2.12 Hazardous Waste/Materials

2.12.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean-up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up

contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is encountered, disturbed during, or generated during project construction.

2.12.2 Affected Environment

This section is based on the *Initial Site Assessment* (ISA) (February 2013). The following were conducted as part of the ISA:

- **Records Review:** The records review included the review of databases provided such as the South Coast Air Quality Management District (SCAQMD), State of California Department of Toxic Substances Control (DTSC), and the Orange County Health Care Agency (OCHCA) available from the federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal within the Study Area; and for off-site facilities up to a 1-mile (mi) radius from the Study Area. This also includes interviews and telephone conversations conducted with people knowledgeable about the area surrounding the proposed Study Area, as well as local regulatory personnel, and presents information obtained from historical resources to supplement regulatory agency database records.
- **Visual Survey:** The visual survey included information concerning the proposed project's location, physical setting, and geologic and hydrogeologic conditions. The visual survey also included observations made during the site reconnaissance of the Study Area and observations of adjacent parcels. On July 23, 2012, and August 22, 2012, site visits of the project area were conducted to assess its current land uses and to visually search for indications of surface and subsurface contamination.

The following hazardous materials are potentially of concern for the Study Area:

- **Soil and/or Groundwater Contamination within and adjacent to the Study Area:** Soil and/or groundwater contamination has been identified at properties that are proposed to be either partially or fully acquired as part of the Build Alternatives, or on adjacent properties adjacent to the project that may affect soil and/or groundwater within the Study Area. These properties are identified in Tables 2.12-1 and 2.12-2 respectively and shown in Figures 2.12-1 and 2.12-2.

- **Contaminants within Existing Railroad Right of Way:** Although no cases of accidental spills are associated with the railroad tracks located immediately south of the La Paz Road interchange, elevated concentrations of metals, petroleum hydrocarbons, and volatile organic compounds (VOCs) are commonly found in soil associated with railroad use. Based on current construction plans, railroad ties associated with the railroad are not planned to be disturbed. Therefore, wood-treated waste is not considered hazardous waste for the Build Alternatives.
- **Polychlorinated Biphenyls and Mercury:** Polychlorinated biphenyls (PCBs) and mercury are known hazardous materials found in coolants or lubricating oils used in some electrical transformers, light ballasts, electrical panels, and other similar equipment prior to 1976.
- **Aerially Deposited Lead:** Aerially deposited lead (ADL) is generally encountered in unpaved areas (or formerly unpaved areas) adjoining older roads primarily as a result of deposition from historical vehicle emissions. Interstate 5 (I-5) was depicted on historical topographic maps and aerial photographs by 1968, resulting in the exposure of the adjacent unpaved surficial soils to ADL. Therefore, there is a potential for ADL to be present in unpaved locations adjacent to the existing roadway right of way (ROW).
- **Lead Chromate:** Yellow traffic striping was observed along I-5 and along I-5 on-and off-ramps. Lead Chromate in yellow paint used for traffic striping prior to 1997 typically exceeds the hazardous waste criteria. It is possible for elevated lead chromate concentrations to be present within paint used in striping and other thermoplastic materials used along I-5 and associated roads.
- **Asbestos-Containing Materials:** The use of asbestos in many building products was banned by the United States Environmental Protection Agency (EPA) by the late 1970s; however, many asbestos-containing material (ACM) categories not previously banned may still be in use today. ACMs represent a concern when they are subject to damage that results in the release of fibers. Asbestos may be found in building materials such as rails, bearing pads, support piers, and expansion joint material in bridges, asphalt, and concrete within the expected disturbance limits of the Build Alternatives. Based on the construction date of the bridges within the disturbance limits, ACM may be present. In addition, small areas in the vicinity of the Study Area have a history of agricultural land use. Therefore, the potential exists for buried asbestos containing cementitious pipe or “transite” pipe to be present within the disturbance limits.

Table 2.12-1 Potential ROW Acquisition Properties with Hazardous Waste Concern

Map ID	Street Address	Business Name	Type of Operation	Assessor's Parcels Number	Acquisition Type	Type of Concern
A-1	28692 Camino Capistrano (within project limits)	Chevron	Gasoline station	637-231-01	Full – Alternatives 2 and 3	Closed regulatory case (OCHCA Case No. 92UT79). Therefore, this property is not considered a high-risk property to the project. However, the case was closed with known residual petroleum hydrocarbon concentrations. Therefore, there is still a potential for residual concentrations of hydrocarbon contaminated soils to be present on site. Due to the proximity of this facility to the Avery Parkway UC structure, it is likely that contaminated soil and groundwater may be encountered in the area during construction of the Build Alternatives.
A-2	28662 Camino Capistrano (within project limits)	Arco	Gasoline station	637-221-06	Partial/TCE - Alternatives 2 and 3	Open soil/groundwater case. Potential petroleum hydrocarbon contamination in soil and groundwater. Due to the proximity of this facility to the Avery Parkway UC structure, it is likely that contaminated soil and groundwater may be encountered in the area during construction of the Build Alternatives.
A-3	28681 Marguerite Parkway (within project limits)	Shell	Gasoline station	740-014-01	Full - Alternatives 2 and 3	Closed cases (OCHCA Case Nos. 86UT38, 91UT112, 04UT024). Therefore, this site is not considered a high-risk property. However, there is still a potential for residual concentrations of hydrocarbon-contaminated soils to be present on site. Due to the proximity of this facility to the Avery Parkway UC structure, it is likely that contaminated soil and groundwater may be encountered in the area during construction of the Build Alternatives.
	N/A (within project limits)	OCTA/SCRRA	Railroad ROW	N/A	Partial (Alternative 2 and 3)/TCE (Alternative 3)	The site is currently an active railroad corridor that generally contains potential metals, petroleum hydrocarbons, and VOCs in soil within or immediately adjacent to the railroad. Contaminated soil may be encountered during construction of the Build Alternatives.
A-4	25172 Cabot Road (within project limits)	76 Gasoline Laguna Hills Auto Spa	Gasoline station	620-031-26	Partial (Alternative 2 and 3)/TCE (Alternative 3)	Closed soil and groundwater case (OCHCA Case No. 90UT129). Therefore, not considered a high-risk property to the project. Potential residual petroleum hydrocarbon contamination.

