## Example Scope of Work Outline and Cost Estimate

SCAP requires a general site-specific outline of proposed work and not-to-exceed costs for staff to evaluate if the proposed project will meet the regulatory directives at an appropriate cost. SCAP staff will request a detailed cost estimate if the project is approved for funding. A template for the detailed cost estimate is provided on the main SCAP webpage under the “Resources” section.

<table>
<thead>
<tr>
<th>Task No.</th>
<th>Task Description</th>
<th>Estimated Cost</th>
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<tbody>
<tr>
<td>1</td>
<td>Site Characterization Work Plan (Objective: address RWQCB 13267 requirement)</td>
<td>$15,000</td>
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</table>
|          | * Workplan with detailed procedures for tasks listed below to define the extent of contaminants in soil, soil vapor & groundwater.  
* Review of historical dry cleaning facility documents, sanborn maps, aerial photographs  
* Complete utility line survey to locate on-site and off-site utilities that may act as preferential pathways to contaminant flow.  
* Inspect two on-site monitoring wells to confirm integrity. |
| 2        | Passive Soil Vapor Survey (Objective: identify on-site/off-site source areas)    | $40,000        |
|          | * Install up to 35 passive soil vapor samples on site and off site to the east in alley near sewer line.  
* Base sample grid near former dry cleaning machine, sump, chemical storage area(s) drains and utility lines. |
| 3        | CPT/MIP Soil and Groundwater Investigation (Objective: characterize and delineate soil and groundwater conditions in identified source areas- assume up to three source areas) | $75,000        |
|          | * Install up to 15 borings for CPT/MIP assessment and soil and groundwater sampling to depths up to 100 feet.  
* Boreholes to be located on-site and off-site in estimated downgradient direction of groundwater flow.  
* Collect up to 50 soil samples for EPA Method 8260 analysis.  
* Collect up to 30 depth-discrete groundwater samples. |
| 4        | Subslab and Indoor Air Sampling (Objective: to assess indoor air quality in subject building and two adjacent buildings) | $40,000        |
|          | * Two seasonal events of subslab and indoor air sampling in up to three buildings.  
* Three subslab samples per building.  
* Three Indoor air samples per building  
* Outdoor air samples for background air quality. |
| 5        | Soil Vapor Sampling (Objective: To assess soil vapor source areas)               | $50,000        |
|          | * Install up to 12 soil vapor well pairs at 5’ and 10’ below groundwater surface  
* Collect soil vapor samples during two seasonal events |
| 6        | Shallow and Deep Groundwater Monitoring Well Installations (Objective: to provide long term monitoring points) | $100,000       |
|          | * Install up to 6 shallow wells to monitor first encountered groundwater.  
* Install up to 4 deeper groundwater monitoring wells at base of water bearing zone |
| 7        | Comprehensive Site Characterization Report and Conceptual Site Model             | $20,000        |
|          | * Prepare comprehensive report summarizing the findings of Tasks 2 through 6.  
* Develop Conceptual Site Model with Human Health Risk Assessment.  
* Provide recommendations for remedial pilot testing/feasibility studies as needed. |
| 8        | Indoor Air Vapor Intrusion Mitigation Measures (Objective: contingency to mitigate indoor air in 1 building) | $45,000        |
|          | * Seal floor cracks, as needed.  
* Inspect and modify HVAC system to maintain positive indoor pressure, as needed.  
* Install portable air purifiers with granular activated carbon filters, as needed. |
| 9        | Groundwater Monitoring, Soil Vapor Sampling and Vapor Intrusion System Operation and Maintenance (Objective: monitor soil vapor, indoor air and groundwater conditions for two years) | $160,000       |
|          | * Quarterly groundwater monitoring and sampling of 30 wells.  
* Semiannual soil vapor sampling.  
* Semiannual Indoor air/subslab sampling in one building.  
* Monthly vapor mitigation system operation and maintenance in one building.  
* Prepare 8 quarterly monitoring reports and 4 semiannual soil vapor and indoor air sampling reports. |
| 10       | Project Management                                                              | $54,500        |
|          | * Attend JET meetings.  
* Liaison with SCAP Grant and RWQCB Staff.  
* Prepare SCAP Progress Reports.  
* Provide project updates and letter responses as needed. |

<table>
<thead>
<tr>
<th>Total</th>
<th>$599,500</th>
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Estimate Project Duration (in months) 38
Example Scope of Work Outline and Cost Estimate

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Task 1 – Historical Document Review and Limited Phase I - $10k
- Review Sanborn and radius maps for nearby dry cleaners and other contributors
- Review historical site documents and City resources to understand utility alignments
- Review historical technical documents
- Perform sensitive receptor survey

Task 2 – Pathway Investigation and Passive Vapor Sampling - $35k
- 50 passive samplers installed and analyzed
- Site visit with utility locator to identify preferential pathways
- Includes work plan and summary report

Task 3 – Exposure Assessment and Air/Soil Gas Sampling - $55k
- Collection and analysis of three indoor air and crawl space/sub-slab samples in up to five buildings (site building and adjacent residential and commercial buildings). Thirty primary samples and three QA/QC samples for total of 33 combined air samples.
- Install and sample 12 permanent soil vapor probes (locations based on passive vapor survey data, preferential pathways, sensitive receptors, etc.).
- Includes report summarizing data to determine need for further assessment or mitigation measures

Task 4 – Contingency for Short Term Mitigation - $60k
- Includes baseline risk evaluation, additional sampling (real-time w/HAPSITE) if needed
- Implementation of mechanical controls such as sealing, venting, or HVAC adjustments at up to two buildings.

Task 5 – Source Area and Downgradient Assessment - $100k
- Four days of MIP (up to 20 soundings, plus one day of contingency), three days of Geoprobe, analysis of soil and groundwater samples
- Vertical and lateral delineation

Task 6 – Monitoring Well Installation, Development, and Initial Sampling - $45k
- Installation of 6 shallow zone wells, well survey, development and initial sampling

Task 7 – Source Area Remediation - $200k
- Limited source area excavation, evaluation and bench testing for in-situ reductive dechlorination, initiation and possible expansion of in-situ bioremediation program, possible iterative injection events
- Up to two years of performance monitoring

Task 8 – Groundwater and Soil Vapor/Indoor Air Monitoring- $40k
- Eight quarters of groundwater monitoring/sampling (6 wells) and quarterly reporting
- Four semi-annual soil vapor monitoring events (12 permanent soil vapor probes), results reported with quarterly groundwater monitoring reports
- Up to eight additional indoor air samples, as necessary.

Not-to-Exceed Project Total: $545,000

Estimated project duration: 36 months