2017 REPORT ON

Estimated Direct Site Remediation Costs for National Priorities List and State Orphan Sites

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

STATE OF CALIFORNIA

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This report is prepared pursuant to Health and Safety Code Section 25173.7(c), which requires the Department of Toxic Substances Control to submit a report on estimated direct site remediation costs for the Site Remediation Account.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Department of Toxic Substances Control (DTSC), as one of its core functions, is responsible for cleaning up contaminated properties throughout the State of California. An annual Budget Act item transfers funds into the Site Remediation Account (SRA) and appropriates resources for this purpose. This report provides DTSC's estimate of the funding needed for fiscal year (FY) 2017/18 to FY 2019/20 from the SRA for direct site remediation costs at state and federal sites where no responsible party exists to pay for such work.

Historically, the Health and Safety Code expressed the Legislature's intent that funds deposited in the SRA be appropriated in the annual Budget Act using a fixed formula. In 2016, the Legislature amended the Health and Safety Code to instead convey the Legislature's intent that the funds deposited in the account be appropriated in the annual Budget Act each year in an amount that is sufficient to pay for estimated costs for direct site remediation at both federal Superfund sites and at state orphan sites.

The Health and Safety Code authorizes use of funds from the SRA for the following purposes:

Federal Cleanup Sites

- To expend funds to provide the state's share for federal National Priority List (NPL) sites (federal Superfund sites);

State Orphan Sites

- To take a response action when a potentially responsible party (PRP) is non-compliant with an issued order;
- To take a response action when no PRP is identified;
- To take a removal or remedial action when there may be an imminent and substantial endangerment to the public health or the environment; and
- To verify a suspected hazardous substance release, i.e., site discovery.

To ensure these actions are taken, DTSC enters into agreements with the United States Environmental Protection Agency (US EPA) for the state's share of costs at NPL sites and contracts out to perform the site remediation work.

DTSC's total estimated direct site remediation costs for state obligations at NPL sites and state orphan sites for the 2017 budget year and two out years is summarized in the table below and detailed in Tables 2, 3, and 5a-5e.

Total Estimated Direct Site Remediation Costs
($ in thousands)

	FY 2017/18	FY 2018/19	FY 2019/20
NPL Obligation	$3,650	$5,770	$13,177
Orphan Estimate	$16,020	$12,244	$10,526
Total Estimate	$19,670	$18,014	$23,703

The May Revision proposes to fully fund the state's NPL obligations for the budget year, as well as Priority 1A, 1B, and Priority 2 state orphan sites where work has already begun. The May Revision increases funding from the historic $10 million provided in recent years to approximately $14 million and prioritizes the expenditures based upon public health and safety risks.

BACKGROUND

DTSC estimates there are approximately 9,800 contaminated sites across the state. Many of these sites, especially sites like dry cleaners and plating shops that generate significant quantities of waste water and solvents, have likely already impacted groundwater designated for crops or drinking water or are migrating towards priority groundwater reserves. These same sites can also release toxic vapors from underground contamination into buildings where people work and live or children study and play. At the majority of these sites, the US EPA or the state identifies PRPs to fund the investigation and complete the cleanup. However, at some of these sites the PRP refuses to pay, cannot pay, or cannot be identified. In situations where an imminent or substantial threat to public health or the environment exists, the government has the authority to use public funding to abate the environmental threat.

Activities Associated with NPL and Orphan Sites

These publicly-funded sites are located in areas throughout the State of California, including urban, rural, and suburban communities. They cover a wide range of operations, such as industrial manufacturing, dry cleaning, metal plating, wood treating, pesticide manufacturing and storage, and mining. All of these sites have one element in common: hazardous substance contamination. This contamination may harm public health and the environment by contaminating water supplies, soil, air, or wildlife habitat. Action must be taken to protect the communities where these sites are located.

A majority of these publicly-funded sites are located in areas identified by the state as environmental justice communities including Bell Gardens, Commerce, Bakersfield, El Monte, Los Angeles, and Oakland. These communities are identified using CalEnviroScreen 3.0, a tool that applies a science-based method for evaluating multiple pollution sources in a community while accounting for a community's vulnerability to the pollution's adverse effects. Environmental justice communities are defined as those communities with CalEnviroScreen scores in the top 25% of communities across the state. Maps on pages 17 and 18 of this report illustrate the location of NPL and state orphan sites throughout the state. Each map also contains an overlay of communities around sites with CalEnviroScreen scores within the top 25%. Finally, the maps provide information on the relative amount of funds spent at each site in FY 2014/15.

Funding History

The annual Budget Act transfers approximately $10 million from TSCA to support the corresponding annual appropriation from the SRA. DTSC has fully expended each year's appropriation to pay for investigation and cleanup work on NPL and state orphan sites as funding allowed. However, the funds allocated have not met the historic demand. For example, in FY 2016/17, DTSC project managers submitted estimated, site-specific direct site remediation costs of more than two times the SRA appropriation to conduct work at NPL and state orphan sites. Limited resources for this work has created a backlog, and the impact is that DTSC can only perform the most critical work

These publicly-funded cleanups are separated into two categories: federally-funded NPL sites and state orphan sites.

FEDERALLY-FUNDED NPL SITES

In partnership with the US EPA, DTSC acts on behalf of the State of California to remediate sites listed on the NPL.[1] NPL sites are among the most heavily contaminated and difficult to clean up toxic waste sites in the nation. When no viable PRPs can pay for work at these sites, the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorizes the investigation of the site to be paid for with federal funds and for response actions to be paid for with a mix of federal and state funds.

A letter[2] recently sent from US EPA, Region 9's Superfund program to DTSC details the state's obligation under federal law as well as US EPA's legal authority to enforce these financial obligations. (Letter appended to this report.) Under CERCLA, at sites where no viable PRP exists, DTSC, acting on behalf of the state, is legally obligated to pay a 10% state-match for federal response action costs while federal public funds pay for the remaining 90%.

CERCLA also legally obligates DTSC to pay for 100% of operation and maintenance (O&M) costs at these NPL sites and prohibits US EPA from funding the O&M of constructed response actions at NPL sites.

Overall, the state greatly benefits from this program. Since 2000, DTSC has spent nearly $35 million on NPL 10% match and O&M obligations while US EPA has spent nearly $333 million investigating and cleaning up contaminated sites in the State of California.