Table 2.12-1 Potential ROW Acquisition Properties with Hazardous Waste Concern

Map ID	Street Address	Business Name	Type of Operation	Assessor's Parcels Number	Acquisition Type	Type of Concern
A-5	26001 La Paz Road (within project limits)	Arco	Gasoline station	619-272-05	Partial/TCE - Alternatives 2 and 3	Open case (OCHCA Case No. 88UT54). Known petroleum hydrocarbon-contaminated soil. Contaminated soil may be encountered during construction of the proposed project.
A-6	23852 El Toro Road (within project limits)	USA	Gasoline station	617-501-06	TCE - Alternatives 2 and 3	Closed cases (OCHCA Case Nos. 88UT067, 88UT18, and 03UT024). However, potential residual petroleum hydrocarbon contamination may be encountered in soils during construction of the Build Alternatives.

Source: Initial Site Assessment, Kleinfelder (March 2013).
ft = feet
N/A = not applicable
OCHCA = Orange County Health Care Agency
OCTA = Orange County Transportation Authority
PCE = tetrachloroethylene
ROW = right of way
SCRRA = Southern California Regional Rail Authority
TCE = trichloroethylene
UC = undercrossing
VOCs = volatile organic compounds

Table 2.12-2 Properties Adjacent to Project Limits with a Potential Hazardous Waste Concern

Map ID	Street Address	Business Name	Type of Operation	Assessor's Parcels Number	Acquisition Type	Type of Concern
B-1	26282 Oso Parkway (adjoins to the east approximately 75 ft outside project limits)	76	Gasoline Station	784-582-01	No acquisition - Alternatives 2 and 3	Open groundwater case; petroleum hydrocarbon groundwater contamination. Proposed work in this area involves the construction of tie back walls, which is not anticipated to encounter groundwater.
B-2	26302 Oso Parkway (adjoins to the east approximately 225 ft outside project limits)	Chevron	Gasoline Station	784-582-02	No acquisition - Alternatives 2 and 3	Closed regulatory case; potential residual petroleum hydrocarbon groundwater contamination. Proposed work in this area involves the construction of tie back walls, which is not anticipated to encounter groundwater.
B-3	26051 La Paz Road (adjoins to the east approximately 50 ft outside project limits)	Former Mobil Station	Former gasoline station	619-271-06	No acquisition - Alternatives 2 and 3	Open groundwater case. Potential residual petroleum hydrocarbon contamination may be present in groundwater. Due to the proximity of the site, contaminated groundwater beneath the La Paz UC structure may be encountered during construction.
B-4	Address unknown. I-5 at La Paz Road (within the project limits)	N/A	Kinder Morgan pipeline location	N/A	No acquisition - Alternatives 2 and 3	Closed soil/groundwater case. Potential residual petroleum hydrocarbon contamination from a release at I-5 and La Paz Road may be present in soil and groundwater at this facility. However, due to the proximity of the site, contaminated groundwater beneath the La Paz UC structure may be encountered during construction.
B-5	24201 El Toro Road (adjoins to the northeast approximately 75 ft outside the project limits)	Former service station	Former service station	617-053-05	No acquisition - Alternatives 2 and 3	Closed groundwater case; potential residual petroleum hydrocarbon contamination. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.
B-6	23991 El Toro Road (adjoins to the southwest approximately 300 ft outside the project limits)	Chevron	Service station	616-031-18	No acquisition - Alternatives 2 and 3	Open groundwater case. Known petroleum hydrocarbon contamination at the site. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.
B-7	23971 El Toro Road (adjoining to north approximately 50 ft outside project limits)	Shell	Gasoline station	616-032-04	No acquisition - Alternatives 2 and 3	Open groundwater case. Known petroleum hydrocarbon and chlorinated hydrocarbon groundwater contamination has been reported at this site. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.

Table 2.12-2 Properties Adjacent to Project Limits with a Potential Hazardous Waste Concern

Map ID	Street Address	Business Name	Type of Operation	Assessor's Parcels Number	Acquisition Type	Type of Concern
B-8	24312–24422 Rockfield Boulevard (adjoining to the northeast approximately 250 ft outside project limits)	Retail Business Park	Shopping center, including dry cleaners	617-501-04	No acquisition - Alternatives 2 and 3	Open groundwater case. Known chlorinated hydrocarbon contamination, primarily PCE in groundwater has been reported at this facility. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.
B-9	24012 Avenida de Carlota (within the project limits)	Former Arco gas station	Former service station	621-052-02	No acquisition - Alternatives 2 and 3	Groundwater case with unknown open/closed status residual petroleum hydrocarbon groundwater contamination. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.
B-10	23891 Bridger Road (Adjoins to the northeast approximately 75 ft outside project limits)	Chevron	Service station	616-033-02	No acquisition - Alternatives 2 and 3	Closed groundwater case; potential residual petroleum hydrocarbon contamination. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.
B-11	23771 El Toro Road (adjoins to the northeast approximately 650 ft outside project limits)	El Toro Mobil Mart	Service station	N/A	No acquisition - Alternatives 2 and 3	Open groundwater case; known petroleum hydrocarbon groundwater contamination. Due to the proximity, contaminated groundwater beneath the El Toro Road UC structure may be encountered during construction.

