# HAZARDOUS MATERIALS

## AFFECTED ENVIRONMENT

A hazardous materials evaluation for the construction and operation of the proposed freeway was conducted to determine whether:

- contaminated soils would be present near potential hazardous materials sites
- underground storage tanks would need removal or relocation because of freeway construction
- wells and dry wells would be present, providing unintended conduits for preexisting or accidental releases from the construction process to groundwater supplies
- during construction activities, workers could encounter soil contaminated with hazardous materials that had not previously been identified

Aerial photographs and topographic maps indicate that development began in the northwestern section of the Study Area in the late 1950s. Several petroleum tanks and process buildings were located on the southwestern corner of 51st Avenue and Van Buren Street. The transportation system at that time consisted of light-duty roads and secondary highways.

Aerial photography since the 1980s indicates increased development in the entire Study Area. Specific points of interest in the 1980s-era aerial photography include:

- development of the Phoenix WWTP, located between 91st and 83rd avenues
- a sewage disposal area, located west of 91st Avenue between Buckeye and Lower Buckeye roads
- an increase in the number of tanks and buildings in the area bordered by 59th Avenue to the west, Van Buren Street to the north, 43rd Avenue to the east, and Buckeye Road to the south
- a gravel pit located west of I-10, south of Pecos Road (near Firebird International Raceway)

Heavy industrial and commercial land uses are now situated along I-10 between 19th Avenue and Litchfield Road and between Buckeye and McDowell roads. In the central and western portions of the Western Section, agricultural and residential are the predominant zoning classifications. Residential and undeveloped lands predominate in the Eastern Section.

## ENVIRONMENTAL CONSEQUENCES

For this assessment (findings presented in Table 4-50), hazardous materials sites were classified as low-priority, medium-priority, and high-priority, as follows:

- **Low-priority** sites are those having few indications of potential for release of hazardous materials. On some occasions, sites that have had a hazardous materials issue in the past but have been remediated with approval of the State environmental agency (or EPA) may qualify as low-priority. Examples of low-priority sites include undeveloped or agricultural property, residential property, or benign commercial properties such as office buildings, warehouses, distribution facilities, or municipal facilities with no listed violation.
- **Moderate-priority sites** are those having some indications of possible hazardous materials issues. A moderate-priority site may appear on a database as having a permit to handle hazardous materials, but has recorded no violations to date. Another way that a site could be interpreted as a moderate priority would be if the environmental records search indicated no listing, but the site is an auto repair facility with visible surface staining. Examples of moderate-priority sites include auto repair garages, welding shops, or manufacturing facilities with minor listings in the environmental database.
- **High-priority sites** are those with high potential for releasing hazardous materials to the soil or groundwater, or those that have a recorded release issue. Examples of high-priority sites include current service stations, bulk fueling terminals, sites listed in the environmental database, or a known release that has not been remediated.

Sites that have more than one priority level are included in each appropriate priority column of Table 4-50 according to the highest priority level ranking.

### Impacts on Action Alternatives, Western and Eastern Sections

Table 4-50 lists the number of potential hazardous materials sites by action alternative. The W59 (Preferred) Alternative would encounter the most high-priority sites. This is expected because the W59 Alternative is the closest of the action alternatives in the Western Section to urbanized Phoenix. The W59 Alternative would closely follow, along areas of commercial and industrial uses, the same general freeway alignment that has been accommodated in various planning decisions for over 20 years.

**Table 4-50** Hazardous Materials Impacts, Action Alternatives

| Action Alternative | Number of Potential Hazardous Materials Sites | | |
|---|---|---|---|
| | Low-priority | Medium-priority | High-priority |
| **Western Section** | | | |
| W59 | 8 | 3 | 5 |
| W71 | 13 | 4 | 4 |
| W101 | 12 | 5 | 1 |
| **Eastern Section** | | | |
| E1 | 0 | 0 | 0 |

*Note:* All options under the W101 Alternative would affect the same hazardous materials sites.

The identified sites and specific recommendations for remediation are presented in the technical report *Draft Initial Site Assessment*. It is important to note that approximately 1.5 mile of the W59 Alternative has no regulatory database coverage (approximately between Roosevelt Street and Buckeye Road). A field review conducted in 2009, however, indicated that few, if any, additional sites are likely to be identified in this section of the W59 Alternative. Several wells would be located within the action alternative alignments. (See the section, *Water Resources*, beginning on page 4-93, to learn more about proposed action effects on water wells.)