[1] The official term for sites where response actions are publicly funded under CERCLA is "fund-lead NPL sites." In this discussion, "NPL sites" is used to denote publicly funded sites on the NPL.

[2] Letter from Enrique Manzanilla, Division Director, Superfund Division, US EPA, Region 9, to Mohsen Nazemi, Deputy Director, Brownfields & Environmental Restoration Program, DTSC (January 18, 2017).

NPL Site Costs

At federally-funded NPL sites, US EPA funds and contracts for each phase of the response action, or the cleanup process. DTSC coordinates with US EPA and reviews documents through each phase of the project to ensure the state has input into the selected remedy. Once US EPA selects a cleanup remedy in a record of decision, the US EPA and DTSC enter into a state Superfund contract which obligates the state to 10% of the total cost of the response action construction. The state Superfund contract utilizes the estimated costs documented in the record of decision for this contract. Then, as construction is completed and the remedy is in operation, US EPA invoices DTSC for the state's 10% obligation to fund construction of the remedy.

Once the remedy is operating properly, an O&M plan is created to ensure the remedy continues to function properly and the cost estimate for O&M is developed. As required by federal law, the project then transitions from US EPA-lead to state-lead. Once the project transitions to 100% state contracted O&M, DTSC uses state remediation contractors to implement the plan for the site and applies contract rates to the work performed. O&M costs are based on known scopes of work and are generally predictable from year to year.

As shown in *Table 1. National Priority List Sites and Locations*, the US EPA has identified twenty-two (22) federally-funded NPL sites in California. Each of these sites is in one or more of the various phases of the cleanup process. Those that have reached the construction phase begin to incur state costs. Tables 2 and 3 detail the state's NPL obligations for 10% match costs (Table 2) and 100% O&M (Table 3).

Table 2 details the individual NPL sites where US EPA has forecast state match costs for remedy construction and operation includes three (3) sites that will incur state 10% match costs in FY 2017. All fourteen (14) sites included on Table 2 will incur 10% state match costs by FY 2019/20.

Table 3 details the NPL sites where the state will incur 100% O&M costs and identifies nine (9) sites (shown in bold) where the state will incur 100% O&M costs in FY 2017. All twelve (12) sites will incur costs by FY 2019/20. The federally-funded NPL sites not listed in Tables 2 and 3, but included on Table 1, are not forecast to have state 10% match costs for the next three years.

For FY 2017/18, the total of the state 10% match and O&M costs are estimated at $3.65 million (Table 3). However, in FY 2019/20, the US EPA is proposing construction costs at the Sulphur Bank Mine Site with estimated state 10% match costs of $6 million (Table 2). This construction project presents a significant impact to the SRA allocation. The total cost for NPL sites is estimated at over $14 million in FY 2019/20 (Table 3).

STATE ORPHAN SITES

Under the authority of Chapter 6.8 of the Health and Safety Code, DTSC investigates hazardous substance releases and constructs and operates remedies at sites that pose an imminent or substantial endangerment. These state-lead sites, also referred to as "orphan sites," are those at which a PRP fails to comply with an order to address the threat or there is no financially viable PRP. The SRA funds direct site remediation costs for investigating and cleaning up orphan sites. Unlike the federally-funded NPL sites, the state is responsible for all phases of the cleanup process and related costs. Direct site remediation includes, but is not limited to, the following actions:

- Investigating complaints and conducting discovery activities (i.e., identifying sources of contamination);
- Searching for PRPs, which can include property title, database, and investigative searches;
- Site investigations to characterize the extent of contamination and the risk to the public;
- Providing other costs such as an interim supply of bottled water to people with drinking water contaminated by hazardous substances; and
- Construction and O&M of systems that treat contaminated media, including contaminated indoor air, groundwater aquifers used for drinking water, soil, and drinking water supplies (e.g., providing activated carbon to treat water at supply wells).

Cost estimates for a project are the anticipated costs for each phase of a project or for ongoing O&M of an existing remedy. The primary phases of a project are discovery, characterization, remedy selection, remedy implementation, and O&M. Additionally, costs may be incurred to address conditions that may create an immediate endangerment at a site. The following describes these cleanup phases.

Phases of a Cleanup

The discovery and characterization phases include investigating the scope of a release of hazardous substances and developing potential remedies to address that release. The results of these activities are presented in a remedial investigation and feasibility study report. The remedial investigation includes research into the types and potential locations of hazardous substances; plans for fieldwork; subcontracted costs for sampling equipment, including drill rigs for collecting deep soil and groundwater samples and installing monitoring wells; laboratory costs for sample analysis; and reporting results.

During the remedial investigation, alternative remedies (potential cleanup options) are identified and screened for three factors: effectiveness, implementability, and cost. In the feasibility study, the alternative remedies are then evaluated using nine (9) criteria categorized into "threshold" factors, "primary balancing" factors, and "modifying" considerations. A cost estimate is developed for constructing and operating each of the alternatives based on site-specific findings. There is a wide range of potential alternatives, from excavation and off-site disposal to groundwater pumping and treating; treating the groundwater in place; soil vapor extraction to remove hazardous vapors; consolidation and capping the contamination; and other actions to contain, remove, or treat hazardous substances.

During the remedy selection phase, the permanent remedy is selected for the site, utilizing the nine (9) criteria as well as public and regulatory involvement. A remedy selection document is prepared that identifies and estimates the costs to construct and operate the remedy. It should be noted that the actual cost to construct and operate the selected remedy may be significantly higher or lower than the estimated costs due to unforeseeable circumstances. Once the remedy is constructed, long-term costs to operate are generally predictable. Finally, larger sites, similar to NPL sites, are organized into smaller manageable units. Different units can frequently be in different phases of the process. Individual units, usually called Operable Units, may be in O&M, while another is still in characterization. Thus, a single site may have more than one cost estimate for construction; however, O&M costs are generally combined into one estimate.

State Orphan Site Costs

For state orphan sites, DTSC is responsible for all phases of the project from discovery to O&M. DTSC assigns a project manager to each project. Each orphan site listed is in at least one of the major phases of work on a cleanup project.

The project manager develops a scope of work and a state cost estimate. These scopes of work may cover the entire cleanup, each phase, or, depending on several factors such as risk, site access or available resources, may only address a specific portion of a phase, cleaning up a particular media such as soil, indoor air, or groundwater. For each scope of work, cost estimates are developed based on specific tasks, past project experience, and state contracted rates.