Source: Initial Site Assessment, Kleinfelder (March 2013).
ft = feet
N/A = not applicable
OCHCA = Orange County Health Care Agency
OCTA = Orange County Transportation Authority
PCE = tetrachloroethylene
ROW = right of way
SCRRA = Southern California Regional Rail Authority
TCE = trichloroethylene
UC = undercrossing
VOCs = volatile organic compounds

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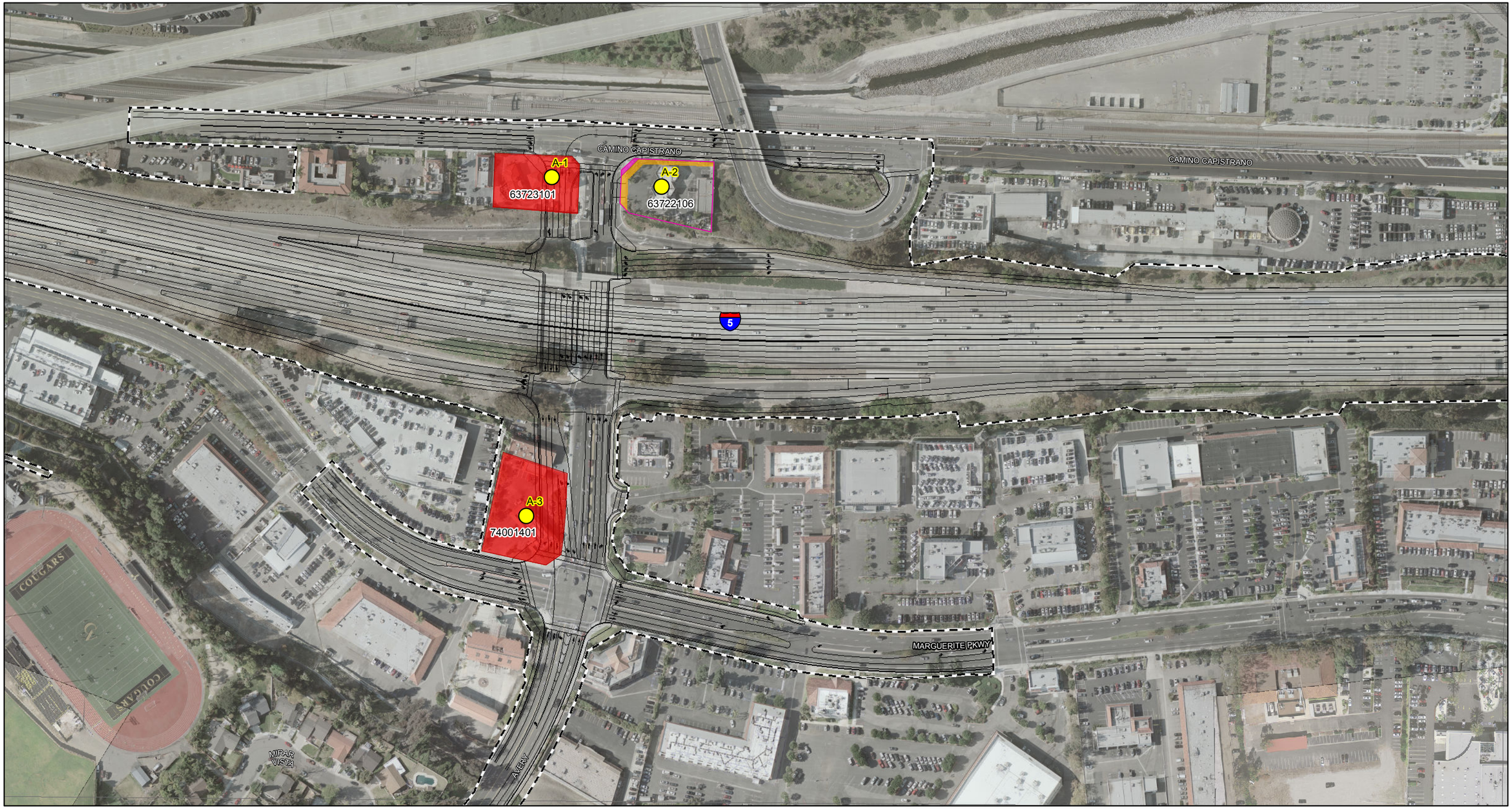

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 2
- Maximum Disturbance Limits

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SOURCE: TranSystems (6/2012)

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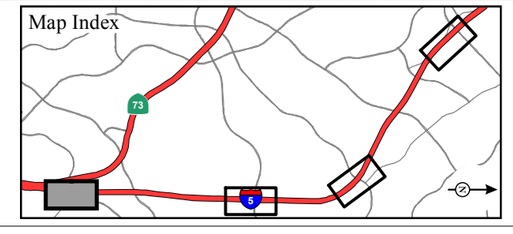

FIGURE 2.12-1
Sheet 1 of 4

I-5 Widening Project: SR-73 to El Toro Rd
Sites of Potential Concern Under
Alternative 2 (Preferred Alternative)

