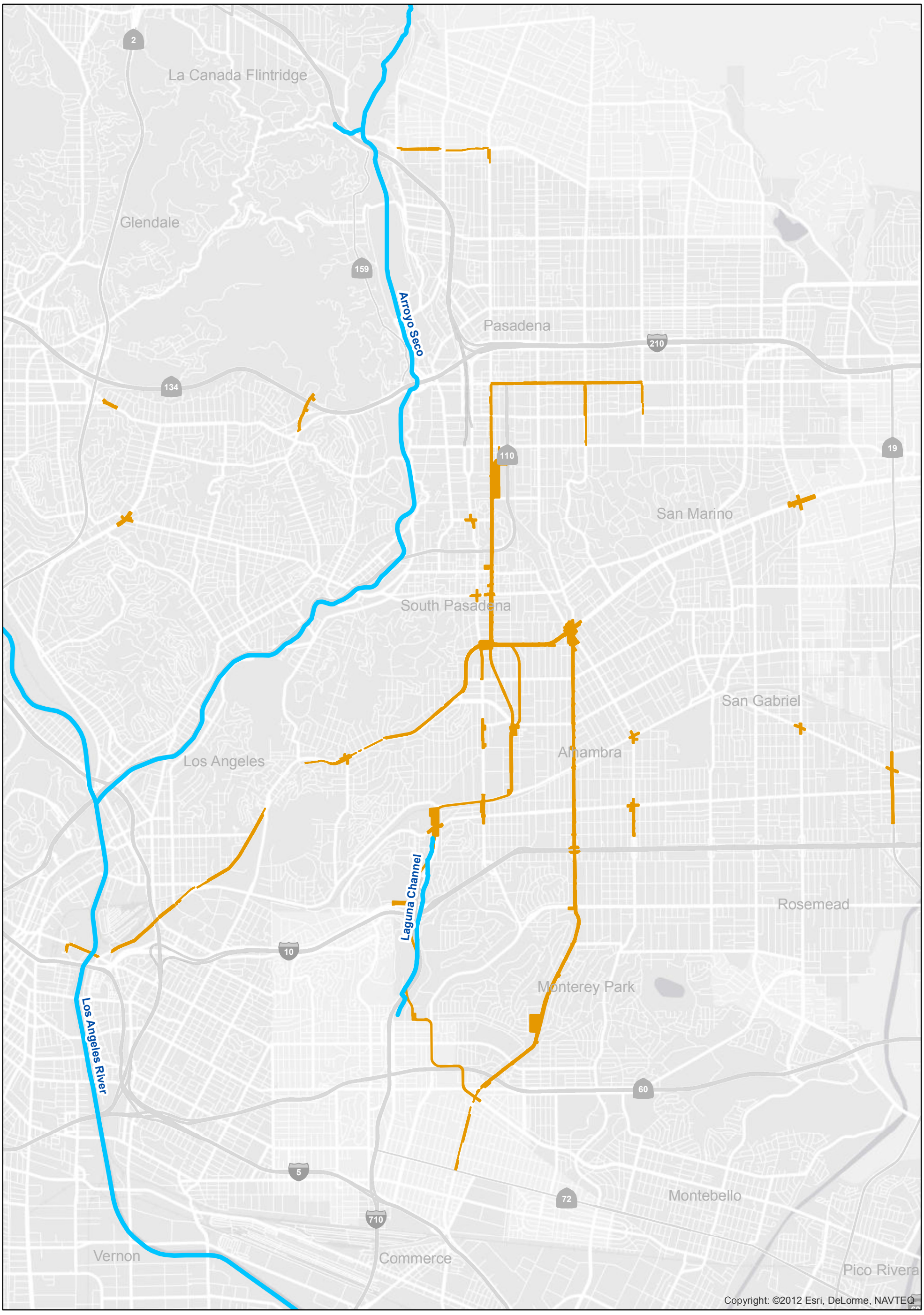
FIGURE 1

SR-710 Study

Biological Resources
Significant Ecological Areas and Habitat in Study Area



LEGEND

Level II Disturbance Limit Lines (DLL)

Select Drainages

FIGURE 2

SR-710 Study

Potentially Impacted Drainages in Study Area

0 1 2

Miles

SOURCE: USGS NHD (1999); ESRI (2012); CH2MHill (2012); AECOM (2012); LSA (2012)

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BRT-6

No biological resources were identified within this alternative.

BRT-6a

No biological resources were identified within this alternative.

LRT-4a

The concrete lined Laguna Channel is located within the alignment for this alternative.

LRT-4b

The concrete lined Laguna Channel is located within the alignment for this alternative.

LRT-4d

The concrete lined Laguna Channel is located within the alignment for this alternative.