Discovery and characterization require historical reviews, site sampling to identify the source of contamination, and PRP searches. These searches are critical to identifying PRPs who could fund the cleanup. Characterization costs are related to soil sampling, soil borings, soil vapor sampling, and groundwater sampling to determine the list of contaminants and the extent of the threat and to gather data to support remedy selection. Characterization of site contamination may take multiple years of investigation, each dependent upon the results of the previous investigation. Cost estimates for remedy selection are documented in the project record in characterization reports, the feasibility study, removal action workplan, and remedial action plan.

DTSC develops cost estimates for remedy construction using estimates and other information

provided under contract by the architectural and engineering firm preparing the remedy screening and remedy selection phase documents. Finally, each project in long-term O&M has a plan with specifications for operation, equipment change-outs, chemical or other treatment costs, etc.

Imminent and Substantial Endangerment

During each phase of a cleanup, DTSC focuses on eliminating conditions that cause an imminent and substantial endangerment. If it is determined that there is a current risk for exposure to hazardous substances, DTSC takes immediate action to eliminate the exposure. Examples of these situations include direct exposure to hazardous substances in contaminated soil, indoor air, or drinking water supplies contaminated above state or federal drinking water standards. If these conditions are identified, DTSC may contract for work to remove the immediate exposure. Examples of this work may include fencing and posting the site to exclude access, installing air filters in buildings to remove contaminants from indoor air, or providing bottled water until a long-term remedy can be implemented.

Under current law, DTSC can only use SRA funds for contracted costs and cannot utilize these funds for staff costs. DTSC pays for staff costs to manage NPL and orphan sites out of its operating budget. This report does not include the state orphan sites where contracted work is not currently required.

Table 4 identifies the current list of state orphan sites requiring contracted work and their locations.

Tables 5a – 5e provide cost estimates and other information for individual state orphan sites as well as statewide service contracts necessary for the cleanup process. The tables provide information on the specific sites and are organized by the current site priority.

The total estimated need for state orphan sites for FY 2017/18 is $16.02 million (Table 5e). The estimated costs for work on these sites appear to decrease in FY 2018/19 and 2019/20 for two main reasons: 1) because deferred construction activities result in a larger-than-otherwise anticipated demand for near-term response; and 2) because remedy construction and O&M cost estimates are only provided for work already in the pipeline, and deferred site discovery and characterization activities have resulted in lower-than-otherwise anticipated demand in the immediate out-years. Limited resources has resulted in a significant backlog of sites where future work has not been fully characterized or estimated. Cost projections do not include costs for sites that do not yet have completed documentation to support cost estimates.

PRIORITIZATION

Allocation of funds to a site from the SRA is based on several factors. Federal NPL and state orphan sites are scored and prioritized on a quantitative weighting of exposure (meaning the number and proximity of humans or resources such as drinking water) and threat (meaning risk of damage or harm when exposed) to human health and environmental impacts (HSC § 25356 (c)). Immediate and acute threats are assigned a priority of 1A. Sites with operating remedies that require ongoing contract support are given a priority of 1B. Likewise, federal NPL sites are provided a priority of 1B since the state is obligated by federal law to fund these activities. Additional factors include site access, likelihood of identifying a PRP, findings from the previous phase of work, and readiness of the contract documents, i.e., shovel ready.

The following provides definitions of each priority:

Priority 1A: Immediate and acute conditions requiring a "time critical" response;

Priority 1B: Ongoing O&M of a state or federally funded site remediation treatment system necessary to prevent exposure to human or environmental receptors. Priority 1B includes state-match NPL;

Priority 2: Actual human exposure or resource impacts under current conditions;

Priority 3: Potential exposure under current conditions; and

Priority 4: Potential exposure under future conditions.

Highest funding priority is assigned to those sites that have federally-mandated costs, those that have

immediate acute health threats, and those that have existing systems that require ongoing contracted costs to operate and maintain the remedy. DTSC's annual cost to fund the highest priority (priority 1A and 1B) sites is approximately $9 million, leaving limited funding for investigation or remediation of the remaining sites or for discovery of new sites.

The May Revision increases funding from the historic $10 million provided in recent years to approximately $14 million and prioritizes funding based on the priority classifications described above. More specifically, the May Revision fully funds the state's obligations for projected direct site remediation costs at NPL sites, as well as Priority 1A, 1B, and Priority 2 orphan sites where work has already begun. These costs may include federal obligations, ongoing O&M, investigation, new remedy construction, PRP searches, court reporter services, and monitoring of land use controls.

SITE SPECIFIC COST ESTIMATES

Tables 2, 3, and 5a – 5e describe the estimated direct site remediation costs for response action costs at federally-funded NPL sites and state orphan sites. Sites are only removed from the list when there is no further need for contracted activities. This may occur when the imminent and substantial endangerment has been eliminated, when a responsible party has been identified to fund the cleanup, or the site is cleaned up with no ongoing O&M.

Table 2 includes the estimated state 10% match costs for construction and operation of remedies at federally-funded NPL sites. When a site is listed on the NPL, the state is then obligated under federal law to pay the 10% match. Federal law prohibits the US EPA from spending federal money on remedy construction or operation without assurance from the state in meeting its state-match obligation. For FY 2017/18, the US EPA forecasts three (3) construction or operation projects that require state-match funding at a total cost of $350,000. These sites have, or will have, a state Superfund contract with the US EPA. Because of the federal obligation to fund and the risk to human health, these sites are assigned a priority of 1B.

Table 3 includes the estimated costs at federally-funded NPL sites where the O&M of the remedy has transitioned to 100% state responsibility. These sites have state contracts in place to operate groundwater treatment systems, soil vapor extraction systems, and maintain protective caps on contaminated waste. Maintaining these remedies will protect drinking water supplies and the public from exposure to toxic vapors entering homes and offices. Because of the federal obligation to fund, and the risk to human health, these sites are assigned a priority of 1B.

Table 5 lists the estimated costs for state orphan sites. The table is organized by priority.

- Table 5a lists Priority 1A sites where people are currently being exposed to toxic substances in drinking water or indoor air at levels significantly above the risk levels. Failure to fund these activities will result in continued current risk for residents and workers.