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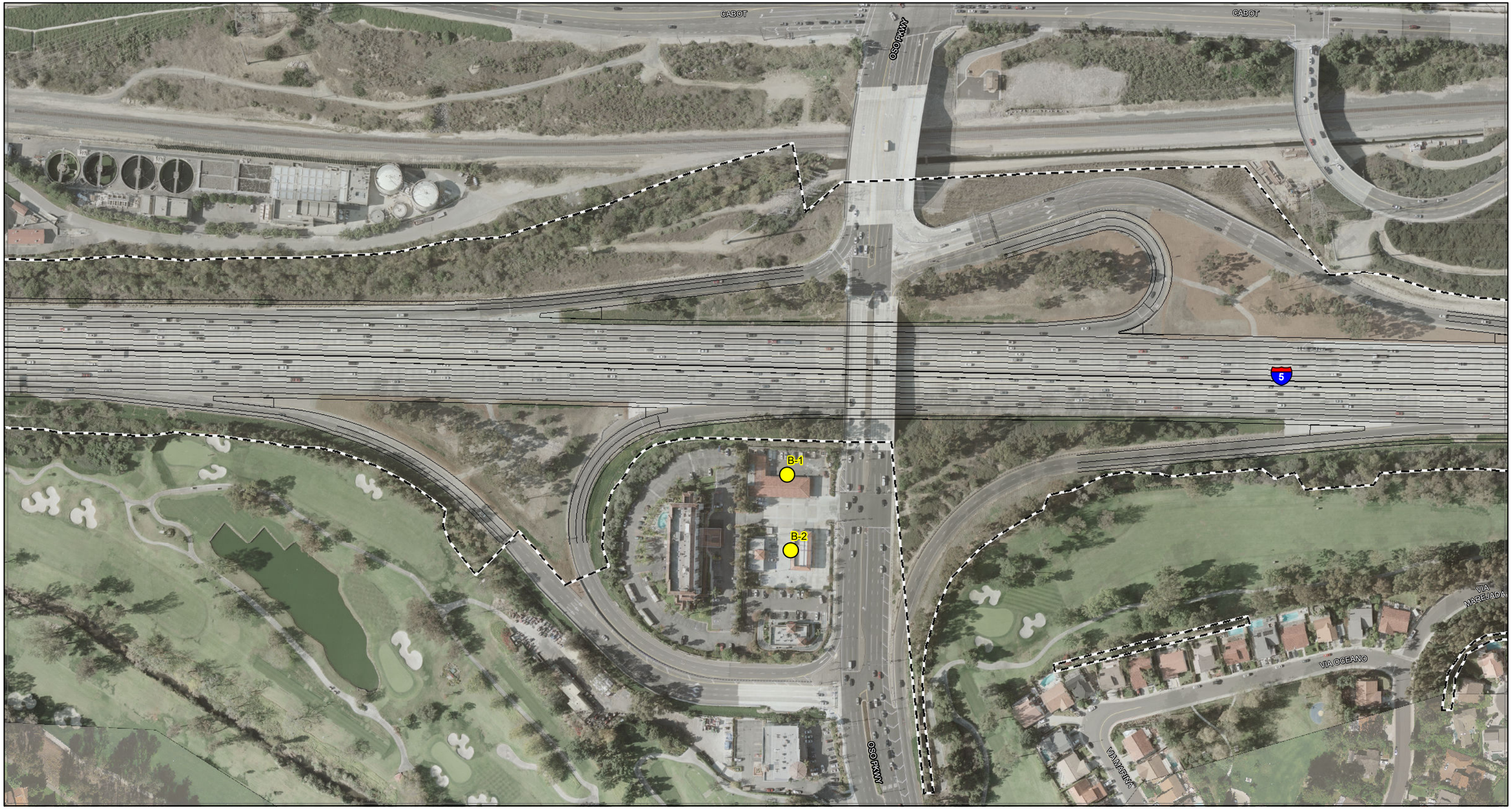

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 2
- Maximum Disturbance Limits

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SOURCE: TranSystems (6/2012)

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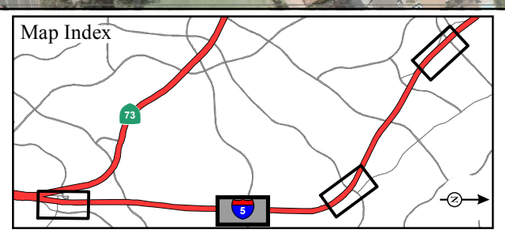

FIGURE 2.12-1
Sheet 2 of 4

I-5 Widening Project: SR-73 to El Toro Rd
Sites of Potential Concern Under
Alternative 2 (Preferred Alternative)

12-ORA-5 PM 12.4/18.9
EA# 0K0200

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CABOT
A-4
62003126
5
LA PAZ RD
B-4
OCTA/
SCRRA
78402139
A-5
61927205
B-3
MUIRLANDS BLVD
PERICLES
DELOS
DAPHNE WEST
ROBIN
LETO
LETO
LETO
DAPHNE EAST

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 2
- Maximum Disturbance Limits

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SOURCE: TranSystems (6/2012)

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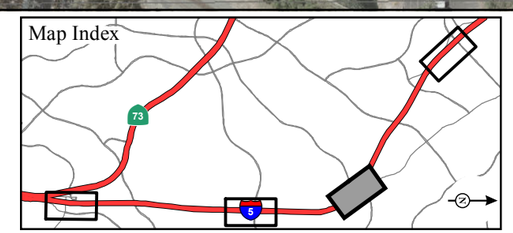

FIGURE 2.12-1
Sheet 3 of 4

I-5 Widening Project: SR-73 to El Toro Rd
Sites of Potential Concern Under
Alternative 2 (Preferred Alternative)