## Action Alternatives, Western Section

### W59 (Preferred) Alternative

The W59 Alternative would potentially affect five high-priority sites (including the West Van Buren Water Quality Assuance Revolving Fund [WQARF] site, discussed below) and three medium-priority sites. Each site is located either within the proposed W59 Alternative footprint or within a buffer area around the proposed footprint. Consideration of buffer zones is important because contaminants may travel laterally in the subsurface. Three of the high-priority sites are current service stations (Pilot Travel Center, Petrostop, and Circle K) and one is a Resource Conservation and Recovery Act large-quantity generator (Onyx Environmental Services).

Another high-priority site is the West Van Buren WQARF site, found within the proposed footprint but not within the construction zone, which is known to contain six contaminants in the groundwater at a depth of 30 to 60 feet. The contaminants with concentrations that exceed regulatory standards are tetrachloroethylene; trichloroethylene; 1,1-dichloroethylene; cis-1,2-dichloroethylene; 1,1-dichloroethane; and chromium.

### W71 Alternative

The four high-priority sites are three current service stations (Arco, Flying J Travel Plaza, and Danny's Truck Stop) and the West Van Buren WQARF.

The West Van Buren WQARF site, found within the proposed footprint but not within the construction zone, is known to contain six contaminants in the groundwater at a depth of 30 to 60 feet. The contaminants with concentrations that exceed regulatory standards are tetrachloroethylene; trichloroethylene; 1,1-dichloroethylene; cis-1,2-dichloroethylene; 1,1-dichloroethane; and chromium.

### W101 Alternative

The one high-priority site is a current service station (SuperStar Chevron).

## Action Alternative, Eastern Section

### E1 (Preferred) Alternative

The E1 Alternative would not affect any known hazardous materials sites.

## No-Action Alternative

No direct hazardous materials impacts are associated with the No-Action Alternative.

# MITIGATION

When possible, avoidance or minimization is the primary mitigation for identified hazardous materials sites. The following list describes potential mitigation measures to avoid, reduce, or otherwise mitigate environmental impacts associated with the proposed action.

## ADOT Design Responsibilities

- The *Draft Initial Site Assessment* recommends a site-specific Phase I assessment be performed prior to acquisition of each site. Based on preliminary information gathered for the corridor-wide Phase I assessment, none of the high-priority sites are believed to have hazardous materials issues significant enough to warrant avoidance of acquisition.
- ADOT would review the status of open regulatory cases relating to hazardous materials releases during the design phase. The responsible parties associated with any open regulatory cases would be determined at that time. ADOT would coordinate with the responsible parties to determine the status of any required cleanup actions.
- ADOT would conduct asbestos and lead-paint inspections of structures to be demolished and require abatement measures during demolition.
- The ADOT project manager would contact the ADOT EPG hazardous materials coordinator to determine the need for additional site assessment.

## ADOT District Responsibilities

- Staging for construction activities near wells or dry wells would be located in areas where accidental releases of potential contaminants would be minimized and any accompanying threat to groundwater resources minimized.
- In cooperation with the contractor, ADOT's Construction District would develop and coordinate emergency response plans with local fire authorities, local hospitals, and certified emergency responders for hazardous materials releases or chemical spills.
- If suspected hazardous materials were encountered during construction, work would cease at that location and the ADOT Engineer would arrange for proper assessment, treatment, or disposal of those materials.

## ADOT Right-of-Way Group Responsibilities

- Asbestos- and lead-paint-containing materials identified in structures to be demolished would be properly removed and disposed of prior to demolition.
- Any existing aboveground storage tanks or underground storage tanks would be removed or relocated.

## Contractor Responsibilities

- The contractor would develop an on-site health and safety plan for construction activities.
- Staging for construction activities near dry wells would be located in an area where, if potential contaminants were to be accidentally released, any accompanying threat to groundwater resources would be minimized.