- Table 5b lists Priority 1B sites where DTSC has constructed a remedy to protect human health and the remedy requires ongoing operation and maintenance. Failure to fund these activities will result in shutdown of the remedy, which will lead to remedy failure and impacts to drinking water supplies and indoor air.

- Table 5c lists Priority 2 sites where DTSC is either conducting discovery or ongoing investigations of a known release where people or resources are currently at risk. Discovery includes investigations to verify and identify the source of a release, the potential risks to humans, and identifying PRPs. Ongoing investigations are identifying the extent of the contamination and developing alternative cleanup options in order to select and construct the final remedy. Failure to fund these activities will delay discovery or investigation, development of the remedy, and could allow the contamination to spread, impacting additional people and resources and increasing future costs.

- Table 5d lists Priority 3 sites where, like Priority 2 sites, DTSC is conducting ongoing

investigations of releases where there is known contamination, but the risk is lower than Priority 2 sites. Failure to fund these activities will delay discovery or investigation, development of the remedy, and could allow the contamination to spread, increasing the risk and priority, impacting additional people and resources and increasing future costs.

- Table 5e lists the statewide contracts that DTSC uses to conduct PRP searches or monitor existing remedies that have protective long-term land use restrictions in the form of land use covenants. These restrictions prevent current and future uses such as residential development where waste remains at a property above levels safe for that future use.

TABLE 1 – LIST OF ALL FUND-LEAD NPL SITES AND THEIR LOCATIONS – This table presents the current list of all federal fund-lead NPL sites in the State of California as defined by the US EPA. The sites are listed alphabetically along with their city or county location.

Table 1: National Priority List Sites and Locations

Site Name	City/County	Site Name	City/County
Alark Hard Chrome	Riverside	McCormick and Baxter Creosoting Co.	Stockton
AMCO Chemical	Oakland	Modesto Groundwater	Modesto
Argonaut Mine	Jackson	Palos Verdes Shelf	Palos Verdes
Blue Ledge Mine	Siskiyou County	Pemaco	Maywood
Brown & Bryant	Arvin	San Gabriel Area 3	El Monte
Frontier Fertilizer	Davis	Selma Treating Co.	Selma
Halaco Engineering	Oxnard	South Bay Asbestos Area	San Jose
Iron Mountain Mine	Redding	South El Monte Operating Unit (San Gabriel)	El Monte
Jervis Webb	South Gate	Southern Avenue Industrial Area	South Gate
Klau/Buena Vista Mine	Paso Robles	Sulphur Bank Mercury Mine	Clearlake
Lava Cap Mine	Nevada City	Whittier Narrows Operating Unit (San Gabriel)	El Monte

TABLE 2 – COST ESTIMATE FOR DTSC'S 10% STATE MATCH AT FEDERAL NPL SITES – US EPA and DTSC create and agree on the estimated costs for federal NPL sites as described in Table 1. The written statement to the California Legislative Analyst's Office that US EPA "concurs with" these estimates demonstrates that both US EPA and DTSC agree on these estimated costs.[3] (A copy of this statement is appended to this report.)

Table 2: Estimated NPL 10% Match for Response Actions FYs 2017/18-2019/20

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
AMCO Chemical	Oakland	1B	Yes	Response Action	$0	$150,000	$0
Blue Ledge Mine	Rogue NF	1B	no	Response Action	$0	$300,000	$0
Brown & Bryant (OU1 & OU2)	Arvin	1B	yes	Response Action	$0	$200,000	$200,000
Jervis Webb	South Gate	1B	yes	Response Action	$0	$0	$200,000
Klau/Buena Vista Mine	Paso Robles	1B	no	Response Action	$0	$300,000	$0
Lava Cap Mine (OU1 & OU4)	Nevada City	1B	no	Response Action	$0	$350,000	$66,000
Modesto Groundwater	Modesto	1B	yes	Response Action	$45,000	$45,000	$200,000
Pemaco	Maywood	1B	yes	Response Action	$175,000	$175,000	$0
San Gabriel Area 3	El Monte	1B	yes	Response Action	$0	$10,000	$0
Selma Pressure Treating	Selma	1B	yes	Response Action	$0	$0	$135,000
South El Monte OU (San Gabriel)	El Monte	1B	yes	Response Action	$130,000	$280,000	$280,000
Southern Avenue Industrial Area	South Gate	1B	yes	Response Action	$0	$0	$200,000
Sulphur Bank Mercury Mine	Clearlake	1B	no	Response Action	$0	$0	$6,000,000
Whittier Narrows OU (San Gabriel)	El Monte	1B	yes	Response Action	$0	$400,000	$0
Total NPL 10% Match for Response Actions Estimate					**$350,000**	**$2,210,000**	**$7,281,000**

[3]Email from Caleb Shaffer, Section Chief, California Site Cleanup Branch, Superfund Division, US EPA, to Shawn Martin, Principal Fiscal and Policy Analyst, California Legislative Analyst's Office, state: "Attached is DTSC's NPL cost chart, which EPA concurs with."

TABLE 3 – COST ESTIMATE FOR DTSC'S 100% O&M COSTS AT FEDERAL NPL SITES

Table 3: Estimated NPL 100% State Funded O&M FYs 2017/18-2019/20							
PROJECTS	**CITY**	**PRIORITY**	**EJ SCORE TOP 25%**	**SCOPE OF WORK**	**FY 17/18**	**FY 18/19**	**FY 19/20**
AMCO Chemical	Oakland	1B	yes	Operation and Maintenance	$0	$0	$50,000
Blue Ledge Mine	Rogue NF	1B	no	Operation and Maintenance	$0	$0	$20,000
Brown & Bryant (OU1 & OU2)	Arvin	1B	yes	Operation and Maintenance	**$50,000**	$50,000	$50,000
Frontier Fertilizer	Davis	1B	no	Operation and Maintenance	**$800,000**	$800,000	$800,000
Iron Mountain Mine (OU5)	Redding	1B	no	Operation and Maintenance	**$50,000**	$50,000	$50,000
Lava Cap Mine (OU1 & OU4)	Nevada City	1B	no	Operation and Maintenance	**$100,000**	$100,000	$236,000
Modesto Groundwater	Modesto	1B	yes	Operation and Maintenance	**$350,000**	$350,000	$350,000
Pemaco	Maywood	1B	yes	Operation and Maintenance	$0	$0	$1,700,000
San Gabriel Area 3	El Monte	1B	yes	Operation and Maintenance	**$50,000**	$50,000	$100,000
Selma Pressure Treating	Selma	1B	yes	Operation and Maintenance	**$250,000**	$250,000	$250,000
South El Monte OU (San Gabriel)	El Monte	1B	yes	Operation and Maintenance	**$50,000**	$210,000	$390,000
Whittier Narrows OU (San Gabriel)	El Monte	1B	yes	Operation and Maintenance	**$1,600,000**	$1,700,000	$1,900,000
Total NPL 100% State Funded O&M Estimate					**$3,300,000**	**$3,560,000**	**$5,896,000**