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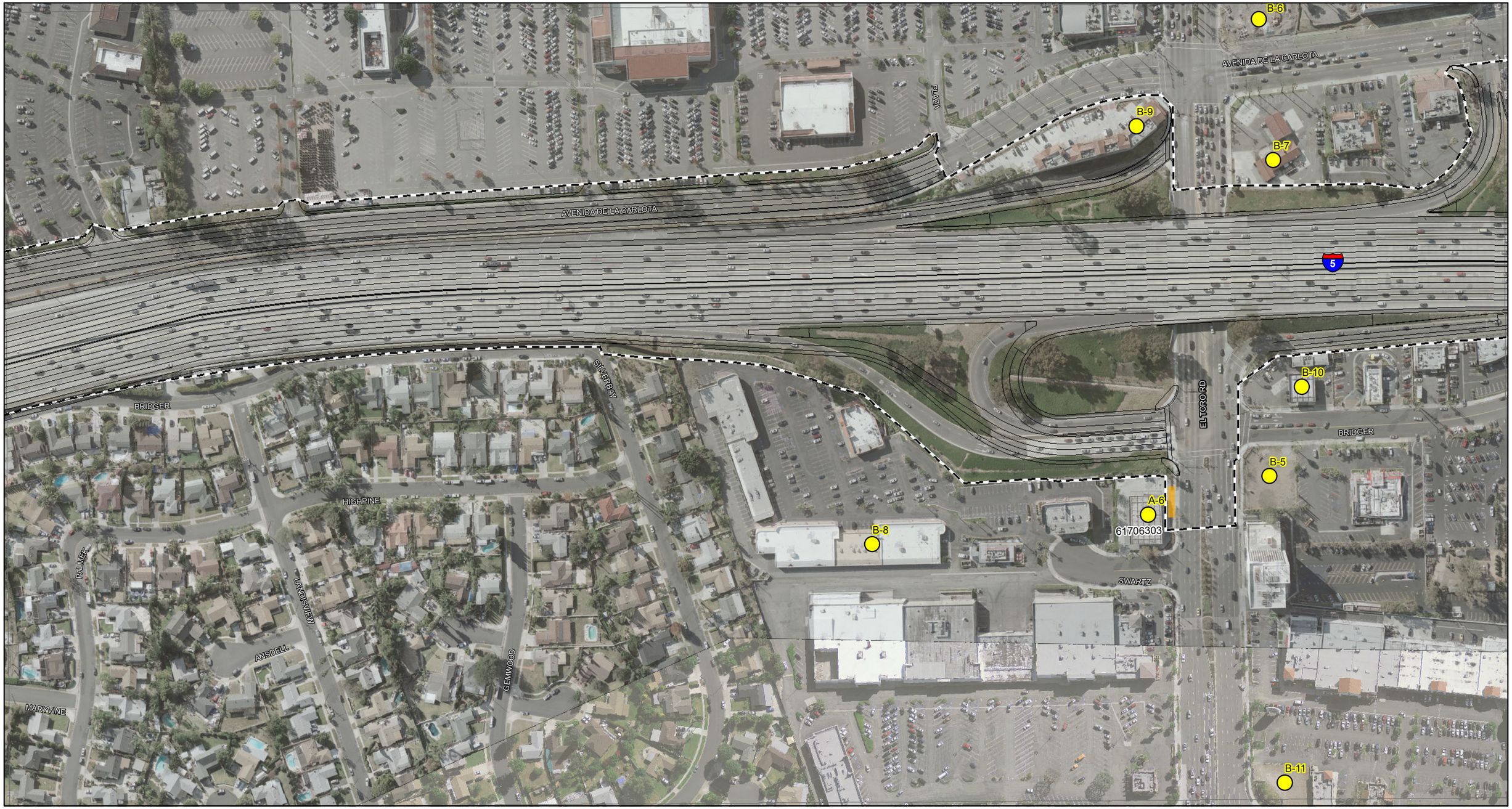

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 2
- Maximum Disturbance Limits

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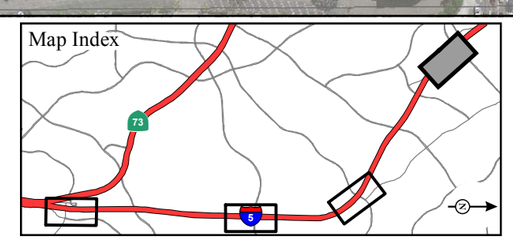

FIGURE 2.12-1
Sheet 4 of 4

I-5 Widening Project: SR-73 to El Toro Rd
Sites of Potential Concern Under
Alternative 2 (Preferred Alternative)