- If relocation or removal of an AST or UST were necessary, the removal/relocation activities would be addressed in accordance with the applicable laws and regulations of the State of Arizona.
- A hazardous waste management plan should be prepared for the handling of hazardous materials during construction.
- Use of asbestos-containing construction materials would be avoided during construction.
- The contractor would develop and coordinate emergency response plans with local fire authorities, local hospitals, and certified emergency responders for hazardous materials releases or chemical spills.
- If suspected hazardous materials were encountered during construction, work would cease at that location and the ADOT Engineer would be contacted to arrange for proper assessment, treatment, or disposal of those materials.

## CONCLUSIONS

All action alternatives in the Western Section would potentially interact with known hazardous materials sites. The W59 (Preferred) Alternative would cross the most high-priority sites. The E1 (Preferred) Alternative in the Eastern Section would not affect any known sites. No substantial differences were identified when comparing the action alternatives; implementation of any of the action alternatives would not introduce unique impacts related to hazardous materials that would pose a threat to the human environment. Appropriate design, as commonly applied to projects of the size and features of the proposed action, would effectively mitigate hazardous materials-related effects.

Under the No-Action Alternative, no project-related interaction with hazardous materials would likely occur; continuing urban development over the long term would, however, possibly result in disturbance of known sites.

### Transport of Hazardous Materials on the Regional Freeway System

During public meetings for the proposed action, comments were received requesting restriction of the transportation of hazardous materials if the proposed action were constructed. Questions were raised about how restrictions would be imposed and why some state routes are restricted from hazardous materials transport.

Carriers of hazardous and radioactive cargo are responsible for planning their transportation routes. To plan hazardous material transportation routes, carriers use lists of designated and restricted routes, by state, published in the *Federal Register*.[40]

The federal government has given the States the responsibility of developing, implementing, and maintaining the list of designated and restricted routes. In Arizona, ADOT is responsible for the route designations and the Department of Public Safety is responsible for the enforcement of restrictions on the transport of hazardous materials along these routes. Also, local governments are given the responsibility for developing, implementing, and maintaining the list of designated and restricted routes within their respective jurisdictions; therefore, if a local government requests that ADOT restrict hazardous material transport through a particular area, it is ADOT's responsibility to analyze and adopt or reject that request. The agency's decision is based on a number of considerations, including, but not necessarily limited to, public safety and the presence of acceptable alternative routes (49 U.S.C. § 5112).

In Arizona, three routes are restricted for all hazardous materials (including radioactive materials):

- The I-10 Deck Park Tunnel in Phoenix from 7th Street exit to 7th Avenue exit – The restriction has been in place since the tunnel opened to traffic in 1990. ADOT imposed the restriction with involvement from the City of Phoenix, in particular the Phoenix Fire Department, because of the perceived increased danger of fires, explosions, and/or the release of toxic gases in a confined area. I-17 provides a close and suitable alternative to I-10 in this area.
- The exit ramp from U.S. Route 60 (US 60) (eastbound) to SR 101L (southbound) – The restriction was the result of constrained ramp geometry.
- SR 202L from MP 8.33 (McClintock Drive exit) to MP 11.07 (Dobson Road exit) – The restriction was the result of the freeway passing over a linear segment of the Salt River on an extreme skew for approximately a mile, with most of the bridge over the riverbed. The bridge has deck drains that discharge directly into the Salt River. The cost of collecting and retaining all drainage from the bridge was determined to be excessively high (and an engineering challenge); therefore, restriction of hazardous material from SR 202L was an environmental stipulation.

A local agency could request that ADOT restrict hazardous material routing on the proposed action; ADOT would, however, be required to analyze and adopt or reject the request based on its merits. Unless requested by a local agency or unless ADOT made the decision to restrict the transport of hazardous materials on the proposed action, the proposed road would be available for hazardous material transport.

Emergency responders would address the construction of the proposed freeway by amending the local emergency response plan to include the facility. This would include emergency response on the road and alternative routes for diversion of traffic in the event that a hazardous materials incident occurred along the roadway.

ADOT has made several formalized studies of hazardous materials transport in Arizona over the years. A 1986 study showed that the two most frequently shipped hazardous materials in Arizona are gasoline and paint products. ADOT has a continuing commitment to studying hazardous materials transport in the state. Both ADOT and the Arizona Emergency Response Commission are studying current hazardous materials traffic patterns in Arizona. The results of these studies will increase safety, improve emergency response planning, and provide objective data for hazardous materials routing.