Total NPL 10% Match for Response Actions Estimate	$350,000	$2,210,000	$7,281,000
Total NPL 100% State Funded O&M Estimate	$3,300,000	$3,560,000	$5,896,000
Total Estimated NPL Obligation	**$3,650,000**	**$5,770,000**	**$13,177,000**

TABLE 4 – LIST OF ALL CURRENT STATE ORPHAN SITES AND LOCATIONS - This table presents the current list of state orphan sites in the State of California. The sites are listed alphabetically along with their city or county location.

Table 4: State Orphan Funded Sites and Locations

Site Name	City/County	Site Name	City/County
AAD	Vernon	K&D Salvage	Bakersfield
AAD/Perchlorate Discovery	Vernon	Lane Metal Finishers	Oakland
Alco Pacific	Carson	Lubrication Company	Canyon Country
Bakersfield Discovery Project	Bakersfield	Madera PCE	Madera
Benham and Johnson	Bakersfield	McNamara & Peepe	Arcata
Caine Site	Los Angeles	Mobile Smelting	Mojave
Cal Tech Metal Finishers	Oakland	Modern Cleaners	Red Bluff
Cameo	Commerce	National Cleaners	Delano
Central Valley Fertilizer	Dos Palos	Oasis Cleaners	Delano
Chemical & Pigment	Bay Point	OCMP	Fullerton
Cook Battery	Oakley	Orland Dry Cleaners	Orland
Crown City Plating	El Monte	PCA Metal Finishing	Fullerton
Custom Chrome and Bumper	Yuba City	Peter Pan Cleaners	Santa Rosa
Delano	Delano	Porterville MGP	Porterville
Dunnigan CCL4 Discovery	Dunnigan	Sacramento Plating	Sacramento
DWA Plume	San Leandro	Sierra Launderers	Sonora
Electro Forming Richmond	Richmond	Singer Friden	Oakland
Engineering Plating	Santa Ana	Southland Oil	Commerce
Harbour Way South	Richmond	Spence Property	Los Angeles
Hard Chrome Engineering	Oakland	Talley Brothers	Huntington Park
Hard Chrome Plating	Los Angeles	Valley Plating	Shasta Lake
Harris Dry Cleaners	Oakland	Visalia	Visalia
J&S Chrome	Bell Gardens	Watts Discovery Site	Los Angeles

TABLE 5 – COST ESTIMATE FOR DTSC'S STATE ORPHAN SITES – This table includes DTSC's costs for response actions at state orphan sites. DTSC created the estimated costs for the state orphan sites as described above. Tables 5a – 5e are organized by priority and provide the best, currently available estimates of response action costs at state orphan sites in the state.

TABLE 5a – Lists Priority 1A sites where people are currently being exposed to toxic substances through their drinking water or indoor air at levels significantly above the risk levels.

Table 5a: Estimated State Orphan Funded Activities 2017-2019 - Priority 1A

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
DWA Plume	San Leandro	1A	no	Remedy Construction	$700,000	$200,000	$200,000
Oasis Cleaners	Delano	1A	yes	Remedy Construction	$200,000	$200,000	$500,000
Singer Friden	Oakland	1A	yes	Remedy Construction	$700,000	$200,000	$200,000
Priority 1A Projects Subtotal					**$1,600,000**	**$600,000**	**$900,000**

TABLE 5b – Lists Priority 1B sites where DTSC has constructed a remedy to protect human health, and the remedy requires ongoing operation and maintenance.

Table 5b: Estimated State Orphan Funded Activities 2017-2019 - Priority 1B

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
AAD	Vernon	1B	yes	Operation and Maintenance	$75,000	$75,000	$75,000
Alco Pacific	Carson	1B	yes	Operation and Maintenance	$150,000	$75,000	$75,000
Caine Site	Los Angeles	1B	no	Operation and Maintenance	$580,000	$609,000	$640,000
Central Valley Fertilizer	Dos Palos	1B	yes	Operation and Maintenance	$0	$5,000	$0
Chemical & Pigment	Bay Point	1B	yes	Operation and Maintenance	$20,000	$20,000	$20,000
Cook Battery	Oakley	1B	no	Operation and Maintenance	$5,000	$5,000	$5,000
Engineering Plating	Santa Ana	1B	yes	Remedy Construction	$840,000	$1,042,000	$1,800,000
Harbour Way South	Richmond	1B	yes	Operation and Maintenance	$50,000	$0	$0
Hard Chrome Engineering	Oakland	1B	yes	Operation and Maintenance	$200,000	$50,000	$50,000
J&S Chrome	Bell Gardens	1B	yes	Operation and Maintenance	$365,000	$368,000	$405,000
K&D Salvage	Bakersfield	1B	yes	Operation and Maintenance	$0	$0	$10,000
McNamara & Peepe	Arcata	1B	no	Operation and Maintenance	$50,000	$1,000,000	$100,000
OCMP	Fullerton	1B	yes	Remedy Construction/O&M	$1,111,000	$118,000	$123,000
Orland Dry Cleaners	Orland	1B	no	Operation and Maintenance	$35,000	$55,000	$35,000
PCA Metal Finishing	Fullerton	1B	no	Remedy Construction/O&M	$1,023,000	$1,074,000	$120,000
Peter Pan Cleaners	Santa Rosa	1B	no	Operation and Maintenance	$150,000	$50,000	$50,000
Southland Oil	Commerce	1B	yes	Operation and Maintenance	$336,000	$336,000	$336,000
Spence Property	Los Angeles	1B	no	Operation and Maintenance	$200,000	$72,000	$72,000
Priority 1B Projects Subtotal					**$5,190,000**	**$4,954,000**	**$3,916,000**

TABLE 5c – Lists Priority 2 sites where DTSC is either conducting discovery or ongoing investigation of a known release where people or resources are currently at risk.