12-ORA-5 PM 12.4/18.9
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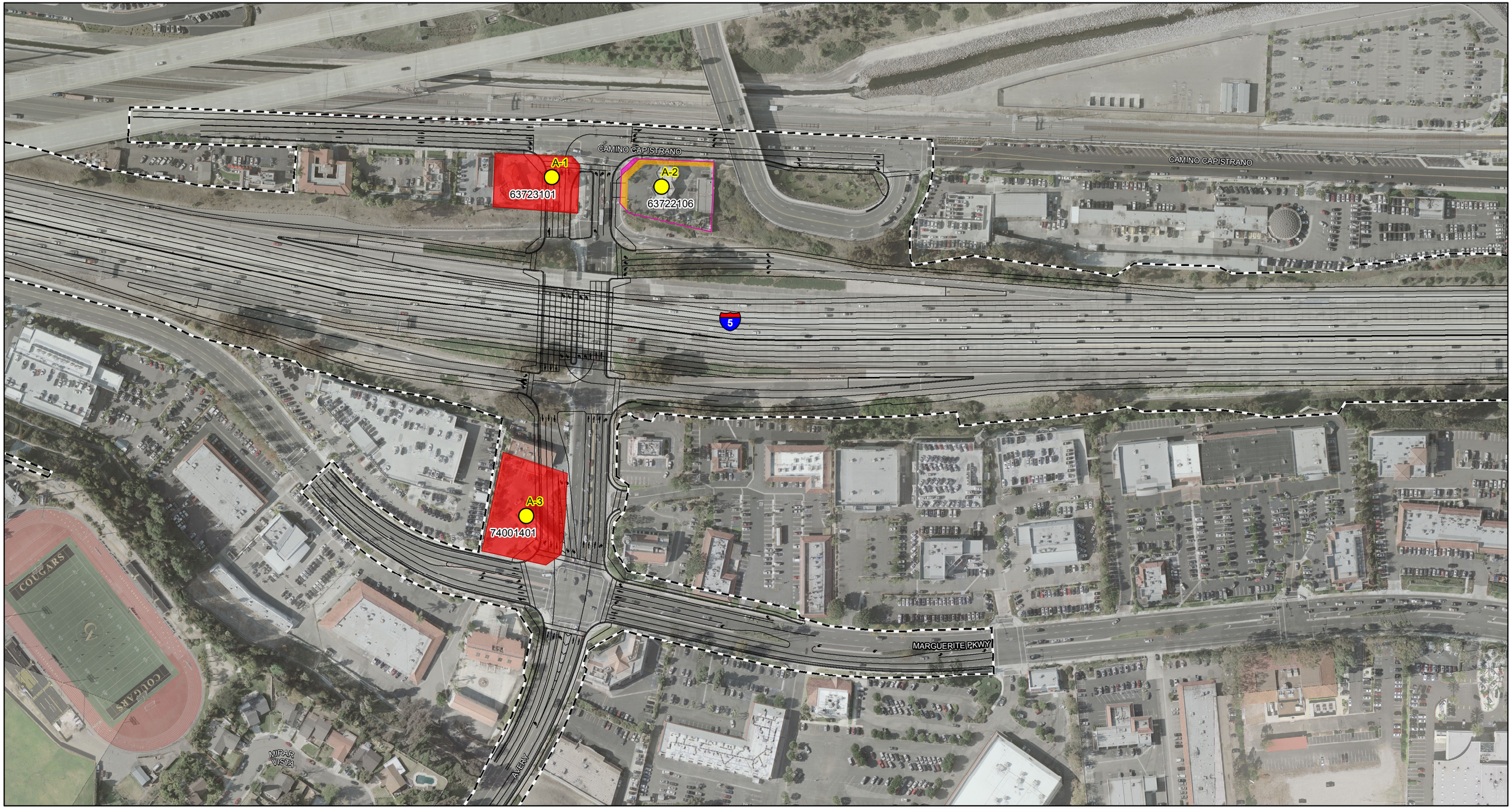

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 3
- Maximum Disturbance Limits

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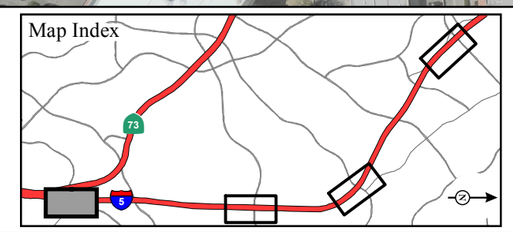

FIGURE 2.12-2
Sheet 1 of 4

I-5 Widening Project: SR-73 to El Toro Rd

Sites of Potential Concern Under Alternative 3

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LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 3
- Maximum Disturbance Limits

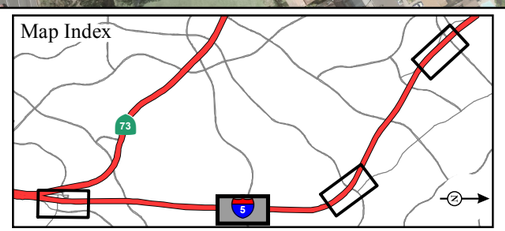

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FIGURE 2.12-2
Sheet 2 of 4

I-5 Widening Project: SR-73 to El Toro Rd

Sites of Potential Concern Under Alternative 3

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EA# 0K0200

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CABOT
A-4
62003126
5
LA PAZ RD
B-4
OCTA/
SCRRA
73402139
A-5
61927205
B-3
MUIRLANDS BLVD
PERICLES
DAPHNE WEST
ROBIN
LETO
LETO
LETO
DAPHNE EAST

LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 3
- Maximum Disturbance Limits

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SOURCE: TranSystems (6/2012)

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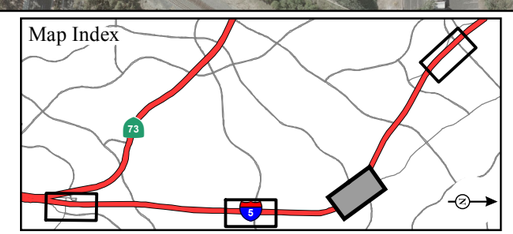

FIGURE 2.12-2
Sheet 3 of 4

I-5 Widening Project: SR-73 to El Toro Rd

Sites of Potential Concern Under Alternative 3

12-ORA-5 PM 12.4/18.9
EA# 0K0200

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LEGEND

- Potential Sites of Concern (refer to Table 2.12-1)
- Full Aquisition
- Partial Aquisition
- Parcel Outline for Partial Acquisition Parcels
- Temporary Construction Easement
- Design Alternative 3
- Maximum Disturbance Limits

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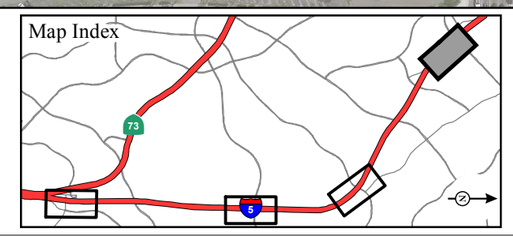

FIGURE 2.12-2
Sheet 4 of 4

I-5 Widening Project: SR-73 to El Toro Rd

Sites of Potential Concern Under Alternative 3

12-ORA-5 PM 12.4/18.9
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2.12.3 Environmental Consequences

2.12.3.1 Temporary Impacts

No Build Alternative – Alternative 1

The No Build Alternative would not involve ground or structure disturbance; therefore, no temporary effects related to hazardous waste materials would occur.