LRT-6

No biological resources were identified within this alternative.

F-2

Two biological resources were identified within this alternative, the concrete lined Laguna Channel and a walnut forest in Ernest E. Debs Regional Park.

F-5

Two biological resources were identified within this alternative, the concrete lined Laguna Channel and potential wildlife habitat for Western mastiff bat and peregrine falcon located at the South end of the Annandale Golf Club in Pasadena.

F-6

Two resources were identified within this alternative, the concrete lined Laguna channel lined Laguna channel and a section of large standing trees and shrubs with wildlife habitat potential located in a South Pasadena community.

F-7

The concrete lined Laguna Channel is located within the alignment for this alternative.

H-2

Two biological resources were identified this alternative, the Arroyo Seco drainage that is a tributary to the Los Angeles River and potential wildlife habitat located at the southern section of Arroyo Seco Golf course.

H-6

No biological resources were identified within this alternative.

Potential Effects to Biological Resources

Impacts to the study area are based on the total amount of potential disturbance.

No Build

For the No Build Alternative, no biological resources would be impacted.

TSM/TDM

For the TSM/TDM Alternative, no biological resources were identified within this alternative.

BRT-1

For Alternative BRT-1, approximately 247 linear feet of the Los Angeles River, located adjacent to East Cesar E. Chavez Avenue, would potentially be impacted.

BRT-6

For Alternative BRT-6, no biological resources were identified within this alternative.

BRT-6a

For Alternative BRT-6a, no biological resources were identified within this alternative.

LRT-4a

For Alternative LRT-4a, the biological resources with potential to be impacted include 2,050 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative starting 0.2 miles north of North Ford Boulevard on-ramp and ending where the SR-710 ends at Valley Boulevard.

LRT-4b

For Alternative LRT-4b, the biological resources with potential to be impacted include 2,034 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative starting 0.2 miles north of the North Ford Boulevard on-ramp and ending where the SR-710 ends at Valley Boulevard.

LRT-4d

For Alternative LRT-4d, the biological resources with potential to be impacted include 1,938 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative starting 0.2 miles north of North Ford Boulevard on-ramp and ending where the SR-710 ends at Valley Boulevard.

LRT-6

For Alternative LRT-6, no biological resources were identified within this alternative.

F-2

For Alternative F-2, the biological resources with potential to be impacted include 1,411 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative running parallel to Highbury Avenue and ending where SR-710 ends at Valley Boulevard and 2.2 acres of walnut forest located in Ernest E. Debs Regional Park in Los Angeles.

F-5

For Alternative F-5, the biological resources with potential to be impacted include 1,744 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative running parallel to Highbury Avenue and ending where SR-710 ends at Valley Boulevard and 6.3 acres of potential wildlife habitat for Western mastiff bat and peregrine falcon located at the south end of the Annandale Golf Club in Pasadena.

F-6

For Alternative F-6, the biological resources with potential to be impacted include 1,411 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative where SR-710 ends at Valley Boulevard and 1.0 acres of trees and shrubs with potential wildlife habitat located in South Pasadena.

F-7

For Alternative F-7, the biological resource within potential to be impacted includes 1,500 linear feet of the concrete lined Laguna Channel located at the southern section of the alternative running parallel to Highbury Avenue and ending where SR-710 ends at Valley Boulevard.

H-2

For Alternative H-2, the biological resources with the potential to be impacted include 200 linear feet of the Arroyo Seco drainage that is a tributary to the Los Angeles River and 0.5 acres of potential wildlife habitat at the southern section of Arroyo Seco Golf Course.

H-6

For Alternative H-6, no biological resources were identified within this alternative.

Summary of Potential Effects to Biological Resources

Potential effects to drainage areas are loss of open water for wildlife, construction runoff, and debris in drainages. Sensitive and wildlife habitat areas have the potential to be impacted by construction noise and the, duration of construction could affect local wildlife occurrence. Permanent loss of habitat would occur where biological resources would be replaced by the transportation facility.

The summary of the potential effects of each alternative are quantitatively summarized in the following table.

Table 1
Level II Screening of SR-710 Project Alternatives
Summary of Potential Effects to Biological Resources by Alternative

Resource	No Build	TSM/ TDM	BRT-1	BRT-6	BRT-6a	F-2	F-5	F-6	F-7	H-2	H-6	LRT-4a	LRT-4b	LRT-4d	LRT-6
Sensitive Habitat (acres)	0	0	0	0	0	2.2	6.3	1.0	0	0.5	0	0	0	0	0
Drainages (linear feet)	0	0	247	0	0	1,411	1,744	1,411	1,500	200	0	2,050	2,034	1,938	0