Table 5c: Estimated State Orphan Funded Activities 2017-2019 - Priority 2

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
Statewide Orphan Discovery Funding	Statewide	2	yes	Discovery	$500,000	$500,000	$500,000
Bakersfield Discovery project	Bakersfield	2	yes	Discovery	$225,000	$125,000	$125,000
Watts Discovery Site	Los Angeles	2	yes	Discovery	$230,000	$650,000	$600,000
Crown City Plating	El Monte	2	yes	Investigation	$500,000	$350,000	$450,000
Delano	Delano	2	no	Investigation	$630,000	$425,000	$425,000
Dunnigan CCL4 Discovery	Dunnigan	2	no	Investigation	$50,000	$50,000	$50,000
Hard Chrome Plating	Los Angeles	2	yes	Remedy Construction	$230,000	$230,000	$230,000
Lubrication Company	Canyon Country	2	no	Remedy Construction	$350,000	$350,000	$350,000
Madera PCE	Madera	2	yes	Investigation	$200,000	$500,000	$500,000
Mobile Smelting	Mojave	2	no	Investigation	$50,000	$25,000	$250,000
National Cleaners	Delano	2	yes	Remedy Construction	$200,000	$200,000	$500,000
Sacramento Plating	Sacramento	2	no	Investigation	$50,000	$0	$0
Sierra Launderers	Sonora	2	no	Investigation	$475,000	$285,000	$285,000
Talley Brothers	Huntington Park	2	yes	Remedy Construction	$300,000	$20,000	$20,000
Valley Plating	Shasta Lake	2	no	Operation and Maintenance	$10,000	$0	$0
Visalia	Visalia	2	yes	Investigation	$225,000	$200,000	$200,000
Priority 2 Projects Subtotal					**$4,225,000**	**$3,910,000**	**$4,485,000**

TABLE 5d – Lists Priority 3 sites where DTSC is conducting ongoing investigations of releases where there is a known contamination, but the risk is lower than Priority 2 sites.

Table 5d: Estimated State Orphan Funded Activities 2017-2019 - Priority 3

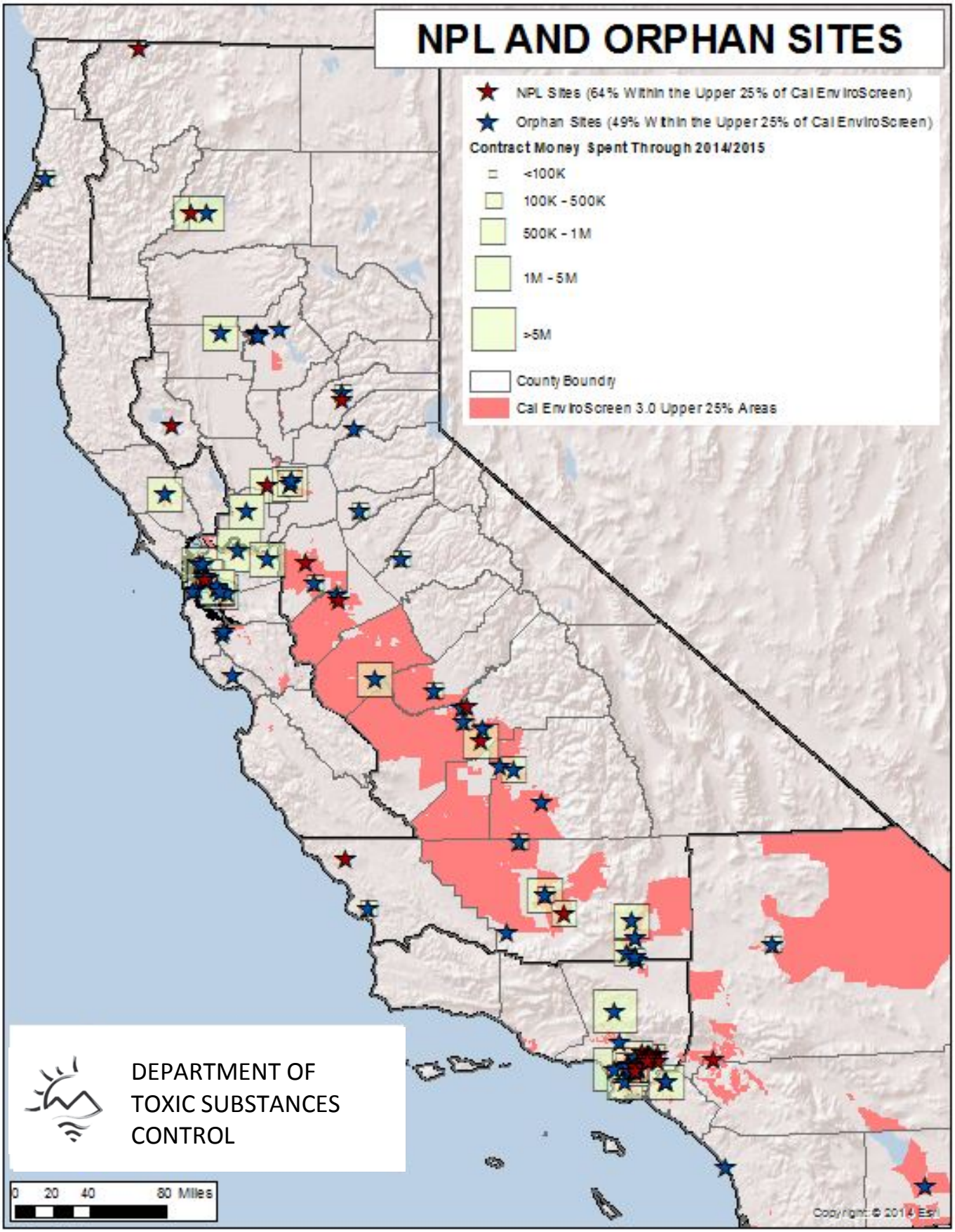
PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
AAD/Perchlorate Discovery	Vernon	3	yes	Discovery	$100,000	$100,000	$300,000
Benham and Johnson	Bakersfield	3	yes	Remedy Construction	$0	$350,000	$0
Cal Tech Metal Finishers	Oakland	3	yes	Remedy Construction/O&M	$1,700,000	$100,000	$100,000
Custom Chrome and Bumper	Yuba City	3	no	Operation and Maintenance	$0	$5,000	$0
Electro Forming Richmond	Richmond	3	yes	Remedial Investigation	$150,000	$1,700,000	$100,000
Harris Dry Cleaners	Oakland	3	yes	Remedy Construction	$1,700,000	$100,000	$100,000
Lane Metal Finishers	Oakland	3	yes	Remedy Construction	$1,000,000	$100,000	$100,000
Modern Cleaners	Red Bluff	3	no	Investigation	$125,000	$125,000	$125,000
Porterville MGP	Porterville	3	yes	Remedy Construction	$30,000	$0	$200,000
Priority 3 Projects Subtotal					**$4,805,000**	**$2,580,000**	**$1,025,000**