Build Alternatives – Alternative 2 (Preferred Alternative) and Alternative 3

Build Alternatives 2 and 3 would involve the disturbance of potentially contaminated soil and/or groundwater at the properties listed above in Table 2.12-1 and shown in Figures 2.12-1 and 2.12-2. These properties would be either fully or partially acquired as part of the Build Alternatives. As a result, Phase II Site Investigations would be conducted during the PA/ED phase by the consultant team to properly characterize the extent of the soil and groundwater contamination at these facilities.

In addition, 11 facilities identified in Table 2.12-2 and shown in Figures 2.12-1 and 2.12-2, located outside the Study Area, have contributed to known groundwater impacts. Due to the proximity of these sites, there is a potential that contaminated groundwater would be encountered during the widening or replacement of the following bridge locations:

- Avery Parkway Undercrossing (Bridge No. 55-0232)
- La Paz Road Undercrossing (Bridge No. 55-0234)
- El Toro Road Undercrossing (Bridge No. 55-0235)

Transite pipes may be located within the Study Area and could necessitate relocation as part of the Build Alternatives. Transite pipes are buried asbestos-containing cementitious pipe (transite), which was commonly used for water transport. Utility potholing will occur during the Plans, Specifications, and Estimates (PS&E) phase to confirm the location of existing utilities to determine the need for relocation and existing pipe materials.

In addition, the bridges that would be affected by the Build Alternatives were constructed or modified between the years 1959 and 1996. ACMs may also be present in existing bridges that may be widened or replaced as part of the proposed project. These bridges are identified in Table 2.12-3.

Building structures that would be demolished or renovated as part of the proposed project may contain ACMs, PCBs, mercury, and chlorofluorocarbons (CFCs).

Table 2.12-3 Bridges Affected by Build Alternatives

Bridge Name	Bridge Number	Year Constructed	Year Widened	Proposed Work	Depth to Groundwater (feet below natural ground surface)
Avery Parkway UC	55-032	1952	1969	Demolish and reconstruct under Build Alternatives 2 and 3	5
Crown Valley Parkway UC	55-0444	1969	1980	Construct tieback walls for NB and SB I-5 under both Build Alternatives 2 and 3	5
Oso Creek Bridge	55-0233	1959	1996	Structure widening for NB and SB I-5 under Build Alternatives 2 and 3	4
Oso Parkway OC	55-0509	1971	N/A	Construct tieback walls for NB and SB I-5 under Build Alternatives 2 and 3	Not reported
El Toro OH	55-0221/ 55-0221S	1959/1969	1996/N/A	Widen NB I-5 and replace NB off-ramp to La Paz Road under Build Alternative 3	10
La Paz Road UC	55-0234/ 55-0234S	1996/N/A	1996/N/A	Demolish and reconstruct to accommodate proposed widening under Build Alternatives 2 and 3	10
Alicia Parkway OC	55-0591	1974	N/A	Construct tieback wall for NB I-5 under Build Alternatives 2 and 3	Not reported
Aliso Creek Bridge	55-0014	1959	1996	Structure widening for SB I-5 under Build Alternatives 2 and 3	10
Los Alisos Boulevard OC	55-0631	1984	N/A	Demolish and reconstruct to accommodate proposed widening under Build Alternatives 2 and 3	10
El Toro Road UC	55-0235	1969	1996	Structure widening for NB and SB I-5 under Build Alternatives 2 and 3	10

Source: Initial Site Assessment, Kleinfelder (February 2013).
I-5 = Interstate 5
N/A = not applicable
NB = northbound
OC = overcrossing
OH = overhead
SB = southbound
UC = undercrossing

PCBs may be present in pad- and pole-mounted transformers observed within the Study Area that are owned by Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E). These transformers were observed on properties that would be fully or partially acquired as part of the Build Alternatives. These properties include:

- 28692 Camino Capistrano (full acquisition) – Build Alternatives 2 and 3
- 28681 Marguerite Parkway (full acquisition) – Build Alternatives 2 and 3
- 28662 Camino Capistrano (partial acquisition and TCE) – Build Alternatives 2 and 3
- 27692-27694 (partial acquisition under Build Alternative 3 only), 27652 (partial acquisition under Build Alternative 3 only), 27622 (partial acquisition/TCE under Build Alternatives 2 and 3), 27592 (partial acquisition/TCE under Build

Alternatives 2 and 3), and 27392 Camino Capistrano (partial acquisition/TCE under Build Alternatives 2 and 3)

None of the pad- and pole-mounted transformers observed during the site reconnaissance appeared to be leaking. Any leaking transformers are considered a PCB hazard unless tested and confirmed otherwise, and must be handled accordingly.

Due to the historical use of lead in gasoline, lead may exist in soils near heavily traveled roads. This specific type of lead is referred to as ADL. The presence of ADL in soils may pose a potential concern to the environment and on-site workers during construction activities and may result in disposal considerations if removed off site.

Immediately south of the La Paz Road interchange, a portion of I-5 within the Study Area crosses an existing railroad right-of-way. Soils along the railroad tracks within the project disturbance limits are assumed to be impacted by elevated concentrations of metals, petroleum hydrocarbons, and VOCs. During grading or excavation within the railroad right-of-way, hazardous concentrations of the contaminants listed above could be released into the environment and affect construction workers.

Yellow traffic striping and pavement-marking materials (paint, thermoplastic, permanent tape, and temporary tape) that would be removed as part of the Build Alternatives may contain elevated concentrations of metals such as lead. Removal of these materials during project construction could affect construction workers and the surrounding environment.

2.12.3.2 Permanent Impacts

No Build Alternative – Alternative 1

The No Build Alternative would not change the existing physical environment; therefore, no permanent effects would occur. As currently exists, routine maintenance activities would continue and would be required to follow applicable regulations with respect to handling and disposal of potentially hazardous materials.

Build Alternatives – Alternative 2 (Preferred Alternative) and Alternative 3

Routine maintenance activities during operation of the proposed project would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials.

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

The avoidance and minimization measures below apply to Build Alternatives 2 and 3 and would avoid and/or minimize potential effects related to hazardous materials and hazardous wastes during construction and operation of the Build Alternatives.

HAZ-1 Prior to initiation of Project Specifications and Estimates (PS&E), a qualified consultant will conduct a Phase II Site Investigation (SI) for the properties with potential contamination that would be either partially or fully acquired by the proposed project. These properties include:

- Arco gasoline station (28662 Camino Capistrano)
- Chevron gasoline station (28692 Camino Capistrano)
- Shell gasoline station (28681 Marguerite Parkway)
- 76 gasoline station/Laguna Hills Auto Spa (25172 Cabot Road)
- Arco gasoline station (26001 La Paz Road)
- USA gasoline station (23852 El Toro Road)
- Orange County Transportation Authority (OCTA)/Southern California Regional Rail Authority (address not available)

The SI would identify any Recognized Environmental Concerns (RECs) associated with on- or off-site releases and provide appropriate minimization, avoidance, and mitigation measures to prevent unnecessary exposure to contaminants during construction activities. Depending on the results of the SIs, subsequent sampling to determine the presence and/or absence of contaminated soil and/or groundwater or to characterize the extent of contamination on site may be required. The results of these studies will be used as part of the evaluation of any property to be acquired.

HAZ-2 Nine facilities adjacent to or in close proximity to the Study Area have reported releases that may have impacted soil and groundwater underneath the Avery Parkway undercrossing (UC) (Bridge No. 55-0232), La Paz Road UC (Bridge No. 55-0234), and El Toro Road UC (Bridge No. 55-2035). Since groundwater is anticipated to be encountered and dewatering is anticipated to be necessary during construction at these three bridge locations, prior to initiation of Project Specifications and Estimates (PS&E), the Orange County

Transportation Authority (OCTA) would ensure that a qualified consultant conducts Phase II Site Investigations (SIs) to determine whether the presence of petroleum hydrocarbons; volatile organic compounds (VOCs), including fuel oxygenates; and chlorinated hydrocarbons (at El Toro Road UC only) occur in groundwater near these structures. If contaminated groundwater is encountered, appropriate remediation will be identified and responsibility for clean-up determined. Any remediation required by the proposed project would be included in the Plans, Specifications, and Estimates (PS&E).

HAZ-3 Prior to initiation of Project Specifications and Estimates (PS&E) phase, the Orange County Transportation Authority (OCTA) would ensure that a certified consultant conducts predemolition asbestos surveys of any bridges that would be renovated or demolished during project construction. This survey would be conducted in accordance with the United States Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 Code of Federal Regulations (CFR), and South Coast Air Quality Management District (SCAQMD) Rule 1403. Additionally, notification of the SCAQMD prior to any structure renovation or demolition is mandatory according to Rule 1403 (d)(1)(B).

If Asbestos Containing Materials (ACM) need to be handled during construction, the Plans, Specifications, and Estimates (PS&E) will include measures addressing handling of these materials.

Access to parcels that would be acquired as part of the proposed project would not be granted until the right of way (ROW) process is complete; therefore, prior to completion of the PS&E phase and before any ground disturbance, demolition, or renovation activities, a certified consultant will conduct predemolition surveys for buildings that will be renovated or demolished. These surveys will include asbestos, lead-based paint (LBP), polychlorinated biphenyls (PCB), mercury, and chlorofluorocarbon (CFC) surveys. These surveys would be conducted in conformance with the EPA NESHAP 40 CFR and SCAQMD Rule 1403. Additionally, notification of the SCAQMD prior to any building structure renovation or demolition is mandatory in accordance with Rule 1403 (d)(1)(B).

The PS&E will require the contractor to properly dispose of any materials from building structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate State-certified landfill facility.

HAZ-4 Prior to the completion of the Plans, Specifications, and Estimates (PS&E) phase and before any ground disturbance activities, transformer locations will be confirmed and transformers that would be removed or relocated be sampled by Southern California Edison (SCE) and San Diego Gas & Electric Company (SDG&E) for potential polychlorinated biphenyls (PCB).

If PCB-containing materials require removal, the PS&E will address appropriate methods for handling and disposal of these materials.

HAZ-5 Prior to the completion of Plans Specifications and Estimates (PS&E), soil sampling will be conducted for aerially deposited lead (ADL) in unpaved locations adjacent to the existing roadway right of way (ROW) within the Study Area.

If ADL is found, the PS&E will address appropriate methods for handling and disposal this material.

HAZ-6 During the Plans, Specifications, and Estimates (PS&E) phase, any yellow traffic striping and pavement marking materials to be removed will be tested. If contaminated, during construction, the PS&E would require the removal, and disposal of any yellow traffic striping and pavement marking materials in accordance with the California Department of Transportation (Caltrans) Construction Manual, Chapter 7 106.

HAZ-7 Prior to initiation of Project Specifications and Estimates (PS&E) phase, the Orange County Transportation Authority (OCTA) will ensure that a Phase II Site Investigation (SI) is conducted to assess the potential effect of the soil adjacent to the railroad tracks that would be disturbed during construction. This soil would be sampled for the presence of elevated concentrations of metals, petroleum hydrocarbons, and volatile organic compounds (VOCs) to determine

whether the soils require special handling and disposal during construction.

If the SI results indicate that the impacted soil and groundwater need to be handled during construction, OCTA will ensure that an appropriate non-SSP would be prepared during the Plans, Specifications, and Estimates (PS&E) phase to address the handling of these materials.

HAZ-8 If hazardous materials contamination or sources are suspected or identified during project construction activities, an environmental professional would evaluate the course of action required. This course of action will follow the Unknown Hazards Procedures described in Chapter 7 of the California Department of Transportation (Caltrans) Construction Manual (August 2006).

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