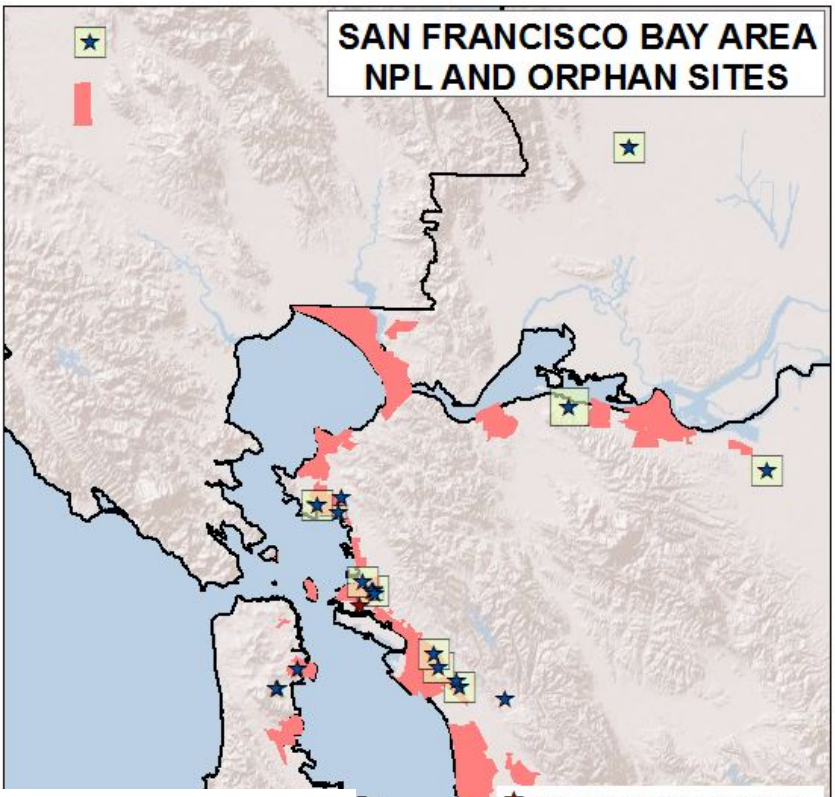
TABLE 5e – Lists statewide contracts that DTSC uses to conduct PRP searches or monitor existing remedies that have protective long-term land use restrictions in the form of land use covenants.

Table 5e: Statewide Obligations 2017-2019 - No Priority

CONTRACTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 17/18	FY 18/19	FY 19/20
LUC Monitoring (Terradex)	Statewide	n/a	n/a	Monitoring/Service Contract	$180,000	$180,000	$180,000
PRP - Title Search (CLEAR Contract)	Statewide	n/a	n/a	PRP Search/Subscription	$16,000	$16,000	$16,000
Statutory Lien Hearing - Court Reporter	Statewide	n/a	n/a	Statutory Compliance	$4,100	$4,100	$4,100
Statewide Obligations Subtotal					**$200,100**	**$200,100**	**$200,100**

Priority 1A Projects	$1,600,000	$600,000	$900,000
Priority 1B Projects	$5,190,000	$4,954,000	$3,916,000
Priority 2 Projects	$4,225,000	$3,910,000	$4,485,000
Priority 3 Projects	$4,805,000	$2,580,000	$1,025,000
Contracts - No Priority	$200,100	$200,100	$200,100
Total Orphan Need	**$16,020,100**	**$12,244,100**	**$10,526,100**


NPL AND ORPHAN SITES
NPL Sites (64% Within the Upper 25% of Cal EnviroScreen)
Orphan Sites (49% Within the Upper 25% of Cal EnviroScreen)
Contract Money Spent Through 2014/2015
<100K
100K - 500K
500K - 1M
1M - 5M
>5M
County Boundry
Cal EnviroScreen 3.0 Upper 25% Areas
DEPARTMENT OF
TOXIC SUBSTANCES
CONTROL
0 20 40 80 Miles
Copyright © 2014 Esri


SAN FRANCISCO BAY AREA
NPL AND ORPHAN SITES
NPL Sites (84% Within the Upper 25% of Cal EnviroScreen)
Orphan Sites (49% Within the Upper 25% of Cal EnviroScreen)
Contract Money Spent Through 2014/2015
+100K
100K - 500K
500K - 1M
1M - 5M
+5M
Cal EnviroScreen 3.0 Upper 25% Areas
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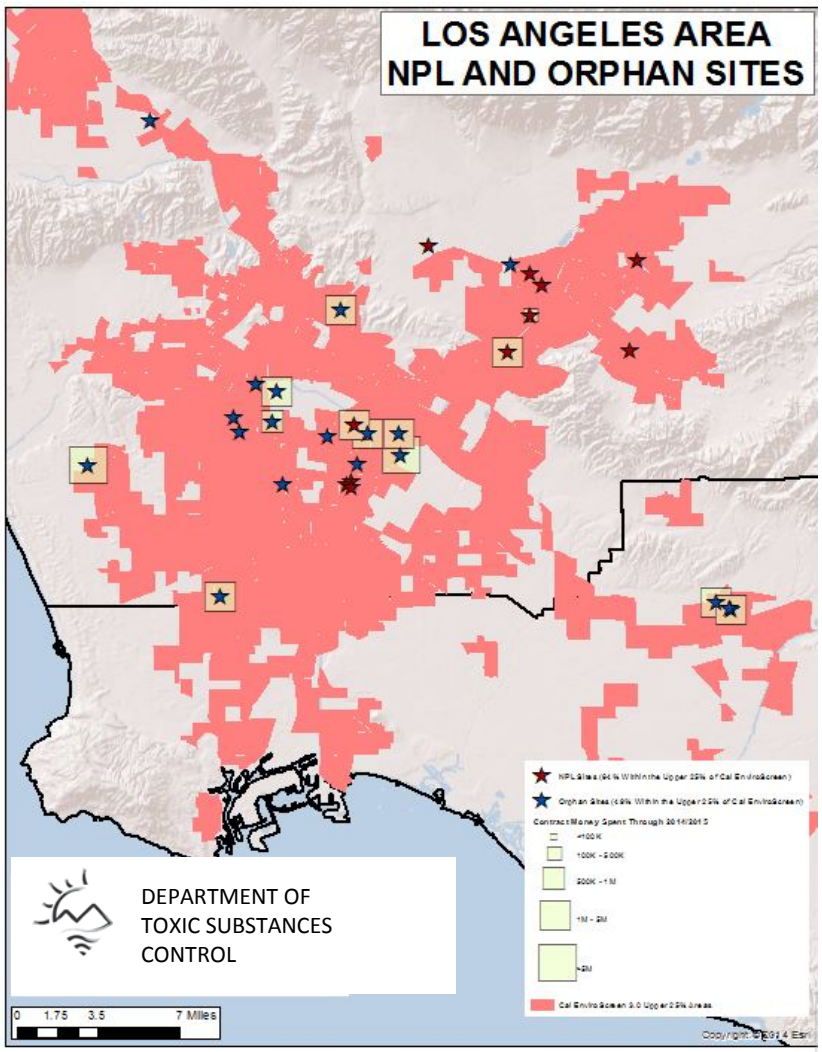
LOS ANGELES AREA
NPL AND ORPHAN SITES
DEPARTMENT OF
TOXIC SUBSTANCES
CONTROL
0 1.75 3.5 7 Miles
NPL Sites (84% Within the Upper 25% of Cal EnviroScreen)
Orphan Sites (49% Within the Upper 25% of Cal EnviroScreen)
Contract Money Spent Through 2014/2015
+100K
100K - 500K
500K - 1M
1M - 2M
+2M
Cal EnviroScreen 3.0 Upper 25% Areas
Copyright © 2014 Esri

REFERENCES

From: Shaffer, Caleb
Sent: Wednesday, November 09, 2016 8:38 AM
To: 'Martin, Shawn' <Shawn.Martin@LAO.CA.GOV>
Cc: Parker, Heather <Parker.Heather@epa.gov>; Lyons, John <Lyons.John@epa.gov>
Subject: RE: Legislative Analyst's Request

Hi Shawn,

Good to hear that this effort has made progress. Since we communicated last Spring, we have had a number of detailed conversations with DTSC, most recently the week before last, reviewing projected NPL costs and revising as appropriate. We've asked DTSC to maintain a current chart, which they have willingly done. Moving forward EPA and DTSC will be reviewing it together on a regular basis.

Attached is DTSC's NPL cost chart, which EPA concurs with. I want to re-emphasize that these are our best estimates based on the current information available. Some costs, such as current O&M costs that DTSC is paying, are easy to project out into future years. Costs that are much farther out in the future that involve a remedy that hasn't been selected, designed or constructed are projections will we will continue to work closely with DTSC on evaluating and revising as appropriate. Let me know if you have any questions, and thank you again for your support of this effort.

Regards,

Caleb Shaffer
Section Chief, California Site Cleanup Branch
Superfund Division
75 Hawthorne Street, San Francisco CA 94105
(415) 972-3336

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

January 18, 2017

Mohsen Nazemi
Deputy Director
Brownfields & Environmental Restoration Program
Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812

Dear Mr. Nazemi:

I am writing to you to provide information regarding the funding and work requirements for States regarding Superfund sites. I hope that you will find this summary helpful.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, requires that "[t]he President shall not provide any remedial action unless the State in which the release occurs first enters into a contract or cooperative agreement with the President providing [various specified] assurances. . . "[1] The National Contingency Plan, which establishes the regulation for the Superfund Remedial Program, further states that US Environmental Protection Agency (EPA) is not permitted to obligate or transfer remedial action monies to any party prior to a State Superfund Contract (SSC) being signed.[2]

SSC's are enforceable contracts that contain agreements for the State to pay cost shares before work commences.[3] SSC's must include an estimate of the amount of remedial costs, the basis for the amount, and the schedule of State payments.[4] The implications of not fulfilling cost share obligations in EPA's model SSC, which includes operation and maintenance and remedy construction cost share obligations, is that work will be suspended by the EPA. EPA may also proceed under the provisions of section 104(d)(2) of CERCLA and seek in the appropriate court of competent jurisdiction to enforce the SSC or to recover any funds advanced or any costs incurred due to a breach of the SSC by the State.[5]

[1] See CERCLA Section 104(c)(3)
[2] See 40 CFR § 300.510
[3] 40 CFR 35.6805(i)(5) states that "The State must provide assurances for cost sharing pursuant to § 35.6105(b)(2). Even if the political subdivision is providing the actual cost share, the State must guarantee payment of the cost share in the event of default by the political subdivision."
[4] See *40 CFR 35.6805(j)*
[5] *See 40 CFR 35.6805(o)*

Additionally, operation and maintenance is not an authorized expenditure of EPA's appropriated funds, and is the responsibility of the State. 40 CFR 35.6805(i)(1) states that: "The State must provide an assurance pursuant to § 35.6105(b)(1). The State's responsibility for operation and maintenance generally begins when EPA determines that the remedy is operational and functional or one year after construction completion, whichever is sooner."[6]

Finally, over the course of 2016, my staff worked with the California Legislative Analyst's Office, as well as with your staff, on estimating state cost shares for NPL sites projected out for the next five federal fiscal years. Those estimates were based upon available data at the time, and may be subject to change as new information comes to light. We will continue to work closely with your staff on evaluating and revising those projections as appropriate. I hope that these projections we discussed in early November 2016, along with the summary in this letter, provides you with a more complete picture of the state of California's projected NPL cost obligations in the coming years. If you have any questions, please don't hesitate to contact me at (415) 972-3843.

Sincerely,

Enrique Manzanilla
Division Director, Superfund Division

[6] *See* 40 CFR 300.435(f)